UPDATED!

HORSE

Reference Manual

Alberta Government

CANADA
4-H Alberta

The 4-H Motto

"Learn to Do by Doing"

The 4-H Pledge

I pledge

My ***Head*** to clearer thinking,
My ***Heart*** to greater loyalty,
My ***Hands*** to larger service,
My ***Health*** to better living,
For my club, my community
and my country.

The 4-H Grace

(Tune of Auld Lang Syne)

We thank thee, Lord, for blessings great
on this, our own fair land.
Teach us to serve thee joyfully,
with head, heart, health and hand.

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Check out our web site at: http://www.4h.ab.ca for an on line version of this resource.
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Introduction

We are excited that you have chosen to become involved in the 4-H Horse Project. We hope you have a great time this year making new friends, taking part in 4-H activities, and learning more about being a horse owner.

You will be using this 4-H Horse Reference Manual as you work through the Horsemanship Project and the other 4-H Horse Projects. This manual has basic horsemanship information that is important for any horse owner to know.

The manual has been compiled with the best information we have at the present time. New research is ongoing in the horse world, so some of the information we present may change in the future.

There are many projects available to 4-H horse members and most projects have supplementary project books that provide you with additional information specific to each project. These books also include activities for you to complete and the assessment tools you will work through for each project. Information is also available on our web site at: www.4h.ab.ca.

To complete a yearly 4-H Horse Project, some of the activities you may take part in include:

- completing a 4-H Horse Project Record Book for each project;
- taking part in at least 70 per cent of designated club activities;
- communications activities;
- taking part in Achievement Day; and
- enrolling in one of the projects available and working on the assessments required for that project.

You are not required to finish a project in one year, nor are you required to finish a level in a year. Your yearly project qualifies as long as you have been working on the skills and knowledge for the project in which you have enrolled.

Horse Project Objectives

The 4-H Horse Project gives members an opportunity to:

- develop safe riding and handling techniques, while practicing skills in a safe environment;
- acquire an understanding of horse management through the experience of owning, caring for, and maintaining records on a horse;
- develop the skills, patience, and understanding of the handling practices essential for working with horses; and
- develop an appreciation of the horse industry and its importance in the local community, the province, and the country.

About the Record Book

You will be using the 4-H Horse Project Record Book. It is your responsibility to provide the majority of the feed, management, and care of your horse. Feeding records on your horse must be maintained for a minimum of 180 days prior to Achievement Day.

About the Assessment Tools (Levels)

To provide consistency throughout the province, the projects have been developed with level assessment tools (skill requirements). These assessment tools will explain to you what you are expected to learn and will be used to assess your knowledge and skills for each project.

Getting Started with 4-H Horse Project

Safety First! To help ensure safety and basic horsemanship skills of 4-H members in the province, all Horse Projects begin with Levels 1–3. It is mandatory in Alberta for members to complete Levels 1–3 before moving on to higher levels and/or other Horse Projects, as described below.

Horsemanship 1–3

Levels 1–3 of the Horsemanship Project have assessment tools that provide an opportunity for you to develop basic riding and handling skills. This helps to ensure you acquire basic safety techniques and learn about the responsibility involved in caring for your horse. You can ride either Western or English, but you must complete the project assessments for the first three levels with your own project animal.

Young horses may be used, however the ability to complete some of the assessments will depend on the training of the horse.

Once you have completed Levels 1–3 of the Horsemanship Project, you may continue in this project, or you may move on to other projects. If you choose to move on to another project, it is advisable to carry on with Horsemanship 4–7 to enhance the skills required for your other projects.

English Horse Projects

Members who wish to gain more experience with the English style of riding are encouraged to participate in projects that involve English riding, as follows.

- **Horsemanship 4 – 7** (a continuation of the mandatory Horsemanship Project Levels 1–3) –members continue to learn horsemanship skills, riding with English equipment.
- **Jumping –** members will learn about and develop basic skills for beginner jumping. Members and horses learn to work together as a team to learn correct jumping techniques.
- **Dressage** – members will learn about and develop dressage techniques. Members learn about dressage competitions and develop riding skills that help teach their horses basic dressage movements.

Western Horse Projects

Members who wish to gain more experience with the Western style of riding are encouraged to participate in projects that involve Western riding, as follows.

- **Horsemanship 4–7 (a continuation of the mandatory Horsemanship Project Levels 1–3)** – members will continue to learn more advanced horsemanship skills, riding with Western equipment.
- **Ranch Horse** – members will develop skills in working with cattle, roping, first aid, trail riding, and other skills used with ranching.
- **Rodeo** – members will learn about the skills used to compete in rodeo events including: Barrel Racing, Goat Tying, Steer Daubing, Team Roping, Cow or Steer Riding, Pole Bending, Keyhole, Breakaway Roping, Goat Tail Untying, Thread the Needle, and Stake Race. Members also learn how to set up and conduct a rodeo.
- **Packing** – members will learn how to safely use pack horses and equipment used in packing and learn how to take part in pack trips.
- **Reining** – members will work with their horses to develop the skills used in reining competitions. Members should have advanced riding skills and horses should be athletic.
- **Cattle Events (Cutting, Working Cow Horse, and Team Penning)** – members will learn about handling cattle and using a horse for the three cattle events. Members and their horses should have some advanced riding skills and lots of experience before enrolling in this project.

Young Horse Projects

Members interested in learning more about the horse industry and about raising and training young horses are encouraged to participate in this project. The young horse project is set up with two participation streams: members having the option to complete the project on their own as a self-directed basis or linked up with an industry-based young horse development project. Members must be 12 years of age and must have completed Horsemanship Levels 1– 3 before registering in these projects.

- **Stream 1–Self-directed Young Horse Project**–This project helps you to care for, teach and train a weanling, yearling, or two-year - old up to its first ride.
- **Stream 2–Industry-Affiliated Young Horse Project**–Members apply through the 4-H Branch, Alberta Agriculture and Forestry (usually by November 1), and are notified when they have been accepted. Then members are linked up with industry groups. Members receive knowledge and corporate support to develop skills and to experience the various aspects of Alberta's horse industry.

- **Standardbred** – members apply to join this program, receive a weanling from a standardbred breeder, and work through the young horse's development levels, caring for the animal and then marketing it for the owner at the annual yearling sale (members receive a percentage of the sale).
- **Performance Standardbred** – members receive a standardbred horse that has recently retired from race training. The member works with the horse to train it for riding, and when it is trained, the member assists in marketing the horse for sale.

Junior Horse

This project continues on with caring for, teaching, and training a two to five-year-old horse, using the skills outlined in the Horsemanship Level 1– 3 Project. A Junior Horse is a horse that is five years old or younger that has been started under saddle. Members must be 12 years of age and must have completed Horsemanship Levels 1–3 before registering in this project.

Green Horse

A Green Horse is a horse of any age that has had very little or no training. Members wishing to take this project will use the skills outlined in the Young Horse Project Manual if the horse has never been handled and/ or the skills from the Horsemanship Level 1–3 Project Manual once the horse has been started under saddle. Members must be 12 years of age and must have completed Horsemanship Levels 1–3 before registering in this project.

Judging Horse Project

This project is designed for members who do not have a horse and who wish to learn about judging horse events (members are not required to have a project animal).

Members will advance through the assessment tools that encourage learning about and experiencing the judging of conformation and performance classes.

Members keep a record book on the activities they participate in, recording their experience and training with judging.

Creative Options Project (COP) – Equine

This project is designed for intermediate (12 to 14 years old) and senior (15 to 20 years old) members as of January 1st of the current club year.

The members must have completed at least Horsemanship Level 1–3 and wish to design their own area of study. Non-riding projects do not have to complete the mounted abilities of Horsemanship 1–3 to participate in this project. In this unit, members select, plan, share, and evaluate their own projects.

Further information on this project is available by ordering the Creative Options Project Book or by contacting the 4-H Specialist in your region.

Chapter 1: Biosecurity Guidelines

An outbreak of an infectious disease during or subsequent to an equine event has the potential to significantly impact the horse industry through loss of horse health and potentially life, loss of performance ability of individual horses, cancellation of events during disease outbreaks, increased veterinary costs, clean-up costs, and emotional stress.

The information in this chapter is intended to serve as a reference for horse owners, event participants, and organizers. This focus is on disease prevention through biosecurity and vaccination.

What is a horse event? For the purpose of this chapter, a horse event is a gathering of 10 or more horses from three or more properties. A horse event or activity could be a sale, fair, parade, race meet, clinic, competition, or any event where horses from multiple farms are commingled.

Horses may be at increased risk for infectious diseases while at events due to the commingling of animals of differing age, health status, and many different source farms. As well, stress of competition and transportation has the potential to decrease immunity. Infections of the respiratory tract are the major concern in these situations (e.g., strangles, equine influenza virus, and equine rhinitis virus) are the major concern in these situations.

All equine event organizers and participants have a responsibility to maintain good biosecurity and not put the health of other horses at risk.

Biosecurity can be thought of as the precautions taken to minimize the risk of introducing infectious disease and also preventing the spread of infection should disease occur.

A sick horse at an event can spread disease to other horses if effective biosecurity is not in place, which can result in a multiplier effect when exposed horses return home. Transmission of infectious diseases can occur via direct contact such as nose-to-nose touching over a stall, but also indirectly by people (e.g., contaminated hands or clothing), or through equipment (e.g., sharing of feed buckets or tack).

Additional guidelines for handling of situations where infectious disease is suspected or identified can be obtained from your veterinarian. Biosecurity protocols for individual facilities should be developed in coordination with a local veterinarian.

Recommendations for Event Organizers

Event organizers have a duty of care to participants and their horses. They should analyze the potential disease risks and impacts of a disease outbreak at an event and develop a biosecurity strategy to manage and minimize those risks.

Event organizers must make it clear that they expect participants at their events to manage their own biosecurity risks.

For example, event organizers should:

- organize a veterinarian to be on call;
- appoint a "Horse Health Steward," who understands the biosecurity risks of horses coming together at horse events;
- provide a number to call in an emergency, or an alternative method of communication and ensure all participants are aware of it;
- manage and/or minimize public access to stable areas;
- assign stalls as far apart as possible to minimize nose-to-nose contact between horses from different locations;
- create a single point of entry and exit from the grounds;
- provide adequate horse washing facilities;
- provide taps for filling water buckets for horses; if a hose must be used, put up a sign to encourage people not to touch the hose end to buckets;
- never use communal water troughs;
- set aside an isolation stall that a horse can be moved to, if necessary, should it become ill during an event;
- sanitize stalls between events; and
- develop a readiness plan in case a stop movement order is put in place and all the horses have to remain at the event.

Event organizers may consider requirements for health certification and/or vaccination (e.g., EIA negative Coggins test). These pre-entry requirements should be broadly communicated to all participants. Participants can be asked to sign a declaration of horse health to assure freedom from clinical disease in their horses within a specific time frame (e.g., 30 days) prior to an event; a declaration to this effect may be required prior to check-in.

Horse Event Management

It is highly recommended that event organizers collect and retain information on all horses attending the event. The minimum information recommended includes the:

- name, address, and telephone number of the owner, custodian, or person in charge of the horse;
- premises ID of the location the horse normally resides; and
- name and identification of the horse.

Event organizers should keep horse event attendance records for a period of six months. These records should be made available to the attending veterinarian upon request.

Horse Owner Responsibilities

The primary responsibility for biosecurity at events lies with horse owners, custodians, and riders. Horse owners and custodians should inquire in advance about specific protocols that the event organizers may have in place and be prepared to adhere to those.

Horses that are suspected of suffering from an infectious or contagious disease or that have been in contact with other animals suffering from such disease MUST NOT be brought to horse events.

Owners and those providing boarding should have biosecurity plans for each property where horses are kept . For details on completing a biosecurity risk assessment and setting up a biosecurity plan visit: **www.albertaequestrian.com/Biosecurity.**

The basic principles for maintaining biosecurity safety are to:

- minimize the risk of disease by planning to avoid introduction to new horses, prior to leaving for an event;
- maintain current vaccinations on all horses;
- observe good hygiene around horses, especially after handling other people's horses;
- wash hands with soap and water, or use disinfectant hand solution after handling horses, especially after contact with the mouth or nose;
- consciously monitor your horse's health; especially in the three to five days leading up to and following an event by doing the following:
  - check horses are eating and drinking normally;
  - check for any change in behaviour;
  - check for any unusual nasal discharge;
  - check for any coughing;

  - check for any signs of discomfort, unusual stance, or weight shifting;
  - check for any signs of swelling or lameness; and
  - check your horse's temperature for three days before and following an event (a horse's normal temperature at rest is between 37 and 38.5 degrees Celsius);

- wash your horse and horse trailer prior to departing; and
- assemble and carry a mobile biosecurity kit including disinfectant.

While you are at the event you should do the following;

- check your horse's temperature twice a day;
- do not share feed or water containers;
- do not use communal water troughs;
- only share cleaned and disinfected tack and equipment (e.g., bits);
- if stabling is not assigned and is not full, leave an empty stall between your horses and those from other locations;
- sanitize your assigned stall prior to bringing your horse in;
- if stables are full, assess the risk from nose-to-nose contact with horses from other locations, and consider placing tarps or other physical barriers to prevent contact; and
- if you horse develops a fever or signs of illness, contact a veterinarian and event official immediately.

Examples of Infectious Horse Diseases

See Chapter 8: Horse Health for discussion of other injuries and illnesses.

Colds/Flu/Respiratory Diseases

Horses can get diseases caused by common viruses like equine herpes virus, equine rhinitis virus, equine adenovirus, and equine arteritis virus. These diseases are common among young horses, especially when they are first mixed or exposed to other horses. There is mostly a low impact on the horse's long term health, but the viruses may cause considerable inconvenience and cost by interrupting training and showing as well as requiring veterinary care.

Complications can occur if horses are put back into work too soon after such infections.

Strangles

This is a contagious, upper respiratory tract bacterial infection. Cases are identified each year in Alberta including those having a significant horse health impact as well as those resulting in death. Recovery and treatment are often prolonged. A vaccine is available, but not appropriate for all horses (contact your veterinarian).

Other infectious equine diseases that can be spread during events include ringworm, diarrheal diseases, and equine infectious anemia.

Vaccination and Testing Requirements

It is highly recommended that all horses participating in equine events be fully vaccinated for both equine influenza virus (EIV) and equine herpes virus (EHV-1 and EHV-4).

It is important to remember that vaccination is only part of an infectious disease prevention program. You still need an effective biosecurity program. Vaccination will not prevent all cases of disease with either EIV or EHV and vaccination is not known to result in protection against the neurological form of equine herpes virus (nEHV-1). However, vaccination is thought to reduce the amount of viral shedding in infected horses, which means infected horses won't be as likely to infect other horses. Vaccines can make it less likely that the disease will spread.

It is also recommended that all horses participating in equine events be tested for equine infectious anemia (EIA) with negative results reported within the past six months. EIA is an infectious and potentially fatal viral disease affecting the immune system of horses, donkeys, and mules. Most EIA-infected horses show no clinical signs of disease; however, they remain carriers of the virus for life and can be a source of infection for susceptible animals.

In Canada, EIA and nEHV-1 are listed as a reportable disease under the *Health of Animals Act.* Accordingly, when EIA is suspected, it must be reported to the Canadian Food Inspection Agency (CFIA).

It is the responsibility of all horse owners and custodians attending events in Alberta or beyond to be aware of criteria required by the venue, province/state of destination.

Traceability

Traceability is a crucial component of an effective animal health and food safety system that enables precise and rapid emergency response to protect livestock, producers and consumers. We know systems that allow for the tracing of livestock and poultry throughout the production supply chain are invaluable. Traceability in Alberta relies on the three fundamental pillars of premises identification, animal identification, and animal movement.

During an emergency response, which could include disease outbreaks, floods, or fires, access to up-to-date information is critical. Determining where animals are, where they have been, and what other animals they have come into contact with allows for efficient emergency planning and response. Traceability is an investment that helps reduce risks and protect Alberta producers as well as their livestock and poultry operations by reducing the overall impact of the event in size and scale.

With accurate information, industry and government are able to identify and contain disease-exposed animals more quickly, which reduces the risk of the disease spreading to other animals. Healthy animals not affected by the disease outbreak can be moved through the production chain, and business can continue for unaffected producers. In an emergency such as a flood, producers can be notified if the flood might affect their animals and be provided with the necessary assistance. Traceability helps protect your animals, livelihood, and future.

Premises Identification

The Premises Identification (PID) Program is used to track the location of animals in case of a health emergency occurrence, a public health emergency, or an emergency such as a natural disaster affecting animals and people. In 2009, regulations requiring premises identification became law in Albert a as part of the provincial *Animal Health Act.*

If you keep horses on your property or operate a "commingling site" you must register your premises.

See the Reference Section at the back of the manual for links to more information on the program. If you keep your horse at a boarding or other property you should be aware of the PID number of that property.

Premises Identification (PID) is one of the three traceability pillars. It is a way of linking livestock and poultry to land locations (or premises). PID is a provincial responsibility but follows a national standard. Information is collected in the Alberta Agriculture and Forestry (AF) Premises Identification System, which can be quickly accessed for the protection of our industry. In an animal health event, having animal locations and other key information in one system is critical for a quick, accurate, and cost effective emergency response. Animal owners can be notified if an emergency might affect their animals and operation, but this can only be accomplished if land locations are registered in the Premises Identification System.

A "commingling site" is a location (not a farm or ranch) where horses or other livestock are kept together in one place, but belong to different owners.

Under Alberta's Premises Identification Regulation, if you own a livestock animal (including horses) or poultry, and that animal is kept at a premise other than a commingling site, you need to apply for a PID Account and obtain at least one PID Number associated with where the animal(s) are located. If you own an animal that is only kept at locations controlled by someone else, such as a stable, and that animal will never be kept at a premises under your care and control, such as your farm or acreage, that animal owner is not required to have a PID Account. A PID Account is personal to an animal owner and the PID Number is linked to the land location.

Although only the primary agricultural operation (e.g., home quarter) needs to be registered in the PID System, registering other locations that are not connected to the primary operation will help ensure that your animals are better protected. If you only own one animal, it is still important to register your premises because even one animal can transmit infectious diseases that can affect your herd, neighbouring animals, and sometimes, the entire industry.

It is important that you keep your information up-to-date and you must report account changes (e.g., new contact information, increased capacity of your operation, etc.) within 30 days. Emergency response may be hindered if your information is not accurate. For example, you may not be notified of an emergency if you have outdated contact information on your account.
PID Numbers are required or asked for on many transportation documents when transporting your animals. You will also require a PID Number when buying medication at a licensed retail outlet or when selling animals at an auction market. Agriculture programs and grants may also request your PID Number as part of their eligibility requirements.

Holding a PID Account is a legal responsibility that may require action in the event of an emergency. Youth are able to apply for an independent PID Account at age 16, but are encouraged to use a parent's PID Account and number(s) unless they anticipate owning livestock after the age of 18, and are fully prepared to take on the responsibility of their own PID Account.

To apply for a PID Account or update your information online, visit www.agriculture.alberta.ca/ premises. To receive a paper application, please call 310-FARM (3276) or visit your local ARD Field Office.

Animal Identification

Animal Identification, for horses, is the ability to identify individual animals. Animal identification works with the other pillars of traceability (premises identification and animal movement), to track where animals have been transported and when. Animal identification helps industry and government to locate animals to confine a disease outbreak more quickly and accurately.

At this time, there is no single nationally or provincially recognized method of physically identifying individual animals in the horse industry. Government and industry are working together to identify an acceptable standard of animal identification. Registration papers, bills of sale, brands, tattoos, and microchips can be used to demonstrate ownership of horses.

Livestock Identification Services Ltd. (LIS) offers a lifetime Horse Permit containing photos of your horse that is issued following an inspection from an LIS livestock inspector . Although this is not mandatory, you may use this to help identify your horse. Contact the LIS head office toll free at 1-866-509-2088 for more information on the lifetime Horse Permit.

Animal Movement

Animal Movement is the act of tracing horses and other livestock backwards or forwards based on animal movement records. Movement records are vital because the faster we can locate where livestock has been, the more effectively we can determine which livestock are at risk of being affected in a disease outbreak. Tracking equine movement is accomplished through the use of LIS transportation documents, including the Alberta Livestock Manifest, Livestock Permit, and Special Permit. This applies to all equines, which includes horses, donkeys, and their crosses.

LIS is responsible for all transportation documentation for equines under the Livestock Identification and Commerce Act (LICA). Subject to a few exceptions under LICA, an Alberta Livestock Manifest is required to transport or drive equines within Alberta if the equines are being transported to an inspection site (livestock markets, livestock assembly stations, feedlots, abattoirs, and country sale sites) or are being transported for sale or slaughter. Producers need to keep their copy of manifests for 10 years. Manifests are available throughout the province from LIS Field Offices, auction markets, as well as AF Field Offices.

Equine owners require a n LIS Livestock Permit to document the movement of equines outside of the province as well as when leaving an inspection site. Livestock Permits only authorize a single movement. Livestock Permits are issued by LIS Livestock Inspectors and owners are required to keep their copy of Livestock Permits for 10 years. This information can be requested as part of a disease track back.

Special Permits are issued by LIS Livestock Inspectors and include the following:

- Annual Rodeo and Exhibition Permits
- Annual Horse Permits
- Lifetime Horse Permits

The Annual Rodeo and Exhibition Permits as well as the Annual Horse Permits are used to transport equine outside Alberta more than once in a calendar year. These permits expire on December 31 of the year in which they are issued. A Lifetime Horse Permit allows an owner to transport a horse outside Alberta multiple times during its lifetime. Lifetime Horse Permits expire when there is a change of equine ownership or when the horse dies.

Use this page to make notes or diagrams.

Chapter 2: Trailering Horses

Trailering should be done with two people if at all possible. Seek advice of people experienced in transporting horses before trailering for the first time.

Consideration should be given to the size of trailer and weight to be towed when selecting a towing vehicle. The size of the vehicle should be sufficient to stop the load as well as to pull it.

Alberta Transportation has specific regulations regarding trailers, including recommended weights and rules about the type of brakes and lights your vehicles need. Contact them for the most current regulations.

When trailering to another province or state, contact the transportation department for advice about regulations for transporting animals.

Checking the Trailer

The towing vehicle and trailer should be serviced and checked regularly for the following:

- rotting or weakened floor boards;
- open, rusted, or weakened door hinges, latches, and gates;
- proper and safe operation of hitch, lights, brakes, and safety chains;
- wheel bearings, tire wear, and proper inflation; and
- sharp projections inside or outside the trailer.

Be sure the trailer is properly constructed and that it meets provincial requirements for brakes and lights. The trailer should be of sufficient height to give the horse ample neck and head room, and be free from sharp or protruding objects.

Before Loading

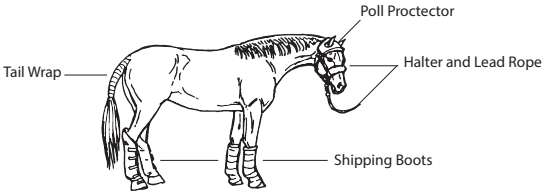
Before loading, make sure the ground area behind and around the trailer has safe footing. Be sure the trailer is level, steady, and safely hooked up to the towing vehicle. If necessary, place chocks (blocks) behind the wheels to keep the trailer steady.

Pack the trailer with all of your supplies. Be careful to stow things securely so nothing will fall out of place. Always pack a spare halter and lead rope in case your halter or lead rope breaks. Always include a well-stocked first-aid and a tool kit when trailering.

Unless you and your horse are experienced, remove the bridle, saddle, and other equipment before loading and stow it safely.

Prepare your horse for transport by using the following supplies.

Halter and lead rope – Use a properly fitted halter and a good sturdy lead shank (wearing gloves reduces the risk to you). Avoid the use of nylon lead shanks because of potential rope burns.



Leg wraps or shipping boots – (These are optional) Leg injuries may be minimized or prevented by using shipping boots on the horse. Give your horse a chance to get used to the feel of the protective boots before you load him. If you use leg wraps, make sure that the wraps are applied properly and secured with strong Velcro, and/or tape. A bandage that is loose can unravel and be a danger to the horse and handler. See Chapter 12: Equipment for details about how to properly wrap legs.

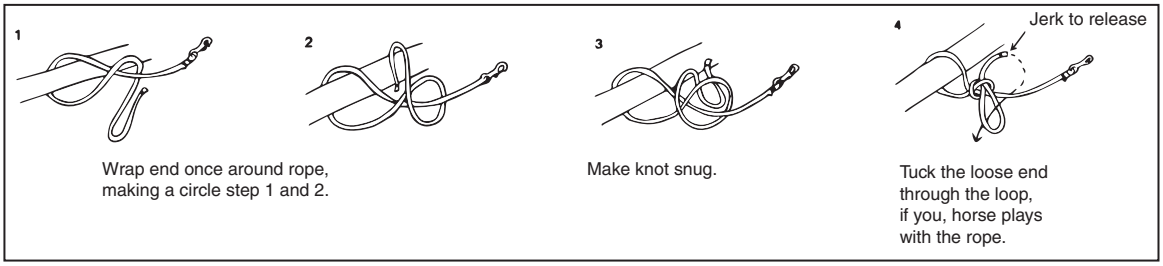
Tail wrap – If you want to protect your horse's tail from getting dirty or being rubbed, you can apply a tail wrap. These are made from knit or rubber-backed material like the neck sweat, or similar to a leg wrap. A knitted leg wrap will also work. The tail bone is wrapped to protect the bone and the tail hair from damage when you are trailering. Do not put a tail wrap on too tightly. See Chapter 12: Equipment for instructions. Tail wraps are optional, when shipping.

Poll protection – A poll guard is a piece of tack that may be used as protective head gear to protect your horse's head during trailering. This item is optional, when shipping.

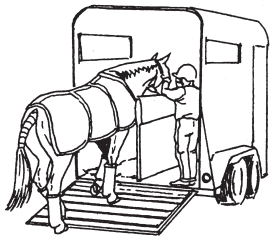
Be Patient and Allow Plenty of Time

It is natural for horses not to want to go into a small space like your trailer. Teach your horse to load days, weeks, or months before you have to haul him. Don't wait until it's time to go. Always allow sufficient time for loading the horse, and remain calm but firm with the horse at all times. One of the most common mistakes when teaching horses to load in a trailer is not allowing sufficient time to properly accustom the horse to the process. A horse that has a positive experience will become easier to load with each lesson.

Panic Snap



Loading Safely into the Trailer



Loading safely into a straight haul trailer

The loading procedure should be done with at least two people whenever possible. If you have trouble loading or unloading, get experienced help.

When teaching the horse to load, position the horse so that it is straight and facing the trailer entrance. Be sure that the safety-escape door is unlatched so you are not trapped if the horse begins to panic. Secure the butt-bar (if the trailer has one) immediately after the horse is loaded and before the horse is tied. Opinions vary on hauling a horse tied or loose. If you tie, allow sufficient length of rope so the horse can move its head for balance and comfort, but tight enough so the horse cannot turn around or bother the horse next to him. Always tie with a quick release knot or use panic snaps on the trailer ties. Be sure all doors and latches are secured.

Hauling

When hauling only one horse in a two-horse, straight-haul trailer, it should be hauled on the **left side**. If two horses are being hauled, the heaviest animal should be hauled on the left. Due to the crowning structure of most roads, this assures a smoother tow and an easier ride for the horse. When hauling, all normal driving laws should be observed. Drive defensively, avoid sudden stops or turns, and allow additional distance for braking. Remember that the weight and movement of horses and the trailer will often push the towing vehicle. Look far ahead to avoid emergencies. Allow extra time for slower driving and unexpected delays.

Always speak in a calm voice to a horse that is in a trailer before attempting to handle it. When traveling, check the horse, hay net or bag, trailer tires, lights, and hitch at every stop before continuing. Adjust the feeding schedule to avoid traveling immediately after feeding grain. Feed smaller amounts more often if necessary. This will help prevent digestive upsets due to hauling. Water the horse as frequently as possible, especially in hot weather. When hauling a horse in the winter, the horse must be protected against wind chill by closing off openings in the trailer and adding a hood and neck covering to the horse's blanket to match the severity of the conditions.

Ventilation

Be sure that proper ventilation such as roof vents and screened windows are provided in the trailer at all times, but especially during the summer months. Often horses that are "poor haulers" have had bad experiences such as being blanketed and getting too hot on the trip due to poor ventilation. Never allow anyone to throw cigarettes or matches out of the moving vehicle. The air currents can pull these items into the trailer and cause a fire.

Footing

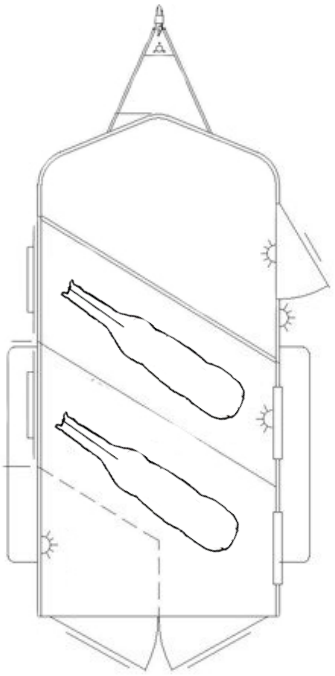
Use rubber mats with sufficient bedding for secure footing. Shavings are commonly used to provide adequate footing and to keep the horse comfortable during hauling. For example, a horse on a long haul may not urinate without bedding to absorb the sound and splash. However, for a short haul, if you are using a trailer which is not completely enclosed, the bedding may blow around and irritate the horse's eyes and respiratory system. In this instance, you might choose to eliminate the bedding.

Unloading

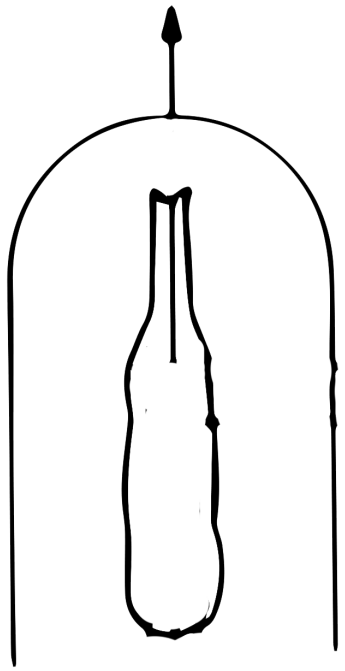
Before unloading, make sure the ground area behind and around the trailer has safe footing. Use caution when dropping the ramp/tailgate or opening the rear door. The horse may try to back out as soon as the ramp/tailgate is opened. In a straight haul trailer, having the butt-bar secure will prevent the horse from flying back, breaking the tie or halter, and falling over backwards. In a slant trailer, having the gates secured will prevent the horse from stepping back. Always untie the horse first before opening the rear door or gate.

In a straight haul, back the horse out slowly and straight or slightly to the centre. In a slant trailer, always untie the horse first, then slowly lead it out of the trailer. After a long haul, walk the horse to restore circulation and ease stiff muscles before the horse is put into a stall.

When the trailer is disconnected and parked, be sure to place chocks (blocks) to secure the wheels. Never load or unload a horse into or out of an unhitched trailer. Never tie a horse to a disconnected trailer.



Angle Haul Trailer



Staight Haul Trailer

Potential Hazards around the Trailer	Problem	How to Prevent
Tying (inside)	• horse spooks and pulls object loose then runs into other objects • tying by reins hurts the mouth and will break the reins or bridle • tying too long, rope can get over the head or wrap around the leg and break or rope burn • tying too low, horse can step over rope and get tangled • tying with the wrong knot makes it difficult to untie in an emergency situation	Horses need to be trained to stand tied. • Tie the horse to a solid object that cannot be pulled loose. Tie with a bowline or quick release knot so the horse can be freed easily. • Tie with a halter and strong shank. • Don't tie too long or short. Horse should have enough rope that it can reach its feed (if in a tie stall) but not paw (legs over) the rope. • Tie horse with a quick release knot.
Tying to a Trailer	• cuts from trailer fenders, license plates, frame light supports, lights, trailer hitches, latches, escape hatch	• Horses need to be trained to stand tied. • There are a lot of hazards around a trailer and tying your horse to a trailer should be avoided. If you need to, be sure your horse is quiet and give horses space (only one horse to each side of a two–horse trailer.
Trailer Escape Hatch	• cuts to the head • leg injuries from trying to jump through the space • major injuries or death of young horse from falling or jumping out of moving vehicles	• Keep the escape hatch closed unless you are using it to feed, or tie and untie horses in the trailer. Check that all doors are properly latched each time you leave a location.

Potential Hazards in and around the Trailer	Problem	How to Prevent
Loading	• hits head on roof • leg cuts • broken legs from falling under the back bumper of the trailer (usually horses not trained to load in a trailer)	• To avoid rearing, do not pull hard on the halter shank or try to hold onto the horse if it spooks. Let the horse back up. • Rubber bumper at the back of the trailer. • **Teach horse to load properly.**
Doors	• the horse can fall out and be dragged while the trailer is moving • cuts when horses are tied outside the trailer	• Use a rump chain or bar. Check that the latches are properly closed before you start travelling. • Close all doors when horses are tied outside of the trailer and tie far enough from latch that they can't get halter or lead hooked on latch.
License Plate	• cuts	• Relocate the license plate so it is against a flat surface with no space above or below. Do not tie the horse to that side of the trailer.
Flooring	• damaged foot from going through floorboards with the foot being dragged on the road • slips or falls and gets down in the trailers • eye injuries from bedding blowing around	• Check floor boards regularly for damage. If using rubber mats, remove manure after every use and lift mats so that the floor boards can dry. • Use rubber floor mats or sand to prevent slipping. • Do not use straw or shavings, which are slippery and/or can be blown up by the wind into the horse's eyes.
Window	• cuts • strangulation • neck strains • bruises	• Tie the horse so it cannot put its head out the window when travelling. If windows are wide or large, use heavy metal screening or metal bars over the window so it can be opened safely.

Trailering Horse Safety Checklist	
Check Trailer	
Safety Tools	**Check**
A pre-trip inspection checklist is used before every trip.	
You keep documentation and compare the last trip's checklist with this trip's checklist to compare your findings.	
Trailer maintenance is regularly scheduled and recorded in a logbook.	
Everyone involved in hauling the horses understands the correct terminology to talk about the horse trailer.	
Members inspect the trailer and look for safety decal information, load ratings, tire ratings, and other information posted in and on the trailer.	
Before Loading and Unloading	
Safety Tools	**Check**
Member is trained, supervised, and gaining competency in loading and unloading techniques.	
You have discussed safety considerations and what to do if something goes wrong: how to best protect handler(s), bystander(s), and horse(s).	
There is an emergency plan for workers and equines; on the road, on-site, and off-site.	
You have read the trailer's user manual.	
Unnecessary tools are removed from the trailer, required tools are organized, additional cargo is secured, the area is tidied, and decluttered, and the floor is swept.	
Leg Wraps	
Safety Tools	**Check**
If you choose to apply leg wraps before the horse is in the trailer, follow safe techniques for working with legs, and properly apply wraps to ensure that the horse is comfortable.	
Allow Time	
Safety Tools	**Check**
The job is not rushed.	
No corners are cut, no short-cuts taken, and all precautions are taken.	
Loading Safely into Trailer	**Check**
Safety Tools	
Calm horse, calm handler. The handler is focused on the task at hand.	
The horse is led into the trailer. *Don't ride the horse into the trailer.*	
The trailer is attached to the tow vehicle prior to loading (or practicing loading).	
Watch for crush or pinch points on doors, swing gates, or stalls where the horse or handler could be squeezed.	

Altogether, the weight of the horse and cargo don't exceed the trailer and tow-vehicle maximums.	
The handler is trained, supervised, and competent while loading or unloading.	
The handler doesn't duck under the horse's belly to move to the opposite side.	
The horse understands expectations and has been taught to load/unload safely.	
If your procedure involves tying the horse, use appropriate quick-release knots.	
If loading into any overhead bins or racks, secure the load appropriately. Use safe lifting techniques. Ensure the bin or rack is not over the posted capacity.	
Make sure that it is not possible for objects to fall from above.	
Have an escape route/emergency system planned once inside the trailer.	
Hauling	
Safety Tools	**Check**
Have an emergency plan with detailed steps for what to do in an emergency.	
Tell someone where you are going, where you plan to stop, and when you plan to arrive. Have a plan in place for what to do if you don't reach your destination.	
Have safe pre-planned stops along the way to check on the horses and trailer components. Plan to stop in areas off of the highway that do not put you at risk of being hit by traffic.	
Carry extra equipment, a first aid kit, fire extinguisher, cell phone, and a helper/companion (if possible).	
Driver should hold a valid driver's license and be appropriately experienced in hauling trailers and trailers containing horses.	
Adhere to local regulations regarding distracted driving—no cell phone use by driver. Use a hands-free system if you must use the telephone while driving.	
Drive to the conditions of the road.	
Ventilation	
Safety Tools	**Check**
There is fresh air and dust control in the trailer. *This is just as vital for the handler as it is for the horse.*	
Footing	
Safety Tools	**Check**
In and around the trailer there is good, firm footing with good traction. *This is just as important for the handler as it is for the horse.*	
The handler is wearing appropriate footwear *and especially is not wearing sandals or flipflops or shoes that are floppy or unlaced.*	
The floor is kept as clean as possible: urine, feces, straw, tack, brooms, hay forks, etc. are slipping and tripping hazards.	
Unloading	
Safety Tools	**Check**
Ensure you're unloading into a safe area, away from traffic, pedestrians, or hazards that may frighten your horse.	
The same precautions used during loading are used during unloading.	
The horse is unloaded in a safe area, away from traffic, pedestrians, or hazards that may frighten your horse (wind moving branches, children running, dogs, low-light conditions, or slippery conditions outside the trailer).	
The horses are never unloaded on the side of a highway, unless it is absolutely critical to do so.	

Chapter 3: Psychology of Horses and their Handlers

The Nature of the Horse

The more we understand the nature of horses (the way they think, how they act and react to different situations, what pleases them, and what scares them), the easier it will be to train and ride them.

Horses are herd animals. In large herds, they will develop smaller subherds, each with its own leader and followers. Life in a herd is a very comfortable and safe place once the herd has established its pecking order. Each member is either more dominant or more submissive to other members of the herd. Leadership of the herd usually falls to an older stallion or older mare. Authority, once established, is rarely questioned.

Hearing

The hearing ability of the horse has made them popular with hunters. The horse is able to hear game animals before they can be seen.

Each of the horse's ears are able to rotate to about 180 degrees and act as rotary antennas—rotating to the source of the sound that interests them. The hearing ability is not a problem. Sudden noises are more likely to upset a horse than a steady sound. However, if the horse hears sudden or loud noises often enough, it will learn to get used to them.

Trainers use their voices when they are schooling horses. The horse responds to the tone and forcefulness of the voice. Horses will not always understand the words, but they do learn to recognize ones which are often repeated. This is why clucking and whistling work well as cues. The same command should always be used to get a certain response.

Smell

Smell is well developed in the horse. The horse uses smell as much as sight to identify another horse, a person, or an object. Let the horse smell anything that is strange to it.

Generally, smell does not cause a major reaction and the horse will move on once it is satisfied. If the horse dislikes a smell it may blow hard through the nostrils or snort. A horse will often snort just before it shies from an unacceptable smelling object.

Horses establish their territory and make statements with their feces and urine. When horses are first introduced to other horses and they blow into each other's nostrils, they are sharing information about each other. When new horses are turned out to a new pasture, a great deal of sniffing goes on. When you meet a horse, let it smell you.

Food preference is learned.

Taste

Horses have individual preferences when it comes to taste. Some horses will refuse to eat grain when medication is mixed in, some will graze on plants that are poisonous, some will reject food by its taste or smell.

Food preferences are learned. The horse is sensitive to flavour, but develops a liking for certain food because it has had it before. A horse may dislike another food because at one time they did not feel well when they ate it.

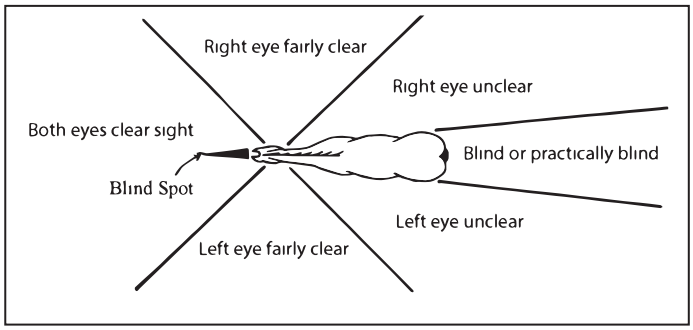
Horses eat the forage they like first and whether they like it or not has to do with the texture of the feed. Horses eat grasses like bluegrass, brome grass, and fescue before wheat grass and slough grasses. Most horses like alfalfa and clover, which are legumes.

Sight

Horses have keen eyesight and their eyes are very sensitive to movement. Their vision is very well suited to life in a herd. When grazing, they can see about 320 degrees of the horizon, making it easy to sight a predator. Their eyes are on each side of their head and they see two distinctly different pictures at the same time. Each eye can see almost 180 degrees on its side of the head. This is called monocular (single) vision, but remember, the horse has two of these single visions. A fleeing horse can see which side a predator is coming from one of those two sights. The only time a horse sees just one picture is when it is looking straight ahead. This is called "binocular vision."

Horses find it difficult to go into water or a trailer because their vision does not let them see how deep the water is or how deep the trailer. This is called "depth perception" and horses have poor depth perception. What they see is flat and probably has poor detail.

Horse's eyes do not adjust to light and dark or near and far away objects as readily as our eyes do. Their eyes are primarily made up of rods rather than cones. Our eyes are primarily made up of cones rather than rods.



Horses are able to see well at night. They do not see colour in the way that we see colour and we require light to see in the dark.

Horses have three main blind spots. They cannot see things that are very close to the centre of their face. This is why a horse will back up or shift its head when approached from directly in front. Another blind spot is directly behind the horse. Never approach a horse from directly behind. If you startle the horse it may kick out in fear. Horses also have difficulty seeing anyone or anything that is under their neck.

Touch

Many areas of the horse's body are sensitive to pressure, some more than others. The eyes and ears are the most sensitive parts of the horse's body.

There are touch receptors in the skin and hair. If you run your hand lightly across the tips of the hair, most horses will twitch (watch what your horse does when a fly lands on it). The horse also has long, coarse guard hairs on its jaw, muzzle, and around the eyes. These warn the horse about the distance they are from an object, which is especially important in poor light.

As horse owners, we apply pressure on different areas of the horse's body to teach them how we want them to move or stand. For training, the amount of pressure that needs to be used will depend upon the horse. It will depend on the thickness of the skin, the sensitivity of the nerve endings in the skin, and the experience of the horse.

Touch affects the whole body. Unlike the other senses, the sense of touch can get tired. When this happens, the horse may not react to cues it knows. This can be caused by the rider. For example, a rider that fidgets can tire the horse's sense of touch. Such a horse will not respond when a cue is given.

Sounds of Horses

Horses can produce a range of sounds to express different emotions.

- Nickers are usually friendly, soft, and submissive.
- Neighs are stronger and more assertive.
- A horse will call out very loudly when panicking.
- Squeals are most often made when a horse first meets another horse.
- Mares and their foals can identify each other by the sounds they make.
- Snorts show apprehension or dislike often followed by bolting (galloping away).

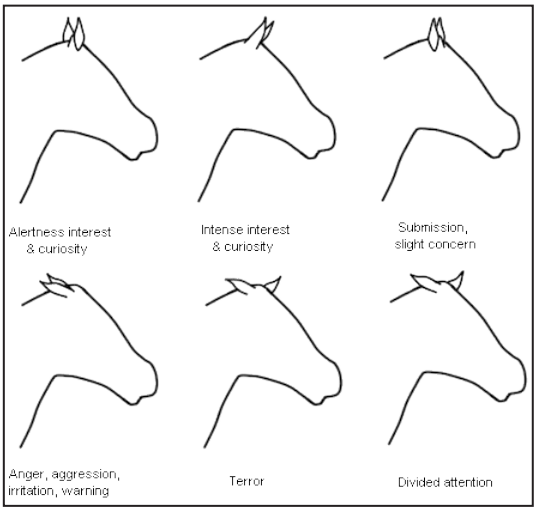
Body Language of Horses

Horses communicate a lot by their body language. A horse's expressions and the way it moves the different parts of its body will tell other horses and people (who know how to read this body language), exactly how it feels or what it wants. After spending time around horses, you will start to be able to read their body language. When starting to interpret a horse's body language start by looking at the position of the head and look of the eye, followed by how tensed the muscles are and the tail position.

Body language is one of the fastest methods of finding out that a horse is sick. The behaviour of the horse will change. A horse that normally comes to you, may not come to you at all. A horse with stomach pains may look at its side, roll, stretch, kick at its stomach, lie down, or refuse to stand. Horses that stand with a dropped head and/or exhibit a dull eye may be sick. By recognizing that the horse is sick you will be able to treat it more quickly.

Ears

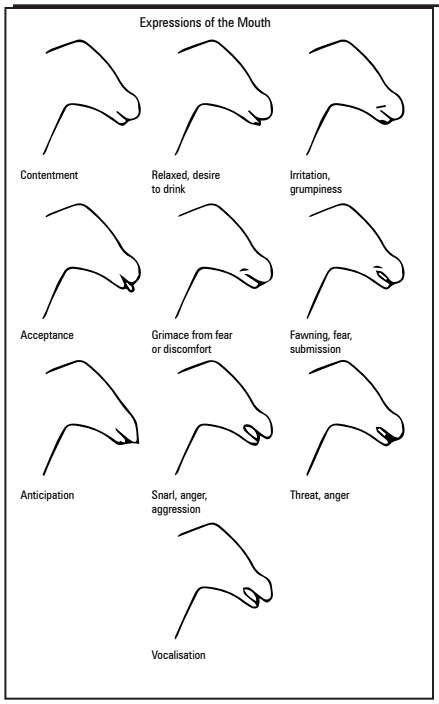
The ears are one of the best and most quickly visible signs of a horse's mood. When the ears are pressed flat back, the horse is usually quite angry or stubborn and a kick may soon follow. Sometimes ears laid back will mean extreme concentration, as in a racehorse, cow horse, or show jumper making extreme efforts. If a horse is apprehensive, uncomfortable, or unconfident, it may also lay its ears back.



If a horse has its ears pricked forward, it is probably curious or completely alert. A horse that flicks its ears around when being ridden is usually very attentive to what its rider is asking of it. When a horse has its ears relaxed and lop-sided, it is resting. When a horse's ears are droopy and hanging to the side, and respond slowly to sound, this usually indicates that there is sickness in the animal.

Head

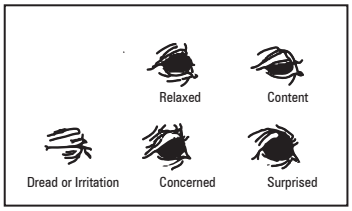
An outstretched head and neck, with ears forward, means the horse is curious about something. When it is defensive or on alert, the horse lifts and arches its head and neck. Repeated nodding of the head may mean that the horse is impatient. Often a horse will nod its head while you are grooming, or if it has made a correct response while you are riding. A well trained horse that enjoys being ridden will look pleased with itself. It is more enjoyable for the horse to do a skill correctly.



Mouth

When a horse is extremely relaxed, its lower lip may be droopy. Stubborn or alert horses will have their lips drawn tight. A horse with bared teeth will likely attack.

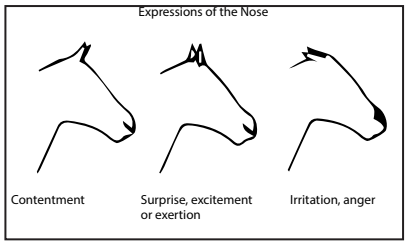
Eyes



Curiosity or alarm is expressed through a wide eye. Wrinkles above the eye often indicate worry. A horse that is resting will have relaxed, droopy eyelids. Squinting is a signal of a horse getting ready to attack or react aggressively to something. Some squinting can also be a sign that the horse is in pain.

Back

Before a horse bucks or shies away from something, it will tense and round its back. A horse that flinches or drops its back under pressure may have a sore back.



Hooves and Legs

A horse rarely kicks out without warning. As a threat and warning, a horse will lift its hoof off the ground and pin its ears back. Horses often rest a foot by standing on just three feet. The front feet are usually used offensively (a horse pawing on the ground may be a sign of impatience) and the hind feet are used defensively (kicking), although front hooves may also be used for striking.

Tail

The tail is also a useful measure of a horse's mood. When the tail is:

- firmly clamped down, the horse is settling in to be stubborn or is about to attack;
- relaxed and swinging from side to side, the horse is relaxed and happy;
- carried up and somewhat away from his body, the horse is alert and/ or curious;
- held straight up in the air, the horse is usually very high-spirited and showing off, or he is frightened;
- swishing from side to side can simply mean that the flies are being bothersome, or he may be slightly annoyed; and
- lashing violently at his sides, he is usually very angry or he is in a state of extreme physical or mental distress.

Fears


Horses can be shy creatures . . .

Horses are naturally curious, yet quite suspicious. Everything is potentially dangerous until proven otherwise. They have a natural instinct to flee from danger. With their keen eyesight and very long legs, they are well equipped to flee. Horses can be trained to be less sensitive to certain movements and objects. Think of police mounts, and you'll note that these horses have been trained to stand quiet even when crowds are surging and guns are used. In a panic situation, even well-trained horses may revert to their flight instinct.

Some horses are afraid of cars, motorcycles, and bicycles. If you know that these vehicles scare your horse, don't take your horse onto a busy roadway until it has learned to trust vehicles. It is not necessarily the vehicle that the horse is afraid of, it is sudden movement or sound that triggers the flight instinct. Exposure in a safe environment is the best way to reduce a horse's fear.

Because of a horse's natural instinct to flee from danger, it will lie down only when its feel completely safe. In a herd, horses generally take turns lying down, with a few others left standing to act as a look-out. However, young horses or those that are ill do not always follow this pattern.

Biting

Biting and nipping is a dangerous habit. Carrying treats in your pocket or bribing your horse with treats can play a factor in encouraging your horse to nip and bite. Take care to never put yourself in a vulnerable position to be bit.

In young colts and stallions, avoid picking up the horse's feet by squeezing the chestnut on the leg. In play they nip and bite at one another on the chestnut. You squeezing or pinching the chestnut can easily be interpreted as "play" to the horse and they may nip and bite back.

Avoid "hitting" a horse when a horse bites. This is particularly the case with stallions. In courting, stallions nip and bite at the mare in a playful way.

For a horse that does try to bite, immediately put it to work by backing it up, yielding the hindquarters, or circling to put it to work and move its feet. You must bring your horse to an understanding that you are the lead horse and this is an unacceptable behaviour. This strategy is effective, safe, and will not inflict harm to horse and handler.

Learning


"The results can be painful"

Every time you handle a horse, you are teaching it something, good or bad. Horses learn with consistent repetition and consistent use of aids. Horses respond to pressure and release. We know a horse has a brain, but we know it cannot reason. If you know your horse does not like going by the flapping tarp on the hay shed, unless you are trying to teach it to go by, use another route. A horse will respect you much more if you show it where its boundaries are and let it know it can trust you. Do not put your horse in any type of confinement or danger or he will lose trust in you and will not work willingly with you. Your goal is to have a respectful, willing partner that responds, rather than reacts, and accepts, rather than tolerates.

Learning takes place for both the horse and rider. The longer you work with a horse, the easier it is to predict how your horse will respond.

Teacher

Obedience to a leader is quite natural to horses. Handlers that are able to have their horse regard him or her as leader of the herd are at an advantage.

Learning Environment

The environment of the horse is important to learning. This includes the level of nutrition, health care, and handling the horse has had. A horse that has been well kept and properly handled learns more quickly than a horse that has had little care or handling.

Horses are usually reluctant to attempt anything that they suspect might cause them physical harm.

Schedule

In order to teach a horse, the trainer needs to plan ahead. Teach simple skills first. Teach more difficult skills based on the simple ones. For example, the horse can do a sliding stop with some speed after it has learned to do a balanced stop at a walk and trot. Before you are able to open and close a gate from your horse you must teach the horse to move away from the pressure of your leg.

Routine

Like most animals, horses are creatures of habit and find comfort in routine.

Rewards

Give rewards when you are training a horse. The rewards are in the form of releasing pressure once a horse has made the correct response (for example if the horse stops when you ask it to, then release rein pressure). After a horse has worked hard for some time, stopping and resting may be the reward. If the horse has been worked on the bit, riding with loose reins is rewarding. These rewards are good for all horses.

The reward system has a lasting and positive effect on the horse. It is important that you have slow hands to ask and quick hands to release when the horse tries. Always reward the slightest try. If the horse gives an incorrect response or reaction, remain calm and consistent in what you are asking, or back up in your steps of what you are asking to bring the horse to an understanding. Do not get mad. As soon as the horse tries again, take the pressure off as a reward. Take breaks after each try allowing the horse a chance to relax and think about what you have asked of him/her, particularly if the task is challenging for both you and the horse. Avoid hand-fed rewards, as this can teach your horse to come into your personal space, and nip or bite.

Attention Span

The length of time a horse is worked will depend upon the age of the horse, its fitness level, and the amount of hard intense work you are doing. A young horse has a shorter attention span, therefore it should be taught in short consistent lessons. Always end your lesson for any horse on a positive note.

Repetition

To teach a horse a skill, it must be repeated. Although the horse learns slowly, it has a good memory. The horse will remember what you have taught him for a long period of time. This makes proper handling of your horse important. Poor behaviour is also learned.

Physical Ability

What is your horse physically capable of doing? A horse may be unable to perform certain skills. Not every horse has the athletic ability to jump, rein, or do games, even if it has the learning ability.

Boredom

Prevent boredom in your horse by turning it out daily, providing a companion, or change in riding routine, and offering it new learning experiences. The more varied the experience your horse has, the greater its value.

Psychology of Horses and their Handlers Safety Checklist	
The Nature of the Horse	
Safety Tools	**Check**
Handlers with a greater understanding and appreciation for basic horse psychology are able to assess, explain, prepare for, and trouble shoot why a horse acts/reacts the way it does.	
The handler understands and is prepared for hazards such as environmental stimuli, a skittish horse, maternal instincts, stallions, previous human interactions, relationships between horses, dominance, submission, fight-or-flight, ill horses, horses with vision issues, and other situations or issues.	
The handler is aware that horses that have had bad experiences with other handlers in the past may revert to defensive methods in stressful situations. For example, a horse that has a tendency to pull back when tied, may never be safely tied up.	
Learning Environment	
Safety Tools	**Check**
Handlers are assigned or take on ability-appropriate tasks. Coaches and parents may refer to the North American Guideline for Children's Agricultural Tasks. (See the Reference section at the back of this manual.)	
Parents and coaches are aware of age-ability characteristics, and what might be safely assigned to the child or youth.	
Handlers are aware that certain psychology traits can lead to unsafe situations. For example, a new handler may be fearful of horses, an intermediate handler may be over-confident in abilities, and an experienced handler may become too easy-going.	
Handlers are aware of general equine body language, such as the following: • Swishing tail means he's irritated. If there are no bugs, he could be irritated with you! • Ears – flat against the head means aggression, pricked forward means he's focused on something ahead of him, turned back means he's focused on something behind him, and just "there" means he's not worried. • General body position – tense muscles, erect head and neck means he's unsure of something and on high alert; a lowered head and relaxed body mean he's comfortable and not expecting any danger; and a cocked leg can either mean he's resting, or, if other body language suggests tension, he may be taking aim – better have a plan in place.	

Use this page to make notes or diagrams.

Chapter 4: Horse Identification

Equine Terminology

Some breeds of horses, regardless of their date of birth, change their age on January 1st. Terms that are used to describe the sex and age of a horse include:

Sex and Age

Foal: the offspring of horses, either male or female, up to one year old, are called foals

Colt: male offspring, up to four years old, or until gelded

Filly: female offspring, up to four years old, or until the first breeding

Mare: mature female horse over four years of age, or younger if bred

Yeld Mare: mature female horse that has never given birth, or that is barren (not in foal)

Stallion: male horse, that has not been castrated (gelded)

Gelding: male horse of any age that has been castrated

Yearling: one year old up to two years old

Weanling: a foal that has been weaned and no longer has access to its mother's milk (usually at about four to six months of age), up to one year old.

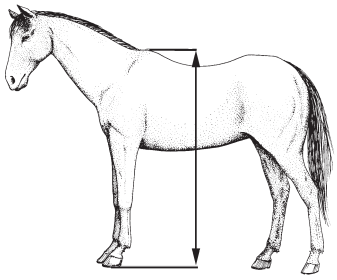
Aged: any horse, any sex, over nine or 10 years old

Breeding Terms

Dam: a foal's female parent

Sire: a foal's male parent

Horse Height



A horse's height is expressed in "hands." One hand equals four inches (10 cm). It is measured from the ground to the highest point of the withers.

1 Hand = 4 inches (10 cm)

Therefore, to measure a horse, it will be necessary to convert any metric measurements into inches. To convert from centimetres to inches, multiply by 0.394. For example, a horse that measures 152 cm or 60 inches tall at the withers will be 15 hands high.

$$152 \text{ cm} \times 0.394 = \frac{60 \text{ in.}}{4 \text{ inches/hand}} = 15 \text{ hands}$$

Incomplete hands are broken down using inches, so that if your horse is 148 cm tall it would be 14.2 hands (14 hands + 2 inches).

$$148 \text{ cm} \times 0.394 = \frac{58 \text{ in.}}{4 \text{ inches/hand}} = 14.2 \text{ hands}$$

Horse Weight

Although a scale is the only precise measurement of weight, most people do not have a scale large enough to weigh a horse. There are also weight tapes for measuring the heart girth which give an approximate weight, or you can approximate the weight of a horse by applying measurements to the formulas shown in the text box. To take the measurements, use a vinyl measuring tape, in inches or centimetres. Make sure you have someone helping you and someone holding the horse. For the heart girth measurement, place the tape behind the horse's elbow and pass the tape to your helper on the other side of the horse, over the top of the withers. Have the tape passed back to you so that the tape completely circles the horse. Have you helper make sure the tape is as close behind the horse's elbow as possible. Now move the tape 2.5 cm (one inch) behind the withers. To measure body length, measure from the point of the shoulder to the point of the buttock.

Weight of Horse Formulas

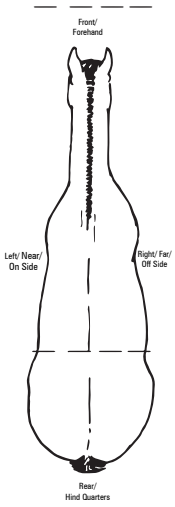
For both formulas, measure the length from point of shoulder to point of buttock.

To measure the weight in pounds, use this formula.

$$\frac{\text{Heart Girth (in)} \times \text{Heart Girth (in)} \times \text{Body Length (in)}}{330} \qquad \frac{H2 \times BL}{330}$$

To measure the weight in kilograms, use this formula.

$$\frac{\text{Heart Girth (cm)} \times \text{Heart Girth (cm)} \times \text{Body Length (cm)}}{8700}$$



Points of Reference

When working around horses, the right side of the horse is referred to as the far side or the off side. The left side of the horse is referred to as the near side.

Most activities (catching, mounting, saddling, and leading) are done from the near side (left side) of the horse.

The back end of the horse is referred to as the hindquarters or the haunches. The hindquarters include all parts behind and below the loin. The front of the horse is referred to as the forehand.

Colours and Markings

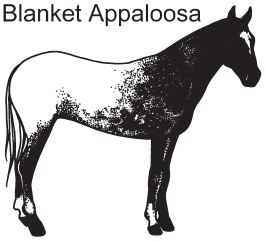
Horses come in many colours and with many different markings. Colours and markings are a useful way to tell horses apart, or to identify horses that are not known to you. They are also used on registration papers, the Alberta Livestock Manifest (for transporting horses), and health papers.

It is the colour of the *summer coat* that is used to identify the horse's colour. Different breed associations describe coat colour differently. The colours of horses and their corresponding descriptions are as follows.

Albino—an animal that has no pigment in its eyes, skin, hooves, or body hair. There are conflicting reports on albinism. Some sources say there are no such things as true albinos—that they actually are white horses.

Appaloosa—is a stock horse with unique and unusual spotted coat patterns. A basic and defining characteristic of the Appaloosa horse is the presence of mottled (partly coloured) skin, usually found around the muzzle, eyes, and genitals. Appaloosa hooves have clearly defined vertical light and dark stripes, which are found on both dark or white legs. Around the iris in their eyes, Appaloosas have a white sclera, which is clearly visible. In other horses, the whites usually only show when the horse is alarmed.

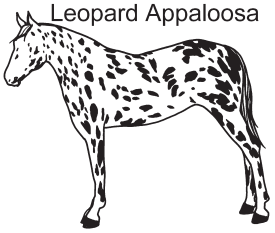
Blanket Appaloosa



There are eight basic Appaloosa coat patterns, as follows.

- **Blanket**—a solid white area normally over the hip on a horse with a contrasting base colour.
- **Blanket with Spots**—like the blanket, but with scattered spots of various sizes. The spots may be the same colour as the base coat.

Leopard Appaloosa



- **Leopard**—white base coat, with dark spots scattered over the body.
- **Roan**—is a mixture of white and dark hairs.
- **Roan Blanket**—a mixture of white and dark hairs usually over the hip area.
- **Roan Blanket with Spots**—a mixture of white and dark hairs over a portion of the body with white and/or dark spots within the roan area.
- **Spots**—a horse with white or dark spots over a portion of its body or over the entire body.

Snowflake Appaloosa

- **Solid**—one colour.

Some Appaloosas may be a combination of more than one pattern. Many Appaloosas may change from one pattern to another over their lifetime.

Bay—body colour ranges from tan, to red, to reddish-brown. Bays always have black points (legs, muzzle, mane and tail, and the tips of the ears). Many bays have black legs that are covered with white markings.

Black—body colour is true black without any light areas. Mane and tail are black.

Brown—body colour can be shades of brown or black with light areas at the muzzle, eyes, flank, and/or inside the upper legs. Mane and tail are black, often the same colour as the body while the lower legs are black.

Buckskin—body coat some shade of tan, from very light (cream) to very dark (bronze). Points (mane, tail, legs, and ear frames) are black or dark brown. Dorsal (stripe) not required.

Chestnut/Sorrel—body colour ranges from light copper to reddish-brown. Mane and tail are usually the same colour as the body, but may be flaxen (straw yellow or dirty white colour caused by a mixture of dark hair in with the white).

Dun—body coat some shade of tan, from very light (creme) to a dull or smutty brown tone. Points, dorsal stripe and other dun factor markings are dirty black or smutty brown. There are many shades and variations in the dun colour. Dorsal stripe required.

Grey—mixture of white and coloured hairs. They are usually born solid coloured, or almost solid coloured, and become lighter with age. They always have dark skin underlying the patches of white hair. Grey includes dappled (variegated with round spots of white) and flea-bitten (small dark spots *"sprinkled"* over an animal's coat).

Grulla— (grew-ya) A grulla's body coat is slate coloured (bluish gray as the blue heron) from light blue-gray to a brownish shade. Points and dun factor markings are black. A dorsal stripe is required. The grulla colour is the rarest of all horse body coat colours. The word "grulla" is Spanish and translates into English as "crane."

Colour Breeds

Some colour breeds only register a horse if it has a specific coat colour, and it doesn't matter what breed the horse is. Some colour breed registries like Paint and Appaloosa, accept horses that do not have the specified colourations of their breed, because sometimes two registered horse will produce a foal that does not have the Paint or Appaloosa colouring.
Example Appalossa and Paint are colour breeds.

Colour Registries

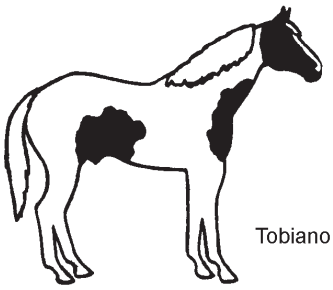
Colour registration only accept horses with a defined colour pattern. Examples are: pinto, palomino, and buckskin.

Some horses can be double registered—for both their breed and colour. Example: You can have a double registered horse which is registered Paint and Quarter Horse.

Paint—body colour is a combination of white and any colour of the equine spectrum: black, bay, brown, roan, buckskin, dun, gray, grulla, perlino, smoky cream, chestnut, cremello, palomino, red dun, sorrel, or champagne. Markings can be any shape or size, and found anywhere on the body.

Although Paints come in a variety of colours with different markings, there are only three specific coat patterns: overo, tobiano, and tovero.

Overo



Tobiano

- **Overo**—may be predominantly dark or white, with distinctive head markings. The white is irregular and is rather scattered or splashy. At least one and often all four legs are dark. The tail is usually one colour.
- **Tobiano**—may be either predominately dark or white with spots that are regular and distinct as ovals or round patterns that extend down over the neck and chest, giving the appearance of a shield. Head markings include solid, or with a blaze, strip, star or snip. One or both flanks are usually dark coloured. All four legs are white, at least below the hocks and knees. The tail is often two colours.
- **Tovero**—has dark pigmentation around the ears, which may expand to cover the forehead and/or the eyes. Dark pigmentation around the mouth that may extend up the sides of the face and form spots. One or both eyes are blue. Chest and flank spots are variable in size. Varying spot sizes at the base of the tail.

Palomino—Body colour is cream to golden yellow. Mane and tail are white.

Pinto—must have 10cm^2 (four square inches) of cumulative white in the qualifying zone and underlying pink skin. The requirement is modified with the size of the equine. Other Pinto characteristics include blue eyes, leg white above the knee or hock, and white or multi-coloured hooves.

There are two colour patterns:

- **Tobiano**—appears to be white with large flowing spots of colour, often overlapping. Spots of colour typically originate from the head, chest, flank, and buttock, and often include the tail.
- **Overo**—appears to be a coloured horse with white markings. Spots of white appear to be jagged and usually originate on the animal's side or belly and spread toward the neck, tail, legs, and back. The white colour almost never crosses the back.

Roan—any coat colour mixed with white hairs. Common roans include blue roan (black horse with roan gene), bay roan (black legs, mane, and tail) and red roan (red coloured mane, tail, and legs).

White—a true white horse is born white and remains white throughout its life. A white horse has snow white hair, pink skin, and usually, brown eyes.

Markings

The following diagrams show the markings commonly found on the head and legs of the horse, and the terms which are used to describe them.

Markings of the Head:

Star

Star—a white mark on the forehead.

Snip

Snip—a white spot on the nose.

Stripe

Stripe—a narrow white mark down the face anywhere between eyes and nostrils.

Blaze

Blaze—a wide white mark down the face from the forehead down to the nostrils.

Bald Face

Bald Face—a very broad blaze—can extend out around the eyes and down to the upper lip and around the nostrils, and/or past the eyes.

Markings of the Legs:

Heel—white spot on the bulb of the heel.

Heel

Distal Spots—white spots on the coronary band.

Distal Spots

Heel or Partial Coronet—white spot on the heel or on part of the coronary band.

Coronet Heel

Coronet— white strip covering the coronary band.

Coronet

Half Pastern—white extends up halfway on the pastern.

Half Pastern

Ankle/Pastern—white extends from coronet to and including the fetlock.

Pastern

Half Stocking/ Sock—white to halfway up the cannon bone.

Half Stocking

Stocking—white up to the hock or knee.

Stocking

Ermine—black or brown spots within the coronary band.

Bird Catcher Spots—dime-sized white spots on a horse's body.

Characteristics of the Main Horse Types

All horses fit into one of five following body types—draft, stock, saddle, sport horse, or pony. Each of these types has specific characteristics that separate it from the next body type. Muscling is one easily distinguishable feature. Well-defined muscling should be a characteristic of all horses. Volume, length, and definition of muscling should be uniform from the front to the rear and from one side to the other side of the horse. The length and volume of muscling that the horse should possess is determined by the body type and the breed of the horse.

Draft Type

- Clydesdale, Shire, Belgian, Percheron, etc.
- Heavily muscled, large-framed, and large-boned.
- Used primarily for pulling and driving.

Draft type horses require a greater volume of muscling compared to horses with other body types because they are bred for strength and power. Thus, volume of muscling is of greater importance than length of muscling.

Stock Type

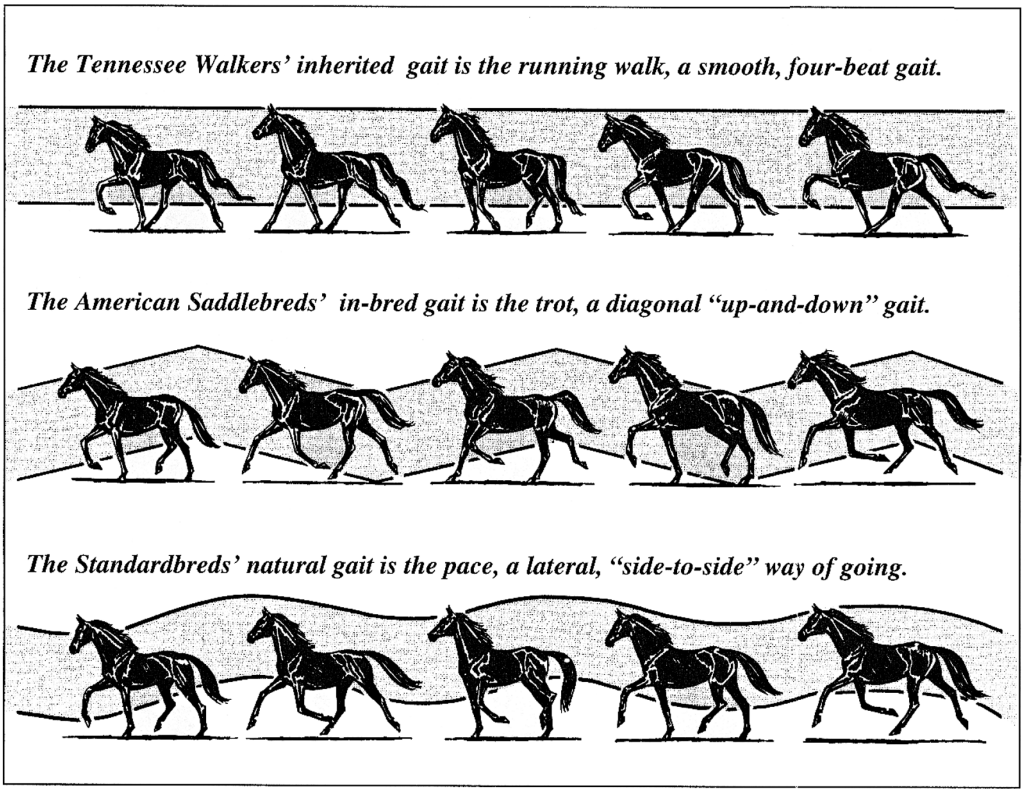
- Quarter Horse, Paint, Appaloosa, etc.
- Well-muscled, deep bodied.
- Used primarily for short-distance racing, ranch work, trail riding, roping, reining, cutting, pleasure, and gymkhana events.

In the stock type horse, length and volume of muscling are of similar importance. Volume of muscle is required for power and quick starts, while length of muscling is required for speed and suppleness.

Saddle Type

- Tennessee Walker, American Saddlebred, Arabian, Morgan, Standardbred, etc.
- Longer muscled, longer neck and body, higher-set arching neck, higher tail carriage, often more animated movement.
- Used primarily for pleasure, driving, endurance, and trail.
- Some breeds may be gaited.

This body type is among those with the least volume, but the greatest length of muscling. Muscle length is needed for speed, endurance, and suppleness in these types of horses. Length of muscling is more important than volume of muscling.



Sport Horse Type

- Thoroughbred, Warmbloods, Hanoverian, and Trakhener, etc. Larger, longer bodies, deeper heart girth and longer muscled.
- Used primarily for racing, jumping, cross-country, three day eventing, dressage, pleasure, and endurance.

This body type is another with the least volume, but the greatest length of muscling. Length is needed for speed, endurance and suppleness in these types of horses. Length of muscling is more important than volume of muscling.

Pony Type

- Welsh, Shetland Pony, etc.
- Less than 14.2 hands, usually resemble stock type or saddle type breeds.
- Generally shorter neck and body.

Used primarily for children's mounts and driving. These horses are primarily distinguished by their body height.

Breed Associations

There are approximately 20 pedigree breed associations in Canada that keep registries of pure and part-bred horses. These associations keep a stud book of lineage (parentage) of individual animals of a breed. Their responsibility is to ensure that the registered animal is the animal it is said to be. They achieve this by issuing registration papers for individual animals whose lineage can be traced through their stud book and through verification of parentage by DNA samples.

Each breed registry uses breed specific information as to what they will accept as a registered horse within their breed. This requires that both parents can be traced through their stud book and certain criteria are met regarding breeding, colour, and size.

The registration papers require identification of the parents of the horse, sketches or pictures, and a description of the horse, plus the horse's colour and markings, and perhaps measurements.

In Canada, breed associations are regulated by the *Animal Pedigree Act*. According to this act, there can only be one registry per breed of animal in Canada. The *Animal Pedigree Act* spells out the way that Canadian registries keep records and do business, to ensure that animals are correctly identified or registered. This differs from the United States. and other countries where there is no such regulation. In the U.S., for example, there are no restrictions on the number of registries that can be established for each breed. There are also some registries that maintain records for horses in which only one parent can be traced through their stud book. Because they operate differently, it is important for horse owners to know that Canadian law does not apply to foreign registries.

Colour registries are not regulated by the *Animal Pedigree Act*. These include registries such as those for Buckskin, Palomino, and Pinto horses, where the animal is registered strictly for its colour, with no maintenance of parentage records.

Registering Your Horse

Each breed association has its own criteria for the registration of horses. Therefore, it is important that you check the criteria of any association you wish to register with, and ensure that you comply with their qualifications. Most associations require DNA parent verification, photographs, and a registration fee.

Transfer of Ownership

It is the responsibility of the seller of a horse to complete the transfer of ownership for registered horses. Therefore, if you sell a registered horse to someone, you must complete the transfer forms and send them and the fee to the registry. Similarly, if you have purchased a horse that is registered, the person you bought it from should fill out the forms and do the paperwork to have the ownership transferred to your name. These terms apply unless other arrangements have been made prior to, and stated in, the bill of sale. As the new owner you will need to make sure that this has been done.

Tattoos

Individual horses can be marked and identified by a tattoo. A tattoo is made by puncturing the skin and rubbing dye into the wound. They are put on the inside of the horse's upper lip. These tattoos are permanent and cannot be removed. In general, only horses that race are tattooed.

Breeds of Horses

Horses are categorized in many ways. Some are segregated as a separate breed according to their lineage. Some are segregated according to their colour.

In Europe, a classification is used whereby horses are referred to as "cold blooded," "hot blooded," and "warmblooded." Cold blooded refers to draft type horses. Hot blooded is used to indicate horses that are Arabians or Thoroughbreds. Warmblooded indicates a cross between a cold blood (draft type) and a hot blood (Arabian or Thoroughbred). Another type of classification, used in North America, has three classes: Draft Horse (like Percherons and Belgians), Light Horse (like Quarter Horses and Paints), and Sport Horse (which usually have a Thoroughbred sire and a mare from one of the other categories, and would also include Warmbloods).

Below are descriptions of some common breeds. The Reference section has additional sources for information about breeds of horses throughout the world.

Popular Breeds of Horses

Appaloosa—The Nez Perce people created the breed using the generations-old Spanish horses that had been brought over to North America from Europe. Although many Appaloosas have spotted coats, some have solid body colours. Other distinct characteristics you can usually see are the visible white part of their eyes, their mottled skin, and striped hooves.

Arabian—These horses were bred in the Arabian peninsula and were intended to be fast as well as capable to endure long rides with little feed and water. The Arabian is a beautiful horse with a noticeable dished-shaped face and a way of holding its tail high. Typical colours are solid bay, chestnut, black, or grey.

Belgian—Belgians are large horses, usually 16 to 18 hands high, and an average weight of 800 to 1180 kilograms (1800 to 2600 pounds). In colour, they are usually sorrel or blonde with flaxen to white manes and tails, or roan. These horses were bred in Belgium to be farm draft horses. They are strong and powerful, quiet and patient.

Canadian—These horses come from the French stock sent over to Canada in the 1600s. The Canadian horse is capable of a variety of pleasure riding and driving activities. They have excellent conformation which keeps them sound for work, which they enjoy. The Canadian measures between 14 and 16 hands high and weighs 450 to 635 kilograms (1000 to 1400 pounds). Colours are black, brown, bay, or chestnut. They are noted for their fine heads, arched backs, and wavy, thick manes and tails.

Clydesdale—The Clydesdale, bred in Scotland, is the lightest draft horse, measuring 17 to 19 hands high and 816 to 1000 kilograms (1800 to 2200 pounds). These horses have long, silky feathering down their lower legs and over the hoof. With their distinctive style, they have power and strength. In colour, they are usually bay or brown with white markings on the legs, face and body. (The Shire breed, which is in danger of not continuing, also has feathering, is large like the Clydesdales, and was originally bred for draft work).

Connemara—These ponies were bred in Ireland. Large enough to be a fine mount for children or adults, the ponies are noted for their agility, jumping ability and show status. They have a free-going manner, excellent balance and conformation, and great strength. They are known to be spirited, sensible, courageous, and kind. In colour, they are usually grey or dun, but can be black, brown, bay, chestnut, or roan.

Fjord—The Fjord horse is a small horse from Norway, measuring 13 to 15 hands high and weighing 450 to 635 kilograms (1000 to 1400 pounds). They have a dark cream body colour and a distinctive mane and tail which has black hairs down the middle and silver around the outside. Fjord horses are noted for strength, soundness, and quiet manner, and are used for riding and driving.

Irish Draught—The Irish Draught comes from breeding Thoroughbreds with Irish Farm Horses. Measuring 15 to 17 hands high, they are used for light draft, riding, and driving. Irish Draught horses are known for their strength and substance, athletic ability, intelligence, and kindness. They may be bay, brown, chestnut, or gray.

Miniatures—Miniature horses are horses under 86 centimetres (34 inches) high (pure miniatures are 81 centimetres (32 inches) and under).

Morgan—The Morgan breed traces its beginnings back to a single stallion named Figure (born in 1789 in the U.S.), who was later renamed after its owner, Justin Morgan. Figure was extremely strong and fast, and passed on his sensible disposition, making the breed a first choice for mounted police work. The Morgan is a compact and deep bodied horse, with fine, strong legs. It measures between 14.1 and 15.2 hands high. It will carry its head high on its thick crested neck. The Morgan is usually dark brown, bay, chestnut, or black.

Paint—The Paint horse has a two coloured coat of clearly defined areas of white plus one of black, red brown, chestnut, grey, dun, or roan. It is a stock type horse with Quarter Horse and/or Thoroughbred bloodlines.

Paso—The Paso has natural way of high stepping, with a four-beat lateral gait. The gait (called termino), creates a smooth ride. They small horses, measuring 14 to 15.2 hands high and 400 to 500 kilograms (900 to 1100 pounds), are tough and hardy, and willing to work. Colours are bay, chestnut, black, brown, or gray. The most common type is the Peruvian Paso, but the breed is found all over South America.

Percheron—The Percheron is a draft horse that measures from 16 to 18 hands high and weighs between 900 to 1100 kilograms (2000 and 2400 pounds). Colours are black or grey. These horses originated in France, and are known for their high knee and hock action, and a distinctive walk gait. Though bred for draft work and driving, they have proven themselves as riding horses, show jumpers, and when crossed with lighter horses, as dressage horses.

Quarter Horse—The Quarter Horse is an extremely popular riding horse with versatility and "cow-sense." Its name comes from its reputation as being the fastest horse at a quarter of a mile. In addition to racing, Quarter Horses are used for ranch work, showing, pleasure, driving, and other pursuits. This horse was developed in North America. Its muscular conformation gives it speed and agility. Identified by their short-coupled frame and a distinctive short and refined head, in colour they are any solid colour, roan, or gray.

Saddlebred—Kentucky plantation owners developed the Saddlebred horse in the 1800s. The horse was intended to provide a comfortable ride as well as to look stylish when being driven. They have a high head carriage and a high-stepping way of moving. Saddlebreds are used for show, driving, and pleasure.

Shetland—The Shetland Pony comes from the Shetland Islands off Northern Scotland. The Shetland is a small breed, and is very strong. At a maximum height of 10.2 hands high it often used as a riding pony for small children. The Shetland is noted for being headstrong and willful, so handlers have to be firm and kind to ensure a good pony and rider relationship.

Standardbred—Standardbred horses are used primarily for harness racing, either as pacers (moving the front and hind legs of the same side, together) or trotters (moving the front leg of one side at the same time as the hind leg of the opposite side). They also make good pleasure and driving horses.

Tennessee Walking Horse —The Tennessee Walking Horse is a gaited horse that has a running, four-beat walk. This even gait is fast and comfortable to ride.

Thoroughbred—The Thoroughbred horse comes from three stallions brought into England from the Middle East in the 17th and 18th centuries. These are the Byerley Turk, the Darley Arabian, and the Godolphin Arabian. Known as the bloodhorse, they are hot blooded, spirited, fast, and have great stamina. Its conformation is long-bodied and deep-chested, which allows it to run long distances at a fast speed.

All-round athletes, the Thoroughbred may be found in other disciplines beyond the racetrack, including for pleasure, ranch work, show jumping, eventing, and dressage.

Warmbloods (Such as the Hanovarian, Oldenburg, Holstein, Westphalian, Dutch Warmblood, and Trakehner) —Warmbloods were developed in various parts of Europe, originally as work horses. They are noted for their strength rather than their speed, and are today popular for dressage and show jumping. Warmbloods are known for their clean cut lines, strong, muscular bodies, and well-formed hard hooves.

Welsh—The Welsh Pony is compact and sturdy. They have arched necks and strong bodies. They are known to be hardy and agile, and to have a gentle temperament. They are used for harness or riding. They are categorized by height into the following sections.

- Section A – Welsh Mountain Pony – less than 12 hands high (smallest).
- Section B – Welsh Pony – 13 hands high and under.
- Section C – Welsh Pony of Cob type – 13.2 hands high and under.
- Section D – Welsh Cob – Over 13.2 hands high (largest).

Hybrid Crosses

Hybrid crosses between horses and donkeys are popular for pack animals, and trail and pleasure riding. Hybrid crosses are sterile.

Mule—The mule is a cross between a Jack (male donkey) and a mare (female horse).

Hinny—A hinny is a cross between a stallion (male horse) and a Jenny (female donkey).

4-H Horse Reference Manual - Horse Identification

Horse Identification Safety Checklist	
Equine Terminology	
Safety Tools	**Check**
Handlers are able to communicate with other handlers/workers using a common language. For example, being understood while saying, "This mare is sensitive around her left hock."	
Colours and Markings	
Safety Tools	**Check**
Handlers have greater personal safety because they are able to communicate with other handlers/workers: "Watch out for that dapple grey, she nips!"	
If your stable uses a non-verbal system for identifying horses, like the braided tail ribbons, then everyone should know what the different colours means.	
Characteristics of the Main Horse Types	
Safety Tools	**Check**
Handlers are careful about stereotyping a horse based on its type or breed. For example, being doubtful when someone says, "All heavy horses are laid back," or "Quarter Horses are the best breed for new riders."	
Each individual horse is evaluated for temperament based on experience, not breed or type.	
Breed Associations	
Safety Tools	**Check**
Handlers connect with their breed association and watch for horse safety tips via e-mail, newsletters, social media, or magazines.	
Handlers benefit from local information and training events hosted by associations. These are a great way to increase a handler's knowledge-base, introduce safer techniques, and connect with potential mentors/coaches.	
Breeds of Horses	
Safety Tools	**Check**
Handlers have greater personal safety because they can communicate with other handlers/workers using the breed names of horses. For example, "That Morgan mare is sensitive around her head."	

Chapter 5: Confromation and Evaluation

Parts of the Horse

Abdomen or Belly–the broad area underneath the horse between the elbow and the flank.

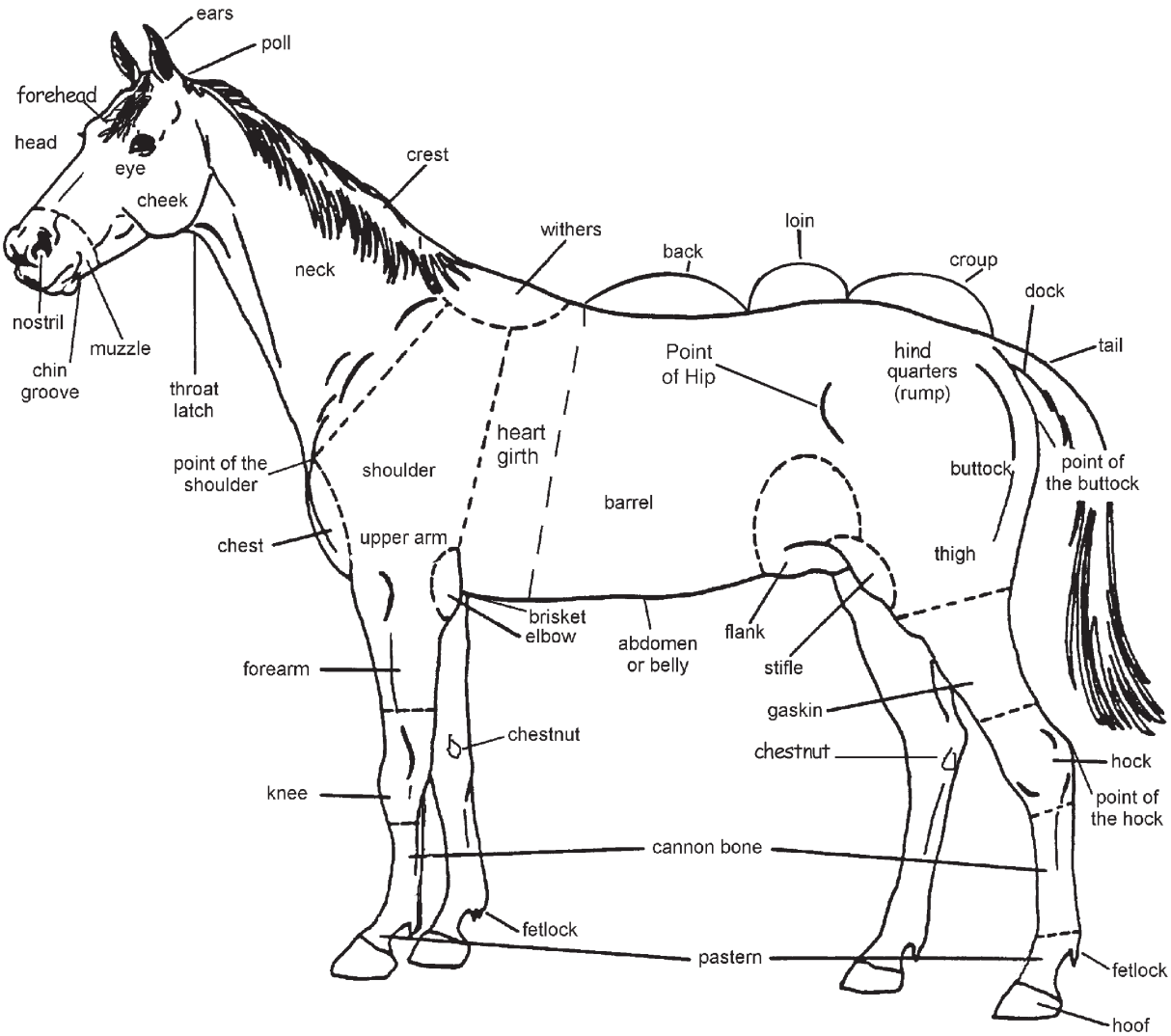
Back–the horse's back runs from the withers to the loin. This contains part of the spinal column.

Barrel–the large area below the back in the general vicinity of the rib cage. This is where the heart, lungs, and stomach of the horse are housed.

Brisket–the area directly between the forelegs at the front of the abdomen.

Buttock–the muscled area below the dock and above the thigh.

Cannon Bone–the long bone between the knee or hock and the fetlock joint.



Cheek (Jowls)–Distinct bones on the sides of the horse's jaw.

Chest–The muscled area at the front of the horse below the neck attachment down to the legs. The width, depth, and muscling of the chest will influence how well the horse can move. A chest that is too wide may produce a waddling stride and a chest that is too narrow may result in interference with the horse's travelling.

Chestnut– A horny growth on the inside of each leg. It is found above and on the inside of the knee of the front leg and below and on the inside of the hock of the back leg.

Chin Groove–The hollow between the chin formed by the branches of the jaw.

Coronet/Coronary Band–Area at the bottom of the pastern where hair stops and hoof growth begins.

Crest–The top line of the neck.

Croup–The area at the top of the rump and in front of the tail. It extends from the highest part of the hip to the tail.

Dock–The solid part of the horse's tail, containing the tailbone.

Ears–Two ears located on the top of the horse's head.

Elbow–The joint at the top of the forearm in the girth area.

Eyes–Two eyes located on the sides of the skull.

Fetlock–The joint between the long pastern bone and the cannon.

Flank–The region between the barrel and the hindquarters.

Forearm–The upper part of the foreleg, between the elbow and the knee.

Gaskin–A muscled area of the hind leg, above the hock and below the stifle.

Head–Includes the area from the muzzle to the poll.

Heart Girth–A line drawn around the barrel just behind the elbow and withers.

Hock–The joint of the hind leg below the gaskin and above the cannon bone.

Hoof Wall–A hard outer covering from the coronary band to the ground protecting the sensitive part of the foot.

Knee–The joint of the front leg below the forearm and above the cannon bone.

Loin–The short muscled area joining the back to the croup.

Muzzle–Describes the area including the nostrils, chin, and mouth.

Neck–Muscled area from the poll to the withers attaching the head to the body.

Nostril–The part of the muzzle through which the horse breathes.

Pastern–The area above the coronary band and below the fetlock joint.

Point of the Buttock–Is the highest point of the buttock at the extreme rear of the animal.

Point of the Hip–The bony point lying just forward and below the croup.

Point of the Hock–The most prominent part of the hock at the back.

Point of the Shoulder–The bony point at the extreme lower end of the shoulder blade, just above and to the side of the chest.

Poll–A point between the ears at the top of the head where the head joins the neck.

Shoulder–The area of the horse's front quarters where the front leg is attached to the body with muscles and tendons.

Stifle–Is a joint at the front of the thigh in the flank area.

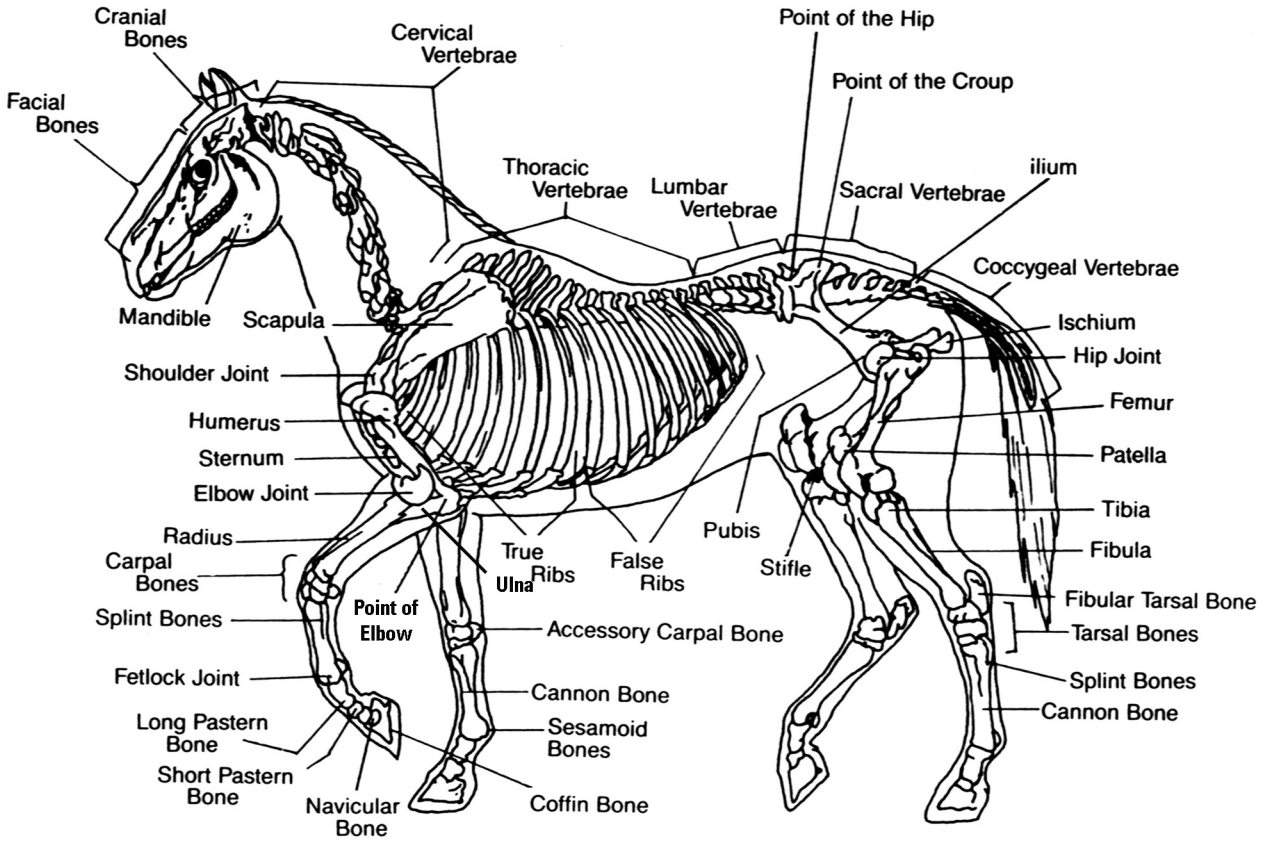
Thigh–The large muscled area below the croup, below and in front of the buttock and behind the stifle joint.

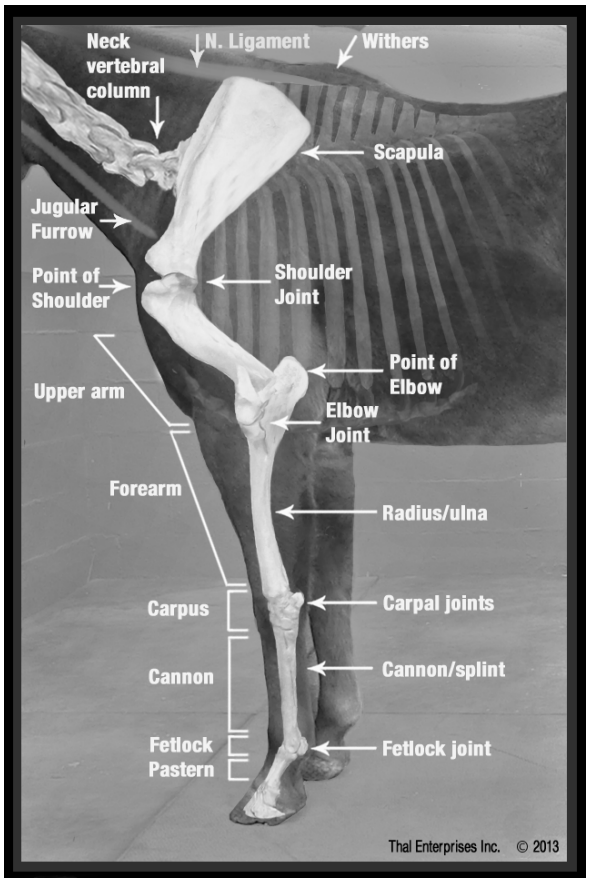
Throat Latch–The area behind the jaw where the head attaches to the neck.

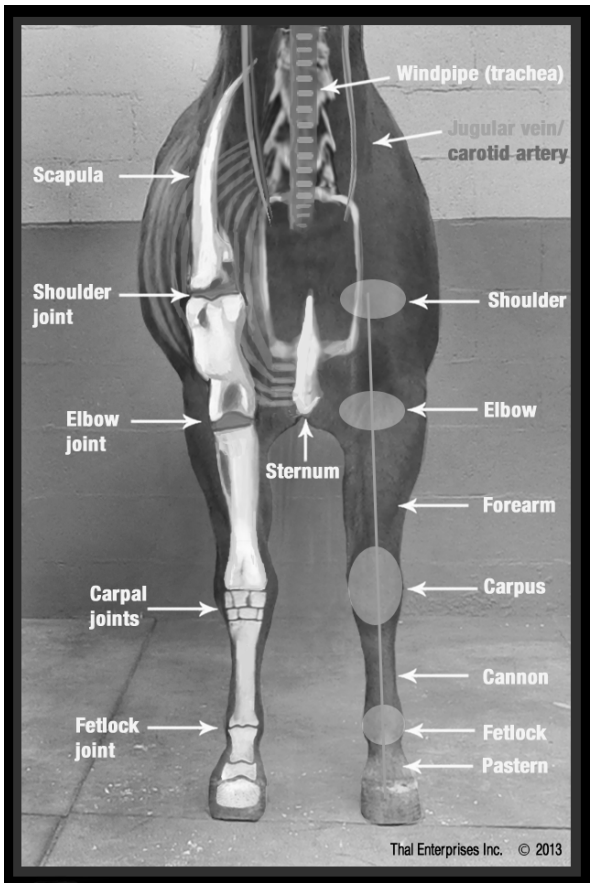
Upper Arm–The area above the elbow to the point of the shoulder.

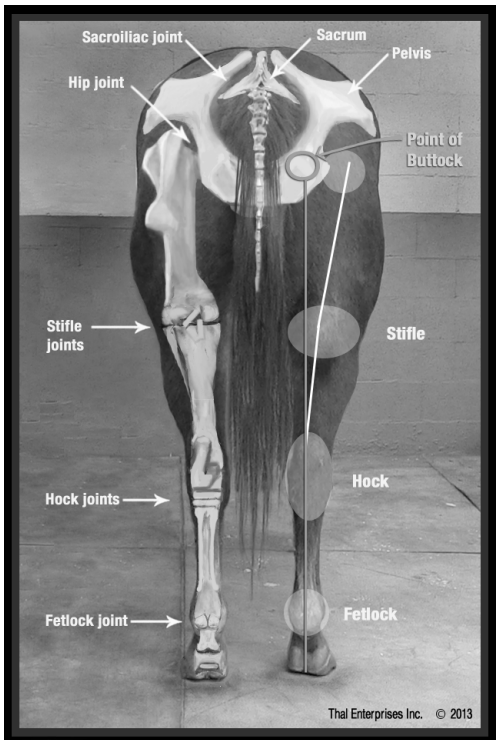
Withers–The prominent ridge near the base of the mane where the neck and back join.

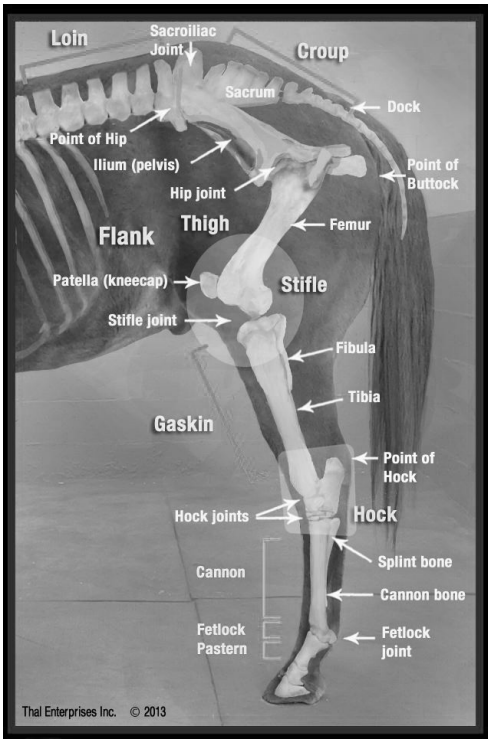
Anatomy of the Horse's Skeleton








Sacroiliac joint
Sacrum
Pelvis
Hip joint
Point of Buttock
Stifle joints
Stifle
Hock joints
Hock
Fetlock joint
Fetlock
Thal Enterprises Inc. © 2013


Loin
Sacroiliac Joint
Croup
Sacrum
Dock
Point of Hip
Ilium (pelvis)
Point of Buttock
Hip joint
Flank
Thigh
Femur
Patella (kneecap)
Stifle
Stifle joint
Fibula
Tibia
Gaskin
Point of Hock
Hock joints
Hock
Splint bone
Cannon
Cannon bone
Fetlock Pastern
Fetlock joint
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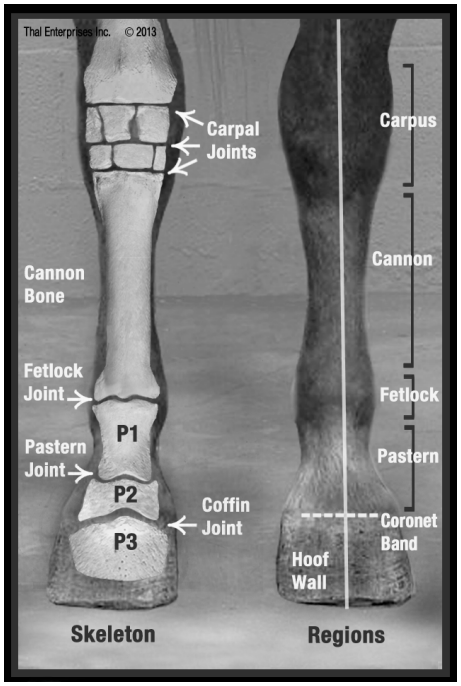
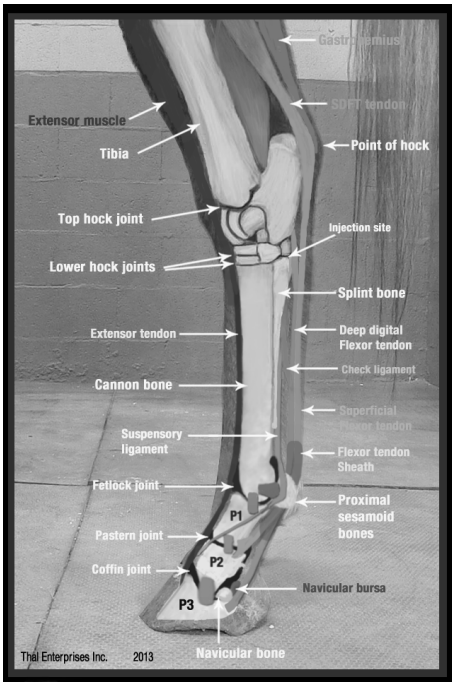
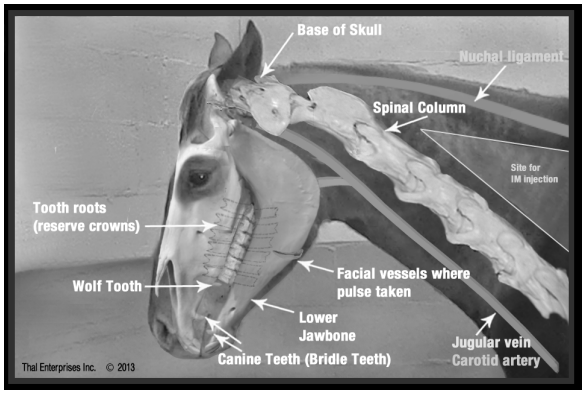

Thal Enterprises Inc. © 2013
Carpal Joints
Carpus
Cannon Bone
Cannon
Fetlock Joint
Fetlock
P1
Pastern Joint
Pastern
P2
Coffin Joint
P3
Coronet Band
Hoof Wall
Skeleton
Regions


Gastrocnemius
Extensor muscle
SDFT tendon
Tibia
Point of hock
Top hock joint
Injection site
Lower hock joints
Splint bone
Extensor tendon
Deep digital Flexor tendon
Check ligament
Cannon bone
Superficial Flexor tendon
Suspensory ligament
Flexor tendon Sheath
Fetlock joint
Proximal sesamoid bones
P1
Pastern joint
P2
Coffin joint
Navicular bursa
P3
Thal Enterprises Inc. 2013
Navicular bone

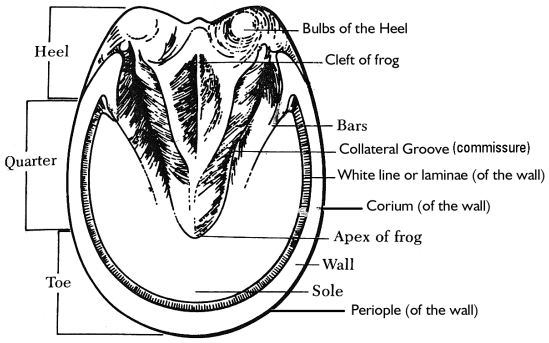

Base of Skull
Nuchal ligament
Spinal Column
Site for IM injection
Tooth roots (reserve crowns)
Facial vessels where pulse taken
Wolf Tooth
Lower Jawbone
Jugular vein
Carotid artery
Canine Teeth (Bridle Teeth)
Thal Enterprises Inc. © 2013

Parts of the Hoof

Bars–The thickened raised portions of the wall near either side of the frog.

Bulbs of the Heel–The back raised part of the heel.

Cleft of the Frog–The central groove of the frog.



Collateral Groove (or commissure)– Separates the frog from the bar and the sole.

Coronary Band (Coronet)–The narrow band of scaly tissue at the hairline, from which the hoof wall grows. It is the junction of the skin and the hoof wall.

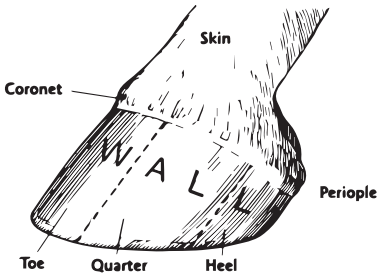
Corium–The corium is the middle layer of the hoof wall and is the thickest. It contains the pigment that gives the hoof its colour. The hoof will be the same colour as the skin above it.

Frog–The frog is a triangular shaped elastic tissue in the sole of the hoof. The frog has a point (apex) and a central groove. The frog blends into the bulbs of the heel. The frog distributes pressure as the horse moves and the action of the frog, when it makes contact with the ground, it may help circulate blood back up the leg. The frog normally sheds several times a year.

Heel–The hind region of the hoof.

Laminae (Interior Layer)–Parts of the internal layer of the hoof that blend with the thick middle layer of the hoof.

Periople (Outer Layer)–The periople is the waxy outer coating of the hoof wall. This layer is covered with thin horny scales that reduce the evaporation of moisture from the hoof and protect's the hoof from drying out.



Quarter–The side to rear region of the hoof behind the toe, where the hoof begins to curve.

Sole–The flat surface of the bottom of the hoof.

Toe–The front of the hoof.

Wall–The hoof wall is the hard outer portion of the foot. It is not an even thickness around the foot. It is thickest at the toe, where it is under the most pressure, and thins at the quarters. The hoof wall is made up of three layers: the periople, the corium and the laminae.

White Line (Laminae)–The connection between the sole and the wall.

Anatomy and Physiology

Anatomy and physiology are the sciences of the bodily structure and function of animals. Understanding the relationship of form to function can help us better choose, care for, and manage our animals.

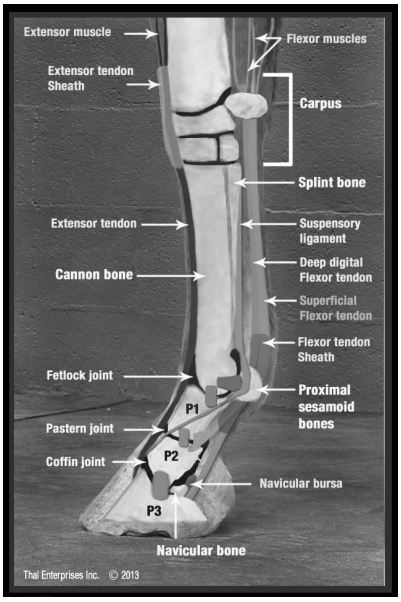
Bones, ligaments, and tendons together affect the horse's ablility to move. The following are some important terms.

Ligaments–Ligaments are tough, flexible fibers that attach bones to bones. The tendons may be short (as at the shoulder blade) or long (as in the legs).

Tendons– Tendons are connective tissue that attach muscle to bone. The tendons may be short (as at the shoulder blade) or long (as in the legs).

The Frontquarters

The front legs of the horse carry 60 to 65 per cent of the weight of the horse. The legs of the horse are interesting because there are no muscles below the knees in the lower leg, only tendons, ligaments, and bone. Damage to ligaments and tendons is most likely to occur in the lower leg because they take the most force during movement. All movement of the lower leg is done through ligaments and tendons above the knee or hock.



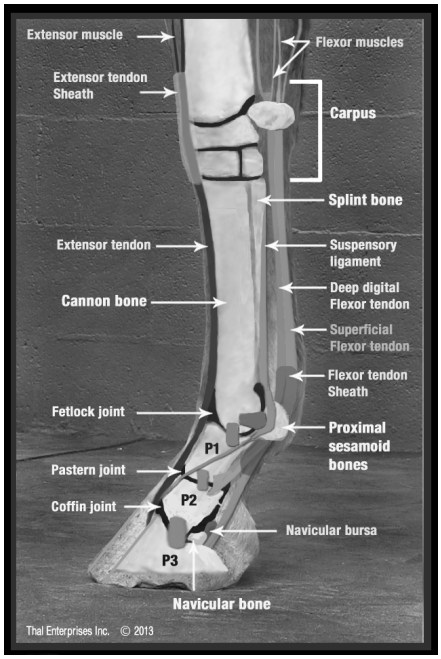
Pastern–The pastern is made up of:

- long pastern bone;
- short pastern bone;
- suspensory ligament;
- numerous supporting ligaments; and
- superficial and deep flexor tendons.

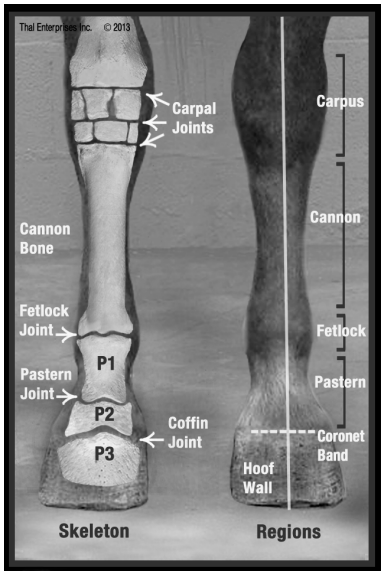
The suspensory ligament system is attached to the navicular bone at the back of the foot, runs up the back of the long and short pastern bones and controls extension of the pastern. The suspensory ligament and flexor tendon support the angle of the pastern and together they stretch and contract as the horse moves.

The normal working condition of the ligaments and tendons is affected by the angle that the hoof is trimmed. Improper trimming can change the hoof angle causing tendons and ligaments to stretch or contract further than normal. If the slope is excessive, the flexor tendon will stretch. If the pastern is too upright the two joints will be under stress. This puts pressure on the cartilage between the bones, increasing the risk of fractures and arthritis. Generally, trim the hoof so that its angle matches the pastern angle.

Ligaments in the leg may be pulled and injured. Stretching the flexor tendons and/or the tendon sheath is common in horses with long sloping pasterns or long toes, and from work on soft, heavy ground or slippery footing.

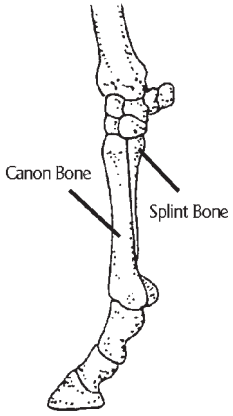


Fetlock–The fetlock joint is the junction of four bones. It includes the:



- long pastern bone;
- cannon bone;
- two sesamoid bones; and the
- sesamoid ligament– which connects the sesamoid bones to the cannon and pastern bones;
- **Superficial Flexor Tendons**–are found in a groove between the sesamoid bones. They connect the pastern to muscles above the knee or hock;
- **Deep Flexor Tendons**–are found in a groove between the sesamoid bones. They connect the coffin bone to muscles above the knee or hock;
- **Collateral Ligaments**–connect cannon bone to pastern bone, and
- **Suspensory Ligament**–acts like a sling over the other ligaments.

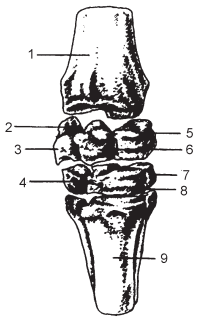
The fetlock joint has many possible injuries. As well as a variety of fractures, there are many types of ligament injuries. The most common are strains, pulls, and sesamoid fracture (caused by a ligament pulling free, taking a portion of the sesamoid bone with it).



Cannon Bone–The cannon bone is the longest single bone in the lower leg. Splint bones are attached on each side, even with the upper end of the cannon bone, by interosseous ligaments. These ligaments eventually ossify (turn into bone) with age, joining the cannon and splint bones. The suspensory ligament continues up the back of the leg.

Horses can sleep standing up because of the check ligament at the back of the knee. While the horse is awake, muscles hold the knee straight. When the horse goes to sleep, these muscles relax and the check ligament keeps the knee from buckling forward because it is attached to the deep flexor tendons.

The lower leg area is subject to a variety of stress injuries. Splint bones are easily injured because they are not firmly attached at both ends. The most common injuries are caused by strain from exercise or poorly aligned knees. This puts extra pressure, or force, on the splint bones or on the interosseous ligament, causing them to break or become inflamed. They may also be caused from hitting the splint bone with the opposite hoof.



Front View

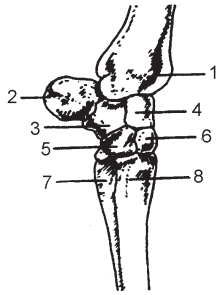
1. Radius
2. Pisiform
3. Cuneiform
4. Unciform
5. Scaphoid
6. Lunar
7. Trapezoid
8. Magnum
9. Cannon bone

Seven Carpal Bone

Knee–The knee is made up of seven carpal bones located between the cannon bone and the radius. These bones are joined together by short collateral ligaments that keep the bones from separating. Longer ligaments are located on the sides to keep the layers of bones from separating. The suspensory ligament is attached to the third and fourth carpal bones in the rear of the knee.

Side View

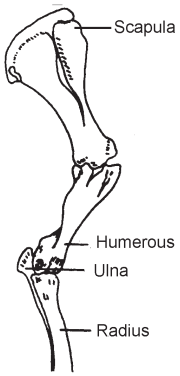
1. Radius
2. Pisiform
3. Cuneiform
4. Lunar
5. Unciform
6. Magnum
7. Splint bone
8. Cannon bone



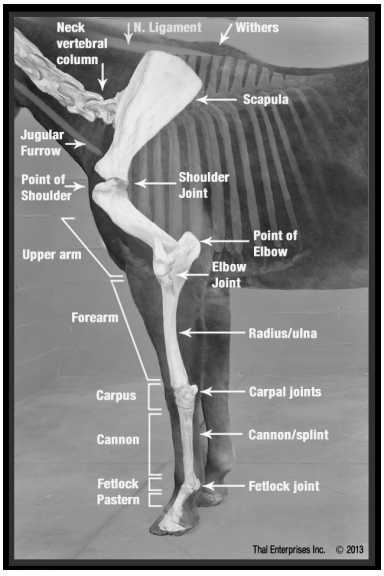
To move the knee, there are two carpal extensor tendons, two digital extensor tendons, and two digital flexor tendons. Most knee injuries are caused by poor lower leg conformation. If the cannon bone is not centred below the carpal bones, there will be excess pressure on the carpal bones. This can cause fractures or arthritis.

Upper Leg and Elbow–The upper leg and elbow are made up of the:

- radius;
- ulna; and
- humerous;



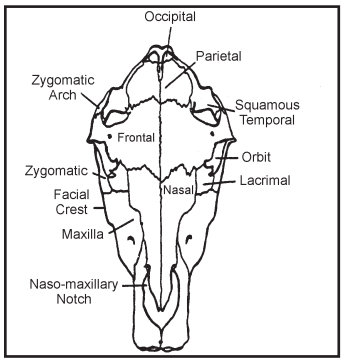
In the upper leg above the knee and hock, we finally see muscle. If you look at the forearm muscle, it looks short but it is longer than it appears because it does a three quarter wrap around the bone as it goes toward the body of the horse. The muscles are interesting because they can move the body forward when the horse stands on the leg or moves the leg forward when there is no weight on the leg.



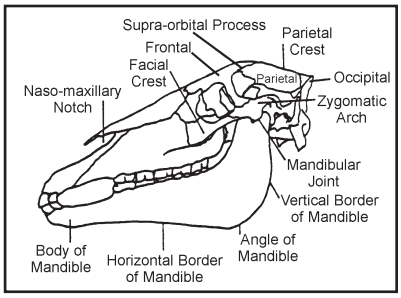
This area is important to the stride of the horse. The length of the humerus affects how far the leg can swing forward and upward.

Shoulder–The shoulder joint is made up of the scapula bone and the humerous. The scapula bone is unique in that it is not attached to the body with ligaments. Instead, it depends on a large ball joint (between the scapula and humerus) and heavy muscle layers and ligaments to keep it in place. The muscle connects it to the chest, spine, and ribs. The scapula is covered by strong muscles. There is no attachment to the bones of the body of the horse.

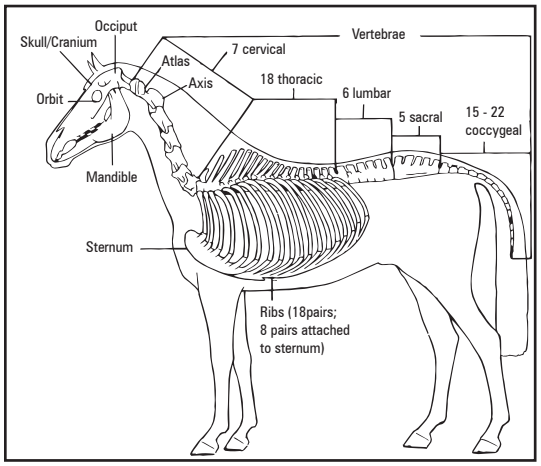
Movement of the shoulder and upper leg are caused by muscles, as is all movement. These muscles allow the shoulder to flex.



The Skull–The head of the horse is made up of bones and cartilage. Unlike other bones in the body, these bones are non-moveable and not held in place by ligaments. The shape and length of the skull are important breed characteristics. The size and depth of the orbit (eye socket) is affected by the breed of the horse.



Spine–The spine is made of vertebrae that are held together by short ligaments. It is divided into groups of vertebrae. These are:



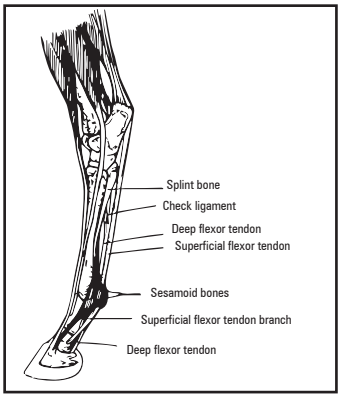
- cervical vertebrae–neck;
- thoracic vertebrae–withers, back;
- lumbar vertebrae–from last rib to croup (covers loin area, but goes back further than the loin);
- sacral vertebrae–croup to dock; and
- coccygeal vertebrae–tailbone.

The flexibility of the spine is varied. Most of the movement is in the neck. It can be moved almost 180 degrees horizontally and can be raised and lowered. As the cervical vertebrae are lowered the thoracic vertebrae move upward, rounding the back. This is what we ask the horse to do when we ride it in a collected manner. This is called longitudinal flexion. Most of the rest of the spine has very limited flexibility.

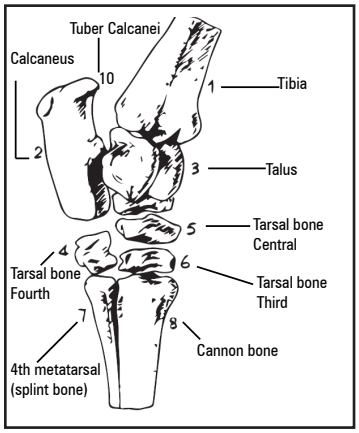
The Hindquarters

The hindquarters carry less percentage of the weight of a horse than the front. However, they are the source of power to give the horse impulsion for moving forward or backward. The hindquarters are the area from the flank to the tail and down the hindleg.

Hock–The hock is made up of six tarsal bones attached to the tibia, the cannon bone and the splint bones. Ligaments found in the hock include:



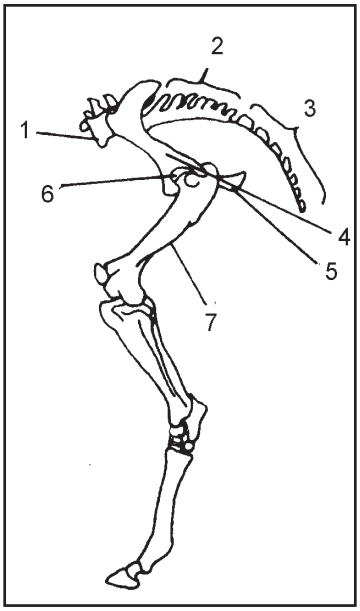
- Collateral ligament–like in the knee, these hold the tarsal bones in place, including the tibia, cannon bone, and splint bones. They keep the leg bones lined up.
- Plantar ligament–is part of the "stay apparatus" of the hind limb. It helps the check ligament to lock the joints so the horse can stand even when relaxed or sleeping.



Most tendons that flex the joint in the hock are located in the front. This is because the hind leg flexes forward and extends behind the body.

Gaskin and Stifle–The gaskin and stifle area are located above the hock in the hind leg. The stifle joint is made up of the tibia, cartilage discs, patella, and femur. The stifle flexes, bringing the femur and tibia ends closer.

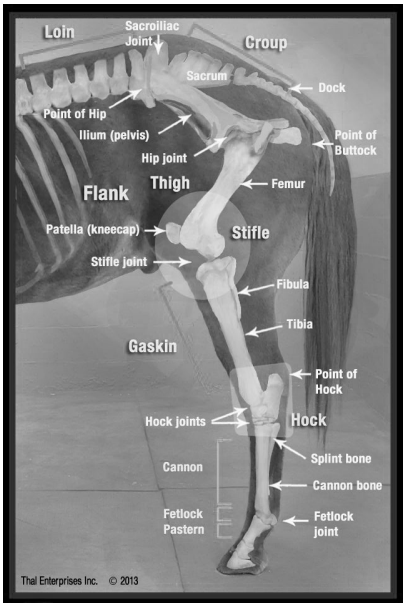
The muscles attached in this area allow for the drive off the hindquarters needed for running and jumping. While more muscle gives an increase in strength, fatigue happens more quickly in bulky muscles.



Hip–As shown in the diagram, the hip, area is made up of seven bones.

1. lumbar vertebrae (goes from the last rib to the point of the hip and covers the loin)
2. sacral vertebrae (croup)
3. coccygeal vertebrae (tail)
4. ilium
5. ischium (point of buttock)
6. pubis
7. femur

These bones form the pelvic area. It slopes away from the spine at a 60 degree angle. The ilium is attached to the spine by ligaments.



The length of the pelvis varies with the breed, but length and width are necessary to any breed. The longer the pelvis, the longer the muscling.

Muscles of the Front Leg
*Note the lack of muscle in the lower legs of the horse.

Muscular System

The muscles are the largest tissue mass in the horse's body.

Muscles are classified as:

- **smooth muscle**–this muscle type is involuntary (automatic) and is active in the digestive tract, and respiratory, urinary, and reproductive systems.
- **cardiac (heart) muscle**–this muscle type is involuntary (automatic) and is active in the circulatory system; and
- **skeletal muscle**–this muscle type is voluntary and functions in the movement of the horse.

Muscles work by contracting (shortening of muscle fibers) and relaxing (lengthening of muscle fibers). Skeletal muscles tend to work in pairs because muscles can only pull, not push. One muscle group flexes (bends a joint) and another extends (straightens). In the leg of the horse are a group of muscles that cause flexion of a joint (flexor muscles) and an opposing group that extends or straightens the joint (extensor muscles).

Flexion–The shortening (flexing) of a muscle to bend a joint.

Extension–The lengthening (extending) of a muscle to straighten a joint.

The contractive process is a chemical reaction within the muscle that produces heat in addition to performing work. The heat of contraction and recovery is important in body temperature regulation. This is why, in cold weather, horses shiver to produce heat to help them maintain body temperature.

Training and Muscles

Muscle is an extremely adaptable tissue. A horse's muscles adapt in relation to the specific type of training it receives.

Training for quick bursts of high-intensity exercise involves training for strength. This involves increasing muscle mass through high-intensity exercises for short periods of time to increase strength.

Training for endurance, three-day eventing, cattle drives, or combined driving etc. involves building up the muscles over a period of time where the workload on the muscles is progressively increased.

Overexertion of a muscle, without adequate conditioning, will lead to muscle fatigue. A careful conditioning program, combined with proper nutrition, will prevent muscle disorders.

Other Body Systems of Horses

The **respiratory system** includes the lungs and air passages. Its primary function is to oxygenate the blood so that oxygen can be carried to the tissues. The movement of air into and out of the lungs is referred to as respiration. This system adapts well to function during exercise, as respiration rates are related to exercise intensity (the higher the intensity of activity, the higher the muscle demand for oxygen, and the higher the horse's respiration rate).

The **circulatory (cardiovascular) system** includes the heart and blood vessels and functions to pass blood through the tissues of the body.

The **digestive system** includes the gastro-intestinal tract. This system is discussed in relation to feed, in Chapter 9: Feed.

The **urinary system** includes the kidneys and bladder and associated ducts. The urinary system is responsible for filtering the blood and removal and disposal of waste products from the body.

The **nervous system** includes the brain, spinal cord, associated nerves, and special senses. It can perceive and immediately react to changes in the external and internal environment of an animal. The nervous system also stores and associates sensations in the memory for future use.

The **endocrine system** includes a number of ductless glands of the body that secrete hormones, which are transported through the circulatory system, for chemical control of the body.

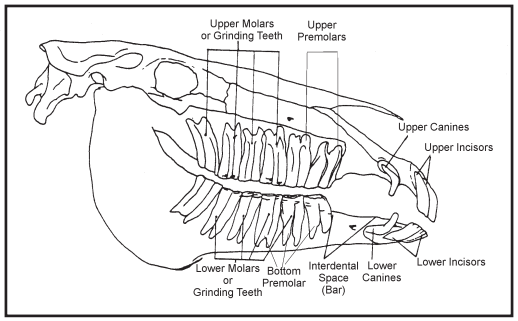
The **reproductive system** includes the ovaries, testicles, and associated organs.

The **integumentary system** includes the skin and hair that covers the horse's body and forms the boundary between the animal and its environment.

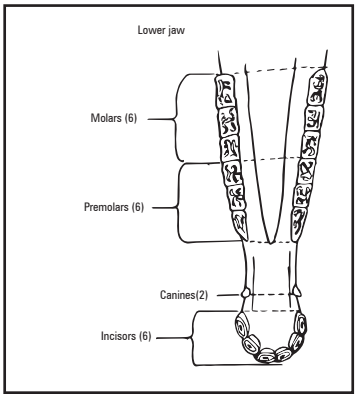
Teeth

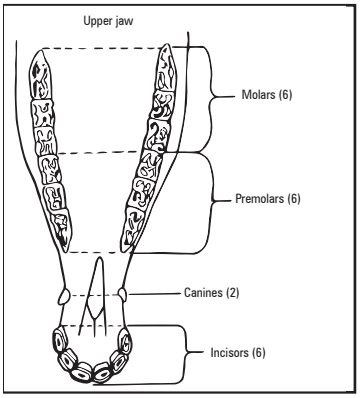
The front biting teeth of the horse are called **incisors**. Incisors are classified as, central incisors, corner incisors, and lateral incisors.

The rear, grinding teeth of the horse are called **molars**. Between the molars and incisors, there is a gap called the **interdental space** or **bars.**



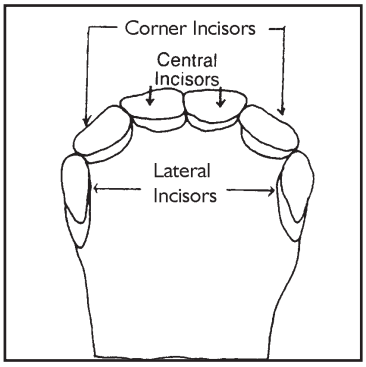
On a mature horse, behind this space are six molars on each side that are used for grinding feed. The front molars are called premolars. The molars grind feed by lateral movement of the lower jaw against the upper jaw.





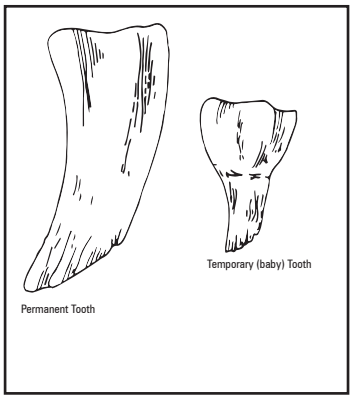
Canines (Tushes or Bridle) Teeth –These are all commonly used terms to describe the smaller teeth that grow about half way between the premolars and the incisors in the interdental space. Geldings and stallions most commonly develop these teeth at about four years of age. They are not removed, but they may require occasional trimming to keep them shorter than the incisors so that they do not interfere with bridling. Mares do not usually get bridle teeth.

Wolf Teeth–Wolf teeth are very small rudimentary teeth that sometimes develop in front of the premolars. They usually grow in at one to two years of age and both colts and fillies can have them. They are more commonly found on the upper jaw but can develop on the lower jaw as well. They should be removed because they can easily break and cause problems with bridling.



Number of Teeth–Some identifications can be made by the number of teeth a horse has:

Foal	Mature Mare	Mature Stallion/ Gelding
12 molars	24 molars	24 molars
12 incisors	12 incisors	12 incisors
		4 canines
24 teeth	36 teeth	40 teeth

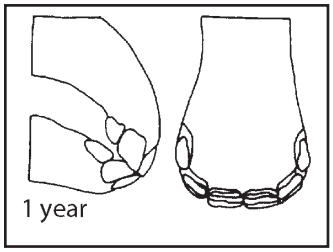


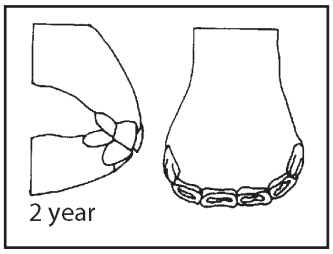
Teeth and Age

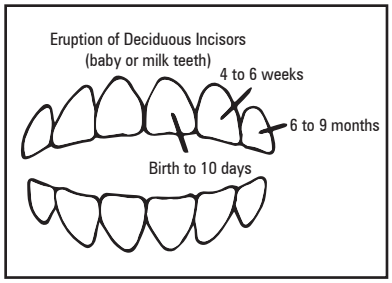
Teeth can be used to determine the age of a horse. In time, the teeth of the horse change according to a known pattern. The method of determining age by teeth is reasonably accurate but it may be affected by the type of feed the horse eats and the habit of cribbing.

When a foal is born, it has no incisors. The first two central incisors (upper and lower) appear within 10 days. The next incisor (corner) on each side will appear up to six weeks later. The lateral incisors grow in when the horse is six to 10 months of age.

In a young horse, it is easy to identify baby teeth and permanent teeth. Baby teeth are round, white, and have a narrow base. Permanent teeth are yellow and are an even width from top to bottom.

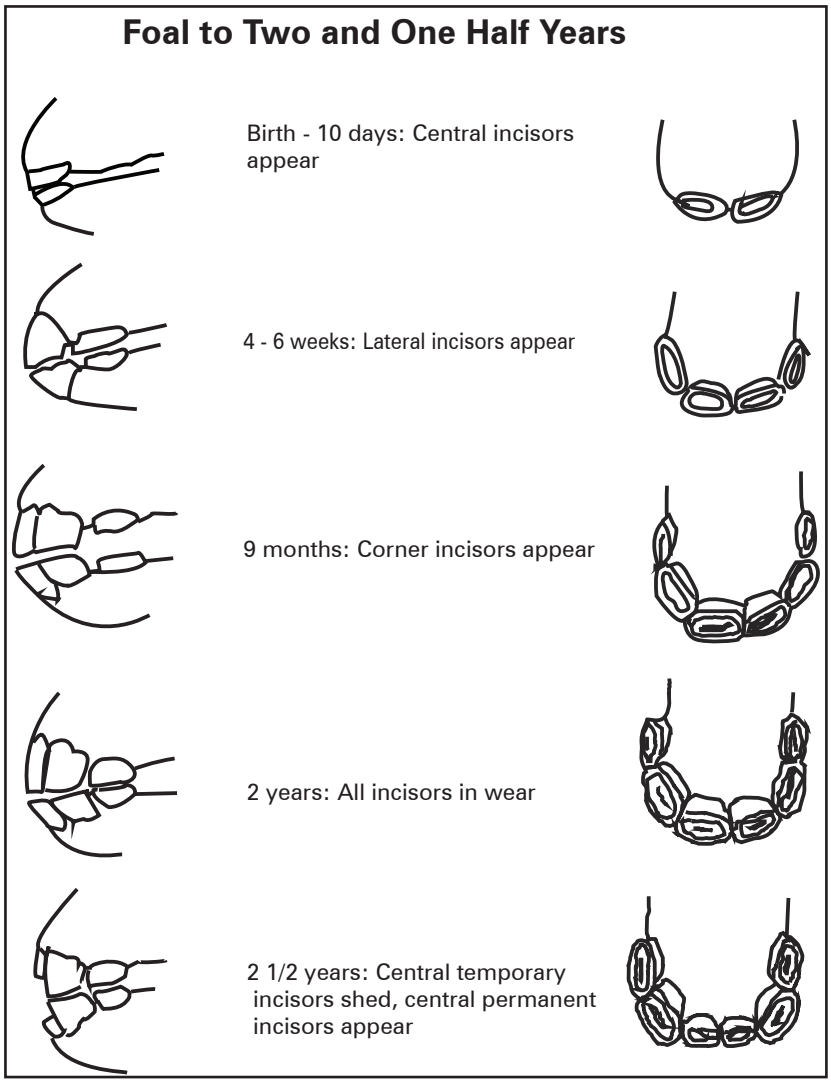


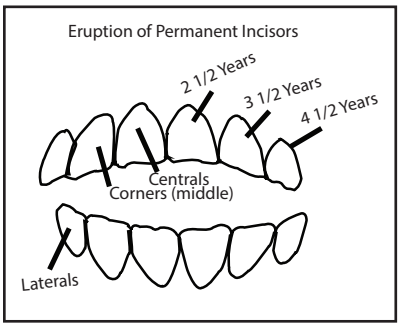




First Period

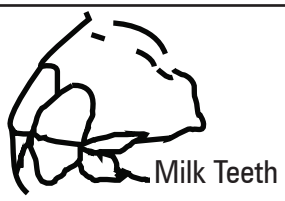
This period covers the growth of the "baby" teeth to 24 months. The baby teeth all appear and are being used by two years. Temporary baby teeth are replaced with permanent teeth.





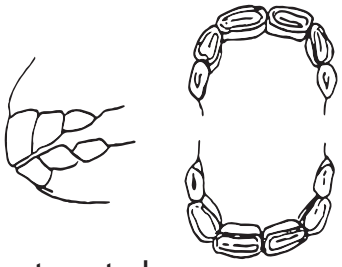
Second Period

After two and one half years the temporary central incisors loosen and the permanent central incisors erupt. At three and one-half to four years, the permanent laterals incisors erupt. At four and one-half to five years, the permanent lateral incisors erupt.

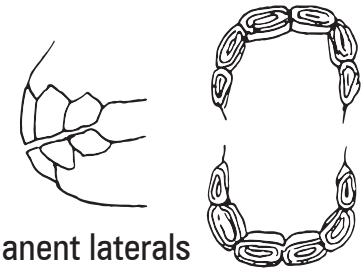


Four year old mouth showing the respective sizes of milk and permanent incisors

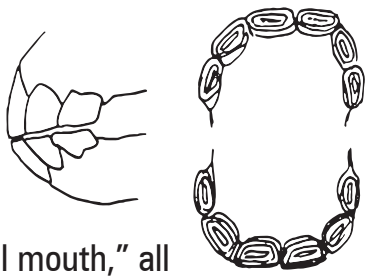
Appearance and Wear of Permanent Teeth



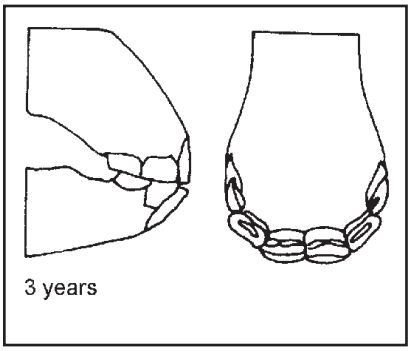
3 years: Permanent centrals in wear; permanent laterals appear

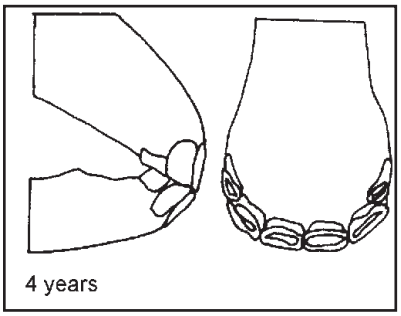


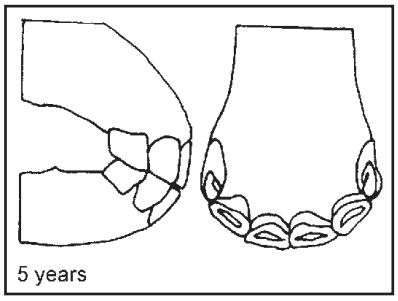
4 years: Permanent laterals in wear; permanent corners appear



5 years: "Full mouth," all permanent teeth in wear



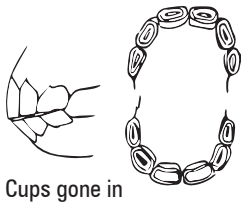




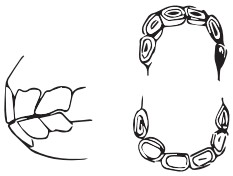
Third Period

This is the period noted by the wearing of the lower incisors and the disappearance of the cup.

Third Period

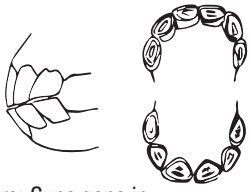


6 years: Cups gone in lower central incisors



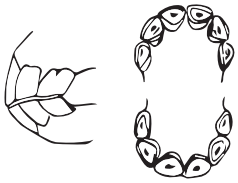
7 years: Cups gone in lower laterals, hook on upper corners

8 years: Cups gone in all lower incisors; dental star appears



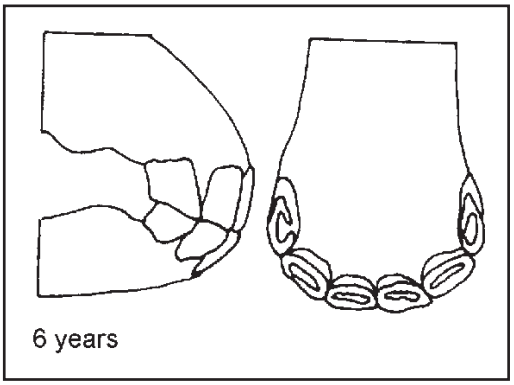
9 years: Cups gone in upper centrals; dental stars present

10 years: Cups gone in upper laterals; Galvayne's goove appears

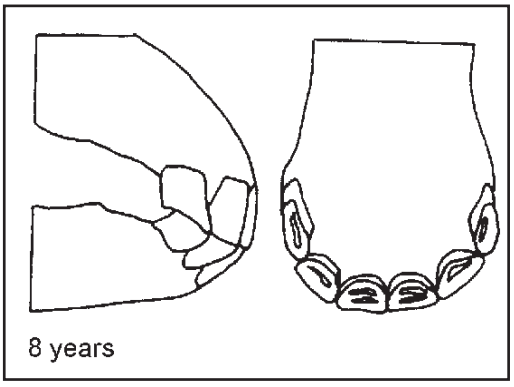


11-12 years: All cups gone: "smooth mouth"

- Six years of age is estimated by the size, shape, and disappearance of the cup of the central teeth. The cup will be gone by the time the horse is 10-12 years old. The cup does not disappear from all of the incisors at the same time. At age six, the cup disappears from the lower central incisors.
- By eight, the cups have disappeared from the central, corner and lateral incisors of the bottom jaw.
- All the cups of the top and bottom incisors will be gone by the time the horse is 10-12 years old.



6 years

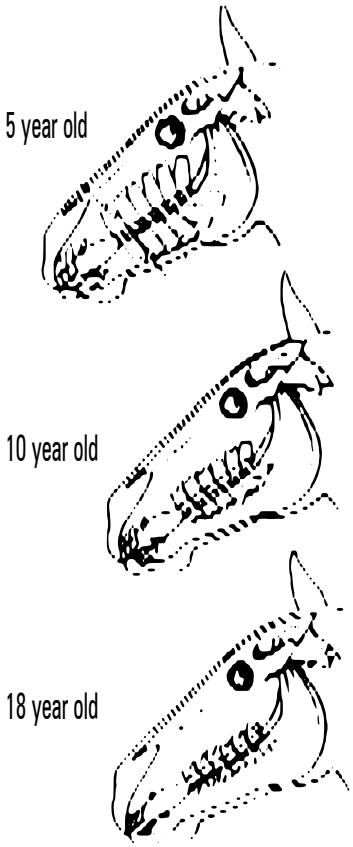


8 years

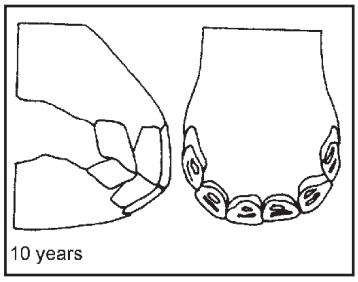
Fourth Period

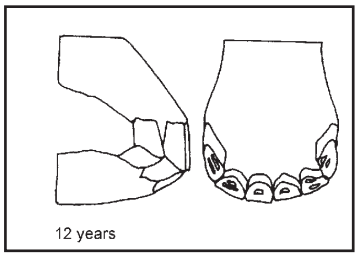
This period is noted by further wearing of the teeth, including the upper incisors and the angle of the teeth.

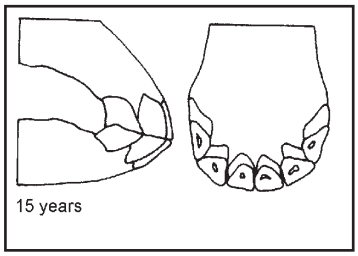
- After nine years it is difficult to age a horse accurately by its teeth. The most noticeable change is in the tooth angle, which slants outward further as the horse ages. By 12 years of age, the dental cup disappears in the upper incisors and the horse has what is called a "smooth mouth."
- At 15 years the dental star is smaller, but centred and clearer.
- After 20 years of age, the teeth may become shorter, and the gum to the crown slants further.

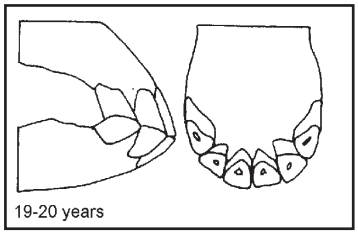


A horse's teeth continue to erupt thoughout its life to compensate for the wear caused by chewing. The roots diminish as the horse ages until eventually there is no "growth" left and the teeth wear smooth and low so the horse cannot cope with anything but soft foods. Horses in the wild die mainly from predation or (if they live long enough) the wearing down of the teeth resulting in starvation.



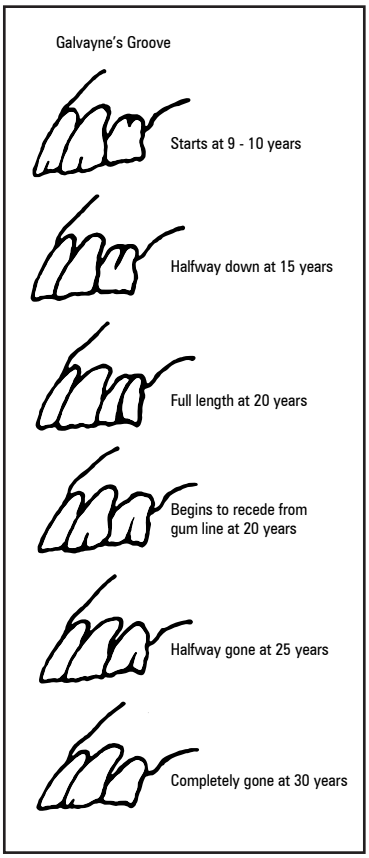


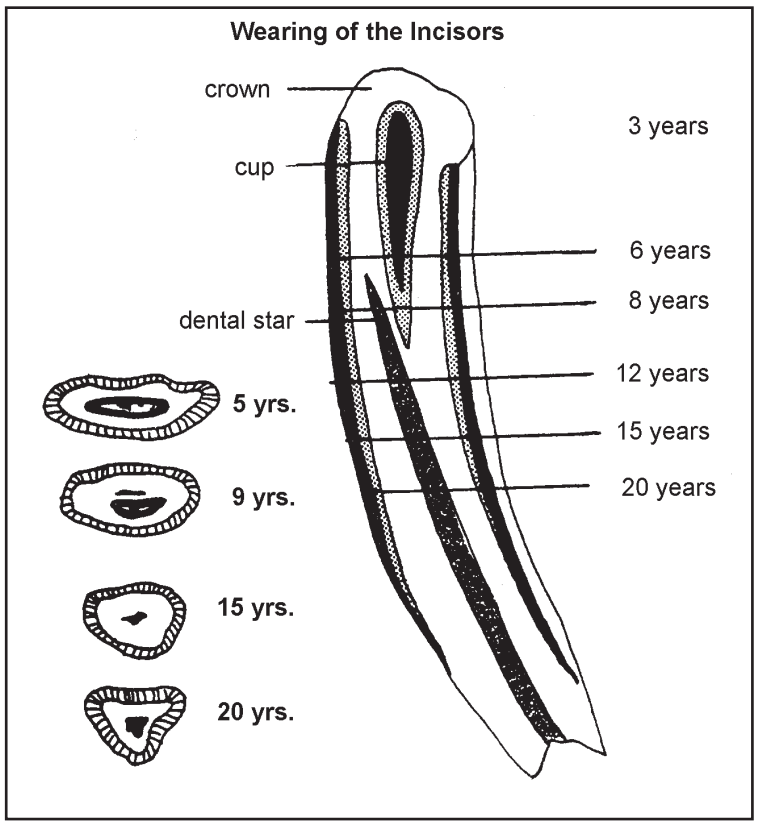




Other Clues to a Horse's Age

As a horse uses its front teeth, they wear. The diagram shows how, after five, nine, 15, and 20 years, the crown, cup, and dental star wear down.

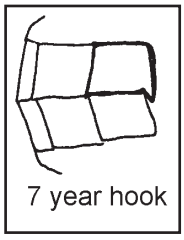


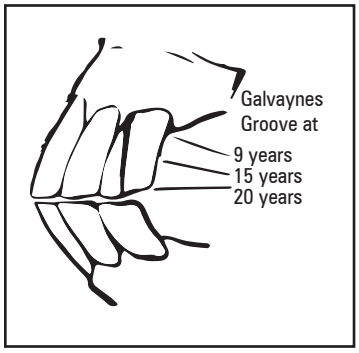


Changes in the Upper Corner Incisors

Seven Year Hook

At seven years of age, a hook appears on the edge of the upper corner incisor. This hook disappears by eight or nine years of age.





Galvaynes Groove

This is a groove that appears on the outer surface of the upper corner incisor teeth. It appears at about nine to 10 years of age at the top of these teeth and develops down the tooth more as the horse ages. At 15 years it will have developed more than a half of the way down the upper corner incisors. By 20 years it reaches the bottom of the corner incisor teeth. After 20 years, the Galvayne's Groove gradually disappears from the top down and cannot be seen in a 30-year-old horse.

Conformation

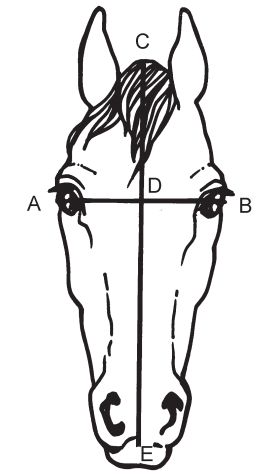
Conformation refers to how the horse is built, or the structural makeup of the horse. A model, that is used as the standard image of a horse's conformation, is used to assess each live horse's conformation. So, for example, the shoulder on the model identifies the location of the shoulder on the live horse. Knowing this, we can describe the slope of the shoulder and the angle of the shoulder on the live horse, as compared to the "model" horse.

Conformation affects how the horse will perform. For each particular purpose or function of horses, there is a particular conformation that is best suited for that function. Consider the following points when evaluating the conformation and form of a horse for a certain function.

The horse is an athlete. We must evaluate the conformation (structures) which contribute to the horse's ability to perform its function and remain sound.

Conformation is inheritable–whether it is good or bad.

Head



The horse's head is proportional. The distance from A to B is equal to the distance from C to D and one-half the distance from D to E.

- Conformation and breed type should be evaluated against a standard of excellence. Most breed associations establish a standard of excellence for their own breed.
- Look for a head that is in proportion with the rest of the horse and has a pleasing profile. The eyes should be large, bright, wide-set, and placed well to the outside of the head.
- The muzzle should be well tapered, not coarse. Nostrils should be large and able to flare to allow increased airflow in and out of the lungs. The Mouth of the horse should be such that the lips and front teeth meet evenly. A horse with an overshot upper jaw (front top teeth extending out past the lowers with no overlap to the lower teeth) is said to have a parrot mouth. A horse with an overshot lower jaw (lower jaw is longer than the upper with no overlap with the upper teeth) is said to have a monkey mouth. Both of these traits are undesirable because they are inheritable and they can make grazing difficult.

Parrot Mouth
(Overshot top jaw)

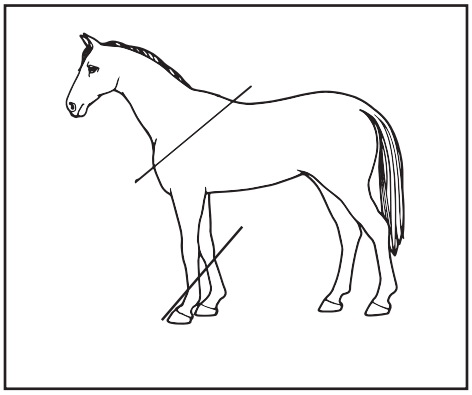
Monkey Mouth
(Undershot top jaw)

- Ears should be alert and proportionate to the rest of the head.
- Check that there are no unsightly bumps or abnormal depressions and have the horse evaluated for signs of blindness and deafness when you are thinking about buying it.

Chest

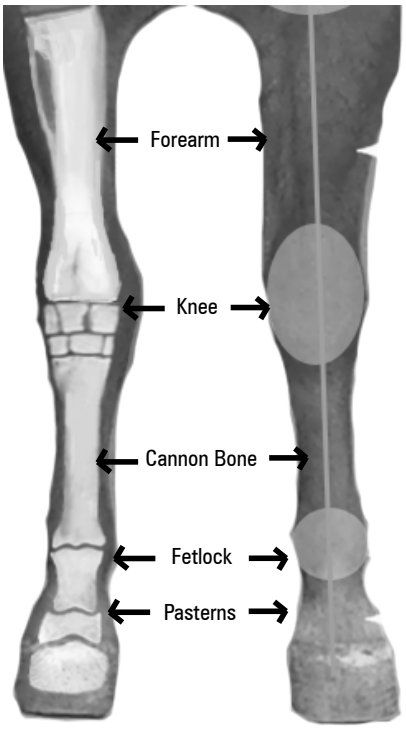
The chest should be relatively wide, deep, and well-muscled. A chest that is too wide may produce a labouring, waddling, unathletic stride. A chest that is too narrow may cause the horse to experience interference when it travels.

Shoulder



The horse's front leg is attached to the body only by muscle and tendons. A longer shoulder increases the area of attachment and length of muscles. The slope of the shoulder is measured along the ridge of the scapula (shoulder blade). The shoulders of the horse should be sloped at the same angle as the pasterns. The slope of the shoulder affects the extension of the shoulder, and the ability of the forearm to be extended, which will affect the potential length of stride. Muscling in the shoulder should be long and well-developed for strength and absorption of concussion.

Forearm



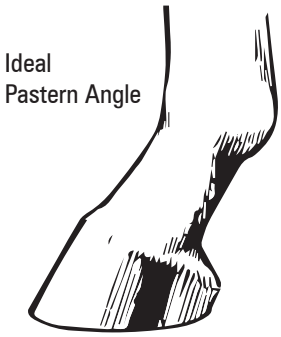
The size of the forearm affects its function. The forearm should be relatively long in relation to the length of the cannon bone, and well muscled. A short forearm decreases the length of the stride. Long muscling in the forearm provides greater contraction and lift of the leg. Volume of muscling provides power and support for the lower leg as there is no muscle below the knee.

Knee

The size of the knee affects its function. A large and flat knee also increases the area of support to provide strength.

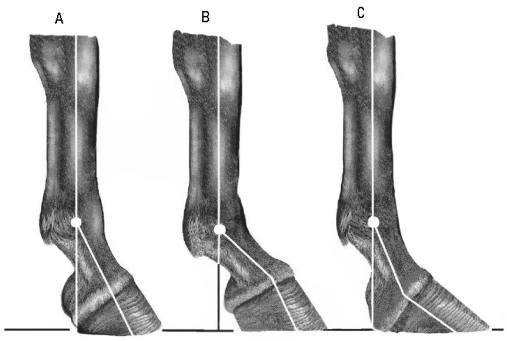
Cannon Bone

The length of the cannon bone affects the movement of the horse. A short cannon bone is stronger than a long cannon bone. The bone should be relatively large in diameter. The legs are a very important part to watch for major scars, swelling, and any previous injuries that may cause lameness. When viewed from the front or back the legs should be straight, with joints and long bones aligned in a straight line. A horse's legs should stand straight without angling in or out.



Pasterns

The length and angle of the pasterns are important. These short sections of leg just above the hoof should be sloped. When the horse is standing square, the front pasterns should be at an angle of about 45 degrees to 50 degrees and the back pasterns should be at an angle of about 50 degrees to 55 degrees. Moderately long, sloping pasterns help to absorb concussion.



Trim Dicatates Pastern Angle
A - Normal relationship between hoof capsule and supporting bones
B - Hoof axis broken forward. The heels are noticeably high; the toe appears short. The hoof angle is too steep. This drives the pasterns to adopt a more horizontal angle, lowering the fetlock joint.
C - Hoof axis broken back. The heels are underslung and appear very short (the tubules may actually be quite long, however). The toe is forced to adopt a more vertical angle, raising the fetlock joint

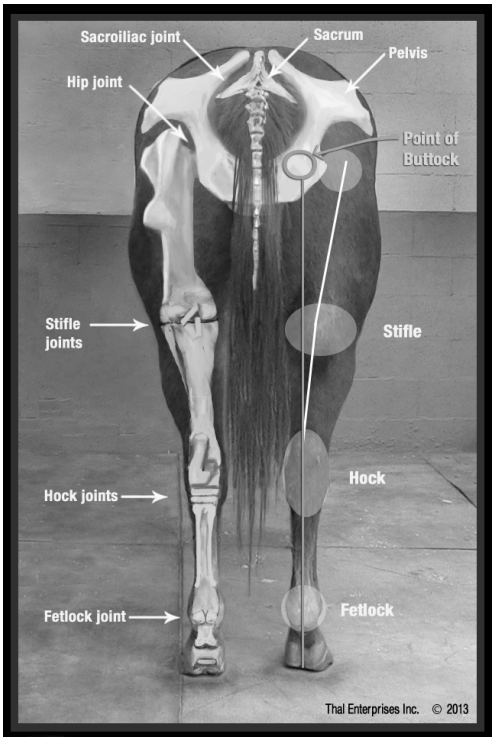
If the horse is built so that its pastern is too upright there will be no absorption of concussion, the horse will tend to have a short choppy gait, and it will be rough to ride. If it is too sloped or too long, the horse may be smooth to ride, but may be susceptible to injury of the tendons, ligaments, and the fetlock joint.

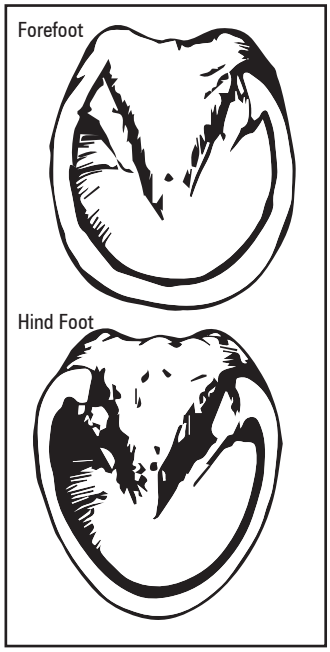
Gaskin

A longer gaskin may allow greater extension of the hind leg. Long muscling provides greater contraction and lift of the leg. A greater volume of muscling provides power for impulsion to drive the horse forward.

Hock

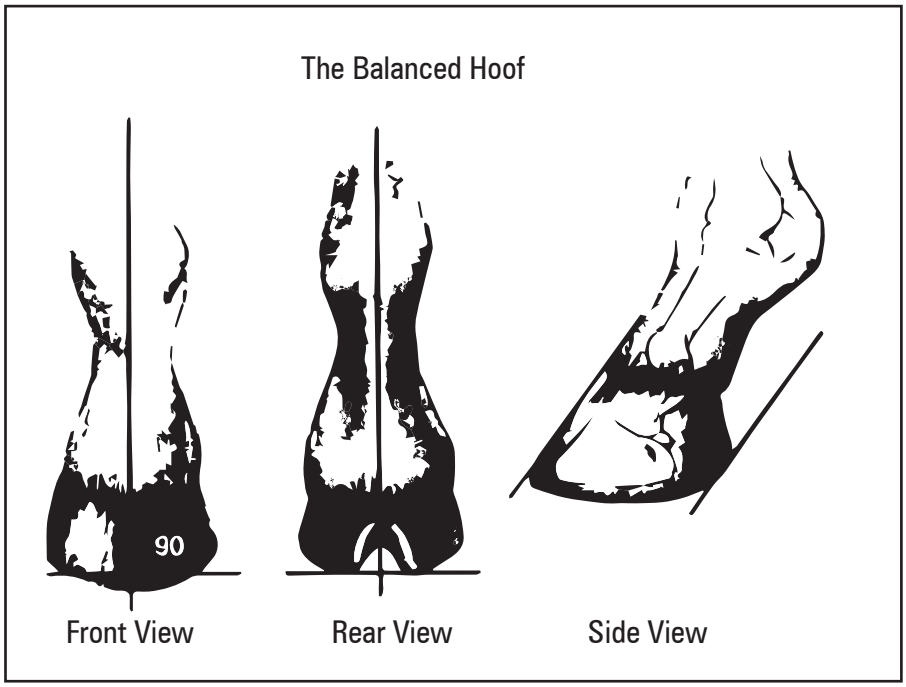
A strong hock that is large enough to provide adequate support while keeping in proportion to the size of the horse is desirable. The front of the hock should be reasonably smooth with no meatiness or swelling. The back of the hock should be well defined.





Hooves

It is a good idea to start looking at a horse from the ground up; "No Hoof–No Horse." Hooves should be healthy and a good size for the size of the horse. They should be big enough to distribute the stress and concussion of the horse's weight. Hoof walls should be free of major cracks where the outer wall is actually split from the coronet down. Such cracks may cause a horse to be lame. Hooves should be clear of founder rings. Front feet tend to be round. Hind feet tend to be more pointed. Both front feet should be the same shape and size, and both back feet should be the same shape and size.

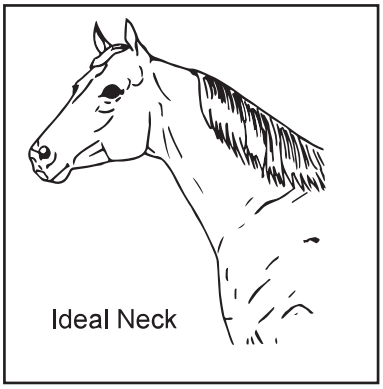


Throat Latch

A clean, trim, well-defined throat latch that is capable of flexing is desirable.

Neck

Horses use their head and neck to balance. Neck length will affect stride, with horses that have long necks being capable of longer strides. The length of the neck will affect the function that the horse may be capable to perform. The depth and set of the neck on its shoulders also affects the horse's ability to perform. A trim neck, set relatively high into the shoulder, is preferred over a thick, low-set neck.



Withers

The withers are located at the base of the neck, between the shoulder blades, and are the highest point of the horse's back. The height of a horse is measured from the ground to the top of the withers because they are the highest constant part of the horse. The withers should be moderately prominent and well-defined in order to hold a saddle in place.

Heart Girth

The horse needs depth of heart girth and spring of fore-rib to provide room for maximum function of the heart and lungs.

Back

The horse's back should be about as long as its neck. Avoid a short-neck, long-back combination. This reduces the balance, handling, and ability of the horse to manage weight and to move correctly. The loin and back muscles help carry the weight of the rider. The back must be strong and well-muscled. When you feel along the back of the horse, it should be flat and "soft," not rough and bony.

Loin

The loin is the pivot point of the horse's back. A short, wide, and muscular loin is needed to carry power from the hind legs forward. In contrast to the rest of the back the loin is not supported by any bony structure except the spine. Thus, a long loin may be weaker. The loin should feel elastic when palpated (examined by touch), showing lots of muscling and strength. It should be short, wide, and strongly muscled.

Hip and Croup

A long hip and croup have longer muscles which may help increase the length of stride. The shape of the hip and croup varies according to the breed and body type. A more level hip and croup provides a long, flowing stride. A more sloping hip and croup allows the hind legs to drive further underneath the body for power and speed.

Muscling

Muscle is the tissue that contracts and relaxes to cause your horse to move. Muscling refers to the length, definition, and volume of muscling in your horse.

Length

Muscle length will be determined by the underlying bone structure. Horses intended for extended speed and endurance will have the bone structure to achieve this, and will likely have long, smooth muscles. Horses intended for quick, short bursts of speed or for pulling power will have the necessary bone structure, and will tend to have shorter and bulkier muscles.

Definition

You can easily see the outline or definition of each muscle beneath the skin of your horse. A horse that is overweight has little muscle definition because it is difficult to see the muscles. A horse that is in good condition (neither underweight so that the ribs stick out, nor overweight), will show the best muscle definition. For more details, refer to the Body Condition Score Chart in Chapter 8: Horse Health.

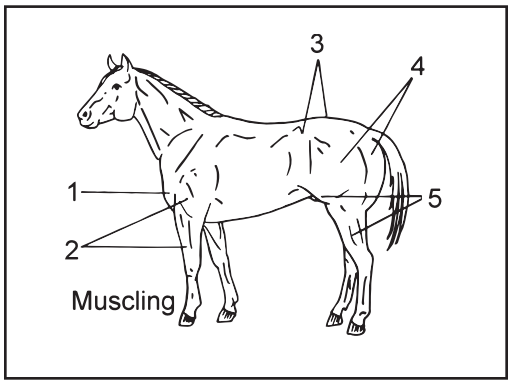
Volume

This is the amount of muscle. The greater the volume or amount of muscle, the greater the strength of the horse.

Where do you look for muscling?

To find the amount of muscling on your horse, look in these areas.

1. Chest
2. Shoulder, arm, and forearm
3. Loin and croup
4. Buttock and thigh
5. Stifle and gaskin.



Different breeds and disciplines require more muscling in different areas.

Stallions

Stallions should look masculine and, when compared to geldings and mares, stallions show:

- heavier, more powerful muscling of the entire body;
- a larger and broader head;
- larger cheek musculature;
- a thicker more muscular neck; and
- larger bone than the mares.

Mares

Mares should look feminine. Compared to stallions and geldings, mares show more refinement about the head and neck. Compared to stallions, mares are not as heavily muscled and have less substance of bone.

Geldings

Geldings should look more masculine than the mare, but much less masculine than the stallion. The volume of muscling in a gelding will be about the same or slightly more than in the mare.

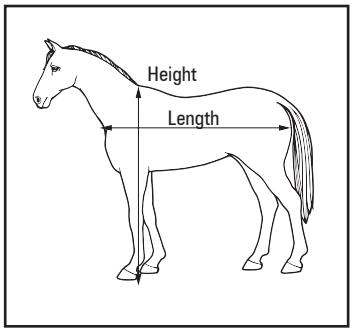
Balance

A horse is said to be in balance when all of the parts of the body are in correct proportion to each other (no part is too big or too small in relation to other parts). Smoothness is how the parts of the horse's body blend together.


Symmetry

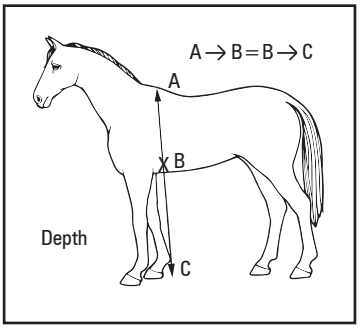
Methods of Determining Balance

When viewing the horse from the front and rear, divide the horse in half down the spinal column and down the middle of each limb. Each half should be a "mirror image" of the other.



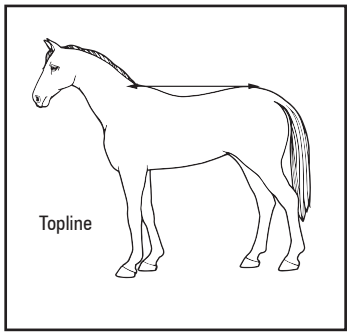
Length = Height

The length of the horse from the point of shoulder to the point of buttock should be equal to the height of the horse from the top of the withers to the ground. The horse's body and legs should be viewed as square from the side.



Depth of Heart Girth = Length of Leg

The length of the leg from the fetlock to the elbow should be equal to the depth of the heart girth from the elbow to the top of the withers.

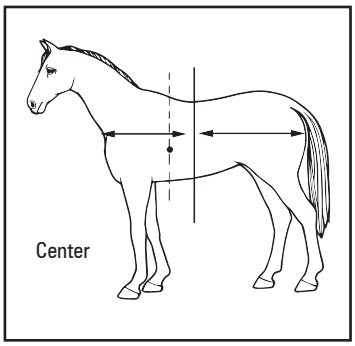


Levelness of Topline

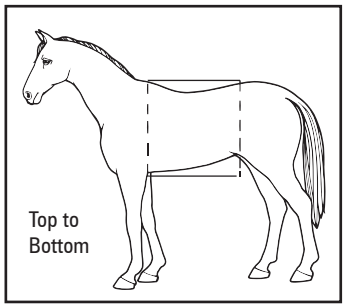
The point of the croup should be on the same height as or lower than the top of the withers.

Centre of the Horse

When the horse is divided through the centre of the back, the forequarter (not including the head and neck), should be equal in size to the hindquarter.



Note that the centre of gravity is different from the centre of the horse. Because of the weight of the head and neck, the centre of gravity is just behind and above the elbow when the horse is standing. When the horse is divided through the middle of the back, approximately 60 percent of the weight is carried on the front legs, because of the additional weight of the head and neck.

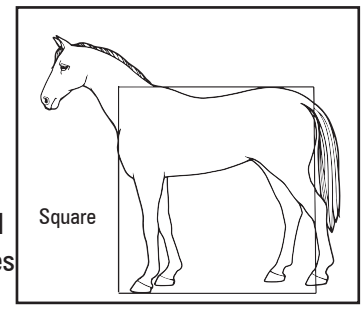


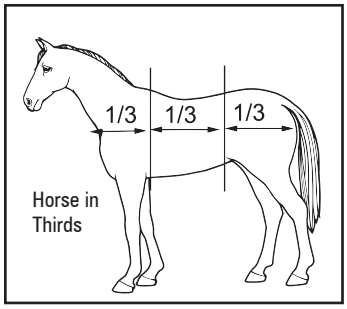
Top to Bottom Line Ratio

The well balanced horse has a shorter topline (from the point of the withers to the point of the hip) in comparison to a longer underline (from the point of the elbow to the stifle).

Square

Draw a box around the horse so that the width of the box is equal to the length of the horse from the point of the shoulder to the point of the buttock and the height is equal to the height of the horse from the top of the withers to the ground. On a well balanced horse, this box will form a square–all sides are equal.



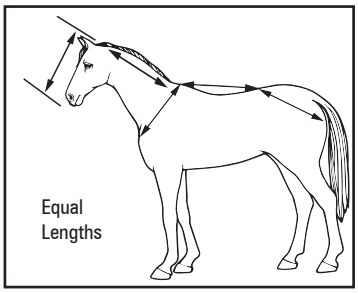


Divide the Horse in Thirds

Divide the horse into thirds by dropping lines down from the top of the withers and the point of the hip. The length of each of the three segments should be the same.

Equal Lengths

In the well-balanced horse, each of the head, neck, shoulder, topline, and hip should be of approximately equal lengths. However, it is often preferable for the neck to be slightly longer.



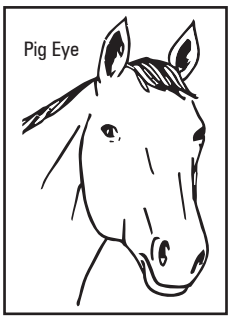
Quality and Refinement

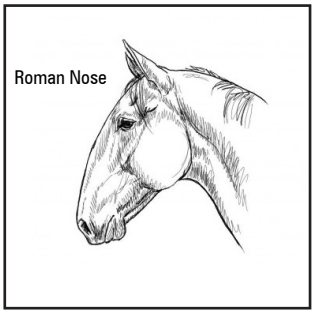
Refinement is a general lack of coarseness. The factors closely associated with quality and refinement are as follows.

- A refinement of body parts–the horse should be smooth and clean-cut, not coarse, with body parts that blend smoothly together.
- Tendons and joints should be well-defined, not fleshy.
- Hard, smooth, durable hooves.
- Obvious gender characteristics.

Conformation Faults

In the following list are a number of common conformation faults found in horses and deviations from the "ideal" theoretical horse. All horses have some conformation faults, and judging conformation involves evaluating which horse has fewer and less important ones, or which horse is more correct than the others in its class.

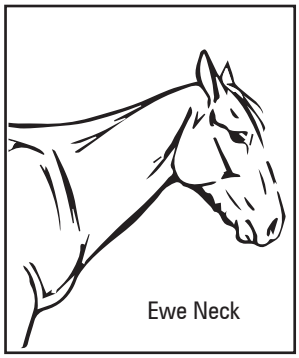


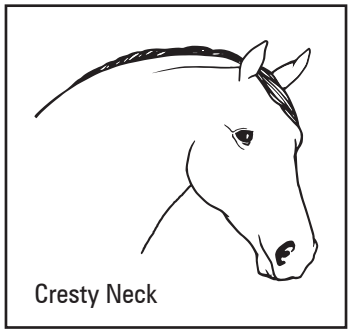


Head

Roman Nose–the bridge of the nose has a rounded or convex shape when viewed from the side. This conformation fault restricts the horse's frontal vision.

Pig Eye–small eyes which are set too far back into the head. This conformation fault may restrict vision, especially to the rear, and as a result the horse often has a nervous or unruly disposition.

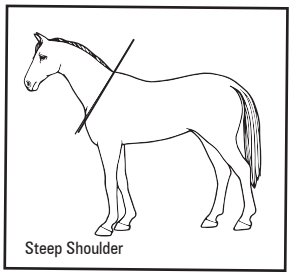




Neck

Ewe Neck–neck appears to be "turned over." This conformation fault restricts flexion at the poll.

Cresty Neck–excess fat deposits on the crest of the neck. This fault may be a sign of a horse that will founder easily. A cresty neck reduces flexibility and suppleness. A cresty neck is normal for some breeds, such as draft horses and Norwegian Fjords.



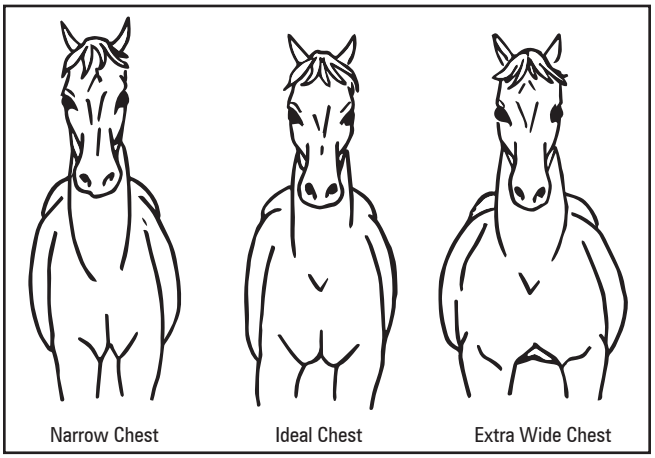
Shoulder

Steep Shoulder–shoulder angle steeper than 50 degrees. This decreases the length of stride in a horse and can make it rough to ride. It also increases concussion on the forelegs.

Chest

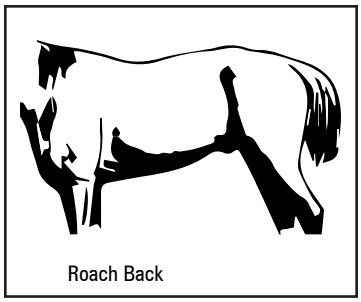
Narrow Chest–legs are too close together and legs may interfere when horse travels.

Extra-Wide Chest–legs set too far apart. This produces a waddling stride and lack of flexibility. Therefore, it reduces the horse's athletic ability.



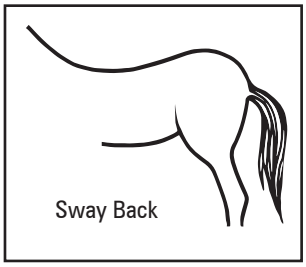
Topline

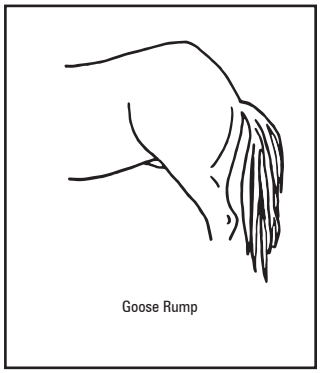
Mutton Withers–low, wide withers. It is hard to keep the saddle in place without the girth (cinch) being tight and the saddle is prone to slip to the side.


Roach Back

Sway Back–weak topline. This is usually seen in older horses and in horse's with long backs and/or loins. This restricts the horse's ability to pull its legs forward beneath the hindquarters.

Roach Back–loin has a rounded (convex) appearance when viewed from the side. This can restrict flexibility.


Sway Back


Goose Rump

Hip and Croup

Goose Rump–the rump slopes sharply from the croup to the dock when viewed from the side. This may decrease the length of stride.

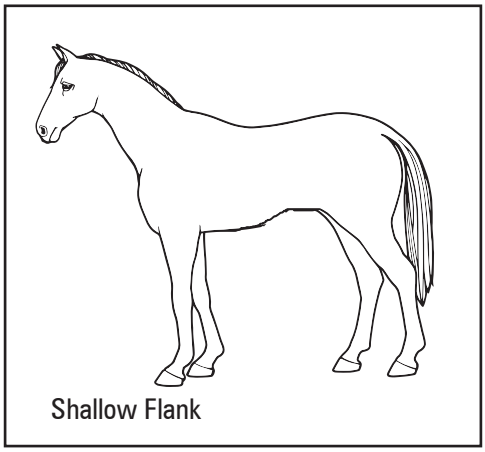
Rafter Hip–when viewed from the rear, the width at the point of the hip is greater than the width at the stifle. It indicates a lack of muscular development or poor body condition.

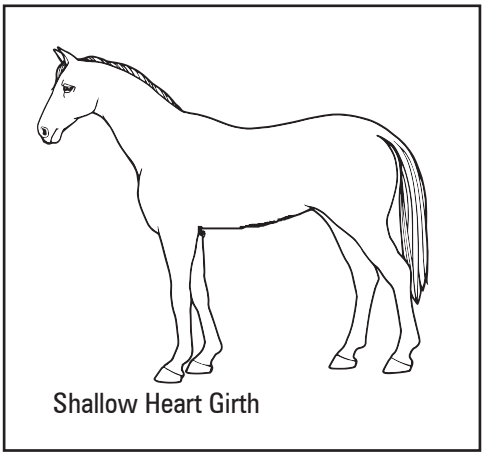

Rafter Hip

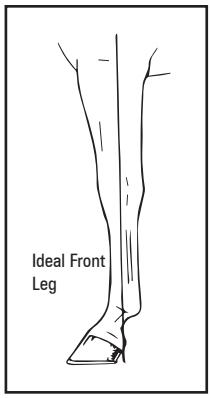
Heart Girth and Flank

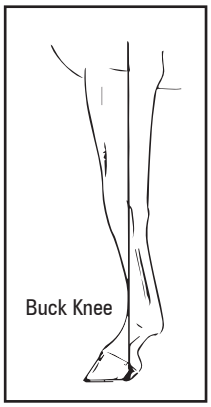
Shallow Heart Girth–depth from withers to elbow is less than the length from elbow to fetlock. This restricts the capacity for heart and lungs and may decrease the endurance of the horse.

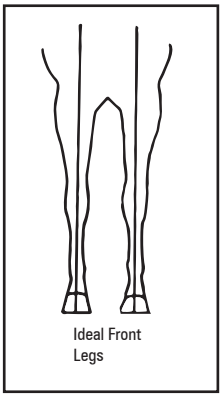
Shallow Flank–pronounced narrowing in the flank region. This may be an indication of body condition.

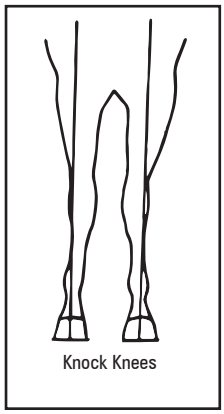

Shallow Flank


Shallow Heart Girth



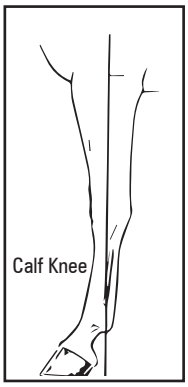






Feet and Legs

It is common to have more than one defect in the feet and legs. Each defect will require a compensation somewhere else in the leg. For example, a horse with offset knees will usually be toed out. To help identify defects in the feet and legs, take a "string" with a weight attached to the bottom, or a straight stick. This string or stick can then be used to help evaluate the front legs and the back legs of a horse standing square.

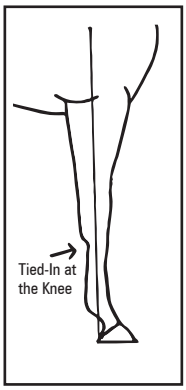


Front Leg Defects

Viewing from the Side–From the side, the string or stick, would hang so that it divides the knee, cannon and fetlock, and hits the ground at the bulb of the heel.

Buck Knees (Over at the Knee)–The knee is forward of a line that bisects (divides in half) the foreleg. This horse may be susceptible to bowed tendon and poor athletic performance.

Calf Knees (Back at the Knee)–The knee is behind a line that bisects the foreleg. This places excess stress on the front of the knee and strain on the tendons. This horse will be susceptible to chip fractures of the knee and bowed tendons. Calf knees are more serious than buck knees.



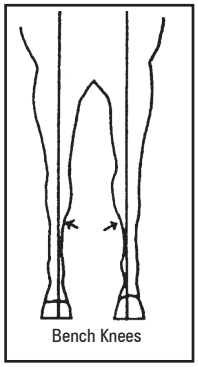
Tied-In at the Knee – small, narrow tendons look as if they are squeezed in just below the knee. The leg appears narrower at the base of the knee than at the fetlock, when viewed from the side.

Viewing from the Front

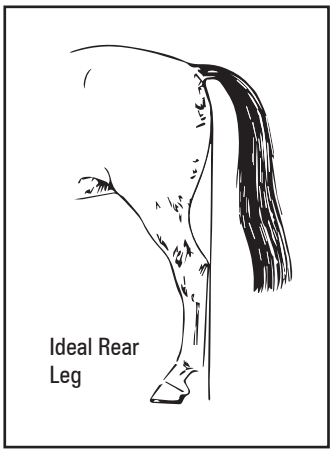
From the front, the string or stick would hang so that it bisects the knees, cannons, pasterns, and hooves.

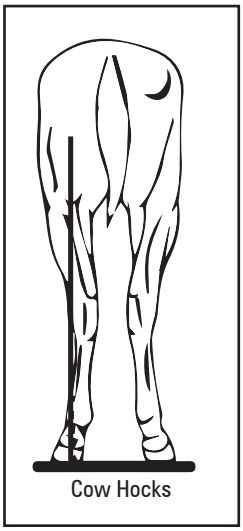
Knock Knees–the knees lie inside parallel lines bisecting the forelegs. This places excess stress on the outer knee and strain on the inside ligaments of the forelegs.

Bowlegs–the knees lie outside parallel lines bisecting the forelegs. This places excess stress on the inner knee and strain on the outside ligaments of the forelegs. These horses may be more susceptible to splints.



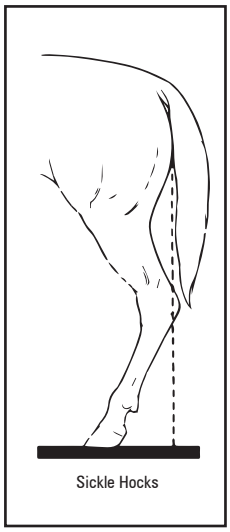
Bench Knees–the cannon bone is offset to the outside of the knee. This places more stress on the inside splint bones and the horse will be more susceptible to splints or knee chips.





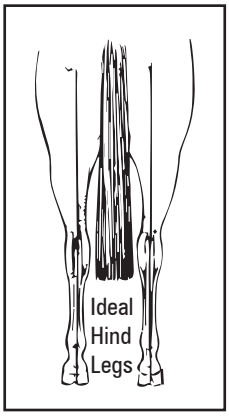
Hind Leg Defects

Viewing from the Side–From the side, a "string" dropped from the point of the buttocks, should run down the back of the hock, cannon, and fetlock. It should hit the ground about one half of a hoof's distance behind the bulb of the heel.



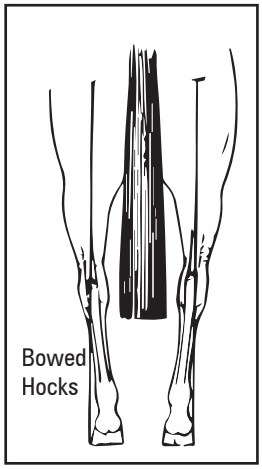
Sickle Hocks–excessive angulation of the hock joint. The horse appears to be standing under from the hock down. This is a very weak conformation and places excess strain on the plantar ligament and the horse will be susceptible to curbs.

Post-Legged–insufficient angulation of the hock joint and stifle. The entire leg appears too straight and the hind leg is set ahead of a line dropped from the point of the buttock. The stifle and hock joints are too straight, and the pasterns are usually also too upright. This places excess stress on the front of the hock joint and on the stifle joint. A horse will be susceptible to bog spavins, thoroughpins, bone spavins or stifle injury. This will also result in a shortened and stilted stride.

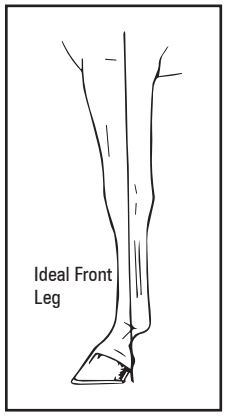


Viewing from the Rear–From behind, the "string" would still hang from the point of the buttocks. Ideally, it should run through the middle of the gaskin, hock, cannon bone, and fetlock. It should hit the ground between the bulbs of the heel.

Cow Hocks–the hocks are excessively closer together than the fetlocks when standing. They point toward one another, causing the feet to be widely separated and often pointing outward. This hind leg defect places excess stress on the hock joint and strain on the ligaments. This horse is susceptible to bone spavins, curbs, or thoroughpins. The normal conformation for an athletic horse is slightly cow hocked with the hind feet pointing slightly out.

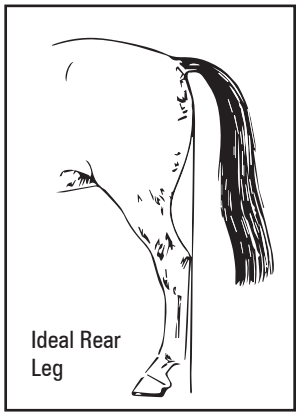


Bowed Hocks (also called "out at the hocks" or bandy-legged)–the hocks lie outside parallel lines bisecting the hind legs. This may cause interference because horse moves narrower at the ground than at the hock and places excess stress on the hock joint and strain on the ligaments. This horse will be predisposed to bog spavins, curbs, or thoroughpins.


Ideal Front Leg

Front or Hind Leg Defects

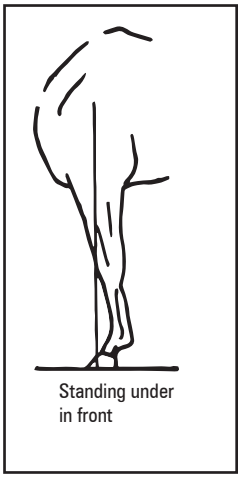
Viewing from the Side–The front and rear legs must also be evaluated for how they are positioned under the body of the horse. They should come under the horse's body so that the horse stands square and strong, as the ideal pictures show. With a picture of ideal legs, it is then easier to evaluate legs for the following defects.


Ideal Rear Leg

Standing Under

Front–the entire foreleg from the elbow down is too far under the body. This places excess weight on the structures of forelegs.

Rear–the entire hindleg is placed too far forward under the body. The horse may also be sickle-hocked or post-legged; stress is the same as for sickle hocks or post-legged, respectively.

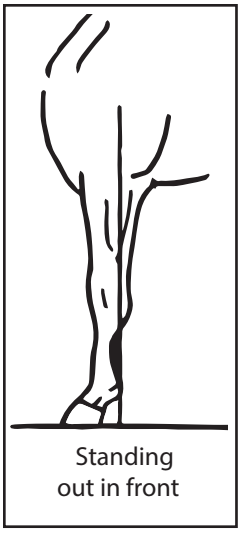

Standing under in front

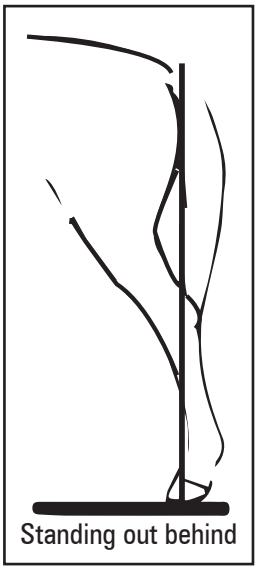

Standing under behind

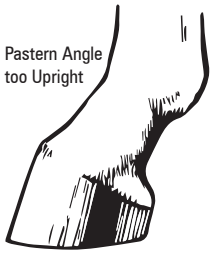
Standing Out

Front–the entire foreleg from the elbow down is too far forward. This places excess stress on the front of the knee and strain on ligaments and tendons.

Rear–the entire hind leg is placed too far backward. These horses are usually not very athletic, as they cannot work off their hindquarters.

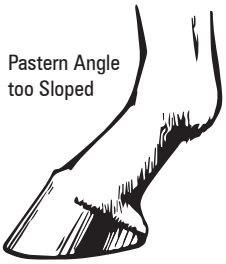

Standing out in front


Standing out behind

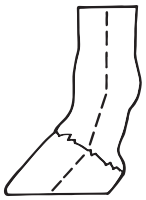


Pasterns

Steep Pasterns–often accompanied by a steep shoulder. This increases the effect of concussion on the fetlock joint, pastern joint, and navicular bone.

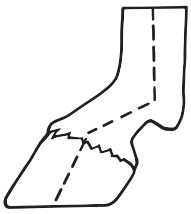


Sloped Pasterns–pasterns are usually too long and sloping. In extreme cases, the fetlock may touch the ground when the horse travels. This horse will be predisposed to injury of the tendons, ligaments, and the fetlock joint.


Broken Hoof

Broken Hoof/Pastern Angle–the angle of the pastern and the angle of the hoof are not the same. This may be the result of improper trimming.

Coon Foot–when the pastern slopes more than the front wall of the hoof, so much that the angle is nearly parallel to the ground, it is called a "coon foot." This places additional strain on the tendons and ligaments.


Coon Foot


Club Foot

Club Foot–A "club foot" is a serious conformation fault in which the hoof angle is too steep (60 percent or more). This may occur in one or more feet, and is often heritable and career ending. This horse may be susceptible to osselets, ringbone, navicular syndrome, side bones, and splints. Such a horse often stumbles and may be unsafe to ride.

Viewing from the Front/Rear

Base-Narrow–the forelegs and/or hindlegs are closer together at the ground than at the top of the leg. If the base of the feet is narrow, this may be accompanied by toe-in or toe-out conformation for compensation. There is more weight and stress placed on the outside of the legs and the horse may be susceptible to outside splints, windpuffs, ringbone, and sidebone.


Base Wide

Base-Wide–the forelegs and/or hindlegs are farther apart at the ground than at the top of the leg. This may be accompanied by toe-in or toe-out (most common) conformation. This places more weight and stress on the inside of the legs and predisposes a horse to windpuffs,ringbone, and sidebone.

Toe-In (Pigeon Toed)–the toes point toward each other. If the horse toes in, or is pigeon toed, more weight and concussion is placed on the outside of the pastern and hoof. This is usually seen with base-narrow and bowlegged conformation.

Toe-Out (Splay-Footed)–the toes point away from each other. This may be seen with either base-narrow or base-wide conformation and is often present if the horse is cowhocked. If the horse toes out, or is splay-footed, more weight and concussion is placed on the inside of the pastern and hoof. More horses are splayed in the front than back. This is one of the most common conformation faults.

Way of Going or Travel

The way the horse travels is the way the horse moves. Ideally, both the front and hind legs should move forward in a straight line. The back feet should travel in almost the same tracks as the front feet. The horse should move with a long, fluid, ground-clearing stride rather than a short, choppy stride. This is the most efficient way of moving and it places the least stress on the limbs. Watch the horse's feet carefully for how straight the horse travels and check the tracks left by the horse for signs of deviations in the horse's stride. Such deviations may indicate a conformation fault, which may eventually cause a problem.

Assessing Athletic Movement

Athletic movement should not be confused with "way of going." A horse's athletic movement is determined by the lightness, rhythm, and impulsion of his stride. Some horses can travel extremely crooked, yet possess a very light, rhythmic movement with tremendous impulsion.

Deviations from Travel in Horses

See Chapter 6: Movement, for diagrams and explanations.

Unsoundnesses and Blemishes

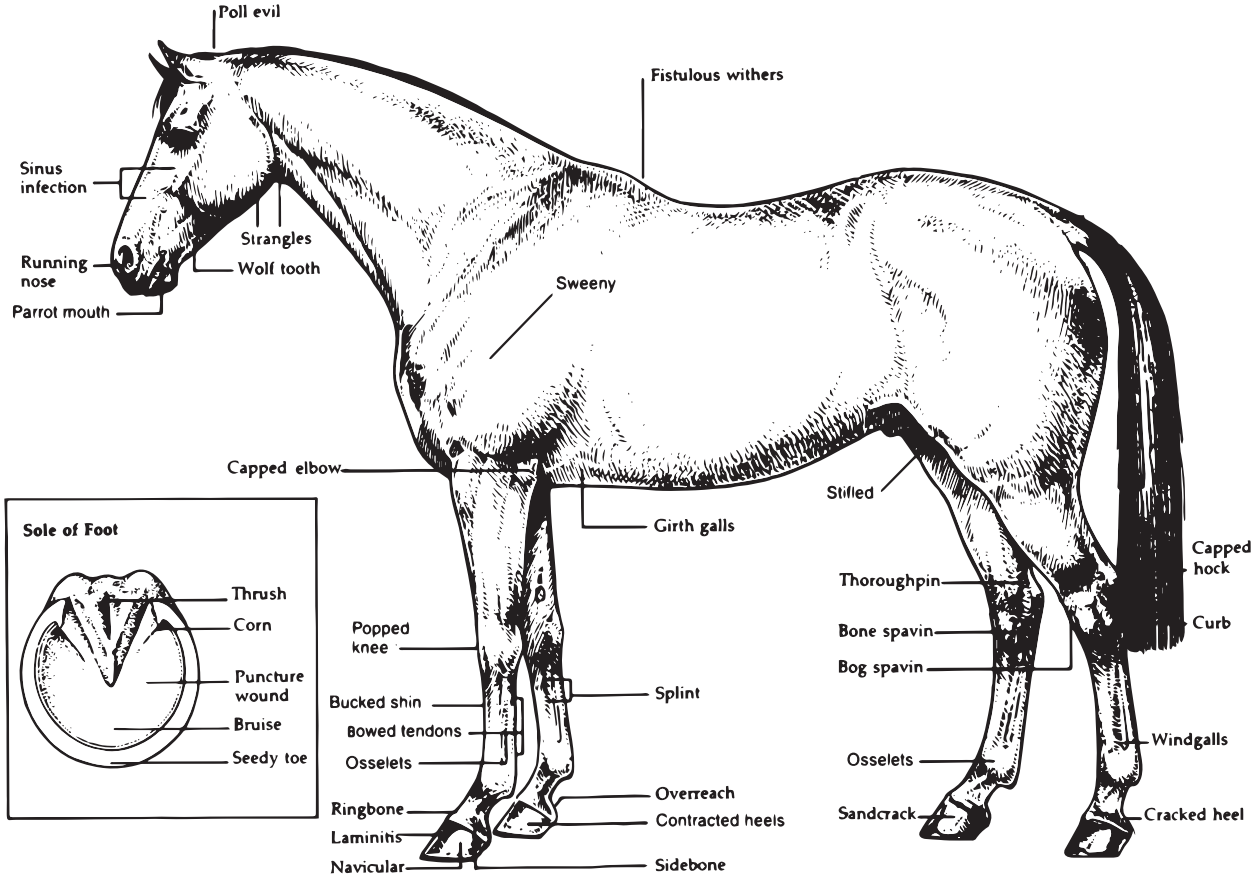
The term "sound" describes a horse with no problems or injuries causing pain that affect its usefulness. Soundness is extremely important because a horse's useability depends on its ability to move. When you look at a horse, it is important to watch for unsoundnesses and blemishes. The difference between these two terms is in how they affect the horse.

Unsoundness is an injury or defect which affects the horse's usefulness for its desired function. Unsoundness may cause lameness or, in some other way, affect the horse so that it cannot be used. Horses need to be sound of sight, wind, limb, and mind.

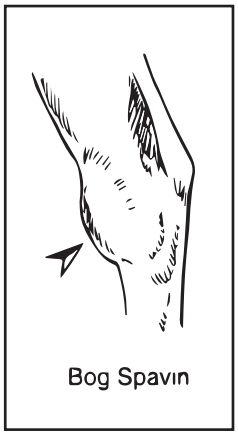
Blemishes are an injury or imperfection that affect the appearance of the horse, but not its usefulness. For example, healed wire cuts, rope burns, and so on.

While blemishes may not look nice, they don't affect how useful the horse will be, but if your horse has an unsoundness, it will restrict what you can use it for.

The following is a list and description of common unsoundnesses **(U)** and blemishes **(B)** to watch for when selecting or judging horses. Some are classified as both **B** and **U** because blemishes may be unsoundnesses, depending on their severity.



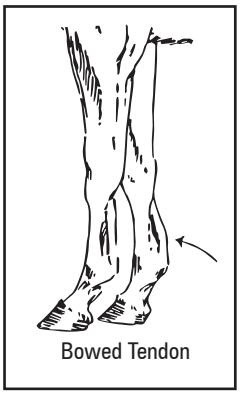
Blindness (U)–a partial or complete lack of vision in one or both eyes which may be caused by injury, disease, or heredity. Blind horses will not react to quick motions near the affected eye(s). Blind horses require special care if they are going to be kept.


Bog Spavin

Bog Spavin (B, U)–a soft swelling in the natural depression on the front and inside of the hock joint, usually due to sprain, strain, or faulty conformation of the hock joint. For example, a horse that is too straight in the hind legs may get a bog spavin. This rarely causes long term lameness, but may be an indication of an ongoing underlying disease process.

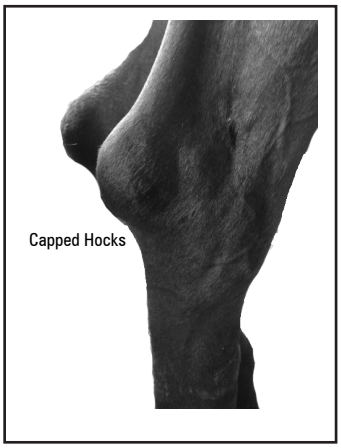
Bone Spavin (Jack Spavin) (U)–a bony enlargement on the inside and front lower hock where the hock tapers into the cannon bone, usually due to faulty hock conformation, excessively straight hindlegs, cow or sickle hocks, or injury. This usually causes lameness.


Bone Spavin

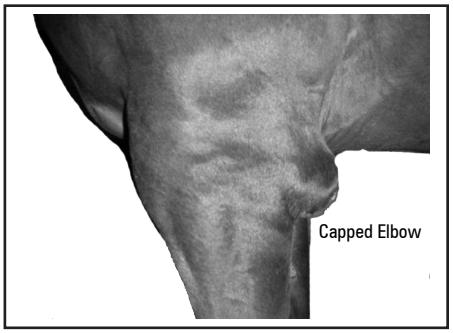

Bowed Tendon

Bowed Tendon (B, U)– an enlargement or swelling of the flexor tendons on the cannon bone, caused by excess stretching of the tendon due to stress or injury. Horses with faulty conformation such as long weak pasterns, or toes that are too long, may be predisposed to bowed tendons. A bowed tendon may heal enough to return the horse to work, but the scarring leaves a bow that is never as strong as before the bow occurred. This occurs most commonly in the forelegs.

Bucked Shins (U)–inflammation and severe pain of the front side of the cannon bone. This is characterized by painful swelling. The horse will usually try to rest the affected leg(s). It is seen most frequently in young horses that are subjected to hard, fast work. Lameness is usually temporary if the horse receives adequate rest.


Capped Hocks

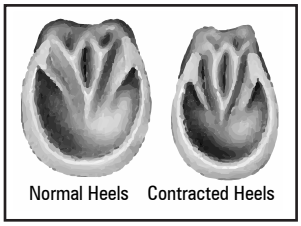
Capped Elbow (Shoe Boil) (B)–a soft fluid-filled or firm swelling at the point of the elbow typically caused by insufficient bedding, kicks and falls, or by rubbing with the heel of the shoe on the elbow, while lying down.


Capped Elbow

Capped Hock (B)–a soft fluid-filled or firm swelling at the point of the hock. It can be caused by lack of bedding, but more typically is from kicking at the sides of the box or trailer, etc.

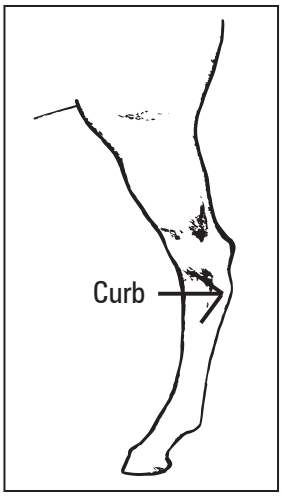
Club Foot (U)–abnormally upright foot with a high heel and a short toe, resulting from inability to straighten the coffin joint. Severely club-footed horses are unsafe to ride or drive and will typically become lame with work.

Contracted Heels (B)–the heels of the hoof are too close together and too upright. This is most common in the forelegs and is usually genetic, but may be due to improper shoeing. This may be associated with founder or navicular syndrome.


Normal Heels Contracted Heels

Coronary Abscess (U)–an infection under the hoof wall that drains at the coronary band. It may be caused by direct injury such as puncture wounds, cuts, inference, etc., or infection entering the foot from the ground surface. Lameness is usually severe, but temporary.

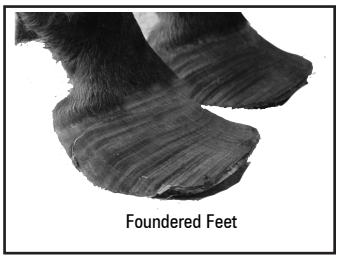
Cresty Neck (B)–the crest of the neck is thickened by excess fat deposits. This condition increases the weight carried on the forelegs and may be a pre-indicator of laminitis in breeds where a cresty neck is not part of the breed standard.



Curb (B, U)–an enlargement of the ligament found running from the point of the hock to the upper cannon bone region on the back of the leg (the plantar ligament). This is caused by injury or faulty conformation (sickle or cow hocks) and may cause lameness. Usually once healed and permanent, the horse becomes sound again, but may remain with the blemish.

Fistulous Withers (B, U)–an infection of the withers that leads to an abscess. Veterinary attention should be sought.

Founder (Laminitis) (U)–an inflammation of the sensitive laminae of the foot. It is often characterized, in chronic cases, by horizontal "founder rings" in the hoof wall and is usually more severe in the front feet. The horse may stand camped out in front to relieve pressure on the front feet during acute episodes. The most common cause of founder is an ingestion of an excessive amount of grain or rich hay.

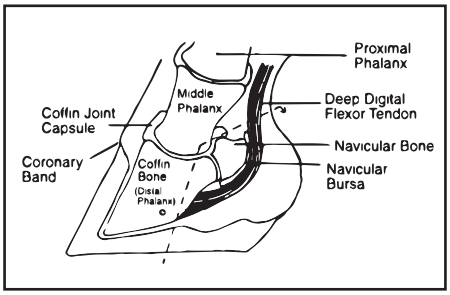

Foundered Feet

Heaves/C.O.P.E. (Chronic Obstruction Pulmonary Emphysema) (U)–difficulty in forcing air out of the lungs due to a loss in elasticity in the lungs. This is usually more noticeable after exercise as the horse contracts abdominal muscles forcibly to expel air. It is usually accompanied by a chronic cough and louder than normal breathing when at rest. A heave line (a thickened ridge of muscle along the lower side of the abdomen) will develop over time. The horse is unsound for strenuous work if not treated and managed properly. This is often caused by dusty, mouldy feed.

Hernia (U)–a protrusion of a soft sac, an organ, or body tissue through the abdominal wall or through another natural or accidental body opening. There are two types of hernias: reducible and irreducible.

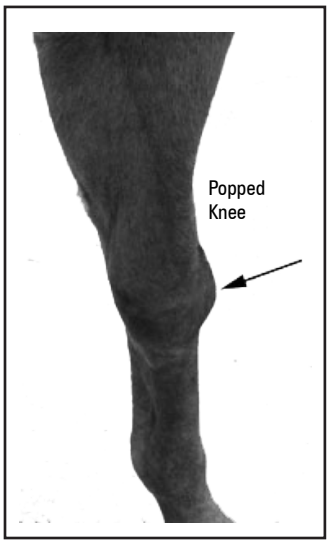
Locking Patella, Upward Fixation of the Patella (U)–when the patella, found in the stifle joint (which corresponds to the kneecap in the human), becomes displaced and locks in an extended position, it is referred to as a locked stifled. It may release on its own or may require manual manipulation. This is seen most frequently in post-legged horses and once this occurs, the ligaments are stretched and the horse will be prone to stifling again. It may be surgically corrected.

Monkey Mouth (U)–a hereditary condition in which the lower jaw is significantly longer than the upper jaw.



Navicular Syndrome (U)–an unsoundness caused by a degeneration of the navicular bone. The primary causes are strenuous work, concussion, improper shoeing, and poor conformation (small feet, steep pasterns, and steep-sloped shoulders). It rarely affects the hind feet. The horse may point the most affected foot or stand with the forefeet extended forward. The horse will try to land toe first when travelling to avoid frog pressure and concussion, making the stride short and choppy. No cure exists, but drugs, corrective shoeing, and some surgery may be used to ease pain.

Osselets (B, U)–an enlargement, either fluid-filled or bony, on the front side of the fetlock joint. The horse may travel with a short, choppy stride. It is usually caused by stress and concussion from hard work or faulty conformation. Lameness is usually temporary. Horses with osselets will have reduced flexibility of the fetlock joint.



Parrot Mouth (U)–a hereditary condition in which the lower jaw is significantly shorter than the upper jaw.

Poll Evil (U)–an inflamed area with abscessation between the ears usually caused by a bruise in the poll region.

Popped Knee (Water on the Knee) (B, U)–a swelling of the front of the knee, usually caused by injury or concussion.

Quarter Crack (B, U)–a deep crack in the area of the outside or inside quarter of the foot, starting at the coronet and running down through the entire wall of the hoof. Requires proper hoof care and probably shoeing.

Quittor (B, U)–a deep-seated inflammation and bacterial infection of the later cartilages of the hoof which eventually drains pus through the coronary band near the heels. This condition requires veterinary attention.

Ringbone (U)–bony enlargement(s) (arthritis) affecting one or more bones and/or joints of the pastern region. It is most common in the forelegs and is caused by injury or faulty conformation such as short, upright pasterns.

Roaring (U)–characterized by a whistling or roaring sound when the horse breathes in. This occurs especially with increased respiration from exercise. It is caused by paralysis of the muscles of the larynx.

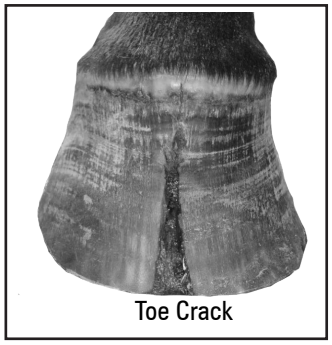
Sand Cracks (B)–surface or shallow cracks in the hoof wall. They may start at the coronet and go down, or at the bottom of the hoof wall and go up. This is usually caused by improper hoof care or alternating wet and dry conditions.

Sidebone (B, U)–bony enlargement(s) above and to the rear of the hoof, above the heels, a result of ossification (turning to bone) of the lateral cartilage. It is most common in the forelegs and is usually caused by concussion or faulty conformation.

Splint (B,U)–a bony enlargement, most commonly found on the inside of the front cannon bone. May occur anywhere along the length of the splint bone. It usually is due to strain, injury, or faulty conformation. It rarely affects the horse after the initial lameness has disappeared except where it occurs high enough to interfere with joint action of the knee.

Stifled (U)–when the patella, found in the stifle joint (which corresponds to the kneecap in the human), becomes displaced and locks in an extended position, it is referred to as a stifled condition. It may release on its own or may require manual manipulation. This is seen most frequently in post-legged horses and once this occurs, the ligaments are stretched and the horse will be prone to stifling again. It may be surgically corrected.

Stringhalt (U)–an involuntary flexion of the hock causing an upward jerking motion during movement. It may affect one or both hind legs. The cause of this is unknown and the action is accentuated when the horse is turned or backed. It is most noticeable after the horse has rested. Severe cases may be corrected surgically.


Toe Crack

Sway Back (B, U)–a weak, hollow topline. This restricts the ability of the horse to pull its legs forward beneath its hindquarters. This condition is often found in older horses.

Sweeny (B, U)–atrophy or shrinkage of the shoulder muscles. In advanced cases, the shoulder appears flat and the shoulder blade or scapula is readily visible. Caused by a direct injury to the suprascapular nerve which serves the shoulder muscles. The nerve does not regenerate, so the performance ability of the horse is limited.


Thoroughpin

Thoroughpin (B)–a puffy swelling in the hollow above and behind the hock joint. It is moveable by hand pressure from one side of the hock to the other and is usually due to strain injury or faulty conformation. It rarely affects the horse after the initial lameness has disappeared.


Windgalls

Thrush (B, U)–an infectious condition of the frog of the hoof characterized by a black, foul smelling discharge. It is an anaerobic infection (meaning that it thrives on a lack of oxygen) and usually results from wet and/or dirty conditions. It must be treated.

Toe Crack (B, U)–a deep crack in the toe area of the hoof, starting at the coronet and running down through the entire wall of the hoof. Requires proper hoof care.

Windpuffs (Windgalls) (B)–puffy, fluid-filled swellings at the fetlock joint. It is usually a result of heavy work or stress.

Judging

Evaluating

Look closely at a horse's conformation, muscling, balance, and the way that he travels. Compare each horse to a quality standard (ideal) and decide which one is most desirable to you.

Grants give credit to an inferior animal for an area where quality surpassed the higher placed animal.

Criticisms are a chance to demonstrate that you know the "ideal." They are used to describe an animal's faults as they relate to the "ideal." They are used in the body of the reasons only when a problem can not be described by comparisons and grants.

Judging a Conformation Class

A common activity in 4-H is to judge the conformation of a class of horses. This activity usually involves four horses. The task is to compare the horses and select out the one that you think is most structurally correct, 2nd, 3rd and the least structurally correct.

When judging conformation, consider each of these factors:

- soundness;
- conformation;
- muscling and balance;
- travel or way of going.

Check the animals over carefully from bottom up and front to back, comparing these factors. The horse with the best combination of all of these will be your top placing.

Judging Tips–Comparative Terms

Below are examples of some terms used in horse judging. Please refer to horse judging manuals or breed websites for additional terms.

General Appearance

- Heavier muscled, more ideally balanced mare (stallion etc.)
- Shows more refinement and style
- Was a balanced, refined, and feminine mare
- More alert and attentive expression
- More substance of muscle and bone
- More rugged and durable type of frame

Balance

- Longer, more sloping shoulder
- Deeper barrelled horse
- Deeper ribbed, wider chested
- Shorter topline
- Stronger over the back, loin, and croup
- Exhibited more balance with all parts blending smoothly together

Muscling

- Showed more tone and power of muscling from end to end
- Was more powerfully muscled in his quarters
- Fuller through (his/her) forearm and shoulder, and was more powerfully muscled through (his/her) hindquarters
- Thicker, heavier muscled stifle
- Heavier muscled forearm

Head and Neck

- Trimmer throatlatch coupled with a longer, smoother neck
- Finer featured
- Longer necked
- More prominent through the jaw
- Shorter distance from eye to muzzle

Structure

- Stood straighter on his/her legs
- Cleaner about the knees and hocks, with a flatter cannon bone
- Stands on a shorter cannon
- More correct angle at the hock
- Longer more sloping pasterns
- Wider, deeper heel
- Hooves more proportional to body size

Way of Going

- Moves out straighter and more correct at the walk (trot)
- Straighter, truer stride
- More fluid
- More flexion of the knee and hock, showing more reach
- Drives from behind with more hock action

Breed, Sex, Character, and Quality

- Higher quality hair coat
- Showed more breed character and femininity/masculinity
- More prominent, deeper jaw
- Showed more breed character about the head and neck
- Was more stylish and eye appealing

Outline for a Set of Reasons

When you give your reasons for placing animals in a certain way, you should give your reasons based on how you have judged the animals, i.e., comparatively. If you were buying a horse from this group, why would your first choice be the horse that you have placed on top? Why was your #2 horse your second choice and not your first choice? Why was #2 placed over #3. Why was #3 placed over #4? And, finally, why would you not buy #4?

In giving reasons, a class of four animals is divided into three pairs: a top pair, a middle pair and a bottom pair. The basic outline for an entire set of reasons (for a placing of 1-2-3-4) is as follows:

Give the name of the class and how you placed it.

"I placed this class of <name of class> <placings–using the numbers of the horses in the order you place them> for the following reasons:"

Top Pair

Reasons for placing 1 over 2, using comparative terms. Include grants for 2 over 1, which point out advantages of 2 over 1 (if any). Use comparative terms. Include criticisms of 2 using comparative or descriptive terms.

Middle Pair

Reasons for placing 2 over 3. Grants for 3 over 2 (if any). Criticisms of 3.

Bottom Pair

Reasons for placing 3 over 4. Grants for 4 over 3 (if any). Criticism of 4.
Repeat how you placed the class.

"For these reasons, I placed this class of <class name> <placings>." For more information on judging, refer to your judging manual.

Conformation and Evaluation Safety Checklist	
Parts of the Horse	
Safety Tools	**Check**
Increased personal safety in being able to adequately communicate with other handlers/ workers: "This mare is sensitive around her left hock."	
Discuss what could cause pain or discomfort within the hoof. Horses in pain or discomfort may act differently or may react adversely when the handler comes into contact with a painful area.	
Muscling	
Safety Tools	**Check**
Do you know how much your horse weighs? How much do you weigh? You are a fraction of your horse's physical size and mass. For example, an average 14hh Arabian might weigh 400 kg (880 lbs). An average 10-year old girl might weigh 33 kg (72 lbs). She would be 8.25% of her horse's weight. If a collision was to happen, this girl could be badly hurt.	
Balance	
Safety Tools	**Check**
Horses that aren't naturally balanced may have a harder time in slippery footing with a rider on their back.	
Deviation from Travel in Horses	
Safety Tools	**Check**
Horses that have a tendency to interfere with their way of going (I.e., paddling, forging/ overreaching) are at risk of tripping themselves, particularly when ridden in slippery or uneven footing.	
Anatomy and Physiology	
Safety Tools	**Check**
Discuss which conditions could cause pain or discomfort within a horse's body. Horses in pain or discomfort may act differently or may react adversely when the handler comes into contact with a painful area.	
Areas to highlight could include: mouth sores, broken or rotting teeth, eye conditions, skin conditions, sore back, painful legs in motion or at rest, constipation and colic, urinary tract infections, parturition, etc. Painful conditions require precautions by the handler.	
Personal safety can be increased when a handler is confident in knowing normal anatomy and physiology and is thus capable to identify abnormal conditions which may cause the horse to act/react out of character.	
Teeth	
Safety Tools	**Check**
Being bit hurts. A bite could cause major skin trauma, perhaps even requiring stitches or surgery. A serious bite could put you out of commission for days or weeks. A minor bite could be very uncomfortable and make doing your chores difficult.	
Judging	
Safety Tools	**Check**
Understand the task at hand.	
There is no roughhousing, screaming or inattention while participating in the judging class.	
Follow the directions of the class judge; they should outline what is expected of you (i.e., where to stand, if you're permitted to approach (or not), what you are looking for, etc.).	
Plan an escape route; know where to go if you need to quickly vacate the area.	

Pay attention to the horses in the class, give them more space if they are anxious or acting up. Let the handler holding the horse take charge of the situation—members should backup. Instead of a member reaching for the horse to help, they should guide the other 4-H members out of harm's way. New 4-H members may not understand what is going on.	
If the class requires or permits you to touch the animals, always ensure the handler and horse knows your intentions. Communicate your intentions. Take turns.	
If you're new to judging (younger 4-H member), be honest about your abilities and level of comfort around the horses. Stand back and observe how the other members conduct themselves. If a member is truly scared, it would be preferable to see them hand in a blank judging card than risk an injury. Judging can safely happen from a distance while still performing the basics of the judging activity.	
Wash hands before and after judging livestock.	

Use this page to make notes or diagrams.

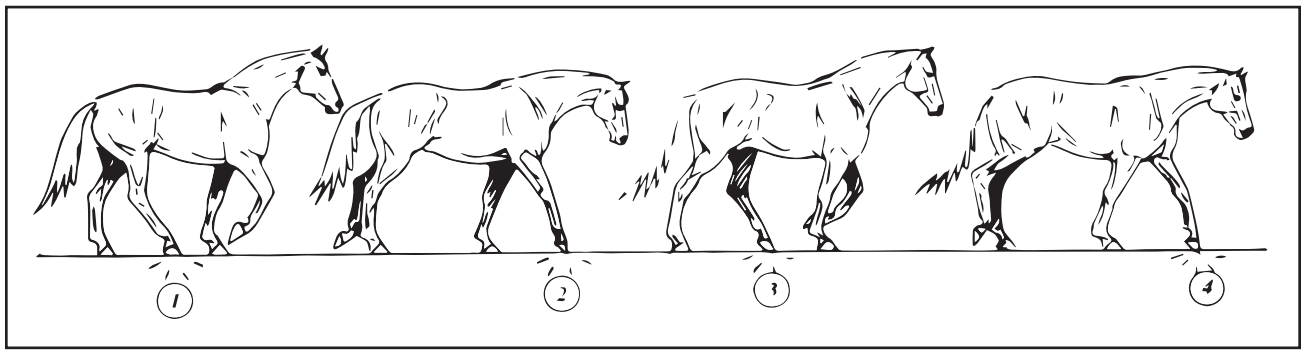
Chapter 6: Movement

Gaits

The gait of a horse refers to the different sequences in which the horse's feet touch the ground. The common gaits for horses are the walk, trot, canter, and gallop. Some of the terms used to describe a horse's gait are determined by the style of riding that is being done. For example, the Western horse jogs and lopes while the English trots and canters. There are some breeds of horses that naturally do other gaits than walk, trot, lope, or gallop. For example, some Standardbreds pace – a two beat gait where the horse moves the legs on the same side together. Some Saddlebreds rack – a gait that is four beats, with equal time between each beat.

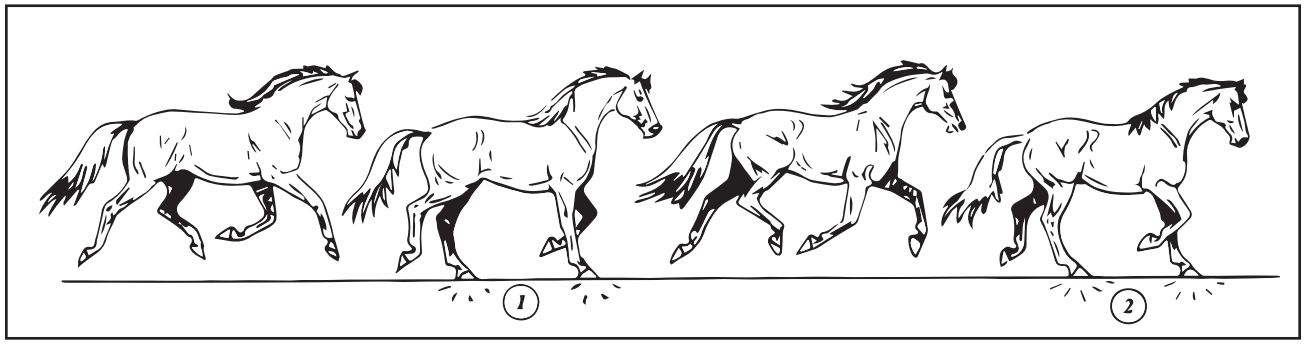
Walk

The walk has a four beat rhythm. Each foot is picked up and set down in sequence. The horse's back is level at the walk.



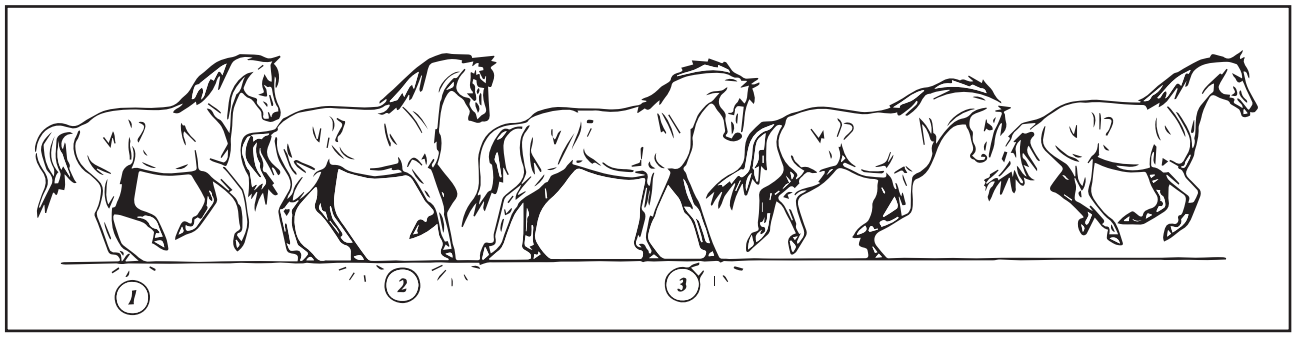
Trot/Jog

The trot/jog has a two beat rhythm. Diagonal (opposite) front and hind feet move forward at the same time. This is called a diagonal movement. The horse's back has a regular up and down movement at a trot/jog.



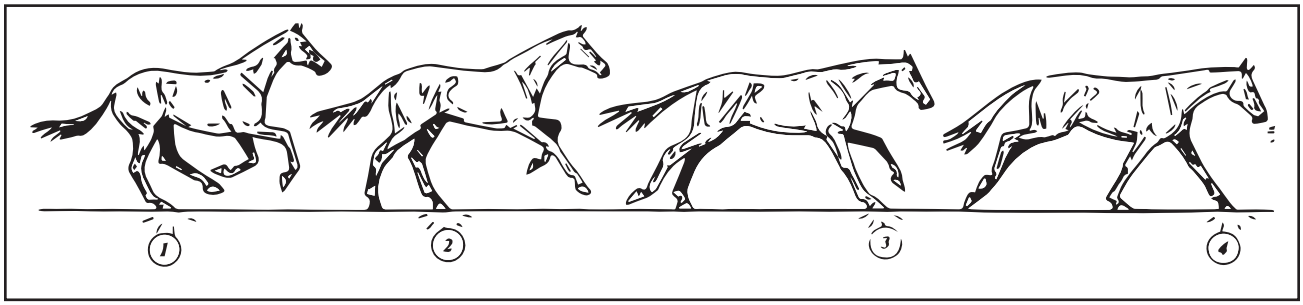
Canter/Lope

The canter/lope is a three beat gait with a moment of suspension (hesitation). The head and neck are carried above the natural position of the neck to lift the forequarters and help front leg action.



Gallop

The gallop is the horse's fastest gait and is a four beat gait, with a moment of suspension. The body of a horse is more stretched out when it gallops than with any other gait. For example a horse running a race is galloping.



Backup

Two beat rhythm on diagonal pairs.

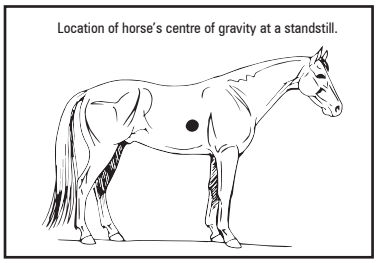
Stride

"Stride" is the term used to measure the distance covered between two successive steps of the same hoof in any gait. When a horse lengthens its stride it reaches further with each leg.

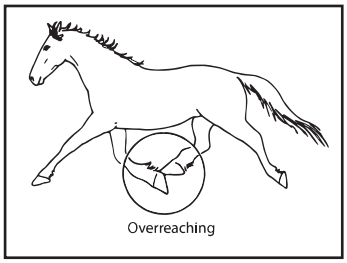
Leads

When a horse lopes/canters it reaches further in front with one front leg that is called the "lead." To be properly balanced on turns and circles a horse naturally and/or with training, should pick up the inside lead. Hind legs should take the same leading actions as the front. When the front and hind legs are not on the same lead, it is called "crossfiring."

Centre of Gravity

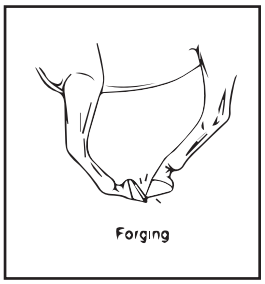


Every living thing has a centre of gravity and with movement, the centre of gravity moves. The horse's centre of gravity is located behind the withers at the lowest part of the back, above and behind the elbow. A horse (at a standstill) carries approximately 60 percent of his weight on the forelegs and approximately 40 percent on the hind legs. As a horse speeds up, its centre of gravity moves forward. As a horse slows down or collects, its centre of gravity shifts back. The horse's neck and head also affect the centre of gravity. As the head and neck are raised, the centre of gravity moves back and when the horse moves with its head and neck lowered, the centre of gravity moves forward.

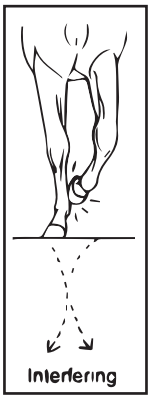


Defects in Movement

Overreaching–is when the toe of the hind leg grabs the heel of the foreleg. This can cause serious injury, usually to the heels or the tendons. This can happen in high energy sports when the hind leg extends too much or the front leg doesn't extend quickly enough.



Forging–is when the hind foot strikes the sole of the front foot as a horse trots. Horses wearing shoes will make a distinctive sound if they have this fault when they travel. Forging happens when a horse advances its hind foot too quickly or lifts its front leg too slowly. Young inexperienced horses will sometimes do this, or it can be a sign of laziness (especially in the front end), lack of condition, or fatigue.



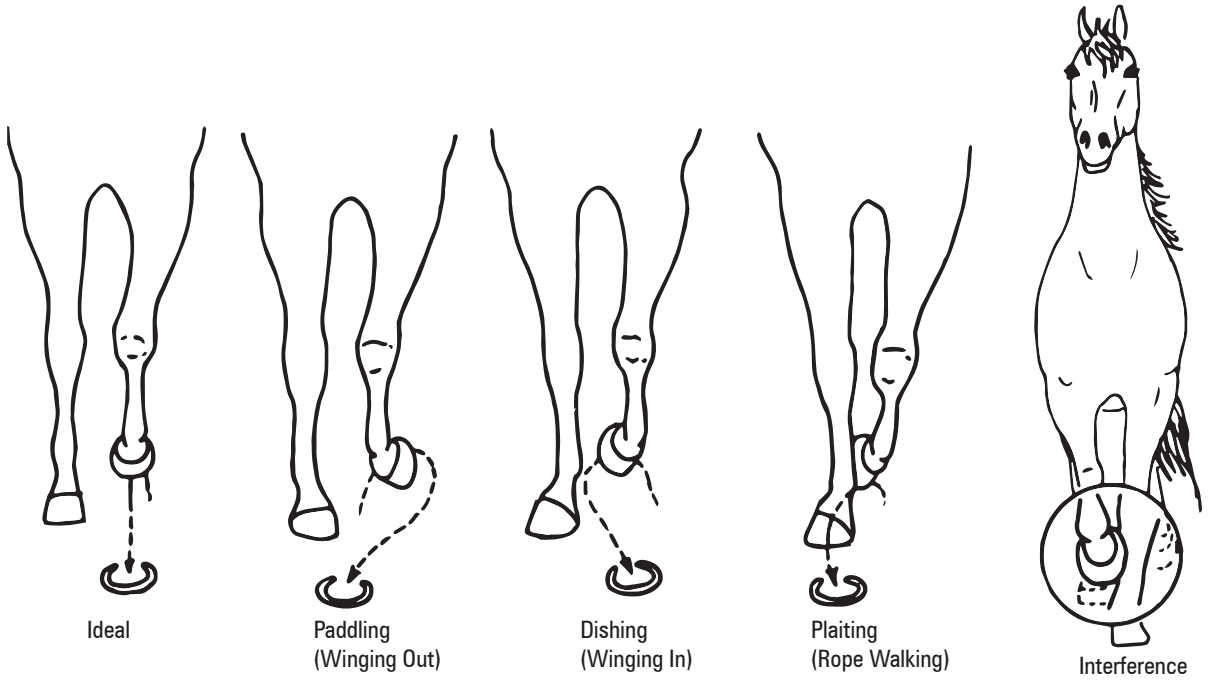
Scalping–the toe of the forefoot strikes the coronary band of the hind foot.

Interfering–when one foreleg/hindleg strikes the opposite foreleg/hindleg while in motion (see Winging). This is associated with horses that toe out and that are usually base narrow and/or narrow chested.

Plaiting–is when a horse places its front feet directly or almost directly in front of each other (like walking a tight rope). A horse that plaits often has conformation faults (base narrow) and may be subject to stumbling.

Winging–is when the foot wings in to the inside and then lands to the outside of the straight track. A horse may interfere with itself when it wings and it places extra stress on the inside of the horse's leg as it lands outside rather than straight.

Paddling–the foot paddling out to the outside and then landing to the inside of the straight track is called paddling. It rarely causes interference but it does place extra stress on the outside of the leg. Horses that toe in (conformation fault) often paddle when they travel.



Brushing–happens when one front or hind foot hits the opposite foot at the fetlock. Ankle boots are a must to protect the fetlock of a horse that brushes.

Lameness

Lameness is a sign that there is something wrong with the structure or function of the horse. Lameness is caused by pain, and for every lameness, there is a cause. Strain is the most common cause of lameness. Like kids and athletes, horses can hurt themselves at play and work. When a horse is lame, it will favour one or more legs, not allowing it to touch the ground or limping so that it doesn't place its full weight on it.

Sometimes it is easier to hear a lameness than to see one (rhythm of feet hitting the ground). Lameness is most readily seen at a trot. The horse's head will bob up and down most often, indicating a sore foot or leg in the front. Head bobs are less noticeably in hind leg lameness, where one will have to observe the rise and fall of the hips from behind. Lameness can be caused by numerous factors. Look for swelling and heat in the lame leg or foot. If your horse is limping, it is in pain, and it is important that you find out the cause of the limp so that you can remedy the situation before it gets worse.

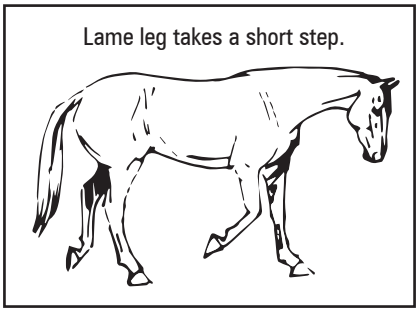
Diagnosing Lameness

Methods to Help Diagnose Lameness:
Observe the horse at rest. The stance position can indicate where lameness is. Watch for the horse doing any of the following:

1. *Pointing* of front foot may indicate pain in the limb, usually in the heel area.
2. *Pushing* back with weight on heels indicates pain in the toe area.
3. Hind limbs camped under body indicates that both front legs are affected.
4. Shifts weight from one leg to another if both front or hind feet are affected.

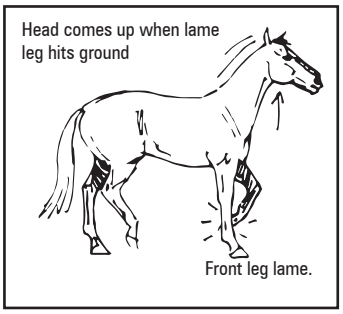
Observe the horse in motion. Note the gait and how the horse carries its head. Observe the horse walking and trotting, on firm ground, directly away from and towards you, as well as from the side.

1. Lame in one FRONT leg:



   a. Note the horse's gait and how the horse carries its head.
   b. Head raises sharply as the animal steps on the lame leg and drops its head when the sound leg is on the ground, with the sound leg landing harder and making a louder sound.
   c. Usually a horse will step shorter with the lame leg.

2. Lame in one HIND leg:



   a. Hip raises sharply as the unsound or lame leg strikes the ground.
   b. Head bobs down sharply as unsound or lame leg strikes the ground.
   c. Tail carried to one side.

3. Lame in both FRONT legs:
   a. Stiff, stilted action (pottery gait).
   b. Short stride.
   c. Appears stiff in the shoulders.
   d. Head is carried high without nodding if both legs are equally affected. If not, there may be a slight head nod when the less affected leg hits the ground.
   e. Hind feet carried farther under the body.

Hip carried higher on lame side.

Hind leg lame.

4. Lame in both HIND legs:

    a. Short stride.

    b. Awkward gait.

    c. Lowered head.

    d. Front feet raised higher than rear feet.

    e. Difficult to backup.

Note the progression of lameness. You may want to lunge the horse in both directions at a trot to observe this.

1. *Warms out* (progressively sounder)—may indicate arthritis, bursitis, and so on.
2. Progressively becomes lamer with use—may indicate tendons, ligaments, and so on.

Examine the leg closely using palpation (a gentle touch), and move the joints.

1. Start with the foot. Clean it out and check. Progress upward.
2. Compare suspected limb and foot with sound one(s).
3. Look and palpate (gently feel) for:

    a. cracks in the hoof or coronet, or in the cleft of the frog;

    b. wounds;

    c. swelling;

    d. pain;

    e. heat; and

    f. irregular pulse.

Lameness is usually seen in the forelegs, but may depend upon the horse's occupation. This is because the front legs support 60 to 65 percent of the weight of the horse. The injury can occur from the shoulder down. A lameness in the hind legs is less common.

Injuries and/or Causes of Lameness

Injuries, inflammation, and soundness problems are often described as acute or chronic. Acute means that the problem is happening now. Chronic means that the problem is longstanding, and may not go away. Any lameness that has been present for more than one month may be considered chronic.

Abscess

An abscess is a pocket of infection with swelling and pain. An abscess is often caused by the presence of a foreign object and may occur in the foot. The foot, with its horny capsule, cannot swell, so a foot abscess may be extremely painful for the horse.

Arthritis

Horses, like people, can develop arthritis. The problem usually appears as the horse ages. It can be a primary problem or secondary (develops at the point of an old injury). With arthritis, the joints enlarge as they become inflamed. As the disease progresses, the cartilage becomes discoloured. Small pieces can slowly wear away. Then the horse's body may make and deposit new bone around the joint.

Bruises

Bruises on the sole of the foot are quite common. Sole bruising is simply the result of an impact to the sole of the foot or frog without causing a puncture. Horses that walk on the sole of the foot because of flat feet, thin soles, or short hoof walls are more likely to be injured. Bruises can be serious because they may be as deep as the coffin bone. A deep bruise may abscess. To correct this, the horse needs to be kept on soft ground until shoes can be applied.

Bog Spavin

Bog Spavin

Bog spavin is a swelling at the front of the hock, usually not hot or painful; it seldom causes lameness, unless severe. This swelling may also be seen at the outside and inside of the hock. Bog spavin can occur from various causes such as stress, conformation faults, strain, and poor nutrition in young horses.

The amount of swelling may vary. It is soft enough that applying pressure to one area will reduce the enlargement at that point and increase swelling in other areas. The horse may not show any signs of lameness unless the spavin is caused by an injury. Not all cases of bog spavin can be treated. Only those caused by injury (bone chips) or poor nutrition can be treated to reduce swelling. In some cases, excess fluid can be drained.


Bone Spavin

Bone Spavin

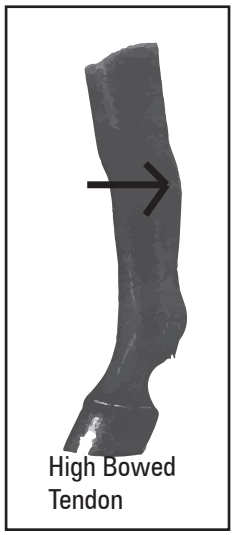
A bone spavin is arthritis in small bones of the hock. A bone spavin usually produces a hard swelling low down on the inside of the hock joint. It is more common in horses that put extra strain on their hocks such as reining and cutting horses as well as jumping horses.

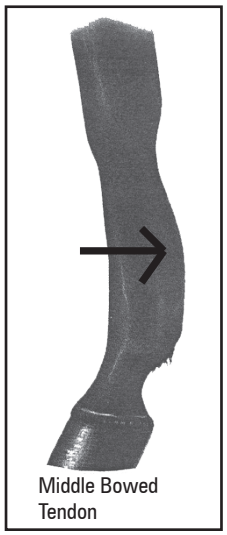
Cow hocks, bowed hocks, and very straight hock conformations are more prone to develop bone spavins. Generally horses with bone spavins are lame. Sometimes a bone spavin is referred to as a Jack Spavin.

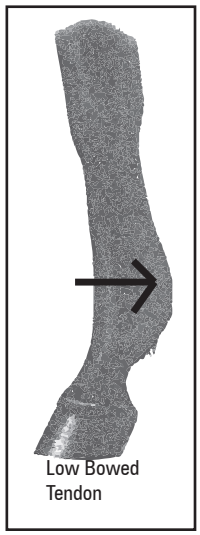
Bowed Tendon

The simplest way to describe a bowed tendon is a tendon that has been over-stretched so that it cannot return to its original length and shape. A bowed tendon appears as a bulge down the back of the leg behind the cannon bone, above the fetlock. The injury is usually found on the foreleg. It typically happens when the leading foreleg has all of the body weight on it as the horse lands or takes off during a jump, canter, lope, or gallop.

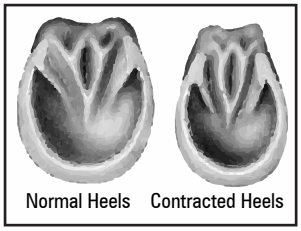
The most common cause is an over extension of the leg while the horse is being worked. Other factors that can cause this type of injury are forced training procedures, fatigue caused by speed and exertion, toes that are too long, improper shoeing, long weak pasterns, and horses that are too heavy for their tendon structure. Soft or slippery footing can increase the chances of an injury. A bowed tendon takes a long time to heal and is considered a serious injury.


High Bowed Tendon


Middle Bowed Tendon

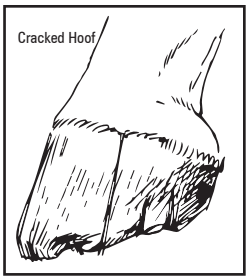

Low Bowed Tendon

Contracted Heels



A horse with contracted heels has a narrower heel than normal. The horse may not show any signs of lameness. The problem may be caused by a lack of frog pressure on the ground due to incorrect trimming or chronic lameness.

A number of changes take place in contracted heels. The foot becomes narrower at the heel as the frog dries and shrinks (becomes recessed and atrophied) up against the sole of the foot. If the problem continues for a long time, the bars of the foot may touch each other. Contracted feet may be slowly corrected by trimming and shoeing. This correction may take a year or more.



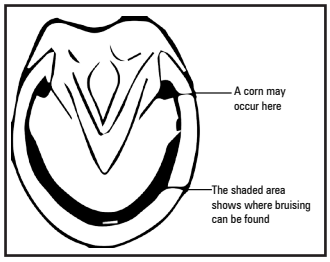
Cracked Hooves

Hoof cracks are a common cause of lameness. Quarter and heel cracks are usually more serious than toe cracks. The animal may or may not be lame. Foreign material entering a crack may cause an abscess. The horse becomes lame if the crack is so deep that it enters the sensitive area (laminae) of the hoof. Once the coronary band is damaged the crack may be permanent.

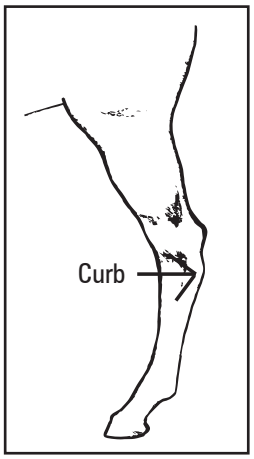
Corn

A corn is a bruise on the sole of the foot between the main wall and the bar of the heel. It can be caused by poor or improper shoeing, trimming, or when the shoe is left on too long, or by poor hoof conformation (flat footed, shallow feet, narrow boxy feet, or low heels).

There are three types of corns a horse may get. They are the dry corn, moist corn, and suppurating corn.



- The dry corn is common. Unless it causes a lameness, it may go unnoticed. It usually causes red or blue coloured stains on the sole of the foot. It is generally found in the area of the bars. Proper trimming (and shoeing) of the foot that will help the foot spread as it makes contact with the ground will help. For corns near the toe, a protective pad on the bottom of the foot may be used.
- A moist corn is caused by a severe injury to the sole.
- A suppurating corn is a corn that has become infected. It may lead to the death of cells in some of the inner structures of the foot and lameness will be noticeable.



Curb

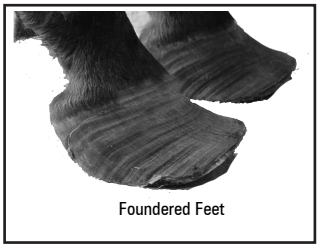
A curb is a swelling of the back of the hind leg below the hock. This swelling is caused by an inflammation (heat and swelling) and thickening of the plantar ligament. Depending on the type of damage, a curb may not be permanent.

A curb may be due to conformation problems or an injury. Horses that have sickle hocks and are cow hocked are more likely to have a curb because of stress on the plantar ligament. Horses with normal conformation can get a curb by violently attempting to straighten the hocks.

If a curb has been caused by an injury, treat the leg to reduce the swelling. It does not usually cause a lameness.

Laminitis/Founder

Laminitis or founder is a lameness caused by swelling that puts pressure on the sensitive laminae of the hoof. This happens when the sensitive laminae swell with blood in response to chemical changes in the body. Laminae are like leaves, or the wafer-like sections on the bottom of a mushroom. One set of laminae grow out from the coffin bone, while another set of laminae grow in from the hoof wall. These intermingle like velcro and act like a cushion between the coffin and the wall. When laminitis occurs, the two intersecting laminae pull apart.


Foundered Feet

Laminitis has a number of possible causes. These are:

- **Grass Founder**—Grass founder is common in overweight horses and ponies that are kept on pasture. The chance of founder is increased if the roughage mixtures contain alfalfa and clovers.
- **Grain Founder—**This is caused by the horse eating much more grain than it is accustomed to, causing a carbohydrate overload and changes within the flora of the horse's intestine. This is often due to an accidental excess (like getting into the grain bin) or the symptoms may suddenly appear in a horse that has been eating a large amount of grain every day. The symptoms often do not show up for 12 to18 hours after eating the grain. The symptoms are milder for oats than with other grains, but should be considered an emergency.
- **Secondary Infection—**In some cases, the horse will founder if it is extremely sick with a high fever caused by a virus or a systemic bacterial infection.
- **Road Founder (Concussion)—**This is more common in horses with thin walled and thin soled feet. Working a horse fast or for a long time on a hard surface, or hauling a horse for too long, can cause road founder. The most problems are found in horses that are not physically conditioned before they are worked hard.

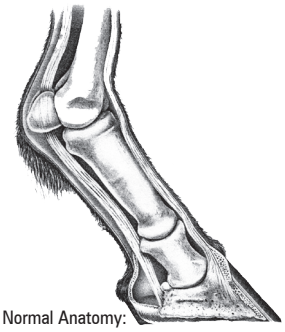
- **After Foaling**—The mare will have an infection caused by a retained placenta or a general uterine infection. The laminitis is a secondary reaction by the body.

Laminitis can occur in two main forms. It can be acute or chronic.

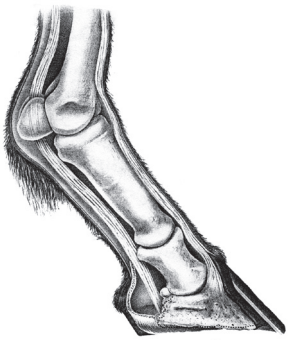
- A horse with acute laminitis may have all four feet affected. If this happens, the horse may lie down for long periods of time to relieve the pressure. When the horse is standing, it tries to reduce the amount of weight on its front legs. It does this by standing with its forelegs ahead of its body and the hind legs forward to support more weight. The front legs may be close together, and the weight will be on the heels. In severe cases, the coffin bone may become visible on the bottom of the foot.
- Chronic laminitis is a long lasting case of laminitis (over one month). Deformities of the foot begin to become noticeable. In many cases, the sole of the foot drops and becomes flat. Because of this, the horse travels so that it lands on its heels (normally the horse lands first on its toe). Heavy horizontal rings can be seen around the hoof as the foot grows out because the coronary band has been affected. Growth of the hoof at the toe is slower than growth at the heels. Without proper care, the toe can curl up as the heels grow longer.

Laminitis must be treated immediately by a veterinarian. Treatment is more successful if the problem is recognized in its early stages (usually the first 48 hours).

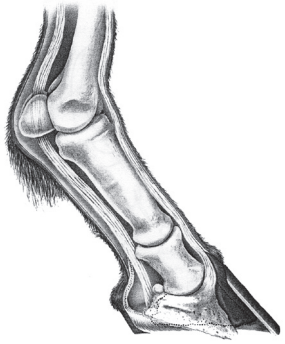
After a horse has foundered, you should consult with a veterinarian and farrier before you ride it again to develop a long term treatment plan. If the horse is not foundered too badly, pads and shoes can be put on the afflicted feet and the horse may be ridden in an area that has soft footing. Ride for about 15 minutes and see how the horse reacts. For more serious cases of founder, a long rest period is advised, but severe cases may never improve.



Normal Anatomy:
Developmental Stage
(exposure)

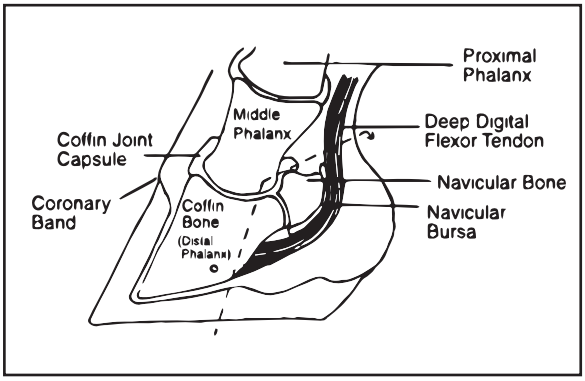


Acute Stage



Chronic Stage with Rotation

Navicular Syndrome



The term "navicular syndrome" refers to a condition that causes injury and subsequent changes to the navicular bone. It is caused by poor conformation or injury. It begins as an inflammation between the deep flexor tendon and the navicular bone. In time, the surface of the bone becomes pitted and rough and the deep flexor tendon is damaged.

Navicular syndrome is usually found in the front legs. Horses with faulty conformation (small feet, upright pasterns/shoulders) are commonly subject to this condition. Strenuous work, repeated concussions on hard surfaces and/or poor shoeing may be contributing factors. These factors may lead to broken hoof-pastern axis, long toes, and underslung heels.

Many kinds of lameness induce obvious signs, such as landing first on the toe, stumbling, head nodding, or limping. Because both front feet tend to be affected equally, navicular syndrome does not induce head bobbing initially, and the disease often progresses to its chronic stage before it is caught.

With navicular syndrome, the horse may stand with one or both feet planted slightly more forward than normal to relieve pressure. The horse may also alternate pointing of each front foot, or point the worst affected foot constantly.

You generally cannot cure or reverse navicular syndrome, but you can often manage it. Between a farrier and a veterinarian, navicular can sometimes be minimized to keep the horse useful.

Puncture Wounds

Puncture wounds are fairly common. Puncture wounds often occur to the sole or frog of the foot and to the legs and chest. Punctures can occur from objects such as nails, sticks, or glass. The wounds to the foot are often hard to find, but they will look like a black spot on the sole. A puncture to the frog is harder to find because of its colour and texture. A puncture caused by a shoe nail driven into the sensitive part of the foot will cause great pain. The location of the puncture will affect how the horse puts the foot down.

Puncture wounds may not drain on their own. If your horse has a puncture wound, call your veterinarian. The horse should also be treated for tetanus. The area must be kept clean. Use hydrogen peroxide and pack it with an iodine solution. Bandage the foot. If a puncture wound goes unnoticed and an infection occurs, treatment will become more complicated.

Ringbone

Ringbone is an arthritic change in the pastern joint caused by pulling of the ligaments, direct blows, wire cuts, or long term concussion from working on hard ground. It used to be a common condition of the cart horses working on the cobble stones. There is a buildup of bone around the pastern joints. The injury will cause heat and pain. The horse will travel like a horse with laminitis.

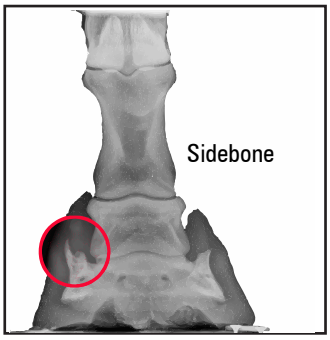
Ringbone is more common in horses with base narrow conformation, and horses with upright pasterns. It can occur in the front or hind legs.

Scratches

Scratches are a chapped skin condition of the back of the pastern, which can become infected. The condition is very difficult to treat. Other names for scratches are “greasy heel” or “mud fever.”

Sidebone

Sidebone is caused by the calcification (cartilage turning to bone) of the collateral ligaments of the coffin bone on either side of the heels. These look like boney ridges. The problem is most common in base narrow horses. The horse may have lameness depending upon the severity.



Splints

Splints are usually described as a problem of young horses (between two and five years old). Splints are usually found on the inside of the front legs in the form of a strain or tear in the interosseous ligament between the splint bone and the cannon bone. They may be caused by hard training, poor leg conformation, poor nutrition (mineral imbalance), or any type of stress. A swelling will form over the area, followed by bony changes.

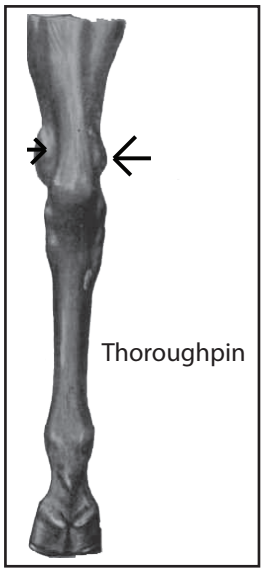
If the splint bone is injured or strained, the interosseous ligament between the cannon and the splint bone becomes sore. It heals by creating a calcium deposit to weld the splint bone to the cannon bone. A healed splint bone does not affect soundness unless it is high enough to affect the action of the knee or hock joint.

Lameness caused by a splint will be most obvious at a trot or if the horse is worked on hard ground. Swelling at the location is always present. The amount of heat and pain will depend on the cause of the injury and how recently it took place.

Splints caused by stress may cause little or no pain. Many horses do have reoccurring splints that will appear after a small amount of stress to that area.

Sprains and Strains

Sprains and strains involve the tendons, ligaments, and muscles. They are caused by overwork, injury, and poor conformation. Cold hosing will give some relief, especially if done soon after injury occurs. Consult a vet regarding proper treatment and how much time off is required.

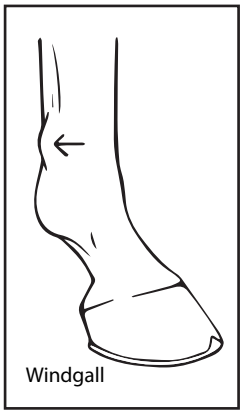


Sweeney
Sweeney is the shrinking of the shoulder muscles. With this condition, the muscles over the shoulder blade and shoulder joint waste away. It is most often caused by a blow to the point of the shoulder. It may be treatable depending upon the severity of the injury, but in most cases, it is permanent.

Thoroughpin
This is usually caused by stress or strain on a weak hock, especially a sickle hock. The tendon sheath of the deep flexor tendon as it passes over the inside of the hock in front of the point of the hock produces extra fluid and stretches, causing a soft, cool swelling in the upper part of the hock. It does not usually cause lameness.

Thrush
Thrush is a bacterial infection of the frog and sole of the foot. It can be seen around the frog. The infection causes a distinctive odour. The area can get raw and painful, and cause lameness.

Thrush often is worse if rotting manure or bedding is not cleaned from the frog area. Overgrown frogs are more susceptible to thrush because material is harder to remove from the area. To reduce the chances of thrush, clean the feet on a daily basis. Use soap and water to clean a thrush infected area. Use bleach or Koppertox to disinfect.



Windpuffs
Windpuffs are a swelling of the joint capsule, tendon sheath, or bursa in the fetlock area. They are usually seen in horses that are in heavy training. Windpuffs seldom cause lameness.

Windgall
An old windpuff that has become more dense and fibrous is sometimes referred to as a windgall.

Movement Safety Checklist	
Defects in Movement	
Safety Tools	**Check**
Handler understands which movement conditions could cause pain or discomfort within a horse's body. *Horses in pain or discomfort may act differently or may react adversely when the handler comes into contact with a painful area.*	
Lameness	
Safety Tools	**Check**
Handler is aware which lameness conditions could cause pain or discomfort within a horse's body.	
Diagnosing Lameness	
Safety Tools	**Check**
Handler uses precautions when checking for heat or swelling in the area suspected in causing the lameness.	
Handler is able to move quickly if the horse reacts to touch.	
Handler does not sit on the ground or kneel down in a way that could slow his or her reaction time.	
Injuries	
Safety Tools	**Check**
Handler is aware which lameness conditions could cause pain or discomfort within a horse's body.	

Use this page to make notes or diagrams.

Chapter 7: Selection and Buying

One of the most important safety decisions you will make is selecting the right horse for you to use or buy. Safety and suitability of horse to rider are the most important factors when selecting a horse. The horse should be appropriate for your level of horse handling and riding skills and, hopefully, as safe as possible for its intended use.

Selecting the right horse is a very important part of good horsemanship.

Purchase or Lease

Begin by consulting a knowledgeable horse person who can help you select your horse. Qualified, reputable riding instructors, trainers, breeders, veterinarians, or other horse professionals are good sources for help in locating a horse. Next, decide if you will purchase or lease the horse. If you are unable to purchase or lease a horse, you may be able to locate someone willing to share a horse with you. A variety of "shared horses" or "share boarding" options are available to share expenses and/or responsibility for care of the horse with the owner. The conditions for sharing the horse should be specified in a written agreement.

Suitability

The purpose and intended use of the horse will determine the type and breed of horse that is most appropriate for your needs. An outstanding show horse may not be suitable for competitive or pleasure trail riding. Likewise, an excellent trail horse may not be successful in the show ring.

Carefully compare your horse handling experience and abilities to the experience, ability, and disposition of the horse. A novice rider is usually not well suited to a young, inexperienced, or highly spirited horse.

An older, calmer horse with a successful show record or considerable experience is generally preferred for young or inexperienced riders. Recommendations from horse professionals or knowledgeable horse owners (other than the seller) can be very helpful in locating suitable horses that match the rider's ability.

A qualified veterinarian can help assess the athletic ability, soundness, and conformation or structure of the horse with a pre-purchase exam.

The conformation and soundness of a horse affect its suitability for a specific purpose or long-term usefulness. The horse should be balanced, sound, and free of serious structural abnormalities or health problems.

Disposition

Disposition is the sum of personality, trained manners, and experience. It will determine the compatibility of you and the horse. Disposition is extremely important to consider because it is the characteristic that will determine whether or not you actually like your horse. Inquire about his disposition and observe the horse's behaviour in his surroundings. Is he gentle and friendly, is he stubborn or lazy, or does he have any bad habits? Don't buy a horse with a bad habit hoping to change its behaviour.

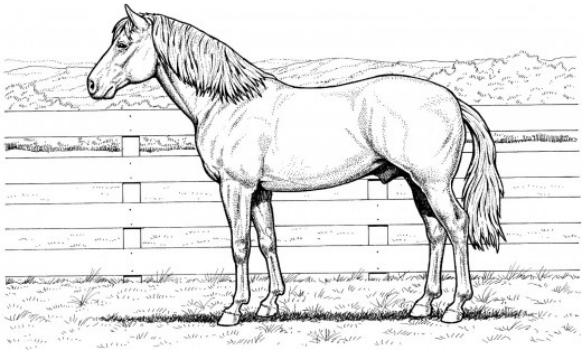
Before you climb on, watch someone else ride him. Finally try him yourself. Can you control the horse? Does he respond to you?

Price of the Horse

The price of the horse must be within your budget, and it should be compared to current market prices for similar type horses. Compare prices of horses from several sources, review current sale averages of breed auctions, and talk with knowledgeable horse owners in your area to establish an idea of a reasonable price. However, the purchase price is generally the cheapest part of horse ownership.

Paperwork

Finally, when you have located a suitable horse, request a sales or lease agreement. The sales agreement will define the conditions of sale, and protect you in the event of a later dispute. The agreement should identify the horse, the price, deposit (if required), method of payment, and any other details such as a trial period. A bill of sale, transfer of ownership or registration papers, and any required health certificates must be provided at the time of sale. The *Animal Pedigree Act* of Canada states that, by law, sellers of registered horses must transfer the registration papers to the buyer within six months (or as dictated by the breed association).



Selection and Buying Safety Checklist	
Purchase or Lease	
Safety Tools	**Check**
When working with a new and unfamiliar horse, the handlers carefully allow the horse to become accustomed to the new surroundings and new handlers/riders.	
Handlers and riders know that unpredictable behaviour could lead to dangerous situations, particularly when the horse is uncomfortable.	
Suitability	
Safety Tools	**Check**
The buyer is honest about goals and intentions for the horse.	
The buyer selects the best horse for the skill of the rider.	
Disposition	
Safety Tools	**Check**
The buyer observes the horse in a wide range of activities, including being relaxed, on lead, working, being groomed, and being ridden.	
The buyer brings along an experienced horse owner to observe.	
The buyer arranges for a pre-purchase exam from a veterinarian. The vet can help the buyer evaluate if the horse is the right fit for the intended purposes.	
Price of the Horse	
Safety Tools	**Check**
The buyer sets a budget for the purchase of horse that includes the equipment both horse and rider will need: properly sized saddle, saddle pads, well-maintained items like a halter, bridle, hackamore and reins, lead ropes, riding vest, riding boots, gloves, and an approved helmet. Some riders may even opt for a mouth guard.	
The budget includes the price of lessons and rider training for new members just starting out. Experienced riders factor in the price of attending workshops or further training.	
The family or 4-H club adds in the cost of a first aid training course and large first aid kit.	

Use this page to make notes or diagrams.

Chapter 8: Horse Health

There are many factors which play into the well-being of your horse. An important part of caring for the health of the horse is to learn what is considered normal. After you learn to recognize normal, it will be easy for you to spot an abnormal health condition. Knowledge of the signs of good health as well as ill health in the physical appearance of the horse, its attitude, and its body functions is an important part of horsemanship.

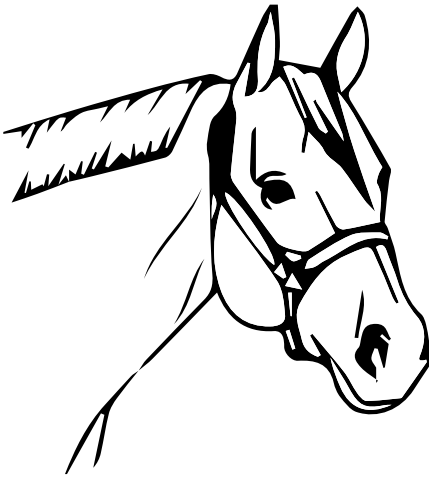
Physical Appearance

It is possible to look at a horse to determine its health. The old saying *"bright eyed and bushy tailed"* can easily be applied to the horse.

The **hair and skin** condition can tell us many things. A horse with parasites may have a rough, dull coat. Poor nutrition will also dull the hair. A fever will cause the hair to stand up. A horse in good condition will have a shiny, soft coat of hair. The summer hair coat will lie smoothly.

Skin health will affect the **hair** coat, since the oil that gives the hair its shine comes from oil glands on the skin. In the wintertime, the hair may be drier due to the cold and dry conditions. The skin should have a slightly shiny appearance with a minimum of dry flaking skin. Wherever dandruff and skin irritations occur, they will damage hair in that area of the body.

The skin should have an **elastic** quality. If you pinch a fold of skin along the neck and release it, it should spring back into place almost immediately. Poor body condition or dehydration can leave a wrinkle that is slow to disappear.



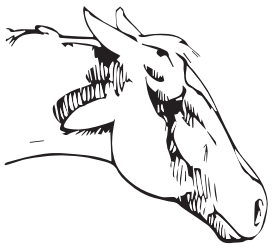
The **ears** should be forward and the **eyes** should have a brightness to them. The membranes surrounding the coloured portion of the eye should have a healthy soft pinkish colour and appear moist. If there is a lack of moisture, these membranes become bright pink and inflamed. Poor blood circulation to the membranes (such as during shock) will cause them to appear almost white. During an illness, the eyes may appear to sink back into the skull, usually due to dehydration.

Behaviour

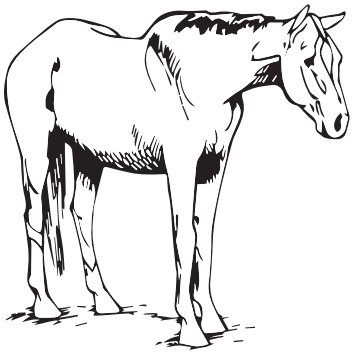
The behaviour of the horse tells us how the horse feels. Behaviour will change before other signs of illness are visible for diagnosis. In general, the horse should show an interest in any new activity it sees or hears. The horse should be alert but relaxed under normal conditions. This will depend on its disposition and will vary from horse to horse.

When an animal is feeling ill, it will change its behaviour. Some changes from normal behaviour and appearance that may be observed include:

- acting droopy and tired and standing with its head down;
- not eating its feed or drinking water. Healthy horses are always interested in feed. A lack of interest is often one of the first visible signs of serious illness;
- dull or watery eyes;
- coughing;
- nasal discharges;
- loss of weight;
- change in breathing;
- flared and/or inflamed nostrils;
- limping or standing in an unusual way;
- having diarrhea or not passing manure for more than 12 hours; or
- seems to be in pain, getting up and laying down repeatedly, rolling often, kicking at its belly or biting at its side, which show that it may have colic.



The horse is a social animal with a herd instinct. Poor health can change this. It is common for a sick animal to leave the group completely or maintain a distance from the herd. In some cases, the horse will be unable to keep up to the herd and becomes separated. This is different from chronic problems such as lameness or poor eyesight. With these types of problems, horses will often pair off for company.



The Vital Signs

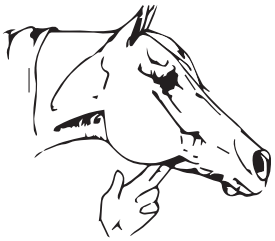
The heart rate, respiration rate, and temperature of the horse are taken when a problem is suspected. It is a good idea to take your horse's vital signs when it is healthy and resting and write them down. Use these vital signs as references. Capillary refill time (CRT) and the skin-pinch test are other helpful vital signs. A 4-H member can do any of these tests easily. Each test is described below.

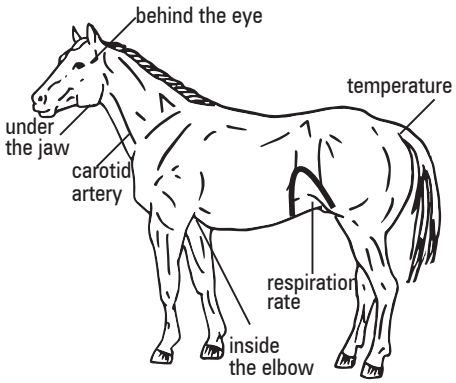
Respiration

To measure respiration, place your hand on the flank of the horse to feel the movement as the horse inhales and exhales, count one for each inhale and exhale, not two. You can also do the count by watching the flank. In winter, you can count the number of times the horse exhales by watching the warm puffs of air coming from the nostrils. Remember the respiration rate will also be higher after exercise, in warm weather and when the ventilation is poor, or if the horse is stressed (such as when it is getting used to a new environment). Under these conditions the breathing will also be deeper. A rate of **10–24 breaths** per minute is normal.

Pulse

The heart rate tells you how fast the heart of the horse is beating. The measurement is for the number of heart beats per minute. As you can see from the chart, the heart rate is different for different aged horses. The pulse rate is also affected by air temperature, exercise, and excitement.

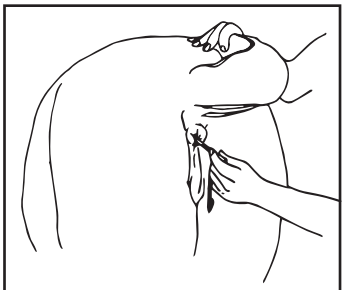




You can take the heart rate in several places. Experiment on your horse to decide which is the easiest for you. To take the pulse you need to find an artery near the skin surface. Most arteries are located well inside the body to reduce injury, but superficial arteries can be used. They may be found:

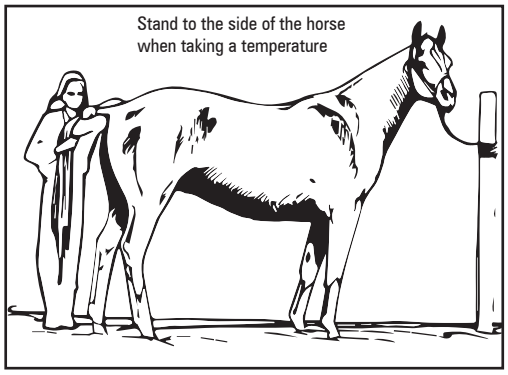
- at the margin of the jaw where it comes from the underside, as shown in the picture;
- at the inside of the elbow joint; and
- under the tail.

Hold your index and middle finger over the artery (if you use your thumb, you risk getting your own reading confused with the horse's). Once you find a pulse you can feel, you can measure it. Use a watch with a second hand. Time for 15 seconds and then multiply the number of beats you counted by four. That will give you the number of beats per minute.



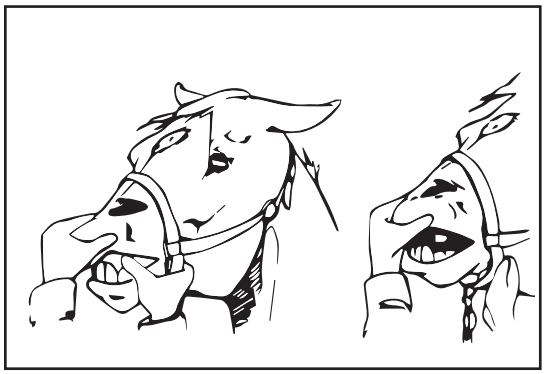
Body temperature is affected by air, age, temperature, and digestion.

Temperature



Stand to the side of the horse when taking a temperature

The temperature is taken using a (veterinarian's) rectal thermometer. A digital thermometer is safer and easier to use. To prevent the loss of thermometer into the anus, tie a string to the top end of it and hold the string. To insert the thermometer, stand to the side of the horse. Lift the tail with one hand and once the horse has relaxed, slowly slide the thermometer into the anus with your other hand. Try to slide the thermometer gently on the top or bottom of the rectal opening, as opposed to down the center of the tract, which may contain feces, and may cause an inaccurate reading. Inserting the thermometer is easier if a lubricant has been spread on it. After a minimum of three minutes, the temperature may be read. The average rectal temperature is 38° C (100.5°F), but 37.5° to 38.3° C (99.0° - 101.5° F) is considered normal. An abnormally high temperature reading may be false and should be checked again in 10 minutes. Make sure the mercury is shaken down before reusing the thermometer.

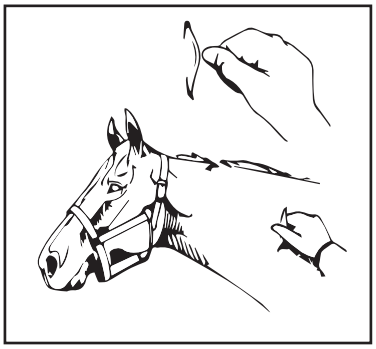


Capillary Refill Time

The capillary refill time is a way of checking if the circulatory system is functioning correctly. Therefore, it is a helpful measure for detecting colic. It is measured by lifting the horse's upper lip and pressing down with your thumb on the gum directly above the front teeth. When you remove your thumb, a white spot will appear. Count two seconds and the white spot should disappear and the depressed spot should look normal. If the spot takes longer than two seconds to return to normal, the circulatory system is slow.

Skin Pinch Test

This test is done to check for dehydration. Horses require lots of water and dehydration can be fatal. To check for dehydration, pinch the skin on the horse's neck. The pliability and resiliency of the skin is a good indication of the level of hydration. To determine if a horse is dehydrated, perform the pinch test.



To perform a pinch test:
pick up a fold of skin in the shoulder or neck region and then release it. The skin should return to its flat position almost instantaneously, within a second or two. If the skin remains peaked for more than two seconds, this is termed a "standing" tent and indicates some degree of loss of body fluid. If the standing tent is five to 10 seconds or longer, the horse is suffering from moderate to severe dehydration and needs immediate veterinary attention.

Gut Sounds

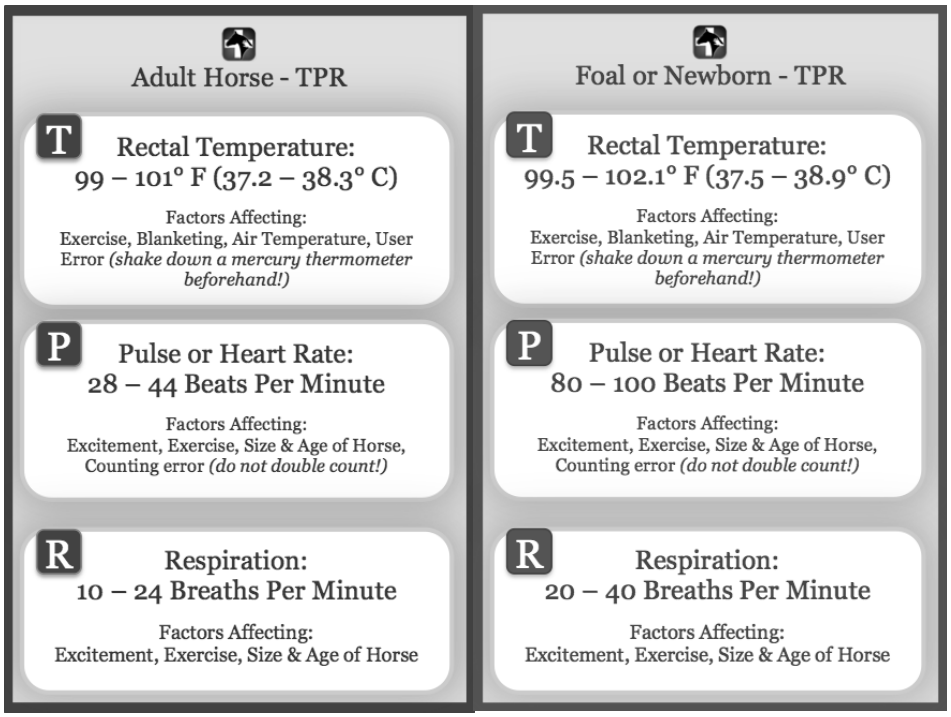
The abdomen usually produces sounds that tell us roughage and fluids are moving in the intestines. If you cannot hear any gut sounds when you press your ear to your horse's abdomen, you usually have a problem.

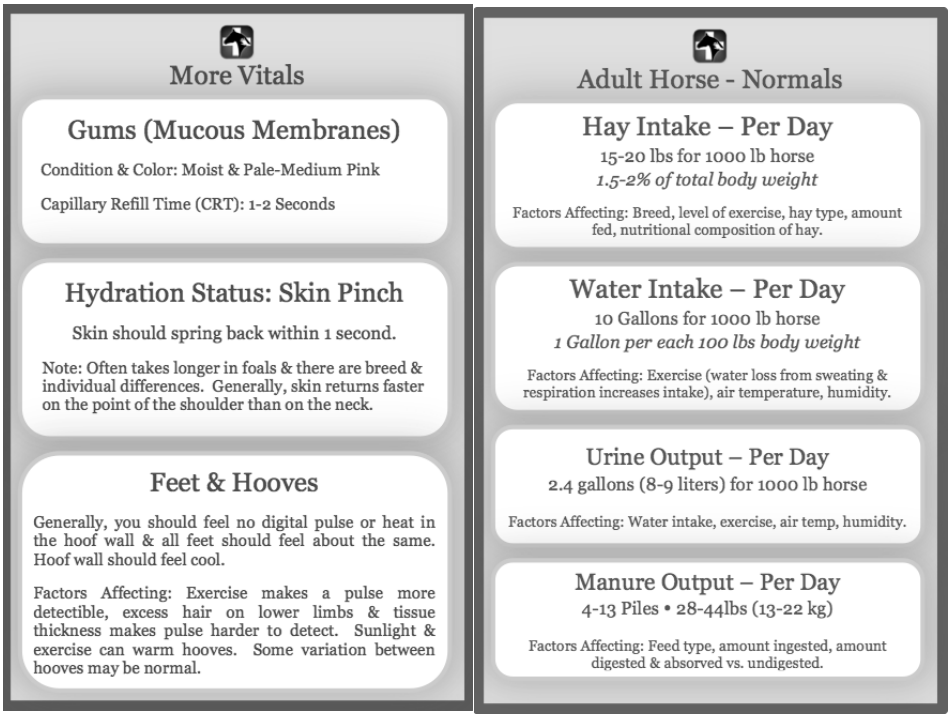
Colour of Mucous Membrane

The colour of mucous membranes from the horse's gums, the lining of the eyelids, and the nostrils can provide information about a horse's overall condition and circulatory function. Examples are given in the chart below.

Colour	Meaning
glistening, pink gums	healthy, normal
very pale or white gums	anemia or blood loss
bright red gums	a toxic condition
gray or blue gums	severe shock
bright yellow gums	liver problems

Equine Parameters for Normal Vital Signs





Body Functions

Body functions are always affected when a horse becomes ill. It is only after these changes that we are able to diagnose a health problem. Areas affected are the heart, lungs, digestive tract, and nervous system.

In the References section you will find a link to the University of Guelph website, which has a New Health Check Poster.

Digestion

The digestive tract can be affected by any number of problems. Under normal conditions, feces and urine are passed without problems. Neither one should contain blood, mucus, or pus. In a horse with a normal digestive system, you should be able to hear the stomach digesting when you place your ear next to the horse's belly. A horse with an internal or digestive problem will often stand with its loin rounded and appear roach-backed.

The condition of the horse's feces can indicate the health of the horse. Slimy mucous-covered droppings may indicate an irritation in the horse's intestines. Hard droppings may indicate a lack of water, a lack of exercise, or too dry or indigestible feed. Very soft or watery droppings may indicate too much hard work, too much grazing, or a slight irritation of the intestines. Whole grain in the feces may indicate that the teeth may need floating or that the horse eats too rapidly (bolts its food). The type of feed and water affects the firmness and shape of the feces too.

Digestion affects the ability of the horse to maintain its body weight when fed a constant volume. Sickness and parasites can cause weight losses or prevent weight gains even when feed is increased.

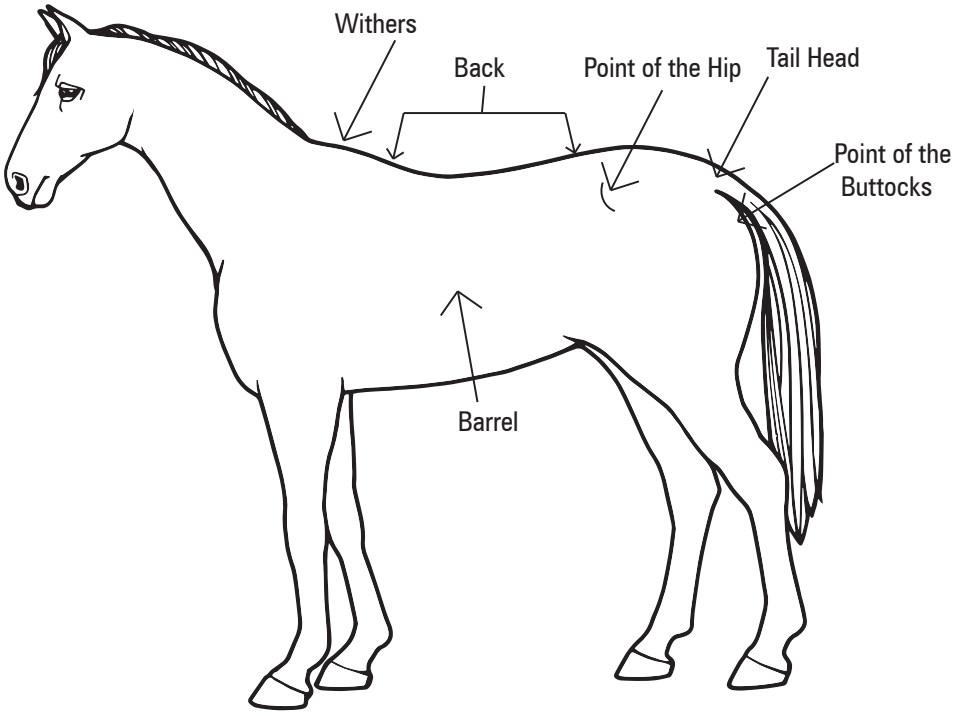
General Condition

It is important to observe animals often to detect changes in their general condition. You can feel and look at six areas of the horse to tell if it is too thin, too fat, or the perfect body weight. These six areas are the withers, back, point of the hip, tail head, point of the buttocks, and the barrel.

A score between one and nine can be given to the horse. Scores below three tell you that the horse is too thin and a score over eight that the horse is too fat. In both cases, you need help from a veterinarian.

Using the charts, observe and/or feel the fat cover on the six body sites shown in the diagram below. Make adjustments in your feed volume based on the condition score and how much exercise your horse gets. You should be able to *feel* the ribs, not see them. The withers will be fairly angular rather than rounded and the neck will not be crested with fat, or wasting away at the base (ewe neck).

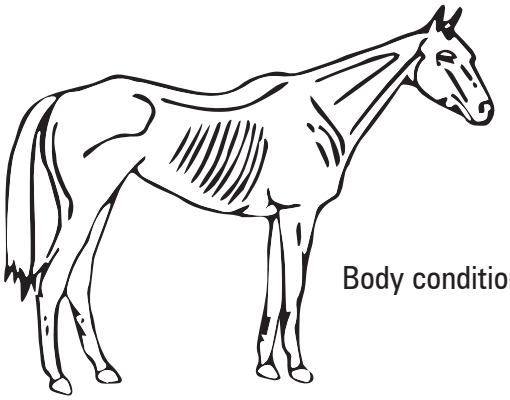
A horse in good condition will have a shiny coat, while a horse in poor condition will have a coarse coat and seem apathetic. When a horse has difficulty shedding out winter hair, this is a sign of poor condition. The healthy winter coat will be thick. On a cold morning, the hairs will be standing straight out with the extra long guard hairs touched with frost.



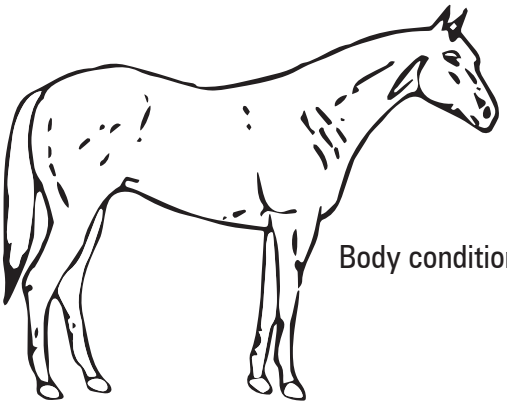
Working Condition

Working condition is part of a horse's general condition. When working your horse, be aware of its breathing. Signs of illness may be extremely laboured breathing or breathing that has a raspy or roaring sound.

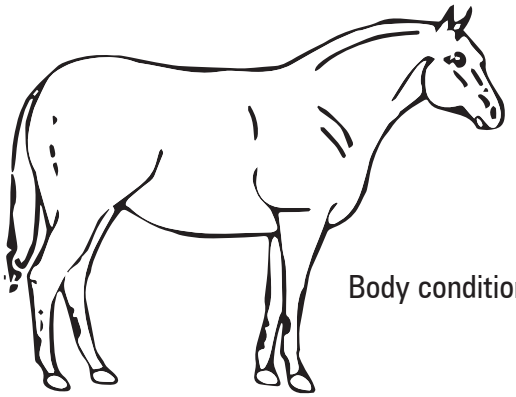
Score	Body Condition Scoring Description
1	**POOR** Horse is extremely emaciated. The backbone, ribs, hipbones, and tail head project prominently. Bone structure of the withers, shoulders, and neck is easily noticeable. No fatty tissues can be felt. There is a deep cavity under the tail and each side of the croup.
2	**VERY THIN** Horse is emaciated. A slight amount of fat covers over the vertebrae. The backbone, ribs, tail head, and hipbones are prominent (and there is a deep depression under the tail). Withers, shoulders, and neck structures are discernable.
3	**THIN** Fat is built-up about halfway on the vertebrae. A slight fat layer can be felt over ribs, but ribs are easily discernable. The tail head is evident, but individual vertebrae cannot be seen. The hip bones are rounded but visible. The withers and shoulders are emphasized. The neck has thin, flat muscle covering. There is a depression under the tail.
4	**MODERATELY THIN** Negative crease along back. Faint outline of ribs can be seen. Fat can be felt along tail head. Hip bones cannot be seen. Withers, neck and shoulders not obviously thin. The rump is flat on either side of the backbone.
5	**MODERATE** The back is level. Ribs can be felt but not easily seen. The fat around the tail head is beginning to feel spongy. Withers are rounded and shoulders and neck blend smoothly into the body. The croup is well-defined. There is a slight cavity under the tail.
6	**MODERATELY FLESHY** The horse may have a slight crease down its back. The fat on the tail head feels soft. A thin layer of even fat over the ribs feels spongy. Fat is beginning to be deposited along the sides of the withers, behind the shoulders and along the neck.
7	**FLESHY** A crease is seen down the back. Individual ribs can be felt, but there is a noticeable filling of fat between the ribs. The fat around tail head is soft and rounded off. There is noticeable fat deposited along the withers, behind the shoulders and along the neck (and there is no crest in the neck).
8	**FAT** The crease down the back is prominent (and it forms a gutter to the base of the tail). Ribs are difficult to feel due to the fat in between them. The fat around tail head very soft and flabby. The area along withers is filled with fat. The area behind the shoulders is filled in flush with the barrel of the body. There is noticeable thickening of the neck (and it has a slight crest that is wide and firm). Fat is deposited along the inner buttocks.
9	**EXTREMELY FAT** There is an obvious crease down the back. Fat is in patches over the rib area, with bulging fat over the tail head, withers, and behind the shoulders. The horse has a marked cresty neck that is very wide and firm. The fat along inner inner buttocks may rub together. The flank is filled in flush with the barrel of the body.



Body condition score 1.



Body condition score 5.



Body condition score 9.

Caring for Your Horse's Teeth

Teeth are the first step in the horse's digestive system. The teeth must be able to grind the feed well enough so that the digestive system can digest it.

Horses use their back molars for grinding in a side-to-side movement of the lower jaw against the upper.

Problems occur when this side-to-side movement is inadequate or tooth surfaces are uneven. The sharp edges may become too long and frequently interfere with the horse's chewing.

Signs that your horse may need some dental work done include:

- mounds of partially-chewed food are found in the manger;
- a large number of unbroken oats are found in the manure;
- the horse will cock its head, spill food from its mouth, and obviously have difficulty eating;
- the horse will not accept cues from the bit;
- a bad smell or sickly odour coming from the mouth; or
- the horse will toss its head while bridled.

If you notice these signs, have your vet examine the teeth. If there is a problem, your vet will recommend having your horse's teeth "floated" to remove any sharp edges. This filing of the horse's teeth will enable your horse to use the grinding surface more efficiently. Have your horse's teeth examined once a year. A good time to do it is when you are vaccinating or deworming.

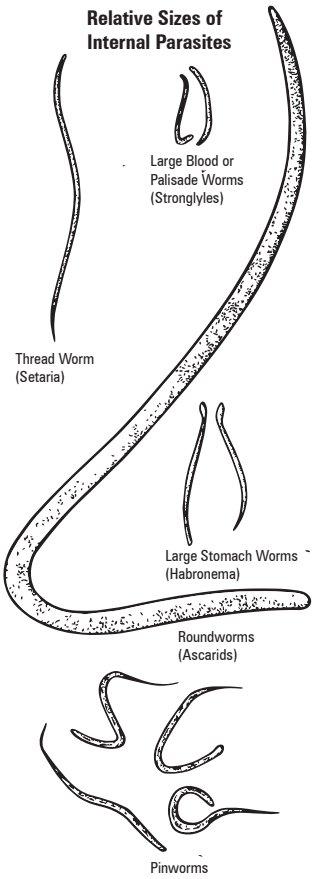
Parasites


Botfly Larvae

A parasite is an animal that lives off of another animal (host). The parasite uses the host to provide it with a home and food. It may eat the same food as the host or use fluid from the animal's body (often blood). It is not in the best interest of the parasite to be present in large numbers; this can make the host unhealthy and the horse or the parasite may die. If the horse is dying from parasite damage, large numbers of parasites will migrate out of, or off the body of the horse before it dies.

The horse is the host to a variety of parasites. Susceptibility to parasites varies. Young horses from birth to two years old are the most likely to show symptoms. Young horses tend to eat manure and dirt. Older animals usually do not have as much of a problem as young animals unless they are kept in a badly infested area. In older horses, more parasites will go through the body, but will not stay.

In order to control parasites we need to be able to recognize parasite infestation. While not all parasites can be seen, they produce changes to the body of the horse. It is important to rid your horse of parasites to prevent irreparable damage to internal organs (lungs, liver, arteries, and intestines).



Internal Parasites

Internal parasites (worms) live in the body of the horse. Most of them can be found in the digestive tract, the lungs, the body cavity, and in the muscle. The same parasite may be found in several places in the body. This is because they are at different stages in their development (life cycle).There are more than a dozen different kinds of worms. They can produce hundreds of thousands of eggs a day. It is often difficult to recognize when a horse has internal parasites. The changes take place very slowly. Some characteristics are:

- a rough dull coat;
- the horse sheds out later in the spring than the other horses;
- a thin horse with a potbelly;
- thin, even though the horse is being fed well and the horse is no longer growing;
- actually finding worms or eggs;
- pale membranes of the eyes and mouth;
- poor bone and muscle development in young horses;
- stunted growth;
- frequent colic; and
- diarrhea.

While extremely heavy parasite infestation can cause these visible signs, it is the internal damage that you can't see that can kill your horse.

Internal Parasite Prevention and Control

Making the horse a domestic animal has increased parasite problems because the horse is forced to live in an area of limited size. Since feces are the main source of parasite infection, it is easy to see how the problem increases even in well-kept areas. Some ways to help control your horse's access to internal parasites include:

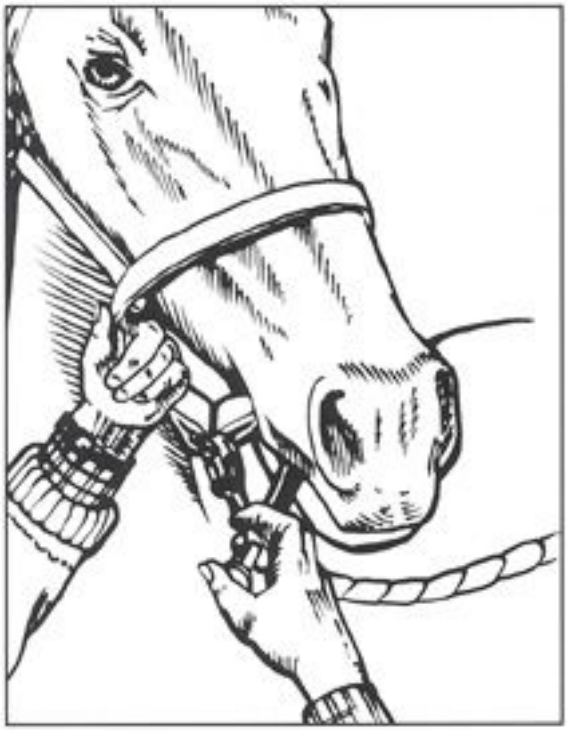
- pasture rotation;
- not grazing large numbers of horses in small areas; and
- not overgrazing the pasture.

No matter how clean you keep the stall or pasture, horses are exposed to new parasites every day. Eggs such as those of the roundworm can remain active in a pasture for up to 10 years.

Most parasites are picked up from the ground. One exception is bot flies. They lay their eggs during summer and late fall on the hair of horses, usually around the forelegs, shoulders, chest, and flanks. When horses lick their hair, the eggs enter their mouths. One way to control the numbers of this parasite in your horse is to scrape the little yellow eggs off the hair of your horse, before it ingests them. Use a special bot fly knife to safely scrape the eggs away.

There are always parasites in the body of the horse, so it is nearly impossible to eliminate them from the environment of the horse. Good deworming practices will help control parasite numbers. Depending on the conditions in which your horse is kept, it may need to be de-wormed every few months. If horses have a lot of space, spring and fall treatments may be enough. In the colder climates, we have an advantage. Freezing temperatures kill most parasites and their eggs during winter. Consult your veterinarian to determine the best deworming schedule for your horse.

If you suspect a serious worm problem in a horse you may consult your veterinarian. A small dose of dewormer may be given to the horse several days before it is given a full dose. This removes a small number of the worms from the digestive tract. When the horse is then given a full dose of dewormer, it is less likely to suffer an impaction. A young horse is more likely to get an impaction from worms because of the smaller diameter of its intestines.



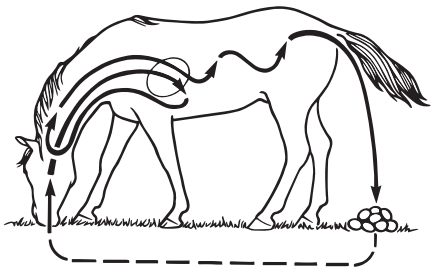
Deworming Your Horse

Dewormers

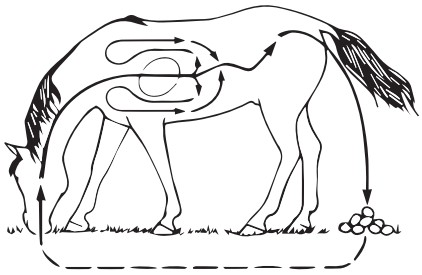
There are different types or classes of dewormers, according to the type of worm that has infected the horse. Dewormers can be given in various forms (paste, gel, powder, granules, or liquid). Consult your veterinarian as to what type is appropriate for your horse and your location. Deworming is a very important part of your horse's health routine. If dewormers are used too often, then some parasites become resistant.

Some Internal Parasites

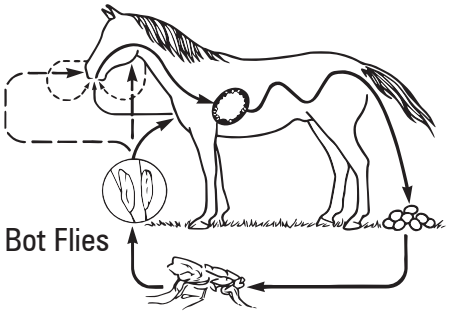
Parasite	Where Found	Size	Number of Eggs	Method of Infection	Location and Lifecycle	Signs
Large Roundworms (Ascarids)	small intestine	12 to 55 cm (5 to 22 inches)	1,000,000 /day	swallowed with feed and water	Eggs–stomach and intestine. Larvae–go through gut wall into the bloodstream, through liver, heart, and lungs, migrate up the trachea and pharynx and are swallowed.	Diarrhea, rough hair coat, pot bellied, retarded growth, colic
Bots	hairs of lips, throat, migrating through stomach lining, and in the rectum	1.9 com (3/4 inch)	150 to 300 eggs	horse rubbing eggs with lips	One-year cycle. Larvae enters and grows in the mouth. They pass to the stomach and intestines. They then pass out with feces. Bots can attach to the rectum for several days.	Yellow eggs are attached to hairs of the horse, generally the legs and cause digestive upset, colic excitement and low energy level poor coat and loss condition. The horse will be thin with a poor coat and loss of condition.
Large Bloodworms (Strongyles)	small intestine, caecum, colon, and blood	5 cm (2 inches)	large numbers	The worms are found on pasture and in pens and are swallowed with food and water	Pass through three stages on the ground after hatching. Go through walls of the small intestine, caecum, and colon into the arteries and through the circulatory system.	Loss of appetite, diarrhea, rough coat, sunken eyes, colic, anemia. Can cause thrombosis or aneurysms (blockages that may cause death through gangrene or heart failure).
Pinworms	rectum, large intestine	Very small eggs may be anchored in anus. One species produces live young rather than eggs.		swallowed with food and water	Mature in the colon. Pass out with feces and anchor in the anus.	Tail rubbing, irritation of the anus. Broken hairs and bare patches around tail and buttocks.



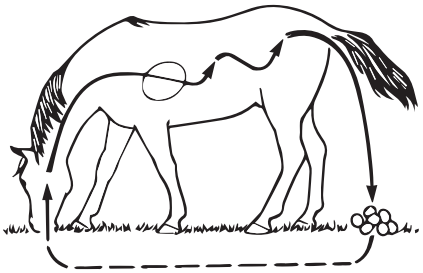
Large Roundsworms/Ascarids



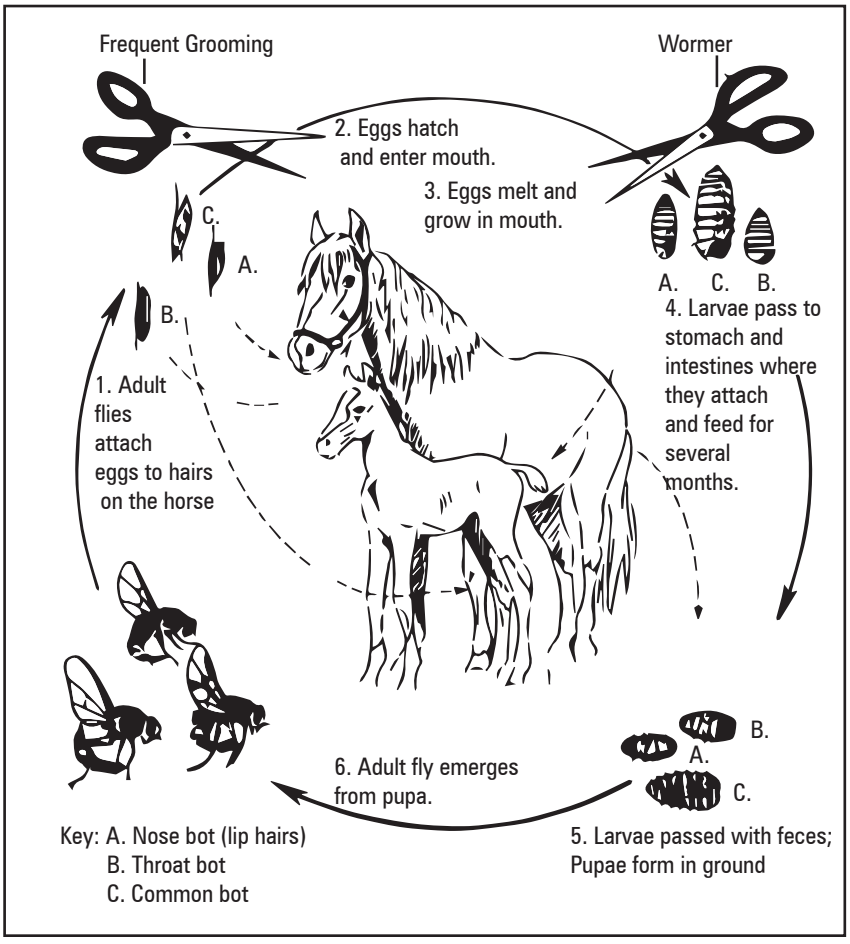
Bloodworms/Strongyles



Bot Flies



Pinworms



External Parasites

Horses are also the host to a number of external parasites. In many cases "external parasites" means that the horse is bothered by insects. Frequent symptoms are irritation, scratching, restlessness, and changes in hair and skin conditions. Any time you are out with the horses in the summer, your horse will be bothered as much by the mosquitoes and flies as you are. Unfortunately for your horse, there are added problems.

Biting insects spread the potentially fatal and reportable diseases:

- Equine Infectious Anemia (Swamp Fever);
- Equine Encephalomyelitis (Sleeping Sickness); and
- West Nile Virus.

These can be detected by blood testing.

Most parasites have many stages in their life cycle. For example, the fly is just one stage of its parasite's cycle. While flies do not cause direct damage, they do bother the horses.

Irritation caused by lice can cause hair loss. Lice are the most common external parasite found on a horse. Mange mites produce a specific contagious disease known as mange (or scabies, scab, or itch). These minute parasites live on/in the skin of horses. Horses with lice or mites may have rough coats, poor condition, and may rub fences etc. due to the irritation.

Tick problems are especially prevalent in the foothills, and mountain areas where infestations run in cycles. So you need to use tweezers or needle-nose pliers to remove them. Ticks have strong mouths that clamp onto the horse.

How to Remove a Tick

Step 1. Use fine-tipped tweezers to grasp the tick as close to the skin's surface as possible. The goal is to remove the entire tick, including its head and mouth.

Step 2. Pull upward with steady, even pressure. Do not twist or jerk the tick.

Step 3: Clean the bite area and your hands with rubbing alcohol and iodine scrub, or soap and water.

External Parasites

Parasite	Life Cycle	Symptoms	Location	Treatment
Lice	1. Eggs attached to hairs, (hatching takes 2 weeks). 2. Once the eggs hatch, they will live for 2 weeks the lay new eggs and die	Severe itching. Hair rough and thin, may have scabs. Heavy dandruff. Greasy skin.	• base of tail • inside of the thigh • fetlock • neck, mane, and shoulders	Consult veterinarian for best treatment.
Mites (4 kinds)	1. Will live 2 or 3 weeks when removed from the body. 2. 15-day cycle to hatching	Cause a hairless scaly appearance because they feed on cells and lymph. They cause itching and irritation, pimple-like eruptions, dandruff, and hair loss.	• skin • neck • withers • mane and tail	Consult veterinarian for best treatment.
Ringworm	Caused by mould or fungi	Round, scaly areas with bumpy rough, grey powdery appearance. Loss of hair from infected patches. Mild itching.	• Outer layer of skin. • All animals and humans are susceptible	Clip hair, remove scabs, wash with surgical soap. Paint with iodine.
Ticks	Found in grass from spring to fall	Ticks attached. An overload of ticks can make a horse (especially a foal) anemic.	• neck, • pectorals, • elbows, • jaws • anywhere on the body	Pull ticks off with pliers/tweezers and ensure that you pull from the base of the tick.

External Parasites Prevention and Control

There are a number of insecticides that may be used on horses to control external parasites. Most insecticides come in spray or liquid forms that can be sprayed or wiped onto the horse's coat. When buying an insecticide, consider the disposition of your horse. Some horses will not stand to be sprayed from an aerosol or pump-type spray container. If that is the case, put the insecticide on a cloth and wipe it onto the horse. Always use a cloth on your horse's face. Never spray insecticides near its eyes or nose. Watch skin and hair conditions for reactions to the insecticide. Some horses with sensitive skin cannot tolerate strong sprays.

Use insect strips or granules to control insects in barns.

Preparing the Horse to Receive Oral Medication

Sacking out a young horse is a training method to help the horse a) get used to spooky things and b) trust the handler. The trainer begins by rubbing a sack over the horse's body until the horse is not afraid to be touched by the sack. Then the trainer can introduce other items, like a plastic bag or a hose.

The horse is trained to allow the handler to touch him all over his body.

Getting the horse used to you touching his muzzle and entering his mouth is a part of sacking out a young horse and is often done at the same time as halter breaking. The big thing to remember is safety. A fearful horse packs a big blow with his head if he feels the need to defend himself.

1. Stand beside the horse's shoulder (left or right) facing the horse's head. Double the shank and hold it in your outside hand or on the side of the noseband. Put your other hand on the top of the horse's neck. Gently (no more than half a kilogram (one pound of pressure), using a take and release method, ask the horse to bring his head to you. Stay back by the shoulder so that if the horse resists, his head will move away from you, not toward you. If the horse moves, try to keep asking; don't let go unless you feel you are in danger. If you let go, you are teaching the horse that if he doesn't want to relax his neck muscles, all he has to do is move and you will let go. When he relaxes with his head bent (it may take you several days of 20 minute lessons to get this to happen) release, let him straighten, and pat him. Try again.

2. When this is easy, change hands on the halter so your outside hand can stroke or scratch the side of his head, slowly moving to the muzzle area. Massage his lips, and slowly put your finger in the corner of his mouth. He has no teeth at the point where his top and bottom lip meet. Touch his tongue gently while keeping his head bent towards you. If he resists, go back to gently massaging the muzzle. When the horse no longer reacts to your finger in his mouth, other than trying to spit it out, introduce a small syringe, aiming the opening to the back of his tongue. If you hold him there too long, his neck will get sore and he will take his head away, but it will move away from you, not toward you. Practise this skill before you hope to give oral medication.

3. If the actual medication is powder or pills, they can usually be crushed and added to water or sweet-flavoured liquids (water and molasses or syrup). Sometimes it is helpful to cut the tip off the syringe and make the opening bigger. The big thing about the whole exercise is NOT TO BECOME A PREDATOR and ATTACK YOUR HORSE. BE PATIENT, WAIT FOR THE HORSE TO RELAX and DON'T MAKE IT A STRENGTH EXERCISE – try to out-think the horse, not-out muscle.

TIP: Give corn syrup in a syringe as a treat on occasion, then medications won't be scary for the horse and the horse will enjoy a syringe in its mouth.

Vaccinations

Many horse illnesses are transmitted from horse to horse by shared feed bunks, buckets, or watering troughs. Vaccinations for the common diseases are inexpensive and effective and should be administered on a yearly basis. Vaccines are made from inactive forms of the organism that causes the disease you are trying to prevent. After you vaccinate your horse, his immune system will make antibodies to fight that disease. There are many opinions on how often vaccinations should be given, how long they will remain effective, and at what age they should begin.

Remember a horse's immune system takes a minimum of two weeks to make the antibodies needed, so try to vaccinate at least three to four weeks before likely exposure to diseases. The best time for annual vaccinations is in early spring before the insect season starts.

Check with your vet and put your horses on a regular schedule that will work best for you.

Yearly vaccinations that should be given include the following:

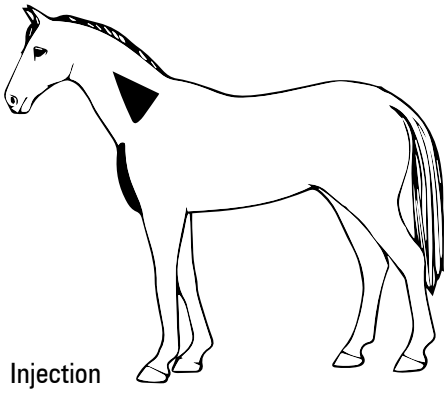
1. tetanus
2. encephalomyelitis (sleeping sickness) Eastern and Western
3. influenza (lasts for four months)
4. rhinopneumonitis
5. West Nile
6. rabies – location dependent

Remember:

1. A horse's immune system takes a minimum of two weeks to accumulate the antibodies needed.
2. Always vaccinate at least three to four weeks before likely exposure to a disease.
3. The best time for annual vaccinations is in the springtime before insect season starts.

Giving Injections

Most vaccinations are given in the muscle (intramuscularly) in the chest or neck. When giving injections in the neck, be careful not to hit the nuchal ligament or spine. The ideal location on the neck is in the triangle (as shown in the diagram). Make sure the injection site is in a location that will drain if it becomes infected.



Injection Sites

After the needle is inserted, draw back slightly on the syringe to ensure that you are not in a blood vessel. If blood is seen within the neck of the needle, remove needle and try a new location.

When using any drug, always follow the directions on the label. Also, keep a written record of any vaccines or drugs that are given to your horse.

Horse First Aid Kit

First aid is the treatment given as soon as an injury or illness is observed. This is done to relieve the distress of the animal and prevent further injury while waiting for the vet. *Whenever there is a serious wound, call a veterinarian.*

All horse owners should keep a basic first aid kit. Keep a chain or twitch to help you restrain an injured horse. Safe restraining techniques are discussed in the Safety Checklist Section at the end of this chapter.

The following is a list of items you may need. Most of the items are easy to find at home. Other medications or equipment may be needed under some conditions.

First Aid Kit Supplies

- various bandages: knit, elastic, telfapads, and self-sticking as well as diapers and feminine products, which are excellent for first line treatment
- cool-cast bandages (for swellings–e.g., bowed tendons)
- liniment
- adhesive tape and duct tape
- cotton balls
- bandage scissors
- 10, 20 and 60 cc syringes and 18 and 20 gauge needles
- mineral oil
- clippers
- cotton gauze 4 inch squares etc
- antiseptic wound dressing (spray and powder)
- Polysporin ointment
- epsom salts
- vaseline

- sponge (small and large)
- Koppertox or bleach
- rubbing alcohol and peroxide
- germicidal soap
- thermometer and stethoscope
- disinfectant (sterile solution)
- syringe to rinse out deep wounds
- boric acid
- clean bucket and towel
- hoof pick

Types of Wounds

Different kinds of wounds include:

- **Abrasions**—multiple superficial scratches that do not penetrate the full thickness of the skin.
- **Incisions**—clean cut wounds caused by a very sharp object.
- **Lacerations**—wounds that penetrate the full thickness of the skin and are caused by a less-sharp object, resulting in both cutting and tearing of skin.
- **Punctures**—wounds caused by a more or less pointed object (which may or may not remain embedded in the wound).
- **Avulsions**— wounds characterized by tearing of skin to cause a loose flap.

First Aid Treatment

When a serious wound occurs, the two most important duties, until the vet arrives, are:

1. stop the bleeding; and
2. prevent infection by keeping the wound clean.

Since wounds are painful, be prepared to restrain the horse before you treat the wound. **Never put yourself in a situation where you risk your own safety.**

You can get a good idea of how serious the injury is by looking at the bleeding. If the blood is slowly oozing it usually means only the outer area is affected. Blood from a damaged vein may be slow or rapid, depending on the injury. Arterial bleeding will be bright red and rapid. Deep wounds involving tendons or exposed bone will often cause moderate to heavy bleeding.

Control of Bleeding

- Try to keep the horse calm.
- Bleeding may be **arterial** (the spurting of bright red blood), venous (oozing of dark red blood) or sometimes both. **Do not wipe a wound that has stopped bleeding.** This will dislodge the clot. **Do not pour peroxide on a fresh wound.** This will make the bleeding more difficult to control.
- If a horse is bleeding profusely from a wound, apply pressure to the wound with sterile gauze or a clean towel (disposable diapers or feminine napkins work great!). Apply pressure with your hand to the wound for 15 minutes to help stop the flow of blood. Large, deep wounds require a veterinary surgeon.
- Most minor wounds can be treated by their owner. Wash the wound with cold water, unless there will be further blood loss by washing. Cold water hosing of a wound will also help reduce any swelling. If it is not a puncture wound, remove foreign objects. Trim the hair from around the wound. Rinse and dry with sterile gauze. Apply a medication. Once the bleeding has been controlled, apply only mild antiseptic ointments to keep the wound from drying out in case stitches are required.
- For large wounds, apply a towel or lint-free gauze to the wound to try and control the bleeding. (You may have to restrain the horse with the help of another person and/or a twitch). Only after the bleeding is controlled, **gently** cleanse the wound by flushing with clean water or a sterile saline solution, and try to remove any dirt or contamination if possible. Gently remove any dirt on the surface *but do not attempt to remove any embedded materials.* Leave this to your vet. Only cleanse the wound if you can do so without causing it to bleed again. Rinse by directing the water **above** the cut and letting it flow gently down over the wound. **Do Not** direct forceful streams at the wound, as this may cause debris to become *embedded*. **Do Not** apply a wound ointment or first aid spray before the vet arrives. Ask your vet before giving any pain reliever or antibiotic drugs.

- Wounds can be bandaged or left open, depending on their location. Bandaging provides an advantage of protecting the wound from dirt, manure, and the constant irritation of flies. Wounds around the head and the upper body are difficult to bandage and do not benefit greatly from being covered. Bandaging is most effective for wounds on the extremities. If you are going to bandage a cleaned and treated wound, first apply a non-stick sterile gauze and close with a bandage. When you wrap a bandage around a treated wound on a leg, you must always wrap the other leg (both front or both rear legs). This is to prevent strain on the uninjured (supporting) leg. **Never leave bandages in place for more than 24 hours**, unless otherwise instructed by a veterinarian. To learn more about applying bandages, refer to Chapter 12: Equipment.
- Most wounds heal with minimal scarring if they do not become infected, and if they are protected from flies. Monitor wounds daily, keep them clean and keep the flies away. If a wound becomes infected, cleanse it with a three percent hydrogen peroxide solution or surgical soap. A syringe may be used to flush out a deeper wound.

Swelling —Allow the horse to rest. Use cold applications (water, Cool-Cast, etc.) to reduce heat and inflammation. Liniment can also be applied to help reduce the swelling. Do not put liniment on open wounds.

First Aid Conditions

Choke

Choke is a frightening experience for the horse and owner because the reaction is so violent. An object getting lodged in the esophagus causes choke. The esophagus is the muscular food tube that begins at the back of the mouth and ends in the stomach. It does not involve the airway. In the adult horse, the esophagus is a little over one metre (about four feet) long. Depending on the location of the blockage, the horse may shake, gag, or retch. Because the horse is unable to swallow, saliva and food may come out of the nose and mouth. Partial choke can also happen. Your horse will have raspy breathing, a drooped head, and neck and will cough in an effort to dislodge the obstruction. Horses are unable to vomit.

There are several causes of choke. The most common are grains, hay, grass, or fruit and vegetables. A greedy or startled horse may swallow some feed before it is fully chewed or swallow large amounts at one time. The feed is not mixed well with saliva, so it is too dry to be swallowed. This dry ball sticks in the esophagus. If choke is left untreated, horses can quickly dehydrate and the obstruction becomes harder to remove. Do not let your horse put anything else in his mouth. Remove all feeds, water, and bedding from the area around him.

Most horse owners do not have the experience to deal with choke. If choke is caused by hay, grain, or pellets, saliva being swallowed will loosen the blockage. A large object causing the blockage requires veterinary treatment. Incorrect home treatment can cause pneumonia (from food and water entering the lungs) or death. If pneumonia occurs, the horse will probably develop a fever 24 to 48 hours after choking.

Choke does leave the throat irritated. Be careful feeding the horse after this happens. Take feed away from the horse for three to four hours. If the horse suffered a severe case of choke, feed a bran mash, soaked beet pulp, or soaked hay cubes, and avoid dry feed for several days.

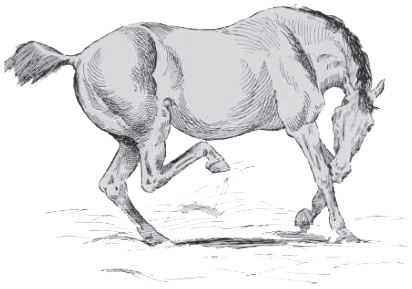
Colic

Colic is the most common digestive problem found in horses. It is a gastro-intestinal disorder that could be described as a stomach ache. There are various causes, including sudden changes of diet, worms, or overeating. Some horses (often young horses) tend to get colic more often than others. As a horse owner, it is important for you to recognize the symptoms of colic in the horse. The symptoms develop slowly, so the earlier it is noticed, the better the chance of treatment. The horse will show signs of discomfort as described below.

Early Warning Signs of Colic

- The horse will be uninterested in food (he won't eat at all or picks at his feed).
- A change in your horse's attitude (he seems depressed—doesn't greet you or doesn't have any interest in the things around him, and doesn't seem to have his usual energy).
- A change in the appearance, consistency, and amount of your horse's manure. It may be loose and watery, hard and dry, or altogether absent, depending on what's going on in his body.

Signs that Colic has Arrived



- The horse may be alternately listless and restless, first standing apart from other horses, then pacing or lying down and rolling repeatedly.
- The horse's resting heartbeat is consistently higher than 50 beats per minute.
- Pawing.
- Looking at its flank.
- Touching the sore spot with the nose.
- The horse may bite or kick at its flanks.
- Kicking at the belly with a hind leg.

- Sweating.
- Rolling.
- Stretching.
- Lying on the back (cast)—this may relieve the pressure on the digestive tract.
- Sitting on hindquarters, supported by front legs.
- The respiratory rate is higher than 30 breaths per minute.
- The horse has either no gut sounds or hyperactive gut sounds.

The reaction of the horse depends on the amount of pain it has. The stretching, rolling, lying cast, or sitting on hindquarters indicate that the horse is in considerable pain.

Colic can also be caused by:

- an impaction caused by poor quality, low digestibility, or low fibre feed;
- an impaction caused by sand or foreign materials;
- the gut twisting (may be caused by worms or the gut being displaced);
- a length of the gut folding inside itself (intussusception);
- infection of the digestive tract (may be secondary to another illness);
- a rupture of the digestive tract, usually from pressure with an impaction;
- eating too quickly;
- gas;
- stress; and
- worms.

Colic can be fatal. If you suspect colic, check vital signs and listen for gut sounds. Leading the horse around and keeping it from rolling will help to prevent further problems, such as twisting an intestine or injuring itself. If you have a horse with colic, walk it for 20 to 30 minutes. This will usually help the mild cases. If the horse is not improving, make it comfortable in a box stall and call your veterinarian. Use a blanket to keep it warm and prevent shock. Because of the number of causes, diagnosis is difficult even for a veterinarian. Treatment must be done to relieve the visible symptoms and stress on the horse.

A horse with colic is in a lot of pain. It will strike, kick, thrash, and roll. Be very careful when handling, as you may get in the way. The horse doesn't intentionally want to hurt you, but its mind is focused on the pain.

The veterinarian will check the pulse rate and temperature and listen for normal bowel sounds. A tube may be inserted through the nostril and down to the stomach to check for fluid or gases. Mineral oil or fecal softeners may be given through the tube to help move a suspected blockage. Often the horse will be given antibiotics, muscle relaxants, pain relievers and/or sedatives to make it more comfortable. Other treatments may be done by your veterinarian as well.

The twist or torsion type of colic is most difficult to treat because it has the same early symptoms as the less serious colic. The lack of any gut sounds is often an indication of a twist or complete blockage. It is rarely diagnosed before the horse goes into shock and dies. Surgery is the only way this colic can be treated, although even with surgery, the success rate is not high.

The Worst Case Scenario

Deaths are the most common when the intestines are twisted, in torsion, or severely impacted. The horse may die of shock. This is the final stage in a chain of events that take place in the body of the horse. The stress causes the horse to dehydrate (lose water). This causes chemical changes in the cells of the body and keeps the organs in the body from getting the correct messages. When this happens, the horse will not get enough blood to the brain, heart, kidney, and liver. The cells in these organs start to die. Next, the body increases its acid production and the acid level in the blood increases. The pulse rate will increase from 40 beats per minute to 80 or 90 beats per minute. Blood will not be sent to all of the areas that need blood. If you are watching the horse, you will see a loss of pink colour in the membranes around the eyes and the gums. Nothing can be done for the horse at this stage. Death by blood poisoning may also occur.

Fortunately most colic cases respond well to treatment. After a horse has had colic, it should get special treatment for a few days. Feed the horse a bran mash and good hay and limit the amount of grain. The bran and hay are bulky and are easier to pass through the digestive tract. Make sure that the horse has clean, fresh drinking water. If the horse is watered from a pail, supply fresh water several times a day.

Grain Overload

Grain overload is when a horse eats too much grain. It can be prevented by ensuring that sources of grain are properly secured. If your horse gets into the feed, try to estimate how much grain it has eaten. If it is only a normal meal amount, put the horse back in its stall or out in its pasture and observe it for several hours. If the grain consumed has been excessive:

- remove feed;
- call the vet;
- cool horse's feet; and
- periodically move the horse to stimulate circulation.

Treatment is most effective within 48 hours of grain overload. Laminitis and colic can be likely results of grain overload.

Other Injuries and Illnesses

Edema

Edema is a buildup of fluid in the body tissues. Normally, fluid passes in and out of the capillaries. With edema, the process is incomplete. Fluid buildup may occur in the peritoneal cavity, scrotum, udder, legs, or around a wound. It may be caused by parasites, nutrition, heart problems, kidney problems, or infections.

Horses do not often get edema. It can be seen in the legs of some stabled horses that do not get enough exercise; (when this happens, we say that the horse is stocked-up). High protein feeds will sometimes cause edema in the lower legs of young horses and performance horses. (For edema in the lower legs or related to wounds, pressure by wrapping may be used to reduce fluid buildup.)

Pregnant mares may get edema. A serious case may include swelling in the legs, the udder, and along the underside of the belly. There will be pain in the udder if edema occurs. The problem is increased in this case because milk production has slowed or stopped. A mare that gets edema once may have edema or other problems during future pregnancies because of the stress on the heart and kidney.

Edema can be very uncomfortable for the horse. If the swelling is in the pastern joint, movement may be a problem until circulation increases. Good feeding practices and exercise are helpful. Adding diuretics to the water supply may help remove excess water.

Equine Infectious Anemia (Swamp Fever)

Equine infectious anemia or swamp fever is a viral disease found in horses. The disease is most often transferred by biting insects, usually horseflies or deer flies. It has also been spread by repeated use of needles, dental floats, or other contaminated equipment. There is no vaccination against, or cure for, swamp fever.

This disease must be reported to a Canadian Food Inspection Agency veterinarian. A rapid immuno assay ELISA test is used to detect equine infectious anemia. If the restults are positive, a Coggins Test is done to validate the ELISA test. These tests may be used to identify infected horses that will be traveling or entering competitions. Infected animals have a very low count of red blood cells so the test is a blood test.

A horse that tests positive is allowed one retesting. Other illnesses can produce similar results. Foals under six months may have a positive test because of the passive antibodies received in colostrum. If the horse tests positive two times, it must be quarantined permanently in a fly-proof area, or be euthanized. Other horses at the same location are quarantined until the first results come back. If no other horses test “positive,” the quarantine is lifted and the herd is tested regularly for the next year.

A horse exposed to swamp fever may show the symptoms 14 days to several months later. The symptoms may last for three to 20 days, and may recur. The mortality rate ranges from 30 percent to 70 percent. The disease may be in the acute, subacute, or chronic form. Horses can also carry the disease, but show no symptoms.

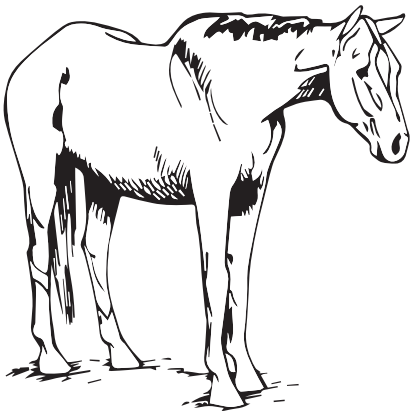
The *acute form* results in the death of the horse during the first attack of the disease. The symptoms are:

- rapid onset of fever (40°–42°C) (104°–108°F) ;
- weak pulse, irregular heartbeat;
- thirst;
- poor appetite;
- depression; and
- edema (fluid buildup) of the underbelly, legs, and sheath.

The *subacute form* is a recurring case. This is what we call a relapse. The horse appears to recover, then gets sick again. Symptoms are the same as for the acute case. The horse may show a gradual weight loss and have pale mucous membranes. The horse may die during a repeat attack.

The *chronic case* occurs after the main attack. This attack may not be obvious. Anemia may be noticed. Animals who survive the initial attack may go unnoticed and become carriers. They may infect other horses through blood transferred by biting insects (usually horse or deer flies) or by contaminated vaccination needles. The virus is not killed by heat, cold, disinfectants, antiseptics, or sterilization. There is no vaccination against, or cure, for this disease at this time.

- Have an ELISA test done on all of your horses. Have new horses tested *before* they arrive at your farm/stable.
- Have autopsies performed on any horse that dies suddenly.
- Use new needles for vaccinations, for every horse.



Heaves

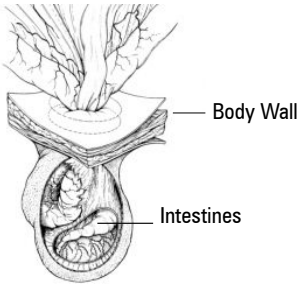
Heaves is the common name for **Chronic Obstructive Pulmonary Emphysema.** The illness causes chronic coughing, difficulty breathing, and exercise intolerance.

Heaves is caused by the air sacs in the lungs losing their elasticity. Problems appear when the horse exhales. The horse inhales the proper amount of air, but is unable to force all of the air out when it exhales. To remove the remainder of the air, the abdominal muscles contract. If you watch the horse's flank, it will appear that the horse exhales twice for each time it inhales. In long-lasting cases, the horse may develop a barrel chest because the diaphragm muscles have enlarged. They will develop a heave line, which is a line of extra muscling upwards toward the flank. The horse can only be used for light riding because it tires quickly.

Heaves has a variety of causes. In some cases it may be an allergy. Since it rarely occurs in pastured horses, dust and mould in dry feed are suspected. **Never feed dusty or mouldy feeds.** The use of pelleted, high moisture, and cubed feeds will reduce dust in the rations. Respiratory infections may also be a cause. Heredity may play a role. Some families of horses appear to have a greater tendency to have the problem. This is similar to you having the same allergies as your parents. If the dam or sire of your horse develops emphysema, take precautions with your horse. There is no cure for heaves. Consult your veterinarian for medications to help relieve symptoms.

Hernia

A hernia is a protrusion of normal stomach cavity contents through a natural or abnormal opening in the body wall. Many hernias are hereditary; a few are caused by injury or strain. All hernias should be examined by a veterinarian.



A **reducible hernia** can be gently pushed back into the body cavity. A common reducible hernia is the umbilical hernia, where a portion of the intestines pass through the navel area. Many of these will correct themselves as the horse's intestines grow and it becomes impossible for them to protrude through. Surgery is not needed unless the hole is larger than two fingers in diameter, or heat is felt in the areas. Foals often have reducible hernias.

An **irreducible hernia** will not go back into the body cavity because of attachments between contents and the sac surrounding the hernia. A scrotal hernia can be an irreducible hernia. It will not close. These are serious because a portion of the intestine can slip down and become strangled (meaning the blood supply is cut off). If this happens, that section of intestine will become necrotic (die). Membrane infection will occur and the horse could die. This type of hernia requires surgery.

Laminitis (Founder)

This condition is an acutely painful inflammation of the laminae of the foot, caused by overfeeding of grain, uterine infection, gastrointestinal problems, grazing of lush pastures, and total weight bearing by one leg because the other is lame. Because this condition usually occurs in the front feet, it is characterized by the horse trying to place most of its weight on the hindquarters with the forefeet extended forward. It will be unwilling to walk and unable to trot. The feet and around the coronary band will be hot and a strong pulse can be felt beside the tendon in the pastern.

When you see these symptoms, call a veterinarian immediately. Only rapid treatment will prevent chronic founder. Apply ice packs to the feet or stand the horse in ice-cold water to reduce the temperature, and on a spongy surface to support the sole.

In the chronic stage, the bone loses its attachment to the wall and the sole drops. Distinct lines or ridges appear on the wall. In severe cases the coffin bone will rotate and come through the sole.

Rabies

Rabies is not common in horses but they may contact it as a result of bites from infected animals.

The illness may not appear for three weeks to three months after the bite. A problem with rabies in horses is that infected horses often become dangerous. They may fall and bite themselves and other objects around them.

However, most horses with rabies do not fit our picture of a rabid animal. The disease can be mistaken for sleeping sickness, tetanus, lead poisoning, or botulism.

If animals in your area have had rabies, have your horse vaccinated. Rabies is fatal. Contact your veterinarian for consultation and to report the disease to the Canadian Food Inspection Agency. Rabies can be passed from animals to humans and vice versa, so it is called a “zoonotic” disease.

Rhinopneumonitis (Equine Herpes Virus I and EHV IV)

This is a disease that must be reported to the chief provincial veterinarian. “Rhino” is often mistaken for strangles or influenza in the horse. It is an upper respiratory infection that resembles a cold. It usually produces coughing and a nasal discharge, and is accompanied by a fever. There may be some loss of appetite and a dullness of appearance. Occasionally silent infections (that show no signs) occur. Because it is transmitted by nasal discharges and in the air, it is very contagious; 96 percent of the horses exposed will contract it. There will not be any symptoms for seven to 10 days after exposure. Once they appear, symptoms will last approximately two weeks. Secondary symptoms such as a fever and swollen glands may appear. The horse should not be worked when it has any of the symptoms. Many horses with rhino that subsequently cannot stand, will die.

Rhino becomes a problem if you have pregnant mares. A mare may show little or no sign of the infection, but the fetus may be damaged. The infection can cause enough damage that the fetus will not be able to function three to 12 weeks after it was exposed. When this happens, the foal is aborted. Abortion in the ninth month of pregnancy is common. Some infected foals will be carried to the end of the pregnancy then die after birth.

As with any other respiratory disease, isolate new arrivals and sick animals. Keep pregnant mares separated from traveling stablemates who may bring home the virus.

A less common form of rhino is the subvariant of type 1 and is the neurological form (EHV 1). It attacks the brain, and usually the horse will die. This form may occur alone or with the respiratory form.

A vaccine is available for rhinopneumonitis. The vaccine may be given to horses over three months of age. Pregnant mares should be vaccinated during their pregnancy at five, seven, and nine months. The initial two doses should be given four to six weeks apart. Make sure to use the right vaccine for the type of rhino you are trying to protect against (or a combination of 1 and 4).

Sleeping Sickness
(Encephalomyelitis)

Sleeping sickness is a virus carried by biting insects that affects the central nervous system of the horse and man. The horse and man are the final host in the life cycle of the sleeping sickness virus. The virus starts in birds, rodents, and reptiles, then it is passed on to biting insects. The number of cases of sleeping sickness that occur each year is affected by the size of the bird and mosquito population.

There are different strains of sleeping sickness. We are mainly concerned with the Eastern and Western strains in Western Canada. People often question the value of inoculating for sleeping sickness. However, the mortality rate for Western sleeping sickness is 30 percent and for Eastern sleeping sickness it is 80 percent. Horses that do survive may have permanent brain damage, leaving them disabled. Multiple vaccines against both strains are available. They should be given several weeks before mosquitoes become a problem. The horse will not be immune until several weeks after the inoculation. Because immunity is short-lasting in the first vaccination, a second vaccination (booster) is given three weeks after the first vaccination. After that, one vaccination per year should be given.

A horse with sleeping sickness will show some of the following symptoms:

- persistent fever;
- eyesight problems;
- inability to swallow;
- depression;
- paralysis;
- drooping lower lip;
- loss of coordination (may cause circling);
- pneumonia—secondary infection due to the low resistance level of the horse to infection;
- seizures and/or head pressing;
- coma; and
- death.

Strangles

This is a highly contagious bacterial infection. It is spread by coughing and through nasal discharge. Strangles is more of a problem in young horses. Strangles is very often improperly referred to as distemper. The strangles infection can cause:

- a runny nose;
- lumps under the jaw;
- high fever (more than 40°C or 104°F);
- coughing;
- depression; and
- loss of appetite.

Administering antibiotics to a horse with strangles may cause the horse to form abscesses and may result in death . Consult your veterinarian for treatment.

There is a vaccination available for strangles. Always administer according to label directions and **never** inject the nasal form.

Tetanus

Tetanus is also called "lockjaw." Cuts and wounds can be serious problems for horses because they allow the bacteria that cause tetanus(which are found in the soil and on rusty metal), to get in and infect the horse.

The infection causes muscle spasms (mostly of the head and neck), contractions, and shaking. The horse will often hold its head high with the ears very stiff and upright. The tail will be held straight out behind the horse. As the horse loses other muscle control, it will stiffen and have trouble moving. Symptoms usually appear in seven to 14 days. The mortality rate for severe cases of tetanus is 80 percent. If the horse does recover, it will take one to two months. Even after this length of time, most horses are still nervous and sick.

A vaccine is available for tetanus. It is available as a toxoid, which is given once a year (one shot, plus a booster the first year) or as an antitoxin, which is given after surgery or a wound. Pregnant mares should have a tetanus toxoid vaccination one to three months before foaling to provide the foal with some immunity to tetanus at birth. The antitoxin may be given to three to four month old foals if the mare was not immunized. Tetanus can also be treated with penicillin.

West Nile Virus

This is a virus carried by birds (mostly of the crow family, including crows, ravens, magpies, and blue or gray jays). Mosquitoes bite the infected birds, then pass the virus on. It does not spread from one horse to another. It affects the central nervous system (brain) because it causes a brain infection.

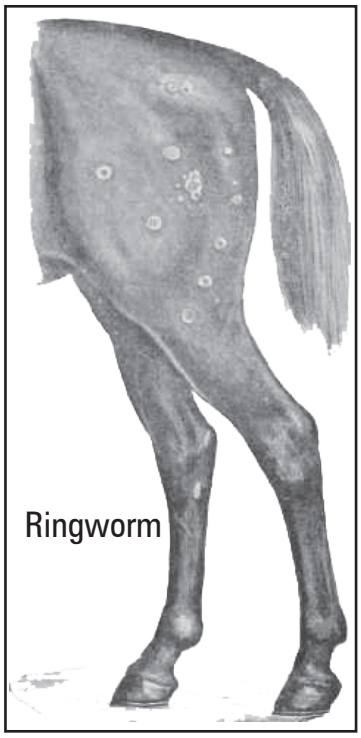
Symptoms include lethargy, weakness, stupor, ataxia, hypersensitivity to sound, muscle tremors, blindness, and seizures, ranging in severity from being extremely mild to severe, and often fatal. Only about 25 percent of infected horses show fever.

Intravenous fluid therapy and physical support (slings) to prevent injury are the current treatment protocol. Antibiotics are not effective. The death rate in horses has been reported as 25 to 40 percent. The initial vaccination is two injections three to six weeks apart, then annually prior to mosquito season. You may wish to vaccinate your horse every six months if it is travelling to high-risk areas such as the USA, where mosquito populations survive year-round. Also, stress of travel and competition may compromise some animal's immune systems. Check vaccine instructions prior to vaccinating.

This is a reportable disease, so it must be reported to a Canadian Food Inspection Agency veterinarian and the chief provincial veterinarian.

Ringworm

Ringworm may also be called girth itch, fungus itch, or Spanish itch. Ringworm is a fungus infection. It appears as one or more hairless patches anywhere on the body and is not always round. It may be covered with scaly, grayish skin or be crusted and oozing serum. It may be itchy but usually is not. Ringworm is contagious to other animals and humans by direct rubbing contact. Brushes, and clippers or borrowed cinches, halters, or saddle blankets spread it.

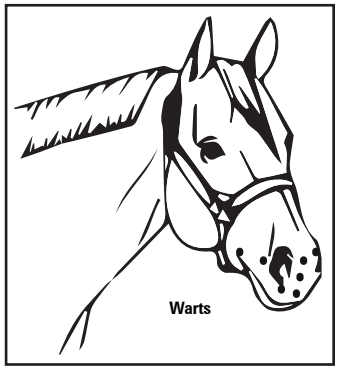

Ringworm

To treat ringworm apply iodine, or any fungal medication recommended by your vet to the hairless area and surrounding area. Soak grooming equipment and clipper blades overnight in a 10 percent bleach solution and wash tack in disinfectant. To prevent ringworm, avoid borrowing or lending grooming equipment or tack.

Warts and Sarcoids

Warts are caused by the body trying to wall off a viral infection. They are most common on the face, lips, and inner ears of young horses. Sarcoids are most commonly found in grey horses. A common wart will disappear in about six months.

A wart-like growth that does not go away or spread may be a sarcoid. It begins small but may grow rapidly. It is a non-malignant tumour usually found on the head, shoulders, legs, or midline of the horse but can appear anywhere. They can be small and smooth or large and lumpy or scaly. They bleed if bumped or rubbed. They do not hurt the horse but may become infected, interfere with tack, or look ugly. A veterinarian can remove sarcoids through surgery (freezing, laser, or radiation), but the sarcoid may reoccur.


Warts

Medical Terms

At the Beginning of Words	Means	Example
a, an	without, loss of	anorexia (loss of appetite)
dys	dystocia	dystocia (difficult birth)
hem, hema, hemo	blood	hemoglobin (part of blood)
hyper	excessive	hyperthyroidism (excess thyroid secretion)
hypo	deficient	hypoglycemia (low blood sugar)
myo	muscle	myocardium (heart muscle)
neuro	nerve	neuronal (tumour on a nerve)
nephr, nephron	kidney	nephritis (inflammation of the kidney)
reno or hepato	liver	hepatitis (inflammation of the liver)

At the End of Words	Means	Example
emia	blood	anemia (lacking red blood cells)
gram	measure	cardiogram (measurement of heart activity)
graph	picture	electrocardiograph (graph of heart activity)
itis	inflammation	bronchitis (inflammation of the bronchial tubes)
oma	tumor	melanoma (cancer of the pigment-producing cells)
otomy	surgical incision	desmotomy (the cutting of ligaments)
rhage	discharge, flow	hemorrhage (bleeding)

Health Safety Checklist	
Physical Appearance	
Safety Tools	**Check**
The handler is confident in knowing "normal" physical appearances and can identify abnormal conditions, which may cause the horse to act/react out of character.	
Behaviour	
Safety Tools	**Check**
The handler is confident in knowing "normal" physical appearances and can identify abnormal conditions, which may cause the horse to act/react out of character.	
Handlers are aware that certain psychological traits can lead to unsafe situations. For example, a new handler may be fearful of horses, an intermediate handler may be over-confident in abilities, and an experienced handler may become too easy-going.	
Handlers are aware of general equine body language, such as the following: • Swishing tail means it's irritated. If there are no bugs, it could be irritated with you! • Ears–flat against the head means aggression, pricked forward means it's focused on something up ahead, turned back means focused on something behind it, and just *"there"* means the horse is not worried. • General body position–tense muscles, erect head and neck means it is unsure of something and on high alert; a lowered head and relaxed body mean it is comfortable and not expecting any danger; and a cocked leg can either mean its resting, or, if other body language suggests tension, it may be taking aim and you better have a plan in place.	
The Vital Signs	
Safety Tools	**Check**
Handler safety is important when collecting vital sign information. Ill or horses in pain may act/react out of character and may not have the same level of patience they normally do. Handlers exercise caution around horses that appear to be lethargic or "down and out."	
Handlers exercise caution when checking the oral mucous membranes or capillary refill time (CRT), by carefully opening a horse's mouth, especially if the horse is ill or in pain. Pre-teaching a horse to open its mouth can make checking for certain vital signs a bit easier, although most people would probably do this to make preventive medication like dewormer easier to administer.	
Parasites	
Safety Tools	**Check**
Owners and handlers ask the veterinarian to see if there are any parasites that aren't species-specific that could cross between horses to humans, or vice-versa.	
Handlers wash hands before and after working with livestock.	
Handlers follow the veterinarian's parasite prevention program for the horse.	

Vaccinations	
Safety Tools	**Check**
Handlers know how to give an intra-muscular injection.	
Agricultural sharps (hypodermic needles, glass vials, etc.) are handled and disposed of in a safe manner. A sharps disposal bin that's clearly marked as containing needles, scalpels, broken glass, xacto blades, etc. is used. Sharps bins can be created from thick-walled plastic jugs, like an empty laundry soap jug. The opening should be narrow enough that a hand cannot reach in. Secure the lid to the jug so it can be sealed when not in use or once the jug is full. Thin-walled containers, like plastic milk jugs, are a poor choice as a needle or broken glass could pierce through the plastic and cause an injury.	
Needles are never left on any work surface or the ground.	
Vaccines and medications are safely stored away from food storage sources. Storage areas are clearly marked and well-organized. Expiry dates are checked before administering any vaccines or medication to the horses.	
The number of the Poison and Drug Information Service is posted in the stable and by each phone. Handlers are trained to look for the active ingredient in each medication.	
Accidental injection or exposure is included in the barn or stable's emergency plan. All handlers and workers know the physical land location and municipal address of the barn or stable (or where to find it) if emergency services are required.	
Horse First Aid Kit	
Safety Tools	**Check**
A well-equipped first aid kit is available in the barn.	
Ensure that any sharp objects such as needles, scissors, pins, or knives are stored safely in the first aid kit.	
Types of Wounds	
Safety Tools	**Check**
Hands are washed before and after treating wounds.	
Increased safety precautions are taken when working around horses that are sick or injured.	
First Aid Treatment	
Safety Tools	**Check**
Hands are washed before and after treating wounds.	
Increased safety precautions are taken when working around horses that are sick or injured.	
Equine Health Emergencies	
Safety Tools	**Check**
Handlers are aware that there are some conditions that are very painful for horses and that horses in pain may act widely out of character.	

Medical Terms	
Safety Tools	**Check**
Handlers/workers are able to adequately communicate medical terms with other handlers/workers: "This ringworm medication goes around his left eye; wear gloves."	
Restraint	
Safety Tools	**Check**
Handlers follow safe movement techniques; stay in close, hand on rump moving around backside, don't step over/ under lead rope, etc.	
Handlers do not put themselves (or others) in a position where they could be crushed or pinned if the horse moved or fell.	
Handler does not duck under the belly of the horse to move from side to side.	
The person doing the restraint has a very important job. The person performing the procedure (checking wound, applying first aid, administering medication, etc.) can count on the restraint person to do a safe job.	
Communication between both the worker and the restrainer is clear. One of them takes charge of the situation.	
A plan is in place for what to do if circumstances change. The person performing the restraint is confident in his or her handling abilities and physically strong enough to perform the task.	
The restrainer/handler stands on the same side as the person working on the horse.	
Handlers are familiar with the names of all restraint equipment, how to perform an inspection of the equipment, and maintain it (if required).	
Anyone performing equine restraint is trained in best practices procedures and low-stress animal handling.	
Assisting the Veterinarian	
Safety Tools	**Check**
Similar to the statements in the restraint section, the veterinarian is in charge of the medical treatments.	
Handlers are prepared that the veterinarian may opt for medications if the horse proves to be too dangerous to work with. There are more hazards that come with medically sedated horses, but the veterinarian should take charge of the situation to ensure no handlers or horses are in the line of danger.	
Your veterinarian may employ crowd control techniques to ensure the fewest people are present in case something goes wrong—don't take offence to this. Ask if there is a safe or preferred area to where you can watch, observe, or view.	
In a serious incident, other horses, young children, bystanders, dogs, or other small animals remain away from the treatment area. Sources of sudden movement, loud noises, or anything else that may cause a change to the environment are avoided.	

Infection Control	
Safety Tools	**Check**
Handlers are aware that using proper hand washing techniques goes a long way in infection control.	
Workers have access to a clean water source, appropriate soap, and a sanitary method to dry hands (paper towels, individual cloth towels, or air dryers).	
Certain items are not be shared between horses, other items are cleaned between uses. Items used with sick horses are not used with healthy horses and vice versa.	
All workers are trained in the farm and stable's infection control policy and procedures. This includes all biosecurity protocol requirements. If the farm or stable has isolation, quarantine, or hospital stalls, workers are trained in foot bath techniques including the safe handling of foot bath solutions (chemical safety).	
Workers have a firm understanding of sanitization, work-task planning, and cross-contamination.	
Sanitization	
Safety Tools	**Check**
Aligned with infection control, workers are trained in the appropriate selection and handling of cleaning chemicals/ disinfectants.	
New workers receive Workplace Hazardous Materials Information System (WHMIS) training. WHMIS is site-specific and it's suggested that the course should be refreshed for all workers/handlers every three years. Workers with training from another worksite would need to orient themselves with the chemicals and protocol at any new location.	
Disinfectants and other cleaning chemicals are only handled while wearing gloves. Splash aprons and eye protection are used when mixing any chemicals, such as making a dilution from a concentrated solution. Workers follow label directions and mix in an area with adequate ventilation—this is why appropriate workplace training is important. Many workplaces have a respiratory protection program, which outlines what type of protection to wear, and in which circumstances, provides personalized equipment for each person, and ensures all equipment is maintained.	
Zoonosis	
Safety Tools	**Check**
A zoonosis (zoonotic disease) is a disease that can be transmitted to humans from animals (and from humans to animals).	
Handlers are aware of zoonotic diseases of caution in Alberta and across Canada, including diseases in horses, as well as hantavirus and ringworm from deer mice and barn cats.	
Handlers are aware of the importance of hand-washing and infection; *zoonosis diseases can be prevented.*	

Personal Hygiene	
Safety Tools	**Check**
Does the farm or stable have a designated break or lunch area? Handlers are encouraged to wash their hands before eating, drinking, applying lip balm, smoking, etc. Anytime something is raised to the lips (cups, make-up, pens, etc.), there is potential for ingesting microbes, bodily fluids, chemicals, allergens, etc.	
Handlers are cautious in using their teeth or mouths to hold small tools—things like a needle-cap should never be held in the teeth.	
Scent-free workplaces are becoming widely accepted. Workers with sensitivities to scents can experience migraines, headaches, nausea, and discomfort. Horses have an excellent sense of smell—perhaps a strong perfume could cause them to become agitated. The barn or stable area is labelled a "Scent-free Area."	
Long hair is kept tied back to prevent getting it entangled or caught while working around horses. Visibility can also be an issue with hair hanging long.	
Ergonomics	
Safety Tools	**Check**
Ergonomics is "the study of people's efficiency in their working environment." How does the body move in the area where work is being conducted? When working with horses, there are many awkward, unnatural or uncomfortable poses—leaning over to clean hooves, stooping to check legs, moving hay bales, repetitive motions in brushing and grooming, reaching above the head for grooming, tacking, etc. The stable or barn has an organized environment, and stable tools are safely stowed.	
Handlers should be trained in safe lifting techniques. WCB Alberta reports "Lifting Objects" to be the second most common injury in young workers across Alberta (ages 15-19 and 20-24).	
Old Age, Death and Euthanasia	
Safety Tools	**Check**
Handlers are aware of safety points for old age, death, and dying in horses.	
Handlers know that conditions like dementia can cause behaviour changes.	
Storing Medication	
Safety Tools	**Check**
Medication is stored out of the reach of children and according to the label specifications.	
Expired medications are returned to the veterinary office (or human pharmacy) for safe disposal.	
All handling instructions are read as some medications may require handlers to wear gloves.	
Hands are always washed before and after administering medication.	
The phone number for the Poison and Drug Information Service is posted in the barn and by the phone.	

Use this page to make notes or diagrams.

Chapter 9: Feeding Your Horse

Most horse owners take pride in the appearance, well-being, and health of their horses. The first step is to make sure that the horse is properly fed. Your horse relies on you to feed it. You should watch your horse's attitude, eating habits, weight, and body condition score carefully to ensure that you are providing the nutrition that your horse needs, in a consistent manner. Ten basic rules of good feeding are provided below.

Ten Basic Rules of Good Feeding

1. **Make sure your horse has access to enough forage every day.** Forage is the basis of all horse diets. It is important for horses, who are grazing animals, because it is what keeps their digestive tracks healthy.

   Forage can be provided as hay, pasture, or other forage-based feeds (for example alfalfa cubes). Hay is the main source of forage for a stabled horse. When feeding straight forage, allow approximately 2–2.5 percent of body weight per day.

   A minimum of one percent long-stem forage should be fed per day. Other nutrients the horse needs must come from other feeds, such as concentrate.

2. **If possible, feed smaller amounts more often.** A horse grazes (eats grass) a little at a time throughout the day and night. This is because the horse has a small stomach for its size. Therefore, it needs a little food in the stomach at all times to allow proper digestion. The number of times you feed your horse will depend on the type and amount of feed he requires to meet nutrient requirements. Horses should never be fed more than 2.2 kg (five pounds) (or 0.5 percent of body weight) of concentrate (grain) per feeding.

3. **Feed according to work done.** This is especially important when concentrate (grains) are being fed. Increase the amount of concentrate if work is increased; reduce it if the horse is doing less work. Grain is used to increase the energy in the diet if hay or pasture will not meet the energy requirement or if the activity is more intense causing the horse to have an increased calorie requirement. Many horses in light work do not eat any grain or concentrates. Owners should be more concerned with the horse's body condition score. (See Chapter 8: Horse Health for body condition scoring information.)

4. **Make no sudden changes**. Changes in the type of food or the feeding routine must be gradual. Alter it gradually over a seven to 14 day period. This includes putting horses out on pasture in the spring. Making changes gradually allows their digestive system to adjust to the new sources of nutrients.

5. **Keep the same approximate feeding times.** Horses are creatures of habit and a slipshod feeding schedule can affect their disposition. On the other hand, if too much routine is causing your horse to become impatient and demanding, you may need to vary feeding times.

6. **Feed only clean and good quality hay.** Mouldy, musty, or dusty hay can have a bad effect on the health and well-being of your horse. Feed only mould-free hay and make every effort to minimize dust where the horses are fed. Soaking hay has been used as a means to reduce the dust that is released when feeding hay. Keep feed tubs, water buckets, and mangers clean to prevent any buildup of spoiled feed.

7. **Provide free choice access to salt.** Salt can be made available in either loose or block form. Horse owners might notice that their horses will eat more loose salt than when it is offered as a block, especially in the winter.

8. **Do not work your horse hard immediately after a full feed**. How long between the feeding time for your horse and his work depends upon how hard he will be working and what you are asking him to do. For example a race or roping horse should finish eating four hours before the competition. However, an endurance horse would eat hay right up to the competition to help store water. In general, allow at least one hour after feeding before working a horse and do not feed afterward until he is cool.

9. **Provide free choice water at all times and in all seasons.** Drinking enough water is important because it helps the horse to maintain a healthy digestive tract and helps to prevent colic. An adult horse will consume an average of 36 – 45 liters (eight to10 gallons) daily. Water consumption will vary based on type of feed, ambient temperature, and physiological state. For example, in hot weather, or when the horse is being worked hard, water consumption can be doubled. The same can be said for the lactating mare (one who is nursing a foal). If water is not available at all times, horses should be watered three times per day before feedings. Eating snow is not sufficient to satisfy a horse's water requirements. Horses will drink more from a waterer in the winter if the water is warm (four degrees Celsius) than from an ice-cold dugout or creek.

10. **Feeding the Senior Horse.** Start feeding the elderly horse a highly digestible ration before he starts to lose body condition. Once an older horse has lost condition, putting weight back on him is often difficult. A horse's ability to properly digest feed may decline as the horse exceeds 20 years of age. Care and attention should be paid to older horses with regard to body condition score. Regular dental work will allow the older horse to eat and ingest nutrients. An ideal ration would be good quality grass/alfalfa hay, a vitamin supplement, and free choice clean water and salt. Many feed companies make a complete ration designed for the older horse.

Where to Feed

Feeding in a suitable hay feeder will help to prevent waste. This will reduce the amount of hay your horse needs, and the feed costs. The use of a hay feeder will also reduce the formation of mud in the paddock, which may help in parasite control. (Horses will not be eating feed off the ground and so won't have as much exposure to parasite larvae and re-infection.) Make sure the aggressive horse(s) are not keeping the others away from the feed. If this is happening, it may be necessary to feed in two or more places than there are horses in the paddock.

Horse Nutrition

Introduce lush grass slowly to your horse. When changing to a pasture-based program, allow 10 to 14 days for the horse to get used to the new diet. A suggestion would be to allow two to three hours of grazing for the first few days, and gradually increase the time on pasture. Make sure that the horses have had access to hay prior to turn out.

As pasture grasses mature, their nutritional value will decrease and horses may require hay to meet their nutrient needs and maintain body condition. All horses on pasture should have access to free choice salt and a 1:1 mineral. The salt and mineral can be in block or loose form in a suitable feeder to protect it from the elements.

Feed provides the five essential nutrients. Each nutrient has a different job in the horse's body. The five nutrients are:

- water;
- energy calories (supplied by carbohydrates, fats, and protein);
- protein;
- vitamins; and
- minerals.

If one of these is provided in a limited amount, it will be responsible for limiting the functions of the others even though the others are provided in adequate amounts.

Water

Horses need a reliable supply of fresh, clean water in all seasons for their bodies to function properly. Horses drink an average of 36 – 45 liters (eight to 10 gallons) of water per day. See #9 in the list of Ten Basic Rules of Good Feeding (previous page)

Energy

Energy or the calories needed are indicated as Digestible Energy (DE). Energy is measured in megacalories. The horse's DE requirement is based on the needs to maintain body weight and normal activity. This is the horse's maintenance requirement. Additional DE above maintenance is needed for growth, work, gestation, and lactation.

Protein

Protein is highly complex. During digestion, protein is broken down into amino acids. These are absorbed from the intestine into the blood stream and carried to all parts of the body. They are recombined to form body tissue and eventually become muscle, internal organs, bone, blood, skin, hair, hooves, and many other parts of the body.

Minerals

It is important to make sure your horse always has an available supply of a horse mineral supplement and salt on a free choice basis. The main needs are calcium, phosphorus, and salt. Cattle minerals and salt are not always suitable for horses.

The mineral content in forage changes throughout the year. This is why you need to provide supplements for your horse. The mineral content in feed can be determined by chemical analysis.

Mineral Required by Horses for the Maintenance of Good Health		
Name	**Source**	**Function**
calcium & phosphorous (especially important in growing horses)	hay and mineral supplements	• metabolism • development of bones
copper & iron	mineral supplements	• oxygenation of circulatory system • required by the digestive system
iodine	iodized salt	metabolism
sulphur, manganese, magnesium & potassium	hay, mineral supplements	metabolism

Vitamins

Horses need vitamins in small amounts. Vitamins are essential to normal body functions. A lack of vitamins may cause diseases. The vitamins are A, C, D, E, and the B complex. Most of the vitamins will be received in adequate amounts if the horse is provided the proper amount of quality feed.

The vitamin which is often lacking in the horse's diet is vitamin A. Vitamin A is made by the horse's body from carotene in green pasture and green leafy alfalfa hay.

Sunshine and sun-cured hay are sources of vitamin D. The horse is able to produce vitamin D when it is allowed time in the sunshine and is exposed to ultraviolet radiation. Several hours outdoors in the sunlight should enable a horse to meet its requirements.

Vitamins Required by Horses for the Maintenance of Good Health		
Name	**Source**	**Function**
Vitamin A	Converted by the body from the carotene in green forage. Also found in vitamin supplements.	Necessary for reproductive, digestive, and respiration systems, and for metabolism and growth
Vitamin B complex	Green, leafy grass or hay.	Metabolism
Vitamin D	• Sunlight and vitamin supplements. • Sun-cured hay.	Assists in the assimilation of nutrients calcium and phosphorous for the production of sound bones and teeth.

Judging the Quality of Hay Products

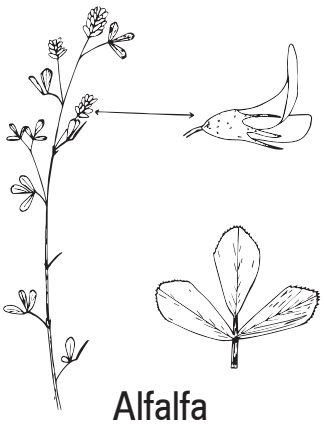
Palatable

"Palatable" is a term used to describe feed that is readily eaten by horses. Some feeds are not palatable to some horses, while they are to others (for example, not all horses like carrots). Some foods are not palatable to any horses because of their taste and/or texture.

Make sure the feeds you are offering are palatable to your horse. If he will not eat it, it does not matter that it is very nutrious.

Cleanliness

Hay must not be mouldy or dusty. Smelling the hay can help you determine if mould is present. Mouldy hay can cause the respiratory condition commonly known as heaves and must not be fed to horses.

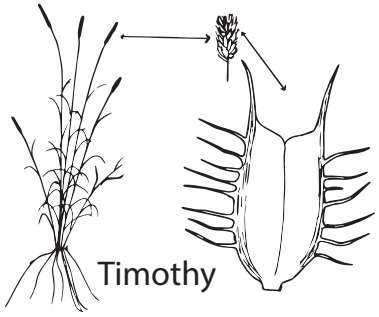


Alfalfa

Hay can be broken into two categories; legumes (alfalfa and clover are the prime legumes fed to horses) and grasses (orchard, brome, fescue, and timothy). Hay used in Canada is often grown in mixtures consisting of varying proportions of legumes and grasses. The three most common types of hay for horses in Alberta are alfalfa, timothy, and brome grasses. Other types include crested wheat, fescues, rye grasses, and orchard grasses.

Leaf to Stem Ratio

Good hay will have more leaves than stems. Leaves provide the majority of nutrients so it is important that all hay legume, grass, or mixtures have a high amount of leafy material.



Timothy

Purity

Hay should contain minimal foreign material such as weeds and undesirable plants.

Colour

Hay should be green in colour, not brown or black. Green colour signifies that the hay was harvested at the correct growth stage. Green shows that the moisture content is good. The colour green also tells you that the hay was properly harvested with very little weathering before it was baled and stored. It also is an indication that the hay was able to cure without rainfall. This is good because rain can take away the quality of nutrients.

Energy Foods

The grazing horse meets all its energy requirements by eating grass. However, when a horse is kept in a stable and/or put to work, it needs other feeds to meet its energy requirements. These feeds are generally in the form of hay and grain. In Western Canada, the conventional grain for horses is oats, however corn and barley are also used. In some cases, beet pulp may be included in the concentrate portion of the diet to increase calorie intake.

If you are going to feed your horse a cereal grain, you should know that some grains are better if they have been processed in some way.

Corn, for example, is best if it is at least cracked. Corn is even better, and barley too, if they are steamrolled because that process makes it easier for your horse to digest the starch in the grain.

There is not as much benefit to process oats because horses can digest the starch in oats.

Oats

Oats are the preferred grain for horses. They have good palatability. In Canada, oats are graded according to: weight per bushel, the variety, the standard of quality, and the content of wild oats and other grains and seeds. These standards are from one to three, with one being the best, and three the lowest quality. There are grades 1, 2, and 3 Canadian Western and 1, 2, and 3 Feed.

Horse owners should select oats that are clean, free of weed seeds, and have a bushel weight that is equal to or greater than 17 kg (38 lbs) per bushel.

Corn

Corn is lower in protein and minerals than other feed grains, but its energy content is higher.

Barley

Barley is a useful feed for horses and has an energy value slightly above oats.

Feeding too much soluble carbohydrate can cause a horse to get fat or too excitable.

Beet Pulp

Beet pulp is an excellent source of digestible fiber and energy. Therefore it is useful for all horses and can supply a portion of a horse's calorie needs. It is usually fed at about two to five pounds per day, but introduce it slowly. It is suggested that beet pulp pellets be soak to allow them to expand as this will reduce the risk of digestive upsets.

A simple rule of thumb for feeding the average saddle horse is to provide about two percent of the horse's body weight in feed on a daily basis.

Protein Meals

When horse owners need to increase the protein in their horse's diets they can consider using canola meal or soybean meal. Both of these plant protein sources provide added protein, but are also reasonable sources of lysine, which is an essential amino acid.

Weights of Feed

Feed all ration ingredients on a weight basis.

It is important that you know how to feed your horse to adequately meet its needs. "Ration" is the term used for the amount of feed a horse receives.

Each horse is different and requires a different ration. The size and age of a horse, the temperature and weather conditions under which the horse lives, and the amount of work it will be doing affect the amount of the ration a horse requires daily.

Most families have a small scale for measuring portions or use a bathroom scale. An easy scale to use is a luggage scale. Always recalculate your feed weights when changing batches of feed, feed types, or feed suppliers.

To ensure you are feeding reasonable amounts of feed per day, feed according to the horse's body weight.

Chapter 4: Horse Identification describes how to estimate the weight of your horse using a tape measure. A simple rule of thumb for feeding the average saddle horse is to provide about two percent of the horse's body weight in feed on a daily basis.

Hay or pasture is sufficient feed for a horse that is ridden very little. With increased work, horse owners will need to consider feeding a concentrate. When adding a concentrate to the program you need to consider the calories needed for work and add the appropriate amount of concentrate. You may need to reduce the hay consumed, but only with horses that are working hard. Refer to body condition scoring information (in Chapter 8: Horse Health) and adjust feeds based on your horse's actual condition. Strive to maintain a score of four out of nine.

For pregnant mares and growing horses it will be necessary to provide grain to meet their nutrient requirements.

Salt and Minerals

If the horse is increasing in body condition you may need to reduce the amount of concentrate being fed or increase the work level. If the horse is on pasture or a hay only diet you may need to reduce time on pasture or the amount of hay being fed daily. If the horse is a wasteful eater it needs its teeth checked.
Getting a nutrient analysis done on the hay being fed will allow you to balance your

horse's ration based on nutrient requirements for the horse's size and use. Most local farm supply stores will test your hay or forage for you. Reading the feed tag will give information on the nutrients supplied by the concentrate, which is valuable information when developing a feeding program.

Feeding Horses in Light Work

Horses ridden for pleasure, basic equitation, or trail riding three to five times a week are considered to be horses in "light" work. You can often meet the additional nutrient requirements of horses in light work simply by increasing the amount of good quality hay you feed, without adding grain to the diet (Table 1 Ration 1). Alternatively, some horses may do better with a small amount of grain added to the diet (Table 1 Ration 2 or 3).

Table 1: Examples of Feeding Programs for 500-kg (1100-lb) Horses in Light Work

Feed	Ration 1	Ration 1	Ration 3
Alfalfa/Grass Hay	9 kg (20 lbs)	6.5 kg (14 lbs)	----------
Grass Hay	----------	----------	7.25 kg (16 lbs)
Oats	----------	1.75 kg (3-4 lbs)	----------
12% Grain Mix	----------	----------	1.75 kg (3-4 lbs)
18:18 Mineral	28 g (1 oz)	28 g (1 oz)	28 g (1 oz)
TM salt	free choice	free choice	free choice

Feeding Horses in Moderate Work

"Moderate" work includes barrel racing, ranch work, team penning, cutting, and jumping, amongst other activities. Horses in moderate work usually require additional grain to the diet, because they may not be physically capable of eating all the hay needed to provide adequate energy in the diet (Table 2).

Table 2: Examples of Feeding Programs for 1100-lb (500-kg) Horses in Moderate Work

Feed	Ration 1	Ration 2	Ration 3
Alfalfa/Grass Hay	11 kg (25 lbs)	7-8 kg (15-17 lbs)	----------
Grass Hay	----------	----------	8 kg (18 lbs)
Oats	----------	2-3 kg (5-7 lbs)	----------
12% Grain Mix	----------	----------	2-3 kg (5-7 lbs)
18:18 Mineral	28 g (1 oz)	28 g (1 oz)	----------
TM salt	free choice	free choice	free choice

Feeding Horses in Intense Work

Horses competing in Quarter horse, Thoroughbred, or Standardbred racing, endurance riding, or polo are performing "intense" work. These hard working horses usually require large amounts of grain to meet increased energy needs (Table 3). A dietary fat source could be considered as an energy source for horses in heavy work. Substituting some of the grain with a vegetable oil (corn, canola, soy, etc.) can reduce the amount of grain required, thereby decreasing the risk of colic and laminitis associated with high-grain diets.

Table 3: Examples of Feeding Programs for 1100-lb (500-kg) Horses in Intense Work

Feed	Ration 1	Ration 2	Ration 3
Alfalfa/Grass Hay	7-8 kg (15-17 lbs)	----------	----------
Grass Hay	----------	8-9 kg (17-19 lbs)	8-9 kg (17-19 lbs)
Oats	5 kg (10-11 lbs)	----------	----------
12% Grain Mix	----------	5 kg (10-11 lbs)	4 kg (8.5-9.5 lbs)
Oil (corn, canola, soy, etc)	----------	----------	1 cup
18:18 Mineral	28 g (1 oz)	28 g (1 oz)	28 g (1 oz)
TM salt	free choice	free choice	free choice

Winter Feeding of the Horse

Cold weather can take the joy out of riding so the horse is often forgotten during the winter. Many horses are turned out on old pasture or cropland to forage for the winter. Watch your horses to make sure they are not losing weight. If they begin to, you need to increase their feed.

There are a number of things we can do to make our horses more comfortable. A horse that is well fed does better for several reasons. The body has the nutrients it needs for maintenance and to produce body heat. If the weather becomes very cold, increase the amount of feed to provide extra energy to keep the horse warm. A useful rule of thumb to use when calculating the feed a horse needs when it is cold is **for every degree below minus 15 degrees Celsius, increase feed by 2.5 percent or 226 grams (½ pound) per degree for the average horse).**

For winter maintenance, it is best to feed more hay, as it gives off more heat during digestion than grain does. Increase the hay until it is no longer practical, then add grain if necessary. This will be in the 2.5 to 3 percent of body weight and will depend on the quality of the hay. With higher quality hay the horse will have a greater daily intake. Hay that is very mature is often consumed at a lower daily intake. The more fibrous and lower quality hay will increase the risk for impaction colic.

Horses must have clean free choice water to drink. The water should be warmed slightly (two to three degrees Celcius). A horse eating snow may not be able to consume enough snow to meet its water needs daily. Low water intake such as when horses have to eat snow on a high forage diet can also increase the risk for colic. Horses must have access to water, not just snow.

Feeds a Horse Should NOT Receive

Not all feeds found on farms are safe for horses. Some of them can prove fatal. Here are some things to avoid:

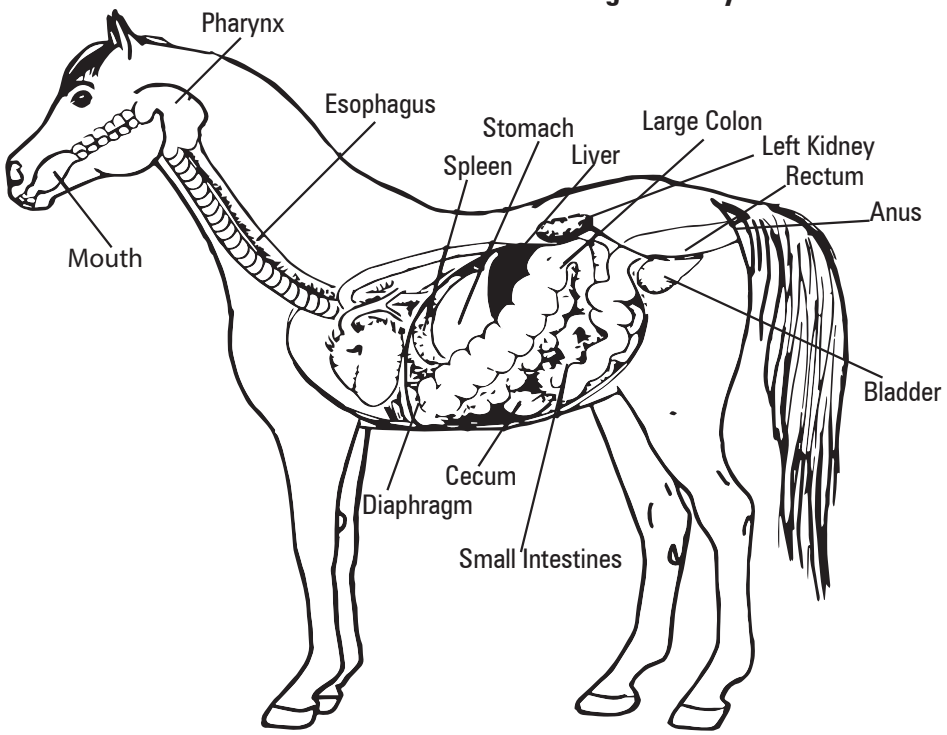
- Rumensin (an additive found in prepared livestock feeds. It can cause death in horses.)
- Added selenium—some cattle minerals have higher levels of selenium. Make sure to read the tag and get some advice before using cattle minerals with your horses. (Ask your local livestock specialist.)
- Spoiled or frozen silage.
- Commercial cattle and chicken feed or any feeds formulated for other types of livestock.
- Mouldy hay.
- Mouldy grain.
- Treated grain intended for seed.
- Alfalfa hay containing blister beetles or known poisonous weeds.
- Poisonous plants (Japanese yew, white snakeroot, leaves from black walnut, red maple, apricot, oak and apple trees, tall fescue (screenings from seed plants), bracken fern, horsetail, deadly nightshade, poison hemlock, larkspur, milkweed, jimson weed, rhubarb leaves, ragwort, and oleander).
- Don’t permit your horse to lick old fertilizer bags (ammonia poisoning), old paint, pesticide containers (arsenic poisoning), or discarded batteries (lead poisoning).
- Feed additives, such as growth stimulants and antibiotics, have not been proven beneficial to the horse. These products should be avoided.

Horse Digestion

The horse has a different digestive system than other farm animals. Although the horse has a single compartment stomach (like people, the pig, and the dog), the horse can use roughage like the cow or sheep. These animals are ruminants and have four stomachs to break down forages). The horse is able to use roughage with its single stomach because the horse has a unique type of large intestine.

Part	Primary Purpose
Teeth	grind food
Tongue	moves food and mixes with saliva
Pharynx	muscles force food down
Esophagus	muscle contractions that move food towards the stomach
Stomach	adds digestive fluid (acids and enzymes) to breakdown fat and protein
Small Intestine	further breakdown by enzymes and absorbs through hairs (villi) on the walls
Cecum	water storage tank between the small and large intestine, fermentation process starts and absorbs nutrients
Large Colon	further breakdown of roughage volatile fatty acids, which are used as an energy source
Small Colon	most of the fluid reabsorbed here
Rectum	feces formed here, about 25% solid and 75% water
Anus	feces passed out here

The Digestive System of the Horse



The parts of the horse's body involved in digestion include salivary glands and teeth, stomach, small intestine, cecum, large colon, small colon, and rectum. The liver and pancreas also contribute to the digestive system. The total length of the system is about 27 metres (90 feet) and the capacity is about 227 litres (50 gallons). The complete digestive process, from time of eating until the expulsion of the feces, normally takes approximately three days.

The Salivary Glands and Teeth

The digestive process begins in the mouth where the food is ground up by the molars and mixed with saliva. Saliva makes it easier to swallow the food. It also contains bicarbonate, which acts as a buffer in the stomach. The amount of saliva is determined by how moist the food is and how much chewing the horse has to do to eat the food. The more forage the horse eats, the more chewing it does, sending more saliva and bicarbonate to the stomach.

Grinding is accomplished by the lateral (side-to-side) movement of the lower jaw against the upper jaw. If your horse has difficulty eating grain or is not doing well, have its teeth checked. Molars (grinding teeth) may have sharp points which can damage the tongue or cheeks. Floating (usually a veterinary procedure) of the horse's molars and pre-molars as necessary will improve digestion.

Pharnyx and Esophagus

After the food has been ground and thoroughly mixed with saliva, it is moved to the back of the mouth where the muscles of the pharynx force the food into the esophagus and into the stomach. Food moves down through the esophagus by successive waves of muscular contraction. These muscles only allow movement in one direction (towards the stomach), and prevent the animal from vomiting.

Stomach

The stomach can hold about nine to 18 litres (two to four gallons) of food. Over half of the lining of the stomach are glands that add gastric juices to the saliva-soaked food. The gastric juices are made up of hydrochloric acid and the enzyme pepsin. These two things work together to start the breakdown of the proteins.

Small Intestine

The small intestine is 15 to 21 metres (50 to 70 feet) in length and can hold 45 to 54 litres (10 to 12 gallons). The lining of the intestine secretes digestive enzymes. Enzymes from the pancreas are also secreted. Together, these aid in the breakdown of food particles and make it easier for the food to be absorbed in the small intestine. The liver secretes bile, which aids in the breakdown of fat in the diet. The food is broken down into small molecules that are absorbed through hair-like "villi" that cover the wall of the intestine. The small intestine is the site of digestion and absorption of soluble carbohydrates, protein fat, and many vitamins and minerals.

Cecum

The cecum is the first part of the large intestine. It is a unique structure that allows the horse to utilize roughage. Sometimes it is called the cecal fermenter. It is here that micro-organisms help to breakdown fibrous material. In addition to digesting roughage, the cecum is a site for water absorption. The cecum is a blind sac often compared to the human appendix. It is 91 to 121 cm (three to four feet) in length and holds 31 to 36 litres (seven to eight gallons).

Large Colon

In the large colon, the bacterial action continues to break down the fibrous portion of the food. As the food breaks down, "volatile fatty acids" are released. The fermentation process can take 36 hours or longer. The large colon is made up of the right ventral colon, the left ventral colon, the left dorsal, and the right dorsal colon. Then it joins the small colon. The large colon has a number of special components such as flexures, which aid in digestion by slowing the rate of passage through the structure and allowing fermentation to occur. The large colon is three to 3.6 metres (10 to12 feet) long and has a capacity of 63 to 72 litres (14 to16 gallons).

Small Colon

In the small colon, the majority of the water in the digestive system is re-absorbed.

Rectum

When the residue of the food moves into the rectum, it is pressed into the shape that characterizes horse droppings. The droppings of a healthy horse consist of 25 percent solid material and 75 percent water.

Feed Problems

The feces (manure) from your horse can be an indication of health. Check them routinely for any sudden change in consistency, colour, odour, or amount. Any of these changes could be the first symptoms of a more serious problem. Normal feces are round, moist balls that hold their shape and are not watery.

Most feeding problems are prevented by ensuring that good feed management practices are followed. However, some problems may occur. Be observant and feed horses as individuals. A good horse person knows the signs of a well-fed, healthy horse. Any signs to the contrary should be a warning and corrected.

Bolting Feed

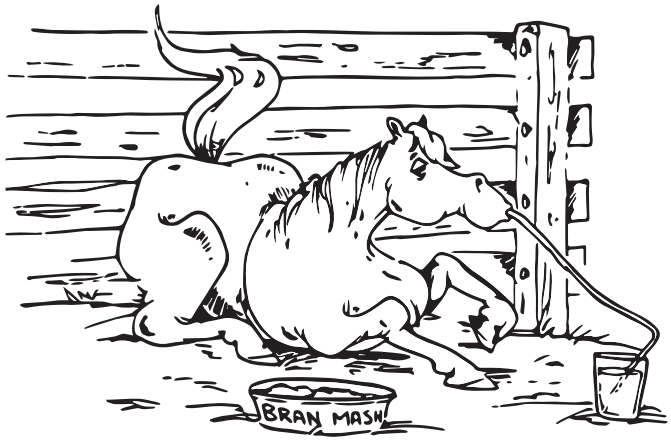
Bolting feed (grabbing at the feed and swallowing without adequately chewing it) can be a serious problem and can cause colic in horses. Feeding horses with this habit at the same time every day and offering some hay before grain can help to reduce nervous energy.

Spreading grain out thinly at the bottom of a large manger or putting large (softball-sized) rocks in the manger or feed bucket can help slow the horse down in its eating habits.

Feeding a Horse with Heaves or Respiratory Problems

Wet all hay to prevent dust and mould from being released into the air as the horse eats. Any grain rations should be dust free as well. Horse owners can feed the horse a pelleted ration in order to reduce the dust. Never feed mouldy or dusty hay or grain. Keep the horse outside as much as possible, away from dusty pastures, stalls, and arenas.

For respiratory infections, feed low to the ground to encourage nasal discharge.



Feeding Your Horse Safety Checklist

Feeding Your Horse	
Safety Tools	**Check**
Inexperienced handlers should be adequately supervised until they are competent.	
Be aware of any allergies from handling certain types of feed – i.e., timothy or grain dust allergies. Using the proper personal protection equipment (PPE) may reduce symptoms or severity of reactions.	
Where to Feed	
Safety Tools	**Check**
Assess location for hazards and personal safety. Do you need to physically enter the pen to feed? Can the hay racks be moved to allow the handler to feed from outside the pen or stable? Is the floor slippery due to straw, shavings, wasted feed, or wet sections?	
Winter Feeding	
Safety Tools	**Check**
Handlers wear appropriate shoes or boots and take precautions to avoid slipping on ice, if feeding outside.	
Feed Problems	
Safety Tools	**Check**
Precaution is taken because mouldy hay is an exposure hazard for humans, too.	
Feeding Tools	
Safety Tools	**Check**
If using a hay fork, handlers should use good techniques for getting feed into the hayrack/bin. Employ safe lifting techniques. Having to throw/toss feed can be stressful on our shoulders. Ideally feed is placed, not thrown, into the hayrack, bin, or bucket.	
Horse Psychology with Feed	
Safety Tools	**Check**
Handlers know how to safely handle dominant horses or horses who have issues when it comes to feeding; may require specialized training or systems to place the handler out of harm's way.	

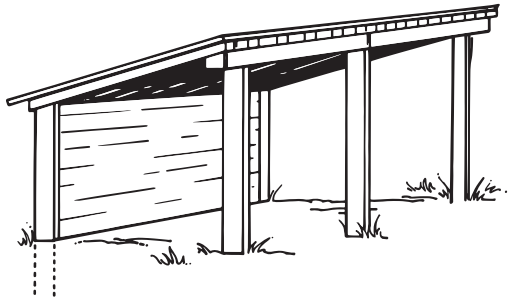
Feeding in Tight or Confined Areas	
Safety Tools	**Check**
Bins or buckets are placed to ensure handlers do not need to enter a tight space.	
Organized Work Spaces	
Safety Tools	**Check**
Feed areas are kept clean and de-cluttered. Feed scoops are not left laying out, clean buckets are neatly stacked, dirty buckets are washed promptly, empty feed or concentrate bags are thrown out when finished, and the area is swept clean to prevent tripping or slipping on excess hay, loose grains, or twine. There is a place for everything and everything is in its place.	
Feeding tools are stored up off the floor; this eliminates tripping hazards and the risk in having tools fall over (causing loud noises or striking someone!).	
Hay Lofts	
Safety Tools	**Check**
Some facilities store their hay in a loft, which can be a falling hazard when workers and handlers go to fetch more feed. The floor of the hay loft can become very slippery due to loose hay or straw. Ideally the loft has a solid fall protection structure built onto it (sturdy railing and clearly identified stairs/ladder). Handlers throwing bales down to the ground (or a lower level) must ensure the area is free of other workers, bystanders, or horses.	

Chapter 10: Facilities

Horses are housed in all types of facilities; ranging from pastures and corrals to elaborate stables with individual box stalls. Horses do well in any of these conditions, but there are some important things to look for, no matter where you keep your horse.

Housing/Shelter

Three items that every horse requires and that should be available at all times in their pen or pasture are shelter, water, and salt.



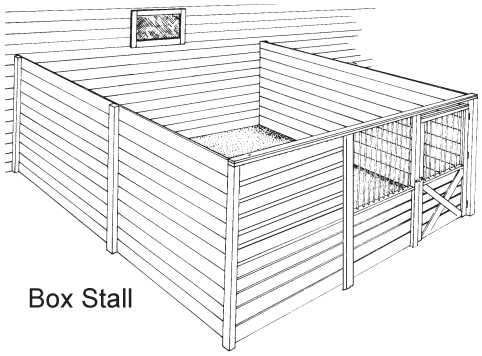
Shelter, whether natural or constructed, is important to protect your horse from extreme weather conditions and biting insects. Shelter should provide room for your horse. The Code of Practice says: "For an open-front shed housing more than one horse: provide 11.1 m^2 (120 ft^2) each for the first two horses and 5.6 m^2 (60 ft^2) for each additional horse kept in the pasture or paddock." You might consider using a three-sided shed.

If you build an open front shed, it should be constructed so that air can enter the shed through the west to help prevent snow coming in. Fencing that is 2.4 m (eight ft) high and with 20 percent porosity will also provide shelter for horses.

Make a point of regularly cleaning out the manure from the shed and pens.

Inspect the area where your horse is kept for loose boards, nails, wire, and any projections that may cause injuries. Keep all wire and baler twine picked up. If you keep your horse in a pasture make sure all your fences-barbed, smooth, or electric-are kept tight and in good repair.

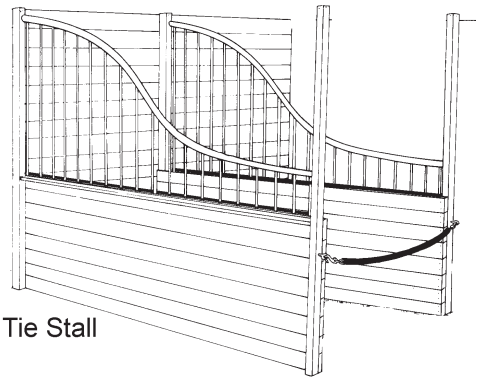
If you use a box stall, it should house your horse comfortably. The size of the stall will depend on the size of your horse, an appropriate space allowance, in m^2, is 2 to 2.5 times the height of the horse (at the withers) squared. This space allowance allows for the normal movements of the horse, including lying down.



Box Stall

A sample calculation based on the above formula for a horse that measures 15 hands at the withers is as follows:
(Step 1) 15 x 4 in = 60 in, which converts to approx. 1.5m;
(Step 2) 1.5 m x 2 = 3 m;
(Step 3) 3 x 3 = 9 m^2.

The horse should be able to lie down comfortably, be able to raise its head, and move about in the stall. The ceiling or support beam height should allow a minimum clearance space of 61cm (two ft) above the horse's head height when it is standing. Walls should be at least 1.5m (five ft) high and the door should be 1.22m (four ft) wide.


Tie Stall

If a tie stall is used, there are some important considerations to make regarding the well-being of your horse. Each tie stall should be 1.22–1.5 m (four to five ft) wide and 2.7– 3.3 m (9 to 11 ft) long so that a horse may lie down comfortably and the handler can enter and exit the stall safely. Included in the length would be the manger. To help prevent horses from fighting, side walls should be 2.1 m (seven ft) high at the front of the stall where animals are tied, and taper down to about 1.4m (4.5 ft) and solid all the way to the floor to prevent a horse from becoming caught under the wall.

In a tie stall, a horse is tied with a rope that passes through a ring fastened to the wall, with just enough slack in the rope that the horse may lie down. Take care to tuck away the ends of the halter shank to prevent it from hanging in a loop that the horse may get caught in.

Measurements for Alleys, Ceilings, and Doorways

Ceilings – the height should allow a minimum clearance space of 61cm (two ft) above horse's head height when standing (ideally, the clearance space should exceed 1 m [3.3 ft]). Ceiling height is important for horse comfort, safety, and ventilation.

Indoor alleyways should be wide enough to allow a horse to turn around comfortably, which would be 3 m (9.8 ft) wide.

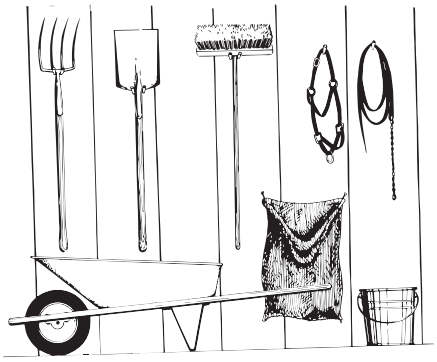
Doorways used by horses should be wide enough to allow easy passage: 1.22 m (four ft) wide. Doorways that may need to accommodate two horses at once should be twice this width. Doorways built for humans are not wide enough for horses, and it is not a good idea to bring your horse through a doorway made for people.

Horse entrances should be at least 30.5 cm (one ft) above head height when the horse is in a normal standing posture.

If your horse is housed in a stable with little room to roam, it is important that it receives regular exercise.

There are a few basic considerations that must be made when designing and building horse facilities. These include:

- The materials used to build a stable must be strong and durable to withstand the abuse that horses may place on it.
- To help with drainage, a stable should be located on higher ground.
- Facilities should have easy access for transporting hay, bedding, and manure to and from the farm.
- The width of the main door should be wide enough to turn a large horse (minimum of 2.4 m or eight feet).



Ventilation is very important for supplying fresh clean air and to help keep the humidity down. Windows work well when large enough and well-placed, but in some instances fans may be required.

Barns require ventilation. The primary reason for ventilating the barn is to remove excess moisture. Ventilation systems can be natural or forced air. Both types can work effectively. Natural ventilation systems are dependent on convection currents where a forced air requires the use of fans. Convection air movement can be created by using cupolas or a ridge opening with air intakes through the eaves.

- Grains should be stored where horses cannot get access to them.
- Mangers or hay racks, and grain, salt, and mineral holders should be included in each stall.
- If possible, storage for bedding and hay should not be included in the stable because of the risk of fire. If kept outside it should be covered but preferably in an open shed.
- Having a tack room right in the stable for safe and careful storage of equipment is preferred.

Fences constructed of pipe, poles, or boards provide maximum safety for your horse. Wire fences, especially barb wire, may cause injuries. If you do use wire fences, be sure they are tight, well attached to posts and that no loose wire is lying around. A smooth top wire may reduce injuries. A board or pole fastened to the top of the fence may also help reduce injuries and prevent stretching of the wire.

Install electric fences strictly according to the manufacturer's instructions and make sure that all power units are capable of preventing short circuits and stray voltage. Electric fences need to be checked often to make sure they are maintaining their current. Do not use temporary electric fences as a permanent corral solution. Temporarily, these can be used for pasture rotation or strip grazing.

Winter Care

Take extra care when riding the horse in winter. The footing is not always solid. This makes slow gaits the safest. Even a horse in good condition will sweat. Horses with a heavy hair coat may overheat if exercised extensively. Do not turn the horse out until it is dry. If the horse is turned out damp it may catch a chill.

Horses do not need to be kept inside during the winter, but they do need shelter from the wind and severe weather conditions. Wind is a problem because it passes through the winter hair coat's insulating properties. For horses being kept on pasture, trees, bush, and hills are good protection. Open front shelters are excellent when keeping horses outside. For people who keep their horses in the barn for the winter, they will need to be turned out for exercise preferably every day. Horses that are turned out during the day after being kept in a heated barn should be blanketed. When blanketing, if the horse sweats under the blanket it may possibly become chilled because it takes so long to dry, so check your horse regularly and remove the blanket on warm sunny days. Always be sure to keep the blankets clean and mended.

Cleaning a Stall

We usually do not strip the stall bare (take all of the bedding out) each time we use it; we just take out the manure, soiled bedding, and all wet bedding.

1. Remove any obvious piles of manure with a manure fork if bedding with straw or a shavings fork if bedding with shavings.

2. Find the areas that appear to be clean; lift the bedding with the fork and make sure it is clean and dry. These are now your stock piling spots for clean bedding. Once you have cleaned a stall or two you can tell by the weight whether or not the bedding is clean or dirty.

3. The dirty goes in the wheelbarrow or muck bucket, the clean goes on the clean pile. Find the wet spot. If your horse has not urinated overnight, be a bit concerned. This is not normal. Completely expose the wet area and clean up excess moisture and any remaining manure using a fork, broom, and shovel. Leave the wet area open to dry before re-bedding.

Manure Management

It is your responsibility to provide your horse with a clean place to live. Stalls should provide drainage so that your horse is not standing in urine and spilled water.

Clay, concrete, wood, or asphalt floors with wood chips or straw as bedding are good. Rubber mats make softer stall footing.

Bacteria and parasites grow and thrive in organic wastes. Flies and insects that carry disease multiply in filthy conditions. Keeping the stalls clean removes the environment from which these organisms and insects live and reproduce. A strong ammonia odour can cause respiratory problems in horses. This is probably the main issue of improper cleaning of stalls.

A mature horse weighing 453 kg (1100 pounds) can produce as much as 41 kg (31 pounds) of manure and nine to13 litres (two to three gallons) of urine each day. The density of the manure is equal to one gram/cm^3 (63 pounds per cubic ft) and the density of the urine is 12 kg/m^3 (0.81 pounds per cubic ft). Stalls should be mucked out daily of manure and soiled bedding. The entire stall should be cleaned out periodically (once or twice per week depending on the habits and volume of waste from each horse).

Bot flies lay eggs on the hair of the legs, chest, and the body. When the horse licks contaminated areas, larvae from the hatching eggs enter the mouth. Harrowing pastures will help break up manure so the elements can destroy the bot fly worm eggs and larvae.

Manure Storage

Some options for manure storage are:

Bunker

Put the manure in a bunker that is disposed of at least once a week. This bunker may be close to the stall but must have a lid to keep flies out. It must be large enough to contain the manure that will accumulate between disposals.

Piled

Placing the manure in a pile as far away from the stable and house as is practical. Consider composting to produce a more useful product out of the manure. Composting involves regular turning of the pile, with a front end loader or other equipment, to control the amount of moisture and oxygen in the pile.

Composting can provide a product for spreading on fields or selling for gardens, and so on. The process can reduce the number of weed seeds that will germinate for some species and kill parasite eggs and larvae. Properly composting the manure before spreading can reduce the potential for recontamination of the area and ingestion of parasites by the horses.

If spreading raw manure on pasture, apply during the growing season (May to September) when grasses are actively growing. Keep in mind that spreading fresh, uncomposted manure on pastures may carry the risk of re-infesting pastures with intestinal parasite larvae. Harrowing the manure clumps after they have been spread allows the heat of the sun to penetrate the manure and kill the larvae by drying them out. Harrowing should be done only during hot, dry weather and, ideally, horses should be removed from the pasture for two to four weeks after harrowing.

Settling a New Horse in a New Home

Introduce a horse to its new environment by leading it around the perimeter. Separate horses that are new to one another until they have a chance to become accustomed to each other. It is advisable to introduce a horse to its new surroundings in the daylight. Take your cues from the horse. If it is very nervous, go slowly.

Never turn a new horse out with an established group of horses, even if it is an old friend of the herd that has been separated for some time. The settled horses may gang up on the newcomer and injuries are possible. Put the new horse into a small paddock or corral in sight of the group. Gradually move the new horse closer to the pasture until it is next to the group of horses. Permit the new horse to sniff and nuzzle the members of the herd with a non-wire fence barrier between them. When all the preliminary kicks and squeals are done, put the horse into the group situation, in a pen with no tight corners and with enough room that they can get away from each other if necessary. Stand by and watch the proceedings. Check your horse daily.

Feed a light ration until the horse is comfortable with its new surroundings and different feed. The change in feed needs to be made gradually to avoid colic or other gastric upsets.

Spend time with the new horse. Catching, brushing, and handling the horse in the new territory will help it feel more comfortable. You will start to develop trust between you and your horse that will help keep things more relaxed and safer on your first ride.

Housing Horses Together

When horses are housed in pairs or in groups, they develop bonds and a pecking order. This order is established based on dominance and determines how the herd operates. Dominant horses will often be the first to the feed and will fight other horses off. Therefore, it is important to provide feed in one to two places more than the number of horses in the group, so that all members of the herd have equal opportunity to eat.

The amount of space that is provided for a group of horses is critically important.

In a herd, horses seek to establish their position and will kick at, bite, and chase one another to determine which horse gets to the waterer first, to the hay first, and so on. Consequently, horses in herds can receive small injuries, bruises, and scars. If the horses are not getting along, they may not have enough space where you are keeping them.

When working your horse, be aware of the footing. Problems occur when the footing is too hard, rocky, uneven, frozen, or sunbaked. Depending on the condition of your horse's hooves, do not ride an unshod horse on hard or rocky ground. Even some grassy surfaces can be surprisingly hard and slippery. If riding an unshod horse on hard ground, pay close attention to the way your horse travels and how the hooves are being affected by the surface. Slowing down reduces impact.

Riding Surfaces

Riding surfaces can also be too soft and deep. This occurs when hard rain reduces riding areas to mud, the base becomes too soft, and the weight of the horse causes the foot to be sucked down, making it more difficult for the horse to lift its foot. This is particularly hard on tendons and ligaments. Deep sand can cause leg strain and

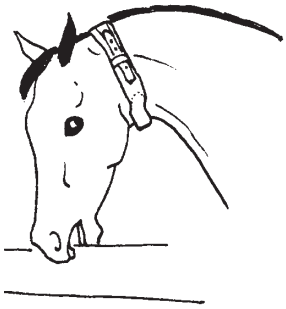
deep wet snow can also be hard on tendons. At some temperatures snow will ball on the sole of the foot, causing a very icy, dangerous situation.

Slippery surfaces such as packed snow, ice, and wet pavement should be avoided.

Pleasure riding in pastures and on the trail can be fun, but be very cautious of holes. If a pasture has a lot of holes and rocks, you should avoid riding at fast speeds.

Most riding arenas have a dirt base with sand and fine shavings mixed in. It is important that the arena does not get dusty, as this may lead to respiratory problems in the horse. Keeping the surface damp and mixing some fine wood shavings into the dirt may help to reduce dust.

Stable Vices



Cribbing

Cribbing is a bad habit that some horses develop because of stress. This is also called windsucking. The horse grabs a projecting object (top of a door, manger, fence, etc.) with its incisor teeth, arches its neck and gulps. Besides wearing down the teeth, the horse may be hard to keep weight on.

Cribbing is a habit that is difficult to control and prevent. There are many theories as to what causes cribbing, one of those being that it is stress related. Some people have tried to control a horse from cribbing by using a cribbing strap that goes around the neck of the horse just behind the jowl and poll. Each time the horse attempts cribbing, the strap tightens making the cribbing action uncomfortable.

Wood Chewing

Wood chewing is another habit that is difficult to control. It can be very hard on your facility if your fences, etc. are primarily made of wood. Pens made of metal or plastic are preventative options. Larger pens, adequate nutrition, and exercise provide the horse with a healthy lifestyle that can help reduce or prevent wood chewing. However, some horses no matter how well housed, fed, and exercised will still develop this habit. Some facilities have tried spreading mixtures that have a taste undesirable to the horse on their fences to discourage horses from wood chewing.

Weaving

Weaving is another stable vice which is extremely hard to cure. This condition is when a horse swings its head from side-to-side. The horse may lose condition rapidly.

Boredom in a box stall seems to be the major cause of weaving. Give the horse lots of exercise and pasture time.

Potential Hazards

Hazards are anything that can injure a horse. These can be found them in most yards. It is important to watch out for them, remove them from the area where the horses are, and to avoid them with your horse. Some common ones are mentioned below, along with a description of what problems may arise from the hazard and how to avoid them.

Potential Hazards Around the Yard	Problem	How to Prevent
Broken Planks	• tears • puncture *(with or without wood left in the horse)*	• Keep fences in good repair.
Barbed Wire	• deep cuts or skin cuts	• Maintain fence. Use where horse population is low. • Ensure that horses that are separated across from each other by barbed wire are in large enclosed paddocks or fields.
Smooth Wire (Barbless High Tensile or Electrical)	• strangulation • wrapping around legs	• Often used for electric fencing–maintain carefully to ensure it is well secured to the fence and very tight.
Loose Wire	• wrapping around legs • deep cuts	• Tighten the wire.
Hog Wire	• feet will go through and get caught • cuts • strains	• Use a size too small for a hoof to fit through or very large (shoes may still get caught). Place 30 cm off of the ground.
Hinges, Latches, Bolts	• cuts • punctures	• Should not stick out from a wall or around the edges
Roof Overhangs	• cuts	• Should be high enough so doesn't cause a problem.
Metal Scraps, Glass, Wire, Nails	• cuts • punctures • ingestion	• Pick up garbage around the yard.
Gates: • metal gate • open gates	• cuts, bruises, and broken bones	• Cover sharp edges. Set high enough that if the horse falls under, it can get its legs free. Gates should open against a fence so an animal cannot be caught behind, pinned in a corner, or run into it when it is open.

Potential Hazards Around the Yard	Problem	How to Prevent
Stored equipment; • wheelbarrow • pitch forks, rakes, shovels	• cuts • strains • broken bones • punctures • cuts	• Put all equipment away when it isn't being used. Be sure it is stored safely and away from the animals.
Metal Feeders or Water Tubs	• cuts	• Cover sharp edges. Keep in good repair.
Hay Feeders	• strains • cuts • broken bones • strangulation	• Place high up or on the ground with an open top and sides so it can not cut the horse.
Stall Walls	• cuts • tears • broken bone • horse becoming cast • touching the ground	• Remove or flatten nails. Cover holes. Level bottom of the stall so the horse cannot get caught in a depression. Stall walls should be touching the ground, so that a hoof cannot fit through, and to prevent casting.(Casting usually occurs when a horse rolls against the wall and can't get back up.)
Hay Nets	• strangulation • injury from legs being tangled	• Hang high and thread back up through itself. Remove at night or when you are away for long periods of time. **Suggest not using.**
Tying Improperly	• horse spooks and pulls object loose then runs into other objects • tying by reins hurts the mouth and will break the reins or bridle • if tying too long, the rope can get over the head or wrap around the leg and break or cause rope burn • if tying too low, the horse can step over the rope and get tangled • tying with the wrong knot makes it difficult to untie in an emergency situation	• Horses need to be trained to stand tied. • Tie the horse to a solid object that cannot be pulled loose. Tie with a bowline or quick release knot so the horse can be freed easily. • Tie with a halter and strong shank. • Don't tie too long or short. Horse should have enough rope that it can reach its feed (if in a tie stall) but not paw (legs over) the rope. • Tie horse with a quick release knot.

Potential Hazards around the Yard	Problem	How to Prevent
Barn Wiring, Lights, Electric Stockwater	• electrocution • cuts	• Wiring should be enclosed and out of reach where it is free from moisture accumulation. Cover lights or recess them into the ceiling. • Use only Canadian Standards Association (CSA) approved equipment.
Machinery	• cuts • punctures • broken bones • strains	• Do not store where horses are kept.
Batteries, Used Oil	• horses may lick or drink acid from batteries • skin corrosion • death	• Keep them stored away from horses. • Dispose of old batteries and oil at hazardous waste sites.
Grain Bins, Grain Piles	• laminitis • colic • possible death, gorging, grain founder	• Close bins. Securely fence grain piles and do not allow horses into the field with them.
Paint and Wood Preservatives	• poisoning	• Keep in a separate tool shed.
Black Walnut Wood Shavings	• extremely poisonous to horses	• Only use wood shavings sold for bedding; do not use leftovers from a lumberyard or carpenter. Only use wood shavings sold for bedding; do not use leftovers from a lumberyard or carpenter.

Facilities Safety Section Checklist

You must plan for safety at all times when working around horses. This section of the Horse Reference Manual has provided you with a great deal of information and specifications for safe facilities. Both horses and handlers need a certain amount of room to maneuver safely and to live comfortably. You can refer to this Safety Section Checklist for a quick reference to the contents of the chapter, and as a reminder for meeting your goals.

Housing/Shelter

Safety Tools	Check
Fire protection systems are in place, including smoke detectors, forwarding alarms, sprinklers, and extinguishers.	
Everyone who uses the stable is trained to identify fire hazards and is competent in the use of fire extinguishers.	
An emergency plan is in place for shelter emergencies. Everyone who uses the facilities has the knowledge about how to get emergency services to the location.	

Moving a Horse within the Facility

Safety Tools	Check
Everyone knows how to catch and return a horse to its stall.	
Everyone who uses the facility knows how to maneuver a horse around other horses, workers, or bystanders.	

Winter Care

Safety Tools	Check
Anyone using propane heaters or other heaters using combustion takes appropriate precautions to ensure there is no danger of carbon monoxide poisoning.	
Snow is shoveled away from exits, and ice build-ups are treated to prevent slipping.	
There is a plan in place for equine care during extreme cold temperatures.	
Solo workers have a method to check-in with someone.	
Everyone who uses the facility knows where the switch/plug is to kill the electrical current to any heating elements such as those located on waterers.	
The condition of heating elements in waterers is checked regularly.	

Manure Management

Safety Tools	Check
Inexperienced handlers are adequately supervised until they are competent.	
The horse is removed when you clean the stall. This way you can focus on the task at hand and inspect the surroundings for anything that needs to be fixed such as protruding nails, broken boards, etc.	
Lifting manure and/or saturated shavings can be heavy. Some shovels are designed for ergonomic comfort (bend in the handle). Use a cart or wheelbarrow to avoid having to move heavy waste too far.	

Eye protection is worn when working around straw, wood shavings, or liquid waste.	
In dusty environments, an N95 "dust mask" is worn—follow the instructions in the package to ensure a tight fit to your face.	
Proper gloves are worn to protect hands from blisters and from splinters off forks and shovels.	
Proper footwear is worn and the floor is kept as clean as possible because manure and urine can be slippery.	
Settling a New Horse in a New Home	
Safety Tools	**Check**
Everyone is aware that new environments can be stressful. Stressed horses can react differently (quicker, stronger, more impulsively), than calm, comfortable horses.	
If utilizing a quarantine area, biosecurity principles are followed. Handlers are familiar with infection control, cross-contamination, and using tools like foot baths to control the spread of microbes. Chemical safety is an important part in handling foot baths and cleaning chemicals.	
Housing Horses Together	
Safety Tools	**Check**
Handlers are familiar with basic horse psychology including how dominant and submissive horses act. *Personal safety is increased when handlers are able to identify these types of behaviours and traits, and position themselves to work safely as a respected human leader in the herd of horses.*	
Horse interactions are monitored. *Don't place yourself between two fighting horses.*	
A plan is in place for what to do if a horse fight does start. *As hard as it may be to witness, no handlers should be placed in the line of danger trying to stop a horse fight.*	
A safety plan is in place for keeping stallions.	
A safety plan is in place for keeping mares.	
A safety plan is in place to keeping mares with foals at their side.	
A safety plan is in place for keeping young horses.	
Potential Hazards	
Safety Tools	**Check**
Inexperienced, over-confident and/or complacent handlers are monitored, evaluated, and educated.	
Workers with a lack of supervision or who are working alone are provided a new environment where there is supervision and if they must work solo, a safety plan is in place for checking in with others.	

Riding Surfaces	
Safety Tools	**Check**
Slick and uneven surfaces are dangerous. Riders have adequate control over their horses, adequate traction on their horse's feet (shoes, caulks, or protective boots if necessary/available) and ride in a slow and steady manner. If arena footing is slippery, the riding location is moved until the issue is addressed.	
The riding arenas/areas are free of clutter, jagged, or missing boards, and equipment is stored safely out of the way. Gates are secured while riders are in the arena.	
Horses are familiarized with the presence of mirrors in the arena.	
Stable Vices	
Safety Tools	**Check**
Handlers are aware of normal and abnormal behaviours in horses and especially of actions that could put themselves at risk of being injured while working with horses exhibiting abnormal behaviour.	
Handlers know how to handle an injured horse.	
Water Systems	
Safety Tools	**Check**
Heated water buckets are inspected to ensure they are in good working condition and not causing an electric shock.	
You use good lifting and carrying techniques if moving water by bucket.	
Small children are kept away from large, open buckets, which can be a drowning hazard for them.	
First Aid and Emergency Preparedness	
Safety Tools	**Check**
Emergency Contact Information–The barn has a visable area where emergency phone numbers and procedures are posted.	
First Aid Kit – A well-equipped first aid kit is kept in a central location and inspected frequently to ensure it is well stocked and the items are in good condition.	
A first aid log book is kept to assess what types of injuries are occurring, leading to conversations on how to prevent them.	
Near Miss Log Book – *Similar to keeping a first aid log, a Near Miss Log can be very insightful aobut preventing injuries in the future.* Workers/handlers keep notes on incidences that could have led to an injury.	
The Near Miss Log Book is reviewed and changes made to fix a problem before it becomes something bigger. (i.e,. four people almost slipped going out the back door; noticed the downspout empties across the walk-way and that water freezes; re-route the downspout to push the water away from the doorway).	

Good Organization – Tools are kept well organized and off the ground to prevent handlers from tripping.	
Cleanliness – All garbage is picked up. *That plastic bag left on the ground could be whipped up with the next gust of wind causing a horse to spook.*	
Maintenance – All workers/handlers are empowered and supported to inspect the facilities for damage or items that need to be repaired, such as loose boards, protruding nails, burned-out light bulbs, non-functioning items, etc.	
Maintenance logs are used. *They are an easy way to determine when the smoke-detector batteries were last replaced or if a particular bulb burns out more frequently than the others.*	
Visitors – A visitor policy lets everyone know where visitors can and can't go and what rules they need to abide by while visiting the farm or facility.	
No-Smoking Policy – Similar to having a visitor policy, a no-smoking policy is important for facility fire safety and air quality. If smoking is permitted, the areas should be clearly defined with appropriate waste disposal.	
Extreme Weather Conditions – An emergency plan is in place and all workers/handlers know what to do if a weather emergency arises: tornado, flood, earthquake, blizzard, etc. 72 Hours Prepared and Emergency Preparedness for Farm Animals from the Government of Canada are suitable guidebooks.	
Non-Weather Emergencies –A plan is in place for things like barn collapses, power lines down, fire, interior flooding, gas leaks, or biosecurity emergencies. You may use principles similar to those found in the 72 Hours Prepared resource.	

i Code of Practice, pp. 17-18

ii Code of Practice p. 18

Chapter 11: Grooming the Horse

Regular grooming improves a horse's appearance, helps increase circulation, and stimulates the oil glands, which make the horse's coat look shiny. Grooming also provides an opportunity to check for injuries, skin irritations, or other health problems. The amount of grooming a horse needs will depend on how much you ride and where the horse is kept. A horse that is in a barn and/or blanketed needs to be groomed every day.

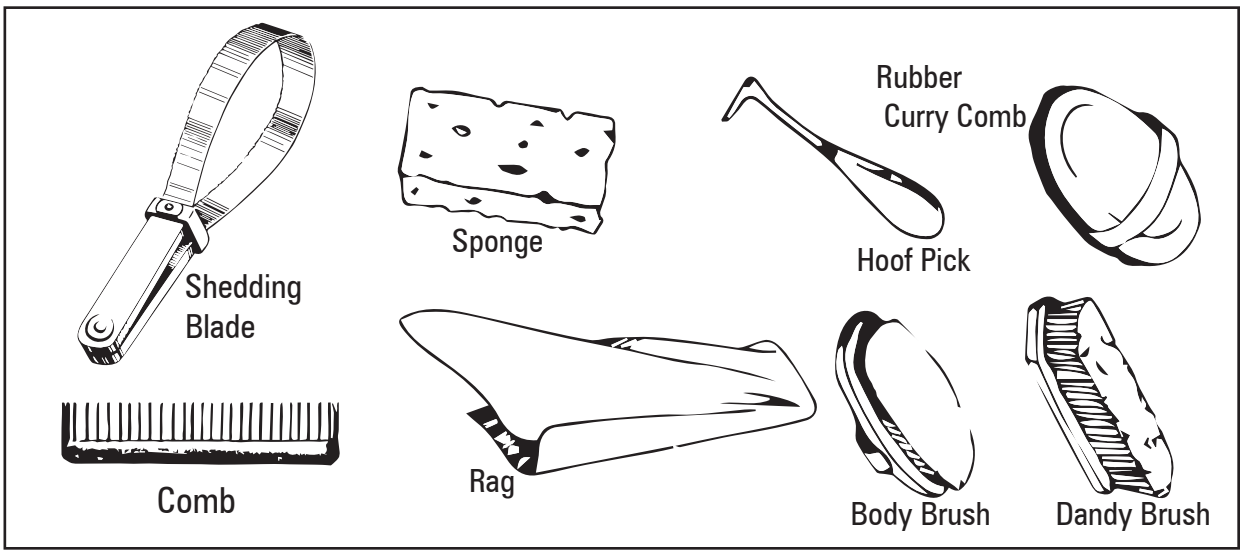
Constant handling, grooming, and patient care will work wonders to develop trust and confidence between a horse and handler. You will develop a positive relationship and your horse will stand more quietly and safely the more you work with it.

Pasture horses do not need thorough daily grooming because they self groom. However, every horse should be groomed before and after each ride.

The Grooming Kit

Every horse owner should have a grooming kit. The amount of equipment you need will vary, but for a basic grooming kit you will need:

- a hoof pick and brush;
- hoof oil;
- a plastic or rubber curry comb;
- a dandy brush (has fairly long stiff bristles);
- a body brush (has softer bristles);
- two sponges or two washing rags (different colours) for the different ends of the horse;
- a long comb (metal is not recommended);
- a shedding blade (used to help remove winter hair or use the backside to scrape away water after bathing a horse);
- a grooming cloth.

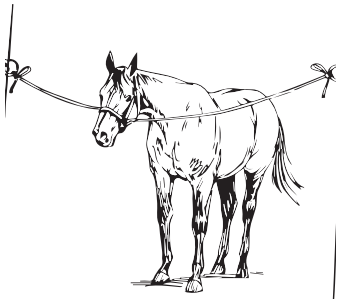


Grooming Your Horse

When you are grooming a horse before riding, take care to brush the withers, back and girth areas well. Bedding and dirt left in these areas can be irritating to the horse's skin when saddled or being ridden.

The results of a good grooming job are worth the effort. Any horse can have the shiny, healthy-looking coat that we like to see.

Ask someone who specializes in the specific discipline you are in to show you the current trends. There are different styles of grooming and clipping the coat, mane, and tail depending on the type of riding you do.



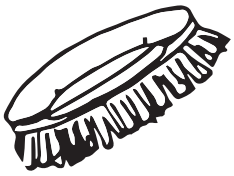
1. Tie your horse securely using cross-ties or a lead shank with a quick release knot. Make sure your horse is standing at a 90 degree angle to where it is tied, allowing a safe space for you to work. If your horse doesn't stand still, you will need to put in some extra hours working with it until it learns to stand calmly and safely while you work with it.
2. Place your grooming kit nearby, but not so near that it gets in the way. Do not place it where the horse will step on it.
3. Before you begin grooming, run your hands quietly and gently over your horse's entire body and look for lumps, scrapes, or insect bites that may need attention. Feel the lower legs and hooves, looking for any differences in temperature or swelling.
4. Clean out the hooves of your horse. When you are picking up the feet of your horse, carry your hoof pick in a safe place that you can easily reach. Begin cleaning each hoof at the back of the hoof on each side of the frog where there is a groove. Push the pick down into the corners of the cleft and bars to pick out any mud or dirt. Scrape down and away from the heel, right to the tip of the frog. Scrape away any debris found elsewhere on the hoof, always cleaning from heel to toe. If you clean from the toe towards the heel and your horse jerks its foot from your hand, it may get a puncture if it steps on the hoof pick in this position. Continue picking in this way until there are no stones or dirt left in the grooves of the hoof.

Notice the position of the hoof pick. Always remember to position the sharp end of the hoof pick away from yourself.

While you are cleaning the feet, inspect for loose shoes, foreign objects, and thrush. When you are finished, gently set the hoof on the ground with your hand and return your hoof pick to your pocket, ready to move on to the next hoof.

Curry Comb

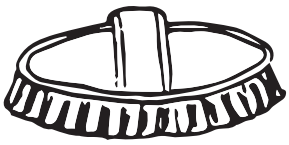
5. Start on your horse's coat with the **rubber or plastic curry comb**, at the neck and back area. Rub the curry comb over the horse's coat, using small circular motions. The circular motion loosens dirt and mud and stimulates circulation and oil production. Only use the curry comb on the body of the horse, not on the head area, nor below the forearm and gaskin. The curry comb can be cleaned by banging it on a solid, stationary object.



Dandy Brush

6. Next, use the **dandy brush** (the hard bristled brush) in short flicking motions over the entire body except the head and legs. This removes mud, sweat, and dirt. As you get to the end of each short stroke, flick the brush up and out, throwing off the dirt. This gets the bristles deep into the hair to remove dirt and dandruff, and also stimulates circulation. To clean the dandy brush as you use it, you can hold the curry comb in one hand and the dandy brush in the other. Then, as you flick off the dirt and before your next stroke, rub the curry comb's teeth against those of the dandy brush to brush any dirt off the bristles of your dandy brush.

7. Now that you have removed the dirt from your horse, the **body brush** (soft brush) is used to bring out the shine of your horse's coat and for removing the scurf (dead dry flakes of skin) that lies near the skin. This is the only brush that may be used on the whole body. Throw the mane over to the opposite side of which it normally lies. Use the body brush to brush the roots clear of scurf. Over the entire body of your horse, brush with the body brush, using long smooth strokes and pressure on the brush. This cleans off surface dust and spreads oils over the whole coat. Clean the body brush as you use it, using the curry comb held in the opposite hand to rub the bristles of the body brush clear of dirt. Once the body is cleaned, clean the legs of your horse. Then clean your horse's head by untying your horse, removing the halter and fastening it around the neck, near the poll. Use your free hand to steady your horse, placing it just above the nostrils. Brush the head, taking care not to bang the bony projections with the wooden edge of the brush. Replace the halter and retie your horse.



Body Brush

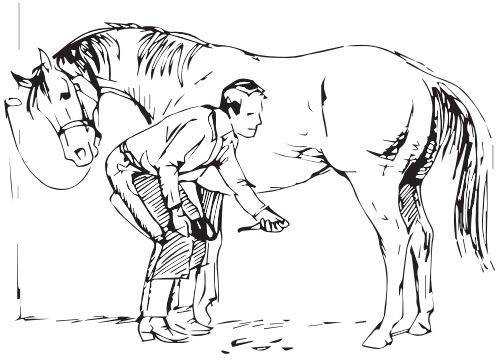
Comb

8. Next, use the **comb or brush to comb out the mane and tail.** It takes months and years to replace the longer hairs which might be accidentally pulled out or broken. Work carefully to prevent hair loss. Take a small lock of hair at a time. Separate the hairs first with your fingers. Begin untangling from the bottom and work your way up to the base of the mane and to the tail bone. To groom the tail, stand to the side of your horse and pull the tail around to the side to get the tough knots out. Comb through the tail as it lies against the hip (to support it). Conditioner helps to comb out badly tangled hair.

9. Now, using one of your **sponges** or washing rags (designated for washing around the head), clean the eyes and nostrils. Wet the sponge in warm water and wring it out. Untie and hold your horse, and back it away from the fence. Using one corner of the sponge, wipe the near eye and then use another corner to clean the far eye. Using the other end of the sponge, use one corner to clean the near nostril and use the final corner to clean the far nostril. Using a different spot on the sponge or rag for each part of the face will help to avoid contamination from one eye to the other or from one nostril to the other. Retie your horse.

10. Wet and wring out your other sponge or rag (designated for cleaning the dock area) and wipe the dock area under the tail. Remember to stand at the horse's side, not behind it.

11. Now use your grooming cloth, and beginning at the face, wipe the whole body with this clean, soft cloth.



Picking Up the Feet

When holding the hooves, always keep your knees bent in order to avoid undue stress on your back. Keep your body and your feet parallel to your horse.

Front Feet

When you are picking up the feet of a strange or young horse, start with the front left foot. Most horses are used to being handled from this side and are not as sensitive about the front as the back. Make sure the horse is standing with its weight evenly distributed.

Start by standing on the left side of your horse, facing toward the horse's back feet. Pick up the front foot by rubbing your left hand along your horse's left front leg. Start up high and gently work your hand down to the fetlock. Lean into your horse's shoulder to shift its weight off the leg you want to pick up. If the horse will not lift its foot, squeeze the tendon behind the cannon bone with your thumb and forefinger, or press on the cornet band at the outside quarter with your hoof pick.

Once the foot is up, cradle the left hoof with your hand. Be sure to bend the leg back at its natural angle and not off to one side. Make sure your left arm is behind the knee joint, not in front of it. Reach back with your right hand for your hoof pick and clean the hoof.

Hind Feet

To pick up the left hind foot, approach the horse from the front and place your left hand on its hip. In this way you can feel for tenseness of muscles as you move your hand to the inside of the cannon bone. Proceed as above, leaning your shoulder into the horse's thigh. Make sure your left arm is behind the hock. Stand as close to the leg as possible. If you stand very close and the horse strikes out at you, the kick will merely push you away.

To pick up the feet on the far side use these same procedures but reverse hand positions.

Remember to be considerate of the horse when you have the foot up. Don't hold it too far away, too long a period of time, nor too high, making it uncomfortable. Pick it up for short periods, keeping the leg close to the horse and don't forget to reward your horse.

The Importance of Hoof Care

The value and lifespan of the horse depends on its ability to perform work. Without four sound feet it will be unable to do the things you want it to do. The most important details in the care of horse's feet are to:

- clean them frequently; and
- trim them so they retain a proper shape and length.

Ideally, the feet of a horse should get daily care. Each day, clean the feet of horses that are shod, stabled, or used.

Thrush

Thrush is a degenerative condition of the frog of the hoof. You can read more about it in Chapter 5: Conformation and Evaluation and Chapter 6: Movement.

Hoof Moisture

Hooves can become dry and brittle, which can lead to splitting and lameness. In dry hooves, the frog loses its elasticity and loses some of its effect as a shock absorber. If it isn't corrected, the frog may shrink and the heel contract. Dry hooves can be prevented by keeping the ground wet around the watering tank. If you do use a hoof dressing, rub it well into the coronary band, bulbs of the heel and liberally onto the frog and the clean sole of the foot. The most effective way to improve the condition of the hoof is through the horse's diet. Feed your horse proper nutrition and supplements.

Hoof Length

A healthy hoof grows from 3/4 to 1 cm (3/8 to 1/2 inch) per month. If you do not care for the hoof and keep it trimmed, it will either break away as it grows, or it may grow disproportionately in the heel and toe and change the horse's way of going.

Trimming

The frequency of trimming depends upon how the horses are used and on what footing they are worked or kept. The usual time between trimmings is from six to 10 weeks. All horsemen should be able to recognize a properly trimmed hoof.

Signs that a Horse Needs its Hooves Trimmed

Make an appointment with a farrier if the hoof:

- wall is more than .6 cm (1/4 in) longer than the sole;
- has chips, cracks, flares, or a long toe; or
- is longer on one side than the other, or the feet do not match.

Common Faults Corrected by Trimming

Regular trimming will take away the strain on the tendons. It will help prevent deformity, improper action, and unsoundness. Some minor conformation faults such as **splayfoot** or **pigeon toe** may be corrected through proper trimming at an early age. Hoof problems such as a **quarter crack** or **contracted heels** may be helped with proper trimming and hoof care.

Shoeing

Shoeing is not for every horse. If you are working horses on a sandy loam, free of stones, or they are spending a good bit of time in the pasture and their feet are in good shape, there is no reason for incurring the additional expense of shoeing. The foot and leg are designed to minimize shock and road concussion, without shoes.

Horses that are used on hard surfaces, such as roads or rocky terrain, should be shod to prevent the wall from wearing down to the sensitive tissues beneath. Some equine activities require shoeing for safety or to perform to a satisfactory level.

Shoeing always should be done by an experienced farrier. Shoes should be made to fit the foot, not the foot to fit the shoe. Ask the farrier to re-shoe or reset the shoes at four to eight week intervals. Shoes left on too long cause the hooves to grow out of proportion, or cause lameness. Mark shoeing dates on your calendar.

Reasons for Shoeing

Shoes protect the hoof from wear when a great amount of work or traction is required. Shoes may be used to correct hoof problems and change the gaits and action of a horse. They can be used to help cure disease and correct defective hooves. They also may be used to relieve pain from injured parts such as hoof-wall cracks and bruised soles, making it possible to ride an otherwise unsound horse.


Borium added to Shoes for Traction

Horseshoe Types

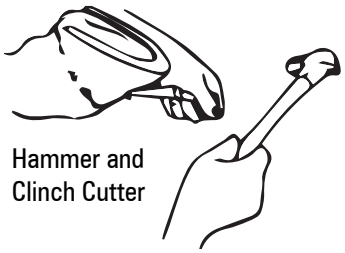
There are various of types of horseshoes. From lightweight racing shoes used on racehorses to wider performance shoes used on Warmbloods for jumping, to bar shoes used for injuries or laminitis, your farrier will be able to help you decide the best type of shoe for your horse. Some types you could discuss with your farrier are:

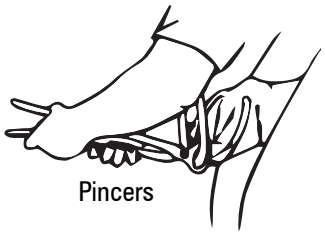

Heel and Toe

- plain, which is a heavy, straight-edged, and made from flat iron;
- heels and toe–for traction on soft ground;
- rims, which are:
  - high on inside–for traction on grass;
  - high on outside–for traction on fast turns; and
  - high on both sides–for traction on turf (racing);
- sliding plates–wide and flat to slide on; and
- corrective–many different shapes to relieve pressure from specific parts of the hoof.


Plain Shoe

To Remove a Shoe


Hammer and Clinch Cutter


Pincers

Wearing the same shoes too long can cause problems. Since the hoof wall grows perpendicular to the coronary band, the horse's base of support actually grows out from under him. The legs become set too far in front if shoes are left on too long. This puts more strain on the tendons. If a horse loses one shoe, either front or back, the other front or back shoe should be removed.


Rim Shoe

Shoe removal should be done by a farrier. If a shoe is not removed properly, there can be damage to the hoof.

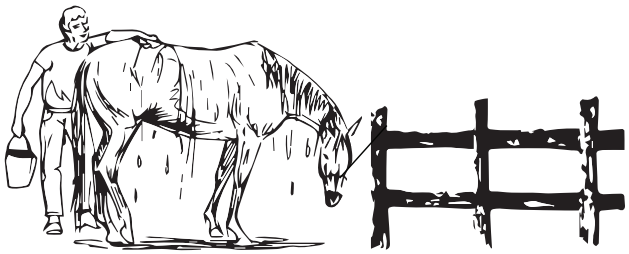

Slider Plate

- First, remove all the clenches (the turned down part of the horseshoe nail visible on the hoof wall. These can be removed by clench (nail) cutters, a chisel and hammer, or with a rasp.
- Next, lift the foot and support it with your knees.
- Place a large pair of pliers, shoe puller, or a clench cutter under the heel of the shoe, beginning on the side that is most loose.
- Use a downward prying motion aiming toward the toe to raise the shoe off the wall.

- Work on alternate sides of the shoe until you have only the toe nails remaining.
- To remove the final toe nails, use a sideways rocking action.
- Check to see that no nails are remaining in the hoof;
- Any loose nails should be picked up so that the horse cannot tread on them.

Bathing Horses

Washing horses, either with or without soap, removes dirt, stains, and sweat that cannot as easily be removed by grooming. Shampooing too often, however, can remove protective oils from the skin. Use a livestock shampoo or a mild non-detergent soap to avoid removing natural oils.



Wet the animal thoroughly all over. If your horse spooks at a hose, use a bucket and a sponge to wet and wash one section at a time. The water temperature should be lukewarm. Use a sponge on the head, pinching the ears shut to keep water out. Shampoo may be applied directly to a stain, but is best mixed in a bucket, before applying to the horse. Scrub with a sponge, soft brush, or wash mitt.

It is important to rinse the horse thoroughly to remove all the soap. Wipe off excess water with a scraper or the smooth side of a shedding blade. Do not scrape the head or legs. Dry with towels or a cool air dryer. You can put on a fleece cooler or a sweat sheet. Do not bathe a horse in cold weather.

Bathing Do's and Don'ts	
There is a right way to bathe a horse and a wrong way. Your horse wants you to do it the right way.	**Do talk to your horse when bathing him.** Constantly reassure him and tell him what a good horse he is.
Do have patience with your horse when bathing him. Bathing makes no sense to horses; they only put up with it because we ask them to.	**Don't spray your horse in the face with water.** How would you like it if someone did that to you?
Do have consideration for your horse during the bath. Use a comfortable water temperature and appropriate water pressure.	**Don't get water in your horse's eyes, ears, or nostrils.** This not only causes the horse fear and discomfort, but it can result in medical problems too.
Do monitor the water temperature throughout the bath. Sometimes water will heat up quickly and discomfort your horse.	**Don't put your horse back in his pasture or stall while he's dripping wet.**

Grooming Problems

My horse rubs its mane. First, check the feed area to make sure the fence or feeder is not rubbing the mane. Check the hair roots to find possible dermatitis or external parasites and treat the area if these are found. Some horses are very sensitive in the mane area to dead skin or hair. Thoroughly wash the horse with a recommended shampoo, being sure to rinse the horse well. Apply a lanolin product to the afflicted area to help prevent dry skin. Applying a mild disinfectant may also help.

My horse rubs its tail. Check the dock or anal area for signs of pinworms and then worm your horse if you suspect that this is causing the tail rubbing. Check for lice or other external parasites and treat accordingly. Keep the dock area as clean as possible. It may be necessary to apply a mild disinfectant.

My horse tears at its blankets and bandages. Check for fit or irritation. Make sure the horse is not too hot. Painting a foul tasting and/or smelling paste onto the bandages, like hot peppers and Tabasco sauce (if the skin is not chaffed or broken) may help stop the tearing. Be sure to regularly clean and rinse bandages and blankets.

My horse's mane won't fall to one side. The shorter you make the mane the thinner it needs to be to lie flat. To help train the mane to all lay on one side, try the following methods:

- Braid it and place it over to the desired side. Wet the mane and keep the braids in for two days then remove them. Note that keeping braids in a mane for too long will tend to damage the mane hair.
- Dampen the mane with diluted hair conditioner. Place a hood over dampened mane, with the mane all lying on the desired side, but inspect daily.
- Use hair spray or gel on the mane as it lays on the correct side.
- Rinse out all products when done to avoid irritation and attracting dirt.

Clipping

The pleasure horse owner will do some clipping, but less is needed than if you are planning to show your horse. Most people like to have the bridle path cut to make bridling and haltering easier.

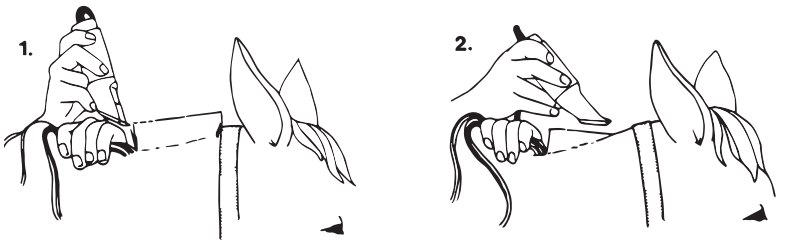
To clip a horse you can use scissors, hand clippers, or electric clippers. Electric clippers work best, but they are expensive. Unless you do a lot of trimming, you do not need them. Some horses will not tolerate the sound of electric clippers. Be careful when you are trimming. It is easy to cut a horse if it moves while you are working.

Give yourself lots of time and use a lot of patience as you follow these steps.

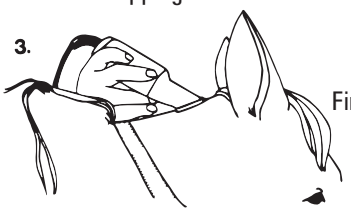
1. Let your horse smell the clippers.
2. Without turning clippers on rub them all over the horse's body.
3. To get the horse used to the sound of the clippers, turn them on and slowly approach the horse.
4. Using the back of the clippers, move the clippers slowly to an area where the horse is least sensitive, for example the shoulder and touch the animal until the horse is comfortable with the vibration.
5. Slowly advance to more sensitive areas making sure the animal is relaxed.
6. Once your horse is relaxed, clip from the least sensitive (legs) to most sensitive areas (ears and muzzle).

A good rule of thumb is to keep the bridle path no longer than the length of the horse's ears laid back against its neck.

If you have difficulty clipping your horse, get experienced help.



Clipping the Bridle Path

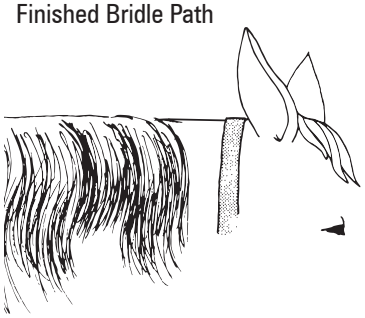


Finishing the Bridle Path

Clipping the Bridle Path

The area of the mane that lies directly behind the ears where the bridle or halter lies is the area that is trimmed to create a bridle path. This is done to make haltering and bridling easier and make the throat latch look thinner. The length of the bridle path depends on why you are doing it, the breed of horse, the length of the horse's neck, and the thickness of the throat latch.

Finished Bridle Path



- Comb the forelock forward, and comb the mane to the side and out of the way.
- Start behind the poll. Using scissors, trim the section you want as the bridle path down to 1 cm (1/2 in) or less.
- Clip the hair in the bridle path down to nearly skin level with scissors or clippers.
- To make the area smoother, clip the hair vertically along the sides of the bridle path.

Trimming the Mane

Use thinning shears to shorten and trim the mane. This will prevent the mane from becoming thicker and unmanageable.

Roaching the Mane (Hogging)

Roaching the mane means that you completely shave the mane except for the wither area and forelock. If you plan to roach or shave your horse's mane, consider that if you grow it out again, it will probably grow back thicker and more disoriented than ever. Be aware that it may take you up to two years to train the new-grown mane to lie correctly.

Clipping the Face

For showing, your horse will look neater if its face is trimmed. Remove the long hairs under the throat and jaw by running the clippers (with the grain of the hair) down the sides of the jaw, cheek, and throat. Clip against the grain under the jaw, cheek, and throat. Try to make the job look as natural as possible. Careful consideration must be given before you trim the eyes, ears, and muzzle. Only trim as much as necessary, as the long "guard" hairs around their eyes and muzzels are used as "feelers" to judge distances and keep them from bumping into things. If your horse lives outside, the hair on the inside of their ears should never be removed as this hair protects the inside of their ears from biting insects and dirt.

Clipping the Legs

Fetlock hairs and heel areas should be trimmed in the spring to keep them from collecting mud and remaining damp which may lead to scratches (greasy heel). Trimming legs also gives your horse a better appearance for showing. Run the clippers (with the grain of the hair) down the sides of the horse's lower legs and under the fetlock. Use a comb to hold long fetlock hairs away from the leg as you run the clippers up the leg. For an extra neat look, trim the hairs that cover the coronary band at the top of the hoof. (Check rules and regulations for your breed before clipping legs.)

Grooming Safety Checklist

Grooming Your Horse	
Safety Tools	**Check**
Inexperienced handlers are adequately supervised until they are competent.	
The handler is sensitive to any discomfort in the horse during grooming. Horses may react and try to pull away if the grooming is too rough. The handler is careful when brushing out knots in mane and tail, grooming over or near a wound, picking at a sore hoof, and so on.	
When grooming a horse for the first time, the handler takes caution when grooming the flanks and belly.	
Cleaning the Hooves	
Safety Tools	**Check**
The handler does not kneel or sit down beside a horse's hoof to clean it.	
Handlers always have an escape route planned and are able to move quickly when working around their horses, especially when cleaning the hooves.	
Handler safety comes first, always. Lifting and picking at a sore hoof requires additional safety precautions like having another handler assist you.	
Bathing Horses	
Safety Tools	**Check**
Inexperienced handlers are adequately supervised until they are competent.	
Small children are kept away from large, open buckets of water.	
Handlers coil up the hose after use.	
Handlers clean up the wash bay area when they are finished bathing their horses.	
If working near other horses, enough space between the horses and handlers is allowed to give everyone an opportunity to work safely.	
Clipping	
Safety Tools	**Check**
The handler is careful with electrical cords that can be a tripping hazard. The horse can step on electrical cords, and possibly cut the cord or become tangled.	
The handler is aware that some horses are skittish and have ticklish areas.	
The handler is aware that accidently nicking or burning the horse will cause the horse to react. The handler is careful with the clippers. The handler has enough room to get out of the way if the horse reacts.	
Biting	
Safety Tools	**Check**
Handlers are aware that some horses bite and take care working around such horses. Have an assistant hold the lead shank if you think your horse will try to bite you when you do up the girth, for example.	

Kicking	
Safety Tools	**Check**
The handler is aware that horses kick. Some horses have been roughly handled and are afraid of being groomed. They will kick out. Handlers are calm and quiet around horses.	
Horse Stepping on Handler	
Safety Tools	**Check**
The handler wears appropriate shoes when working with horses; flip flops and sandals are not sufficient to protect feet!	
The handler always goes behind the horse to get to the other side, not under the belly or in front of the horse.	
The handler always stands to the side when grooming the hind end and tail.	
The handler always securely ties the horse before grooming. The handler does not groom a horse that is loose in a stall or pasture.	
Allergies to Horse Hair and Dander	
Safety Tools	**Check**
Handlers are aware that they could develop or discover an allergy to horse hair and dander. Some allergies show up as allergic contact dermatitis (rash), urticaria (hives), or more life-threatening as an anaphylactic reaction. Anaphylaxis requires immediate medical attention—rashes and hives should be assessed by your doctor or an allergist.	

Use this page to write notes or diagrams.

Chapter 12: Equipment

The basic equipment required for 4-H members is a saddle, saddle pad or blanket, bridle, bit, halter, lead rope, appropriate riding boots, and a CSA riding helmet. The use of other equipment will depend on your horse and the type of riding you do. This manual is designed as a guide and reference on equipment. It is an overview and not a complete definitive document. For areas not covered in sufficient detail, an expert should be consulted.

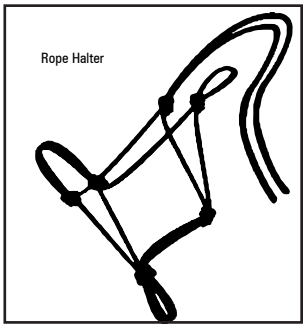
If riding in competitions, it is the responsibility of the rider to check for rules regarding equipment.

When fitting tack to your horse, remember that each horse is an individual and requires individual adjustments. Pay careful attention to make sure your equipment is adjusted properly. It will work better, make your horse more content, and will be safer.

When buying equipment be sure that it is well made of the best materials and fitted to you and your horse. It does not need to be fancy or flashy and it does not need to cost a lot. Good, functional equipment that is well taken care of is what is most important. When buying new tack made of leather, examine the leather carefully. Feeling and smelling the leather can help determine the quality of it. Leather that is well tanned and processed will have a characteristic pleasant smell and will not feel greasy. English (European) and North American leather is most desirable. Leather from India is less desirable because it comes from the hides of water buffalo and is coarser, weaker, and poorly constructed. Don't jeopardize comfort and safety for inferior, lower cost, poorly tanned, and poorly sewn tack.

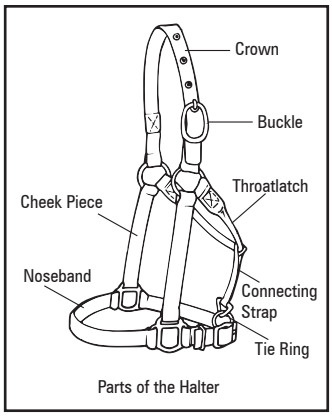
Halter

Some of the strongest halters are the flat nylon web halters, with double or triple strength (thickness) and large, heavy but smooth buckles. Avoid single strength (layer) halters with thin, sharp buckles.



Another strong halter type is the rope halter. The rope halter that is constructed of firm, braided cord rather than limp rope is superior.

Make sure the halter is the right size for your horse's head and fits it correctly. A halter that is too big will be dangerous and one that is too small will rub and irritate your horse.



Parts of the Halter

Adjusting the halter to fit properly will normally require simply adjusting the part that goes behind the horse's ears called the crown piece. This adjustment is determined by the position of the noseband. The noseband should fall approximately five cm (two in) below the bony point of the cheek. If the noseband is too high it will rub and irritate the cheek and the chin strap will be pulled too high under the jaw (restricting jaw movement). If the noseband is too low, it may restrict breathing and your horse may easily rub the halter off. If the noseband and chin strap are adjustable, they should be set five cm or two inches so two large fingers may be placed under the noseband. If the throatlatch can be adjusted, check that it is correct by flexing your horse's nose to its chest. If there is still space, it is correctly adjusted.

Proper fit of the halter
1. about five cm (two in) below bottom of cheekbone and top of halter noseband

2. about five cm (two in) between noseband and jawbones

3. room to breathe

A halter is correctly adjusted and fits if:

- you can fit four fingers (sideways) under the throatlatch;
- there is a two finger (sideways) clearance between the metal buckles on the noseband and the cheekbones; and
- you can fit two fingers sideways between the noseband and the nose.

Lead Shanks

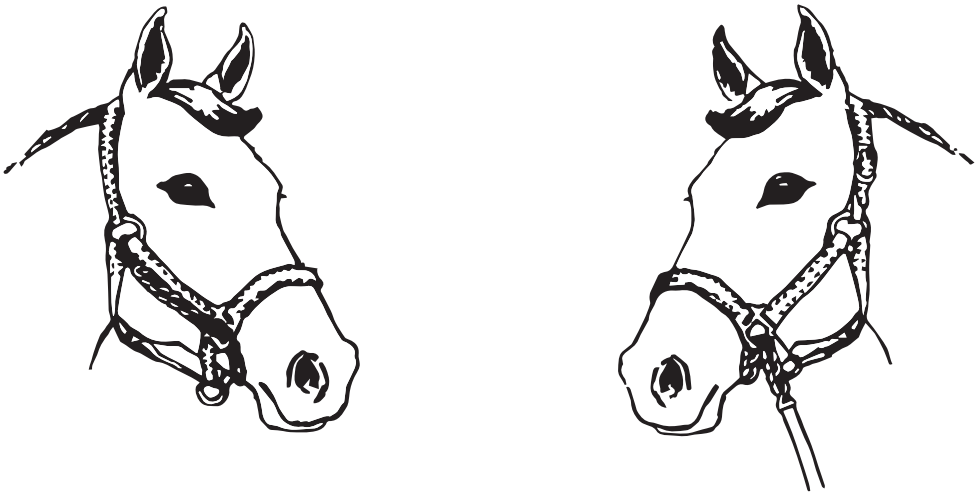
The lead rope should be at least two metres with a spring or trigger clip fitted to one end for fastening to the chin ring of the halter. It is safest to fasten it with the opening facing away from the horse's head. It should be strong so that if the horse pulls, it will not snap. Lead ropes used for everyday should not have a chain on them.

Chains are common on lead shanks used for showing, but are not suitable for daily use. A horse should never be turned out in a pen or pasture wearing a halter. The halter can get caught on fencing or other objects. It also can be grabbed and pulled by other horses.

Proper Use of a Lead Shank with a Chain

Chains on lead shanks may be used for showing or for hard to handle horses, as described below. It is suggested that they only be used if the member and the horse have had the proper training in using a shank with a chain. A chain lead shank may provide additional or enhanced control, but will not be an appropriate aid in forward motion. The horse must be taught to respond to the halter. For training purposes, if the horse is reluctant to move forward, the chain can get in the way. Wait to use a chain until your horse will lead from the halter.

- The chain can be placed under the chin or over the nose. Placing it under the chin is less harsh. To place the chain under the chin, the snap is passed through the left cheek ring of the halter from the outside to the inside, passed under the horse's jaw, though the right cheek ring from the inside to the outside and then up to the top ring on the right side of the halter where it is snapped directly to the ring. The snap should face out, away from the horse. (Note that the chain does NOT pass through the bottom ring of the halter under the horses' jaw.)
- Once the snap is attached, the length of the chain between the handler's hand and the left cheek ring on the halter should be only about 10 cm (four in) long. If it is too long, the chain must be readjusted by unsnapping from the top right ring, passing the snap through this ring and snapping it back on the chain at an appropriate spot or back down to the lower right cheek ring, whichever would make it the proper length for the handler.



To place the chain over the nose, the snap is passed through the left cheek ring of the halter from the outside to the inside, passed over the horse's nose, though the right cheek ring from the inside to the outside and then up to the top ring on the right side of the halter where it is snapped directly to the ring. The snap should face out, away from the horse. Never tie a horse that has a chain over the nose.

To avoid injury to the hand, the handler must **NEVER** hold the chain part of the shank.

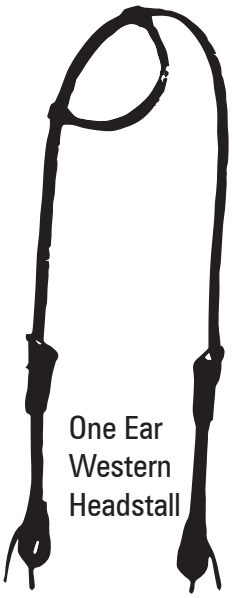
If the chain is too long, it would be best to take some of the links out of the chain to make it the appropriate length.

If the horse or the handler has never used the chain in this manner, it is recommended for 4-H that the member use a shank with just a snap and no chain. Although it is acceptable to use a shank with a short chain no longer than 10 to 15 cm (four to six in) in length with the snap attached directly to the ring under the horse's jaw, the member will not have as much control and the chain could cause injury to the hand. In cases where the chain is too long and is doubled or tripled before snapping it to the ring under the jaw, there is more chance of injury to fingers if the horse pulls back.

Bridle


Western Headstall with Brow Band

Your bridle is an integral part of communication with the horse and as a result demands careful attention. The term "headstall" refers to everything on your bridle except the bit and reins. It should be made of strong leather. The width will be dependent on its use. The crown piece should be smooth and should not pinch the ears. If your bridle has a brow band, it should fit so it holds the crown piece in place but does not pull behind the ears. If your bridle has a throat latch, it should be adjusted to allow three to four fingers (sideways) between it and the jawbone so the horse can flex its neck. There are some differences between Western and English headstalls.

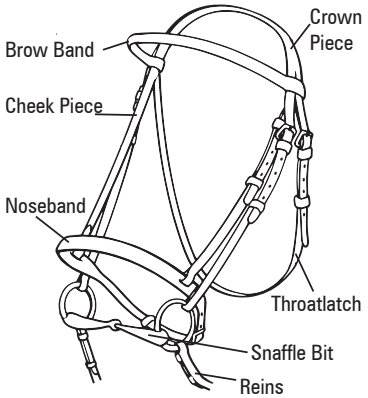

One Ear Western Headstall

The Western Bridle

Western headstalls come in two main styles, brow band or ear bridles. An ear bridle often will not have a throatlatch whereas a brow band always has a throatlatch. Western bridles do not usually have nosebands. Nosebands are not widely acceptable show equipment in Western. Always use a brow band headstall with a snaffle bit to prevent the headstall moving down the neck of the horse or coming off over the ears.

The English Bridle

English bridles always include a throatlatch and a noseband or cavesson. There are several types of nosebands: the plain cavesson, the drop noseband (buckles under the bit), the flash noseband (a plain cavesson with a strap attached that buckles under the bit), figure eight noseband, and others with special purposes. If your bridle has a noseband (cavesson) it should be positioned two fingers below the cheekbone and adjusted one to two fingers between the noseband and jaw.



English Bridle

It is important to remember that no matter what bit you choose to use with your horse that it will be as mild or severe as the hands that are using it.

Bits

Bits can be divided into two main groups:

- non-leverage bit (snaffle); and
- leverage bit (curb).

The most common non-leverage bit is the snaffle bit. It is characterized by a direct connection from the bit through the reins to the rider's hands. There are no shanks and as a result no leverage. Any pressure applied through the reins applies the same pressure to the pressure points.

O or Loose Ring Snaffle

The Snaffle Bit

Snaffle bits are used extensively by both English and Western riders. Snaffles vary widely in design and material, but do have common features which include a mouthpiece that can be either jointed (either one or two joints) or solid, with a ring at each end to which the reins are attached. A snaffle bit is used with a rein held in each hand.

- The different basic rings available include the:
  - loose or O-ring
  - D-ring
  - eggbutt

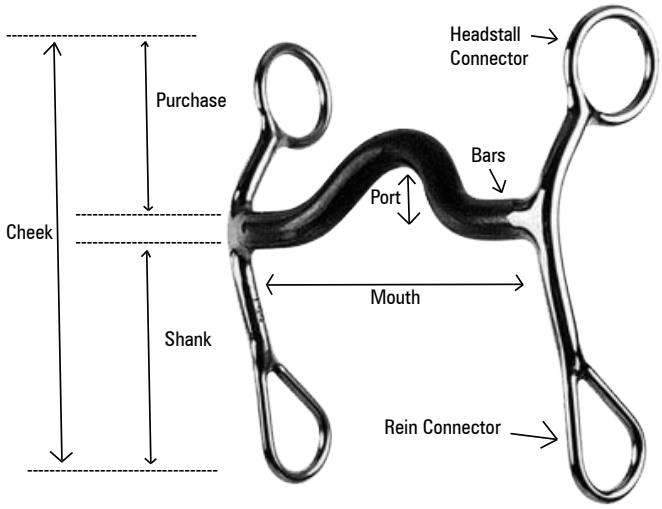
D-ring Snaffle

Egg-butt Snaffle

- In general, snaffles are mild with severity determined by the smoothness and thickness of mouthpiece. The thicker the mouthpiece, the milder the bit.
- The more common and acceptable mouthpieces have a single joint and a smooth mouthpiece.
- A Western snaffle's rings may be larger than is acceptable in English, but not usually.
- Western riders are required to use a leather chin/curb strap with a snaffle to prevent it from pulling through the horse's mouth.
- English riders do not use a chin strap on a snaffle because they use a cavesson so the horse cannot open his mouth wide enough for the bit to be pulled through the mouth.

Anatomy of the Bit

The purchase is the height of the bit from the mouthpiece to the top of the bridle hanger. The shank length is the distance from the mouthpiece to the rein connector ring. The leverage ratio of any bridle is the shank length divided by the purchase length. The higher the ratio, the more leverage associated with the bit.



Western Leverage Bits

Leather Curb Strap

Chain Curb Strap

Western Low Port Bit

Leverage Bits

A leverage bit is any bit with a shank regardless of mouthpiece. Often called the "curb" bit, the leverage bit is available in literally hundreds of shapes and numerous combinations of mouthpieces and shanks. It may have fixed or swivel shanks.

Just as the snaffle can have a variety of shapes of mouthpieces, so can the leverage (curb) bit. They can have either a jointed or solid mouthpiece. They must have a "curb strap" that can be made of leather or chain with leather at both ends which attaches to the bit and must lie flat under the horse's chin. It is usually attached to the same ring as the bottom of the crown piece on the headstall.

The curb bit should rest on the bars of the horse's mouth. The bit should be adjusted high enough that it causes one or two wrinkles at the corner of the horse's mouth. If it is higher, it will pinch, and if it is lower, it will bang against his teeth.

The pressure points for the leverage bit include the chin groove, the tongue, the bars, and to a lesser extent the lips of the mouth and the poll. Depending on the mouthpiece design, the palate (roof of the mouth) may also be a pressure point. If the mouthpiece has a port that exceeds 2.5 cm (one in) in height it may contact the palate. Palate pressure is relative to port height and the individual physical characteristics of the horse's mouth.

Curb with Roller

Types of Mouthpieces

Leverage bits can be divided into two general categories:

- jointed mouthpieces; and
- solid mouthpieces.

A Typical Jointed Curb Bit

A Finish Bridle with Solid Mouthpiece and Solid Shanks

Jointed Mouthpieces

Jointed mouthpieces have one or two joints and typically have loose (swivel) shanks. This type of bit provides a good transition from the snaffle to a leverage bit. The movement of the mouthpiece and the shanks allows the rider to promote lateral flexibility and assist the horse with one hand on each rein when necessary.

Solid Mouth Pieces

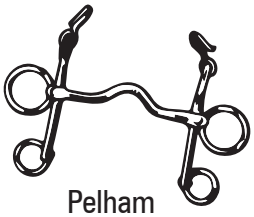
Solid mouthpiece bits generally are employed as a final finishing bit for a fully trained horse. A solid mouthpiece with fixed (non-swivel) shanks tends to promote straightness in the horse from head to tail. It reduces lateral flexibility and is not designed to be used as a two handed device.

Western Spade Bit

Kimberwick

English Leverage Bit

The kimberwick and the pelham are English leverage bits. They have slots on the rings to attach the headstall and hooks to which a curb chain needs to be attached. A pull on the reins creates a short lever action through the rings themselves to the curb chain, applying pressure in the chin groove. These bits are designed to be used two handed.



Pelham

The bit you use should be light and as mild as possible to maintain control of your horse. Do everything possible to keep your horse's mouth soft and responsive, remembering that the best methods of communication with your horse are the simplest and least harsh. Your horse will work much better for you if the bit is not severe. A thick snaffle is the softest bit you can use.

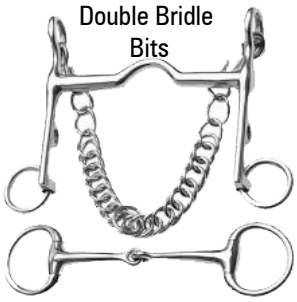
Mouthpiece Materials

Bits are made of a wide range of materials including plastic, rubber, steel, and leather. Stainless steel and sweet iron (steel with a high iron content) are common materials. Many have a copper inlay. Both sweet iron and copper promote salivation making the bit more comfortable in the horse's mouth. This in turn promotes the relaxation and compliance required for training and advanced riding.

Fitting the Bit

Be sure the bit is the correct size for your horse. The bit you use should match the width and depth of your horse's mouth. Open your horse's mouth to see if it has a shallow or thick tongue. While a thicker mouthpiece would be milder, it would cause discomfort on a thick tongue. To measure for width, stretch a string across the inside of your horse's mouth. At the corners, tie a knot where the mouthpiece would exit. You can then take this string with you to help you size up the right bit, when purchasing one.

A standard Western bit is measured in inches. A bit is five inches wide and comes in a variety of thicknesses. The thickness is measured one inch in from the butt (where the mouthpiece joins the shank). Common thicknesses range from 5/16 inch to ¾ inch. Choose one that fits comfortably in your horse's mouth and gives you control.

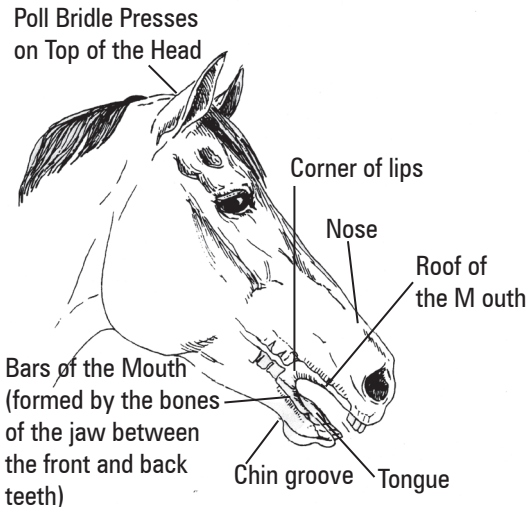


Double Bridle Bits

See that you can put one finger on each side of the horse's mouth between the mouth and ring shank. Then adjust the cheek piece to the proper length. There should be no more than one small wrinkle in the corner of the lips when the bit is properly fitted. If the bit is too low it will contact the horse's teeth and provide discomfort. If the bit is too high, the horse will be uncomfortable from the constant pressure of the bit being pulled up against the lips. Adjust the cheek pieces to raise or lower the bit. Once a leverage bit is properly adjusted the curb strap should be adjusted with enough slack to allow two fingers stacked between the strap and the jaw.

The Mechanics of the Bit

Check your bit often to see that it is not developing sharp edges on the joints that could cut or pinch your horse.



The bit is designed to put pressure on the sensitive parts of the horse's mouth. There are four main pressure points (M) involving the bit and two secondary ones (S).

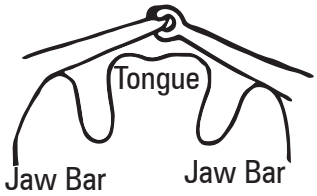
- tongue pressure (M);
- bar pressure (M);
- palate pressure (roof of the mouth) (M);
- curb pressure (chin groove) (M);
- lip pressure (S); and
- poll pressure (S).

Tongue Pressure

All bits put some downward pressure on the tongue. The tongue of the horse is as sensitive as our own tongue. A straight bit exerts more pressure than a jointed bit and a ported mouth can decrease the pressure on the tongue. Tongues vary in thickness so you must consider thickness when choosing a bit. The width of the port also determines the amount of tongue pressure.

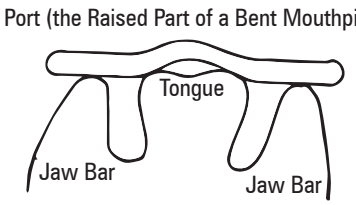
Bar Pressure

The bars of the horse's mouth are the space on the lower jaw between the incisors and the molars where the bit rests. Every bit acts on the bars of the mouth. The thickness and smoothness of the mouthpiece determines the severity of the action on the bars. The thinner (smaller diameter) and more twisted the mouthpiece, the more aggressive the effect.



Palate Pressure

The palate is simply the "roof" of the mouth. The height of the port and the angle of the port are the two major criteria that affect palate pressure. The physical characteristics of an individual horse's mouth dictate what height of port will provide palate pressure. Bits that exceed one inch in height can contact the palate.



Curb Pressure

The chin groove lies just behind the bulge of the chin under the jawbone. A curb chain or leather curb strap attached to pelham or curb bits fits across the chin groove. Pulling the reins backwards makes the bit rotate forward on the mouth of the horse and tightens the curb strap or chain. As the horse softens his jaw to pressure, the curb strap becomes less tight and hence the reward for the correct response. A leather curb strap is less aggressive than a chain curb strap. The construction and dimensions of all curb straps is subject to various allowances. Check the competition rules for those restrictions.

Lip Pressure

All bits put pressure on the horse's lips at the corners of the mouth where the lips meet.

Poll Pressure

Leverage bits exert pressure on the poll when the bit rotates in the horse's mouth and pulls down on the headstall. This is a minor pressure point.

Bits and Bit Progression

A Training or Behavioural Problem is not Fixed With a More Severe Bit

A snaffle bit is a non-leverage bit used to teach your horse the basics or for a tune-up if a horse has been allowed to become unresponsive.

With the snaffle, the rider should be able to control the horse at all three gaits, halt, back, and flex both laterally and vertically. For Western riding, when we are easily able to do this in a snaffle, we advance to a leverage bit so we can gradually do all of the above with one hand. (For English riding, riders will still use a rein in each hand for most movements). The leverage bit will provide a lighter contact and initially two hands may be necessary to help the horse make the transition from snaffle to leverage bit.

If you are having trouble with the basics, there is a hole in your horse's education and you need to go back and train or retrain with the snaffle. When you do advance to a leverage bit, the jointed mouthpiece with swivel shanks should make the progression easier. Obviously the shorter the shank, and the smaller the ratio of the length of the bit above the mouthpiece compared to the length below the mouthpiece, the less severe it will be. The jointed mouthpiece also allows us to still ride with two hands when necessary and assist the horse in understanding the required response. Once the horse is comfortable with the jointed mouthpiece leverage bit, a further progression may not be necessary.

Reins

There is a variety of reins used in riding depending on the discipline and show guidelines. Always choose a size that feels comfortable in your hands and that gives you more control and contact with your horse's mouth. In general the smaller the rider's hands, the narrower the reins should be.

English Reins

All English reins buckle to the bit at each side and to each other in the middle.

- **Plain Reins**—are flat leather straps which are comfortable to use, but can become slick from rain or sweat.
- **Laced Reins**—are constructed of thin leather strips laced through and around the strap of the reins for a better grip.
- **Web Reins**—come with either a horizontal loop of leather at intervals or rubber incorporated for grip. They are used in wet weather when leather reins would become slippery. They are made of cotton web with leather at the bit and buckle ends.
- **Rubber Reins**—are covered with a pebble surface over the hand grip portion to provide a secure grip.

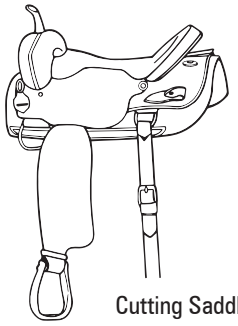
Western Reins

- **Split Reins**—are the most commonly used rein for Western riding, designed with two separate straps that are attached to the bit at one end and left unattached at the rider end.
- **Romal Reins**—are one continuous rein with a long quirt attached in the centre. The quirt was originally designed for moving cattle, not for whipping the horse. These reins are usually made of braided rawhide and are also known as California Reins.
- **Roping or Single Reins**—are usually one continuous strap attached to the bit with a snap on one or both sides.
- **Mecate Reins**—are used with a bosal or snaffle bit. These reins are made of horsehair or rope (approximately 6.7 metres or 22 ft long) of which three metres (10 ft) are made into a continuous (round) rein, leaving 3.6 metres (12 ft) on one side to use as a lead.

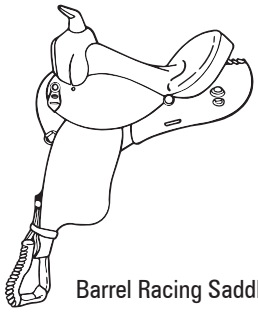
Saddles

Your saddle is an important piece of riding equipment and should be a help to any kind of performance. There is a variety of saddles that may be used when riding. The type will depend on the style of riding and the intended purpose.

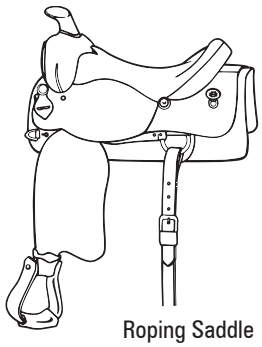
The saddle should fit the horse on which it will be used. Horses with high withers or mutton withers may require special fitting. The saddle should be comfortable for the horse as well as the rider.



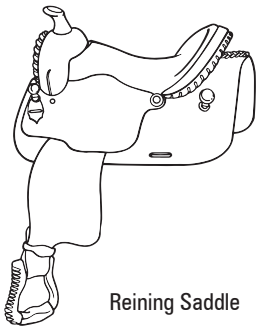
Cutting Saddle



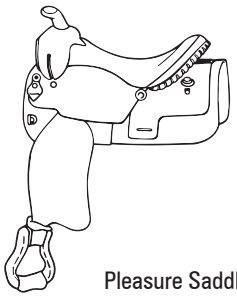
Barrel Racing Saddle



Roping Saddle



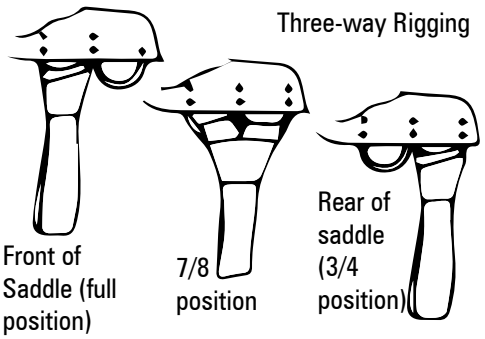
Reining Saddle



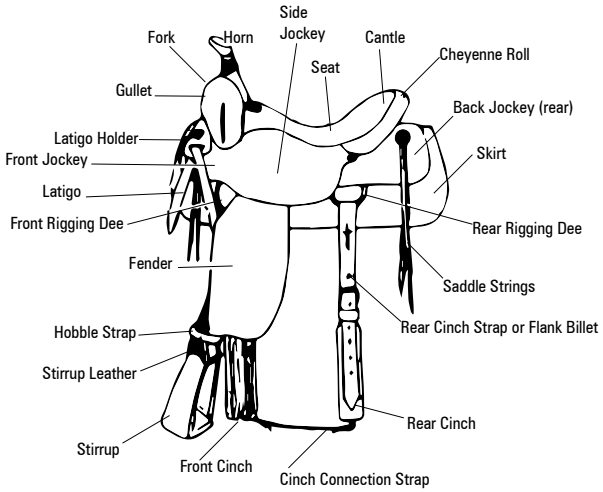
Pleasure Saddle

Riggings of Western Saddles

Western saddles are usually, but not necessarily, double-rigged (two cinches). The positioning of the front cinch is relative to the swells or pommel. This positioning indicates full, 7/8, or 3/4 rigged saddles. The type of rigging depends on the horse's conformation and the primary usage of the saddle. Full rigged saddles tend to place the horn over the centre of balance of the horse (which can be useful for roping) while 3/4 rigging tends to place the rider over the centre of balance of the horse. The rigging position can influence the stirrup leather positioning. For general recreation and performance the stirrup leathers should be in a position that enables proper equitation posture. Roping saddles usually do not have such positioning.



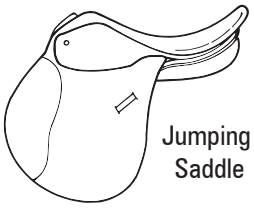
Parts of the Western Saddle

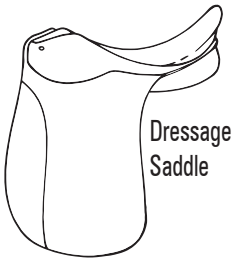


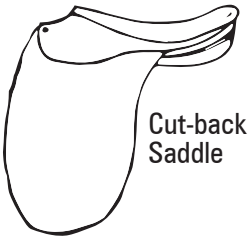
Types of Western Saddles

- **Cutting Saddle**—Longer seat than a general saddle, seat is flatter, cantle is higher, horn is long and slim.
- **Barrel Racing Saddle**—Seat sized for actual rider, cantle is wide and sloped, horn is similar to cutting saddle.
- **Roping Saddle**—Deeper seat, cantle is higher, horn is tall enough and stout enough to hold a rope, fitted to rider for correct comfort and position.
- **Reining Saddle**—Seat is deeper, cantle is higher and wider, horn is lower to moderate height.
- **Pleasure Saddle**—More middle of the road, moderate seat, moderate horn, moderate cantle, fitted for average riders. There are two types of pleasure saddles—recreation and show pleasure.


English All Purpose Saddle


Jumping Saddle

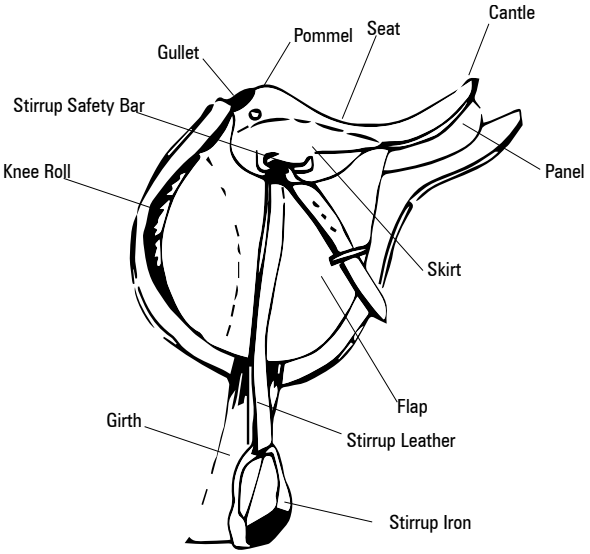

Dressage Saddle

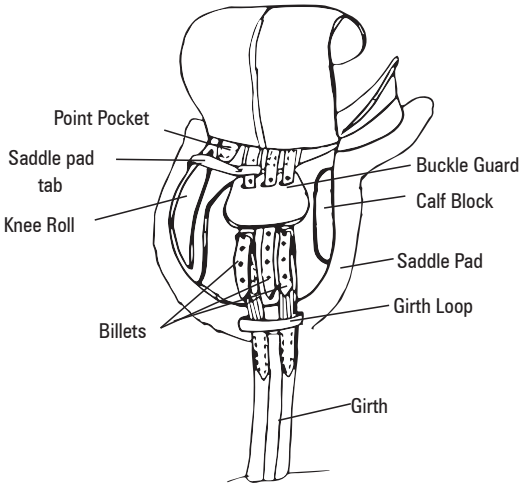

Cut-back Saddle

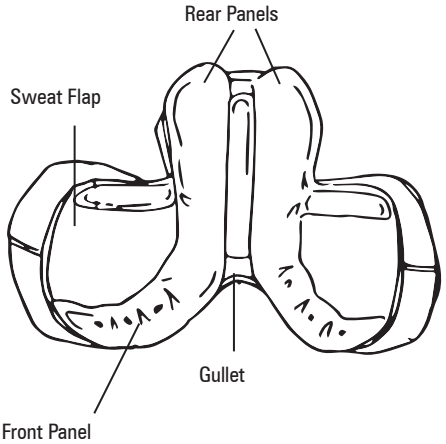
English Saddles

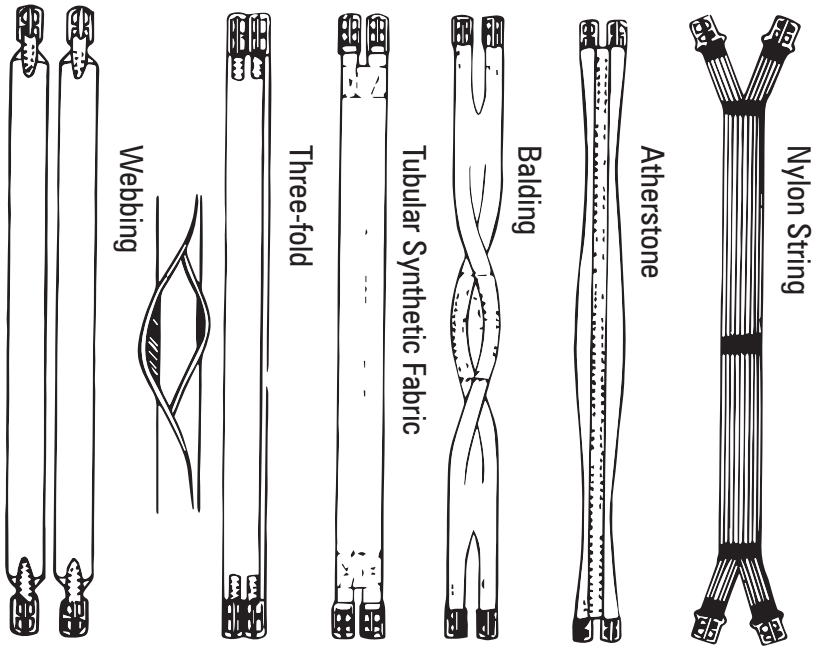
- **All Purpose**—allows the rider to use the same saddle for all kinds of riding. The all purpose seat is probably the best English saddle for the novice as it is the most versatile.
- **Jumping or Forward-seat**—sets the rider forward, well over the centre of balance of the horse. These saddles are meant for jumping and may have heavy knee rolls which give the rider maximum security. Close-contact forward-seat saddles eliminate the bulky knee roll.
- **Dressage**—has a deeper seat with leathers positioned under the deepest part of the seat. This allows the rider more exactness of leg position for riding a highly schooled dressage horse.
- **Cut-back**—used on gaited horses as well as Morgans and Arabians, which move with much animation or lift of the legs. This movement, combined with an arched neck and head set, tends to move the centre of balance of these horses somewhat further back from where it is normally found.

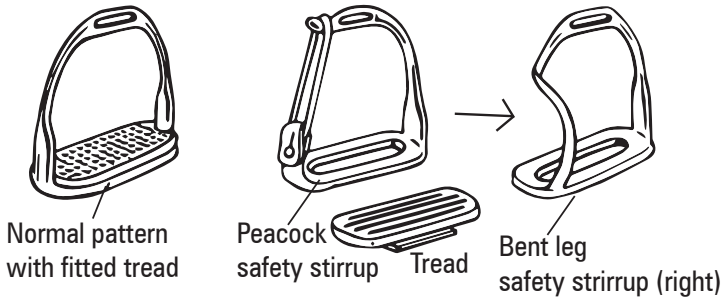
Parts of the English Saddle











Fitting a Saddle to a Horse

A sore horse is often difficult to detect. Often the signs are ignored, with the rider believing instead that the horse has developed an attitude, when in fact this change is caused by pain. Shortened strides, switching tail, pinned ears, nervousness, and an otherwise mentally preoccupied horse may be signs of poor fitting equipment.

Whether English or Western, a well-fitted saddle:

- is neither too wide, nor too narrow for the horse's shoulders or back;
- does not touch any part of the horse's backbone;
- rests evenly along the horse's back, with no concentrated areas of pressure; and seems comfortable to the horse.

After considering all the factors that affect saddle fit, you must test models on your horse. Set the saddle, without any pads, on your horse's back and check it from the front and the rear. Test that the gullet completely clears the horse's backbone by inserting a long whip through the gullet, from the withers toward the croup. The whip should slip easily through this channel, between the bearing surfaces. Check the saddle's length. Look for the seat to sit level from back to front. The deepest part should remain in the saddle's centre and the pommel and cantle should measure, the same height. If the pommel is considerably higher it will tend to shift the rider's weight too far back.

Using appropriate padding can help a saddle fit a horse properly. If the saddle is too high in the pommel/horn area, put padding under the back of the saddle, being careful that the front of the saddle does not come down and rub the horse in the wither area. If the saddle is low in the front and is rubbing the horse on the withers, use a wither pad under the front of the saddle. Caution must be exercised. Padding cannot compensate for a poorly matched saddle and horse.

Fitting a Saddle to a Rider

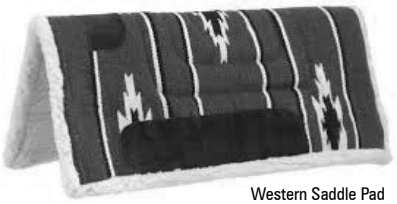
Once you have chosen models that fit your horse, choose one that fits you. First, determine the size of seat you need. While mounted in the saddle test if you feel centred. You can check the seat size by placing your hand behind your seat. See if you can fit four fingers between you and the cantle; more or less room may indicate a poor fit. Saddles come with varying widths to the seat which can make a big difference to a rider's comfort. A seat that is too wide can be fatiguing to the hips and thighs but may be necessary for riding a wide horse. An extremely narrow seat can feel as if you are riding a rail. Choose the saddle that feels comfortable to you. One way to determine if a saddle is right for you (assuming it is right for your horse) is to take your feet out of the stirrups while riding and jog your horse for at least 10 minutes. A Western fit includes about two fingers between thighs and swells if the stirrups are adjusted properly.

Choose:

- a saddle designed for your purpose if possible (reiner, barrel racer, roper, pleasure, etc.);
- a seat length that positions you as close as possible over the horse's centre of gravity (seat length);
- a seat shape that is made to accommodate your build;
- use a video or mirror to look at how the saddle positions you. Get the advice of a knowledgeable horse person;
- you must sit with a straight pelvis to maintain strength. If your pelvis rotates, your back curves and your shoulders roll ahead, and then you brace against the cantle;
- you should feel like you are sitting in the saddle and not on the saddle; and there should be full contact from your crotch down through your thigh (and you should not be able to place your hand under any part of your upper leg).

Saddle Blankets

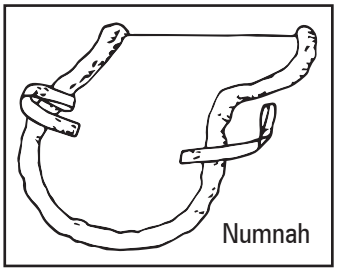
Saddle blankets or pads are used to protect the horse's back. They also keep the lining of your saddle clean and absorb moisture. Western saddles are heavier, therefore a thicker blanket is often needed. Some saddles may require additional blankets or pads. The use of two Navajo wool blankets is very common in western riding. Blankets or pads made from natural fibres (such as felt or wool) work better than synthetic fibres, but they are more difficult to clean and manage.



Western Saddle Pad

Depending on the type of riding done, English saddles will require a full pad (dressage), or a numnah that follows the shape of the saddle.

Both the pad and numnah must be pulled well up into the front arch of the saddle to avoid pressure on the withers. It may be attached to the saddle before tacking up.



Numnah

On Western saddles, consider the length and depth of the saddle skirts. The saddle pad should extend at least 2.5 cm (one inch) both front and back.

Riding Equipment for the Rider

Do not wear running shoes! Boots are the safest. Boots should be high enough to support the ankle and should have a heel so that the foot cannot slip forward through the stirrup. The sole should be smooth and rigid for comfort and protection.

Wearing a helmet with a chin strap can reduce injury (please see the safety section at the end of this chapter).

Wear an Approved Riding Helmet!

English riders wear pants that are stretchy with no inseams, which permit enough freedom of movement to ride comfortably. Jodhpurs cover the legs to just below the ankles and are worn with jodhpur boots. Breeches are worn with tall riding boots. Jodhpurs and breeches are made of stretchy material; light colours are worn in the show ring, dark colours are worn for practicing at home.

Riding apparel should be comfortable and not too tight to restrict mounting. Do not wear anything too loose or that dangles (including jewelry) that could spook the horse or get caught on something.

Western riders wear jeans or dress pants.

The rider's equipment for competitions is sometimes governed by regional or individual show rules. Check these carefully before any competitions.

Care of Equipment

Storage

All equipment should be stored where it will remain dry and out of the sunlight. Check equipment regularly for deteriorating threads, weak glue, and any screws or bolts that are coming out.

Cleaning Saddles

Clean your saddle with a damp, not wet, sponge to get all the dirt and salty sweat off. If there are little black patches of greasy dirt called jockeys, scratch these off with a fingernail or a plastic pot scrubber, but nothing more abrasive.

Work glycerine saddle soap well into another damp sponge. If you get a lather you are using too much water. Work the saddle soap into all the leather, paying particular attention to the undersides of the flaps and other parts that touch the horse. Use lots of saddle soap and elbow grease. If the saddle has gotten wet or feels stiff, oil it using a product like Lexol or neatsfoot oil before using the saddle soap. Pay particular attention to the underside of the leather where water is more easily absorbed.

On English saddles remove the stirrup leathers to clean and oil them. On Western saddles pull the stirrup leathers down a few inches so you can reach in and oil the bend where the leather grips the tree. Do not use saddle soap or oil on suede leather. English saddles should be examined often to see if the stuffing is going flat and making the saddle uncomfortable for the horse's back.

Cleaning Headstalls and Bits

Clean the leather headstall or bridle the same way as the saddle. Ideally, both saddle and bridle should be cleaned every time you ride. The bridle, breast collar/breastplate, martingale, leather girth, and any other leather piece of tack that lies directly on the horse's skin must be cleaned often because they pick up dirt, grease, and salt, which stiffens and cracks the leather. Saddles usually have a pad under them and do not get as dirty. Nylon bridles can be washed in the clothes washer with saddle pads and cinches. Rinse well!

Cleaning Saddle Blankets or Pads

Clean blankets are important to protect the horse's back and prevent the spread of disease. When you wash blankets, be sure to remove all of the soap because it can irritate the horse's back during the next ride. Not all pads are washable, so brush or vacuum them to remove hair and debris, or take them to the drycleaner.

Commonly Used Equipment

The following are commonly used equipment that are often integral in training the horse. Always confirm that local rules allow the use your equipment. Rules governing acceptable equipment vary.

Bell Boot

Skid Boot

Splint Boot

Bell Boots

These are bell shaped and consist of rubber circle that fits the horse from the pastern down over the hoof. They are worn on the front feet to protect the horse from stepping on its heels or from grabbing a front shoe and pulling it off if they overreach. This type of boot is often used on jumping and gymkhana horses. Overreach boots serve the same purpose as bell boots, but are made of different material.

Skid Boots

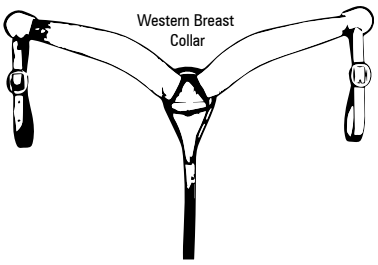
These protect the fetlocks of the rear legs from hard ground and friction burns when a horse is doing sliding stops, roll backs, and spins.

Splint Boots

These are used on the front legs to protect the splint bone from accidentally being hit by the other front foot. This type of injury can happen when horses are spinning, working in circles (lunging), or being trained. Some types of boots provide not only protection but support for the ligaments and tendons.

Breast Collar

The breast collar is used for some Western riding and for speed events. It helps to balance the saddle in tight turns and keeps it in place during fast acceleration and uphill climbs. It should be v-shaped, as this does not restrict breathing, with the center part attached to the girth. Each end of the breast collar is attached to the D-rings on the saddle.



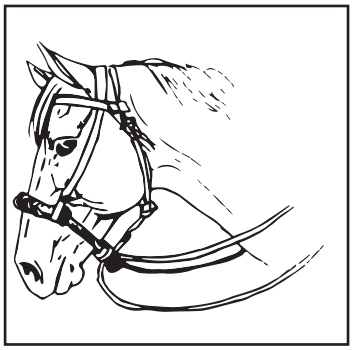
English Breastplate

The breast collar in English riding is called the breastplate. It is used to prevent the saddle from sliding back when the horse is moving fast or jumping. It is also helpful for keeping the saddle in place on a round backed horse. Some English and Western breastplates have martingale attachments (see below, for Martingale).

Blankets

Blankets are used to keep horses warm in winter and clean when washed and groomed for a show. Sweat sheets and coolers keep horses from getting chilled when they are sweaty and the air is cool. Summer sheets keep horses' coats from burning in the sun and help keep the flies away.

To figure out the size of blanket your horse wears, measure him from the centre of his chest, along the side of his body, straight back to the middle of his tail. If the measurement you get is an odd number round it up. For example if the measurement is 77 inches then round it up to 78 inches.

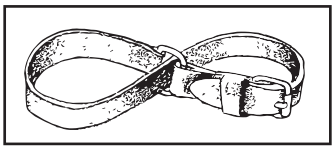


Bosal (or Hackamore)

The rawhide bosal (hackamore) is acceptable for use by 4-H members on a young horse. It is designed to be used with two hands.

The bosal (hackamore) is much the same as using a snaffle bit in that it will not injure the horse's mouth. When the headstall is properly adjusted the bosal should rest on the horse's nose about nine cm (four in) from the top of the horse's nostrils. The back part of the bosal should hang at the base of the cheekbones. It should also permit the passage of two fingers held edgeways between it and the jaw. Hackamore reins are usually held in two hands.

The mechanical hackamore is not recommended because it is very different and more aggressive than the bosal. In competitions, check the rules for specifications regarding the use of hackamores.



Hobbles

Hobbles are a rope or leather strap used to tie the front legs together to restrain a horse's movement. Horses are often broke to hobbles when they are trained to ride. They are used to train the horse to stand or to graze a horse outside a pasture without being tied. They can be useful for a horse that paws the ground, trailer, or feed tub.

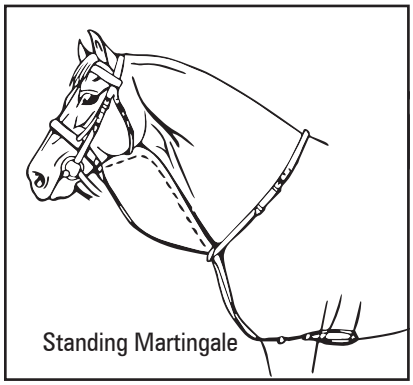
Horses that are used to them are also less likely to panic if they become tangled in wire or rope. Get the help or direction of an experienced horseman when hobbling your horse for the first time.

Lunge Line

A lunge line is an eight to 10 metre rope or web strap used for working the horse in a circle around you (lunging). Two lunge lines may be used for ground driving a horse. It is safer not to put your hand through the loop at the end. It is safer to remove the loop at the end by cutting the stitching or knotting.

Martingales

Martingales and tie-downs are schooling devices that can be used as needed and taken off when the problem has been corrected. They should be adjusted so that they come into play when the horse's head comes out of the correct position. Check the rules to determine if martingales are allowed in a competition you enter.



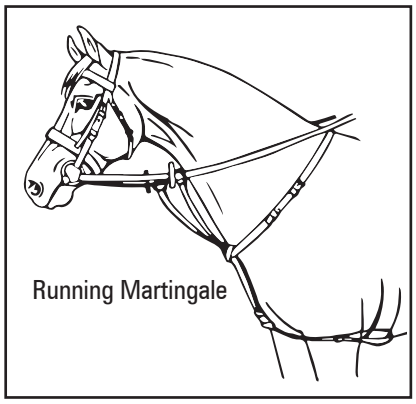
Standing Martingale

Standing Martingale

The standing martingale consists of a strap running from the noseband through a neckstrap and down between the front legs to the girth. It should act when the head is too high. Standing martingales must only be used with a cavesson noseband to avoid restricting the breathing or damaging the nose. Many Western riders refer to the standing martingale as a "tie-down."

Running Martingale

The running martingale branches off towards each side of the bit from the neck strap. These branches end in rings through which the reins pass, helping to stop the horse from raising his head too high or throwing it from side to side. Rein stops (small rubber clogs that the reins slide through) should be fitted to the reins to prevent the martingale rings from catching on the buckles near the bit and making it impossible to release pressure.


Running Martingale

Quirt

This is a small whip used to discipline the horse.

Side Reins

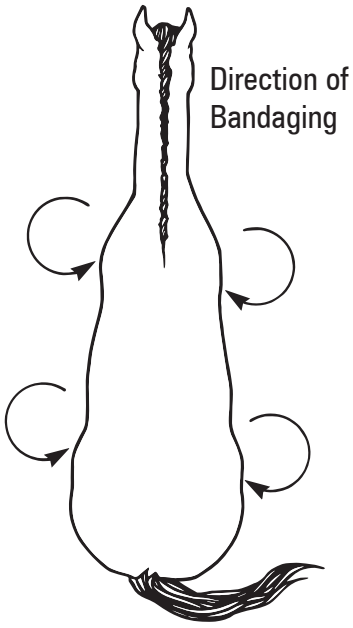
Side reins are a training tool used with a snaffle bit. They are long leather or web straps that attach on each side of the horse to the saddle and the bit. They teach the horse to give to the bit and flex over the poll and back. Side reins are only used when lunging. When starting out, side reins should fit very loosely and be gradually tightened as the horse responds to them and builds up neck muscles. They should never be tightened so much that they force the head into position.

Leg Bandages

Leg bandages are often used for support or protection. There are a variety of bandaging materials available for use. Not all competitions allow bandages in the show ring.

Applying a Leg Bandage

When bandaging:



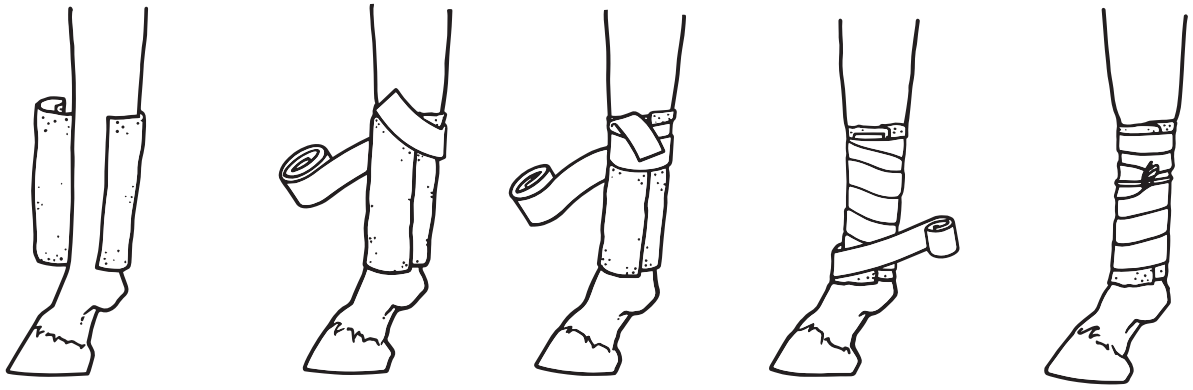
- The horse's legs should be completely dry before bandaging. Never apply a wet bandage as it may tighten and cause swelling or chafing.
- Bandages must be put on clockwise on the right legs and counter clockwise on the left legs (inside out, front to back). For a stable bandage, apply the cotton or quilt at the back of the leg (edge of the cannon bone) just in front of the tendons. Wrap around the leg, making sure the ending edge of the quilt is not over the tendons. Tuck the end of the outer wrap under the edge of the quilt and begin applying the bandage. Work your way down to within one cm of the bottom of the quilt (down over the fetlock,) then begin working up to within one cm of the top of the quilt (just under the knee or hock). The tension of the wrap should be even, so time your pull towards the back at the same place for each wrap.

- Bandages applied below the fetlock joint are used for first-aid or for when the horse is not exercising. Bandages applied for support during exercise should not be applied below the fetlock joint because they would interfere with the movement of the joint.
- Apply bandages firmly enough that they will not slip or move around, but not so tight that they restrict circulation. You should be able to slip a finger easily under the quilt.
- The same person should bandage all the legs on a horse to ensure that all legs are bandaged with equal tension.
- Padding is used under shipping and stall bandages but not under exercise bandages.

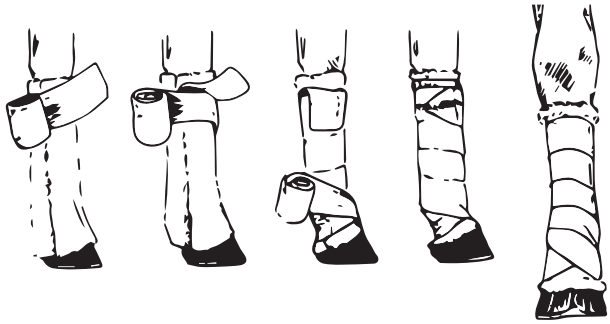
Types of Leg Bandages

Exercise—Exercise wraps are used when the horse is being ridden or lunged to help support and protect the lower leg. Fleece polo wraps are available in a variety of colours. The exercise bandage should be applied from below the knee/hock to the fetlock. Do not wrap too low on the fetlock. **Secure (tape) exercise bandages well so they do not unravel and trip your horse.**

Stable—A stable bandage is used when a horse is being kept in a stall overnight or for first aid. It often prevents "stocking up." A long stable wrap should only be used with a quilted pad underneath.



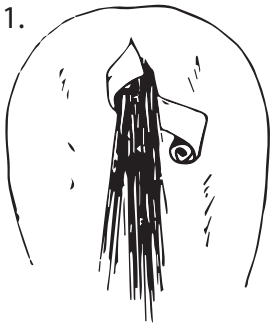
Hauling (shipping)—This type of bandage is used for support and protection while the horse is being hauled in a trailer. A thick quilted pad that covers from below the knee/hock to below the coronet band on the front and hind legs is under the long wrap, which is at least 3.6 metres (12 feet) in length.



Tail Wraps

If you want to protect your horse's tail from getting dirty or being rubbed, you can apply a tail wrap. These are made from knit or rubber-backed material like the neck sweat, or similar to a leg wrap. A knitted leg wrap will also work. The tail bone is wrapped to protect the bone and the tail hair from damage when you are trailering. Do not put a tail wrap on too tightly.

1.



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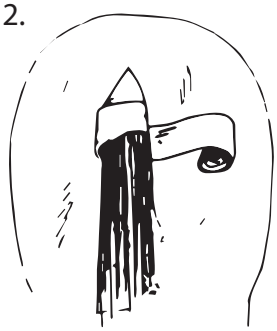

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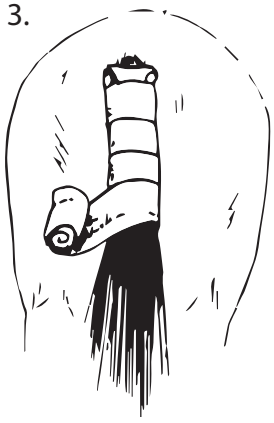
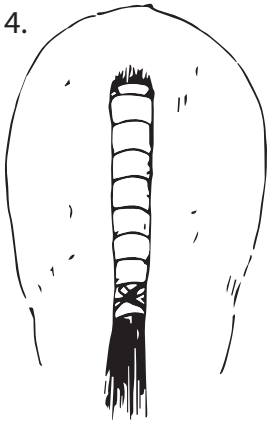


1. Lightly dampen the tail hair with a brush. Do not wet the bandage as the material may shrink thus injuring the tail by cutting off circulation.
2. Put your left hand under the tail, unroll about 20 cm of bandage; and place this spare piece under the tail, holding its end in your left hand and roll the bandage in your right hand.
3. Keep your left hand on the root of the tail until the spare end is secured. The first turn is often difficult to keep in place, try making the next turn above the first. Put pieces of hair into the wrap to prevent slippage.
4. Unroll the bandage evenly around and downwards, stopping just above or below the tail bone.
5. Tie the tapes neatly - no tighter than the tension of the bandage.
6. Tuck in the spare ends, then bend the tail back in a comfortable position.

4.



5.

Equipment Safety Checklist	
Equipment – General	
Safety Tools	**Check**
Ensure all equipment is clean and in good working order with soft, supple leather, and stitching and buckles in good repair.	
Helmets	
Safety Tools	**Check**
You take time in assessing how a helmet fits before you buy it. (If your helmet doesn't fit well, you may not be so inclined to wear it or may take risks by not wearing it.) A properly-fitted helmet will feel comfortable on your head; helmet on—every time, every ride.	
An equestrian helmet sits on the head at an angle parallel and about 2.5 cm above the eyebrows. It sits comfortably on the head; chin straps are secured and fitted snugly under the chin. The helmet does not move around on the head and is not so tight that it causes headaches. You have bought a helmet size that fits you perfectly now, not one that you might grow into.	
Helmets are worn during groundwork, too.	
Use the right helmet for the task. An equestrian helmet is designed for riding horses; you do not use a bike helmet, hockey helmet, or ATV helmet.	
Your helmet is replaced every five years or after a serious impact event.	
You inspect your helmet before each ride, clean it after use, and store it in a warm, dry area where it cannot fall.	
Saddle Fitting for Horse and Rider	
Safety Tools	**Check**
Your saddle fits both the horse and you. If it doesn't, it can cause rubbing, blisters, and bruises on the rider's legs and pelvic areas, and saddle sores or a sore back for the horse.	
Riding Boots	
Safety Tools	**Check**
Your riding boots have a heel that prevents your foot from going through the stirrup, and they also provide leg protection. You may choose to protect your legs by wearing half-chaps if your boots are ankle-high paddock boots.	
Eye Protection	
Safety Tools	**Check**
If you wear sunglasses, they are shatterproof, and if you wear eye glasses, these also are shatterproof.	
Care of Equipment	
Safety Tools	**Check**
You wash your tack daily with water to check for worn areas, cracked leather, or stitching coming undone.	
When you notice a worn area, you have the tack repaired before you use it again.	

Applying Leg Bandages	
Safety Tools	**Check**
You stoop or crouch down beside the horse, but never sit on the ground. Handlers are able to quickly move back if the horse decides to move or contest the treatment.	
You have all required equipment within reach.	
Inexperienced handlers are adequately supervised until they are competent.	
Leg wraps are applied properly and secured with strong Velcro, pins, or tape. A bandage that is loose can unravel and be a danger to the horse and rider/handler.	
Tail Wraps	
Safety Tools	**Check**
Inexperienced handlers are adequately supervised until they are competent.	
All required equipment is within reach.	
When wrapping the tail, you stand off to the side a bit, instead of directly behind the horse.	
You work with enough pressure that the horse knows you are there; remember they can't see directly behind themselves.	

Use this page to make notes or diagrams.

Chapter 13: Groundwork

Approaching a Horse

When you approach a horse, it will respond to your position, gestures, and tone of voice. Therefore you should always approach a horse calmly, confidently, and carefully. You should avoid sudden movements. Speak to the horse before approaching. Advance in an arc towards either the left or right shoulder at an approximate 45 degree angle from the horse's front feet, (never from behind, as it may not see you and you may get kicked). Avoid constant direct eye contact as this can be intimidating and be interpreted as predator behaviour. Once you are near the horse, rub the horse on the neck or shoulder. If you feel nervous, take a breath in through your nose and out through your mouth. You will notice this will cause your body to relax, particularly in your core. A nervous handler causes a nervous, unsafe horse, as it will "feed" off of your body language.

Haltering a Horse

Halters should not be left on horses. Halters may catch on fences or tree branches, and the horse, unable to free itself, may panic and get injured. If the horse is in a paddock with other horses, they may grab at the halter and pull. If halters are left on a loose horse, it should be within a controlled and safe environment and should only be for a short period of time.

If catching a horse in a stall, close the gate behind you, but do not latch it. Leaving it unlatched means that, if something happens that you must leave the stall in a hurry, you can do so quickly and safely.

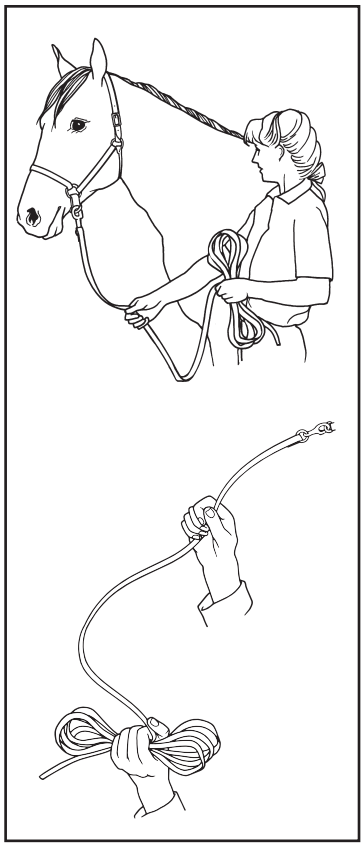
Before you approach your horse to catch it, prepare the halter by:

- unbuckling or untying the knot of the crown piece;
- folding the lead rope in half and holding it over your left arm, making sure the end is not dragging where it can trip you; and
- slipping your left hand through the bottom of the noseband and resting the halter on your wrist.

Holding the halter in this manner will free your right hand for holding out to touch your horse.

- Calmly and confidently approach towards the shoulder of your horse and rub the horse on the shoulder and neck. Be sure to have your side to the horse rather than facing the horse straight on.
- Approach the head. You can rub your horse to give the horse more confidence and reassurance.
- Place your left hand under your horse's neck and your right hand over its neck. Reach with your right hand to grasp the lead rope you are holding over your left arm and pull the lead rope over your horse's neck. Move the lead rope to just behind the ears of your horse.
- To hold the lead rope in place, wrap its loose end around the part of the lead rope attached to the halter.

- Now hold the crown piece of the halter in your left hand and reach under your horse's neck and place your right hand over its neck.
- Hold the crown piece with your right hand and move the left hand to the left cheek buckle or knot, keeping your right arm in position to steady the horse.
- Calmly place the nose-piece over the horse's nose with your left hand positioning the nose-piece in the proper position for the halter type you are using.
- Secure the halter in place and buckle or tie the crown piece to the halter. If using a rope halter be sure to secure the crown piece to the correct part of the halter and to tie the knot correctly, preventing the end piece from going towards the horse's face.
- Slide the lead rope off your horse's neck.
- Hold the lead rope with your right hand approximately 30 – 60 cm (12 – 24 in) from the halter.
- This gives the horse room to walk on your right side respecting your personal space without making him/her claustrophobic, and keeping you in a safe and comfortable position beside your horse rather than under his head and directly in front of his feet.
- Check to see that the halter fits correctly, as described in Chapter 12: Equipment.



Leading a Horse

Horses walking on top of the handler during leading is one of the biggest and most common problems.

The horse should remain far enough back to stay out of your personal space and on the side you have asked him/her to be on, never directly behind you. It is very important that the horse learns he/she is not allowed to enter the handler's personal space unless asked.

It is safest to lead a horse from the near (left) side.

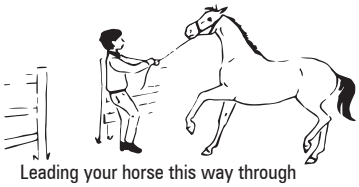
1. Hold the lead rope with your right hand, approximately 12 cm (6 in) from the halter. Do not hold the chain if there is one on the shank.
2. The remaining length of the lead is folded and held neatly and safely in the left hand. Make sure there is not a sagging loop in the lead shank that hangs below your knees. Never coil excess lead shank around your hands.
3. Always lead with a halter and shank. Together they provide better control. It is unsafe to lead a horse by just the halter or with a rope around the neck since this puts you too close under the horse and you do not have the same control or options for corrections should the horse need to be corrected.

Correct

4. If leading the horse on your right side (the horse's left side), have the lead shank in your right hand. If leading the horse on your left side (the horse's right side), have the lead shank in your left hand. The lead shank should be approximately 30 – 60 cm (12 – 24 in) long from the halter to allow the horse to be on your side and a safe distance away from you. Do not have the lead shank too long or you will be unable to correct the horse. If there is a chain on the lead shank DO NOT HOLD the chain because if the horse pulls back suddenly, you could injure your hand.

5. The remaining length of the lead is folded and held neatly and safely in the hand not leading the horse. Example: If the horse is leading on your right side (the horse's left side), have the lead shank in your right hand and the remaining lead folded and held neatly in your left hand.

6. When leading a horse, position yourself between its head and shoulders. Move with the horse; do not drag the horse or allow the horse to be too forward so that they are dragging you or causing you to keep speeding up. Make the correction to teach your horse to stay in position and respect your personal space. The ears and eyes of your horse tell you what it may be thinking, so be aware of that.



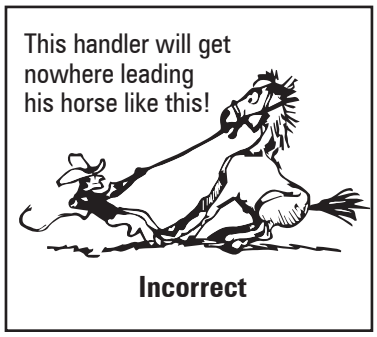
Leading your horse this way through a doorway or gate could get you in trouble

Incorrect

7. Once you are ready to move, use your body language by walking forward. You can also use a verbal command for additional encouragement ("walk on"). Avoid looking at the horse as you move forward, as this may cause the horse to stop or resist moving forward.

8. If the horse will not move forward, disengage the hindquarters safely. When horses don't move, it is because their feet are "locked up." The "motor" of the horse is the hindquarters, so unlocking the hindquarters, unlocks the feet.

9. Don't lead the horse from behind the shoulder as you will have less control and could possibly be kicked.



Incorrect

10. To halt your horse, quit walking. You can also use a verbal command, "whoa" as additional support. If this fails, you can apply pressure on the halter back towards the horse's chest. If this fails, use a stronger aid of activity in front of the horse to make moving forward uncomfortable. This technique should be shown by an adult to avoid using an overly-harsh aid. Only discipline a horse as much as needed to avoid a reaction, but enough to cause the horse to listen and respect you.

11. To ask the horse to back-up, face the direction you want the horse to move. Stand on one side or the other, but not directly in front. Hold the lead shank in the hand closest to the horse. Look back to where you want the horse to back to. Apply slight pressure on the lead shank back toward the chest. You can also use a verbal command, "back," each time you put pressure on the lead shank. If you are needing more pressure on the lead shank, be sure to go back to a light pressure when the horse begins backing, on a "give and take" basis. Walk with the horse as it backs up. Reward the slightest try. As your horse develops a better understanding of backing, you can ask for more steps.

12. To turn a horse to the right, begin turning your body and walking to the right. Your body will cause the horse to turn. If the horse refuses to turn, apply pressure with your hand at the horse's neck or head to cause it to turn right but avoid putting your hand near the eye area. Teach your horse to turn away from you rather than into you for safety. This will teach the horse to yield to you rather than invading your personal space.

Standing in the proper position and holding onto the lead shank correctly will help prevent this from happening.

13. There may be some circumstances where it may be necessary to turn your horse towards you. To do this safely, be sure your horse respects your personal space. Turn your body in the direction you want to go and walk. If the horse lags behind, apply pressure on the lead shank to cause the horse to yield to the pressure on the halter. If the horse is invading your space with its rib area, apply pressure on the ribs as this will cause the horse's hindquarters to move away from you.

14. When leading a horse through a doorway, make sure the door is open and will not close as you move through it. Slow down to a walk and move forward from your horse, but still to the side of its line of travel. Proceed calmly through the door then resume your position at the horse's shoulder.

15. If you have a mature horse that does not want to lead, be sure that you walk beside it. Walking in front of it and looking at the horse while leading it may make the horse more resistant to moving forward and can be dangerous. Have someone assist you by standing to the side of the horse and encouraging it to walk forward with a long whip, if necessary.

16. Some horses rear out of disrespect or fear. For this reason, never stand too close or directly in front of the horse. The possibility of a horse rearing is also why we never hold the lead shank too closely when leading. When the horse rears, firmly hold the rope and release the tension when the horse's feet hit the ground. You may have to release the hand on the lead shank that was leading the horse and keep hold of the lead shank that was folded neatly in the other hand so that you do not get pulled up or under the horse when it rears.

How do I prevent my horse from running out of its stall while being led?
To help train the horse that the doorway is not a threat, when the horse has gone through, stop and rub the horse to give it comfort and a rest. You can repeat this several times to bring the horse to a solid understanding and relaxation.

Cueing Your Horse to Move Sideways (Dismounted)

We should never allow ourselves to be in a small space between our horse and a solid object. To prevent this, our horse must be responsive to hand aids to move his hip, his shoulder, or his whole body. We should be able to move the horse that is tied and the horse we are holding.

- Get the horse's attention. You will know you have it when the horse turns his head or has his ear turned towards you.
- Assess the horse's reaction to your presence (size of eyes, height of head, busyness of ears, muscle tension).
- When safe for you to do so, a verbal command and light touch should move the desired part. Remember to speak a body language that makes sense to the horse. If the horse does not respond by moving, DO NOT PUSH, instead, "bite" him like another horse would, with little jabs with your fingers. You could reinforce your finger jabs with the command, "over."

Cueing Your Horse to Turn on the Haunches—Left and Right (Dismounted)

Sometimes you may be required to have your horse yield the forehand (front quarters) to perform certain tasks. This maneuver is referred to as "turning on the haunches." Like all maneuvers, turning on the haunches requires good communication and respect between horse and handler. To teach this maneuver, the handler must be consistent and speak "horse"; meaning the language horses understand.

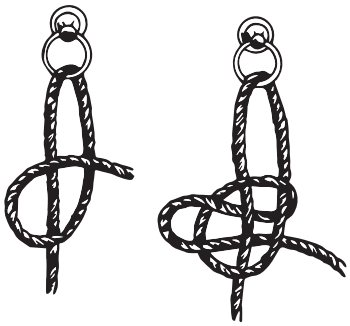
In a herd, if one horse wants another to move (yield) the front quarters, the horse does so through body language that may be as simple as a look, or involve stepping into the other horse's space, biting, or kicking.

If we want the horse to move its front quarters, we also need to use body language by focusing, having a more assertive stance, applying fingertip pressure, increasing the pressure by tapping the horse to create more discomfort to cause this part of the body to move.

Depending on the horse's sensitivity and reactiveness, you may need to tap more quickly or slowly. When the horse moves with a step or two, reward this effort by stopping the pressure and reward it by rubbing it or letting him relax. Repeat these steps beginning with a very light touch, and increase the pressure if necessary. If your horse moves ahead, change your position to be closer to the head so you can cut it off if it goes forward. To begin teaching this to a horse with a fence in front of him will also help the horse understand to yield the forehand. When your horse develops an understanding, gradually increase the number of steps asked for. ALWAYS quit the horse before the horse quits you.

Tying a Horse

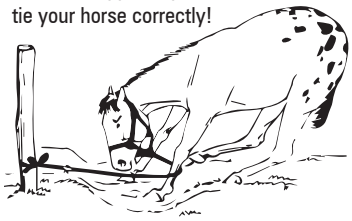
You should tie a horse only with a halter; never with a bridle or bit.



Quick Release Knot

Make sure that the lead shank is correctly fastened to the centre bottom ring of the halter noseband. Find a strong and secure object (post) to tie your horse to. Never tie your horse to a wire, loose pole, plank, gate, end gate, or anything that moves. Tie at about the height of the withers of the horse or higher. Wrap the lead rope around the post, then tie it with a quick release knot. This is a safe knot because it can be easily and quickly untied if necessary. Never tie a horse too short (it may panic and pull) nor too long (it could turn around or catch its leg in the rope and injure itself). A length of about 60 cm (two ft) between the post and the halter is considered safe under most circumstances.

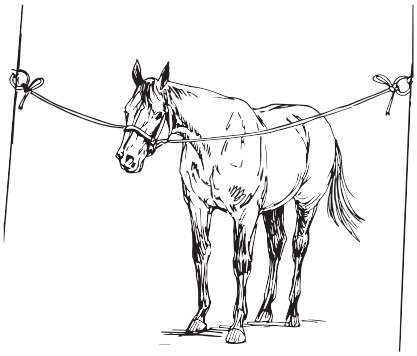
This can happen if you don't tie your horse correctly!



Never tie a horse with the bridle reins.

Cross-tying

Cross ties are another common way to secure a horse. Cross ties are usually two ropes tied high up on each side of the walkway in the stable. Each rope usually has a snap or clip to attach to the halter. The snaps attach to the side rings on the noseband of the halter.

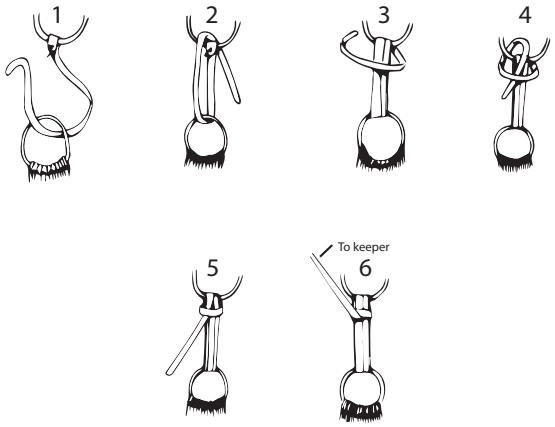


Saddling

It is highly incorrect to tie a horse when saddling. This is considered a very unsafe practice. You can drape the lead shank around the post, etc. but do not tie the shank. The reason being is if the horse was to pull back, when it hits the end of the rope, the next place it will move is forward and on top of the handler. If the rope is draped and the horse pulls back, the handler can take hold of the rope and bring the horse to an understanding rather than have it dramatically hit the end of the rope. Horses should be taught to stand politely while being saddled and should not have to be restricted. If it does not stand politely, that in itself should be a red flag regarding the lack of manners of the horse and it should therefore not be ridden until safer handling skills are obtained. The same rules of politeness would apply when trimming a horse's feet and grooming.

Before saddling, groom your horse well to remove all straw or other bedding from its hair. Always be sure to brush the back, withers, and the area where the girth will be fastened. Shake out the saddle blanket or pad before you place it on your horse to remove any straw or twigs on it.

Western Saddling



1. Set the blanket on your horse, ahead of where you want it and then pull it back into place, smoothing out the hair underneath. If using two blankets, place the top blanket back about 2.5 cm (one in) from the front of the bottom blanket. This will help to hold the blankets in place.

2. Hook the right stirrup on the horn of the saddle and drape the cinch over the saddle seat. By lifting the right stirrup and cinch out of the way, you don't have to lift the saddle as high when you place it on the horse's back. This way, the stirrup and cinch won't get caught under the saddle.

3. Lift the saddle by grasping the gullet and centre of the back of the saddle. Lift it high and set the saddle gently on your horse's back. Settle it into place by rocking it back and forth. Lift the blanket up under the gullet of the saddle to improve the ventilation under the blanket and check to see that the saddle blanket is even on both sides and has at least four to eight cm (two to four in) in front of the saddle.

4. Go to the right side of your horse and set down the stirrup and cinch, ensuring that the cinch is not twisted. Be careful that the cinch doesn't fall down and bang your horse's leg.

5. Go back to the left side and lift the stirrup out of your way. Standing near the left shoulder of your horse, reach under the girth of your horse to pull the cinch towards you. Make two wraps with the latigo and tie (as illustrated) or buckle the cinch. If using the tongue in the cinch ring, be sure to lock it by pulling down on the top wrap of the latigo. Tighten it so you can fit three fingers (inserted flat) between the cinch and your horse's belly. If you are tightening a cinch on a strange horse, watch for signs of uneasiness. A "cinchy" horse can be very dangerous (they will often throw themselves over backwards or sink to the ground in a panic attack).

6. If you have a back cinch, always do it up last, fastened so the cinch is lightly resting against the horse's belly. Be sure your horse has been trained to accept a back cinch prior to using one. Check to ensure that an attached hobble strap ties the back cinch to the front cinch. This keeps the back cinch from flapping back into the flank areas of your horse.

7. If you have a breast collar, attach it and tighten it so that a fist can fit between the breast collar and the point of the shoulder.

8. Walk your horse and recheck the tightness of the cinch before mounting.

English Saddling

1. Make sure that the stirrup irons are pushed up and that the girth is undone on both sides of the saddle and is lying on the seat of the saddle, dirty side up, with buckles pushed through the stirrups.
2. Hold the saddle on your left arm with the pommel facing towards your elbow.
3. Stand at your horse's left shoulder and with your right hand, lay the saddle pad on the horse's withers, making sure that it is flat and that the straps are on top.
4. Slide the saddle pad into place by pulling it slightly towards the rear in the direction of the horse's hair. The saddle pad should be the right size for the saddle being used.
5. Grasp the saddle with your right hand on the cantle and your left hand on the pommel and place it on the saddle pad which is sitting on your horse.
6. Attach the straps of the saddle pad to the girth straps on both sides of the saddle and run the girth straps through the keeper on the saddle pad. Check that the knee rolls and saddle flaps on both sides are flat.
7. Slide the saddle and adjust the pad so that there is no friction or pressure on the withers, lifting the pad into the gullet of the saddle for ventilation.
8. Walk around the horse to its far side and fasten the end of the girth to the girth straps on the right side of the saddle. If there are three billet straps on an English the saddle, it is common to fasten the buckles to the two outside straps, leaving the centre one undone. If a horse is built in such a way as that the saddle slides forward, it is recommended to fasten the girth buckles to the front two girth straps on the saddle.
9. Return to the near side and stand at your horse's left shoulder.
10. Face the rear of your horse and bend over to grasp the loose end of the girth with your left hand.
11. Pull the girth through the loop of your martingale or breastplate (if you are using one). Any such loops should be positioned at the centre of the girth.
12. Bring the girth up, well back of your horse's elbow, buckle it in the same manner as the off side, tightening it slightly. You will need to tighten it again before mounting.

Smoothing Out the Wrinkles

After saddling, you should pull the horse's forelegs forward from the knee to smooth out and bring forward the skin underneath the cinch or girth. This will help to prevent pinching and galling. Bend the leg forward at the knee by clasping your hands behind the knee and lifting the leg one at a time. You can also achieve the same result by leading your horse in a tight circle in both directions.

Unsaddling

The steps for taking any saddle off a horse are the same as for saddling, only done in reverse order. Some important points to remember are noted below.

For Western Saddles

- First undo any auxiliary equipment that attaches to the saddle, such as a martingale or breast collar.
- If you have a back cinch, be sure to undo it first, before the front cinch.
- Once you have undone any cinches, tie them up on the far side so they will not drag in the dirt.
- Do not pull the saddle over the withers without lifting the saddle because sliding it over the withers causes discomfort for the horse.

For English Saddles

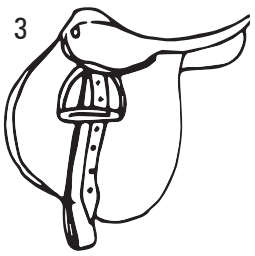
- Push up both stirrup irons as high as possible on the stirrup leathers and pull the stirrup leathers through the stirrup irons to secure them in place.
- Unbuckle the girth on both sides, lay it over the saddle, dirty side up, and pass the ends through the irons on each side.

For both Western and English saddles, remove the saddle and saddle blanket (or pad) together. Store your saddle in a natural position with the blanket (or pad) on top, lying with its dirty side up so that it has a chance to dry for its next use. Wash the pad often.

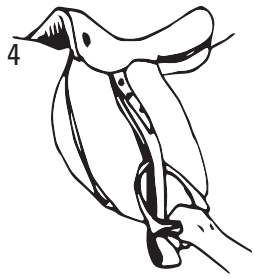
How to Run Up English Stirrups

The stirrup iron is slid up under the skirt on the underneath part of the sitrrup leather.

The stirrup leather is then pulled through the iron.



Be sure that the stirrup iron is run up so that it is snug under the skirt and will not come down.



Stirrup irons are pulled down for riding.

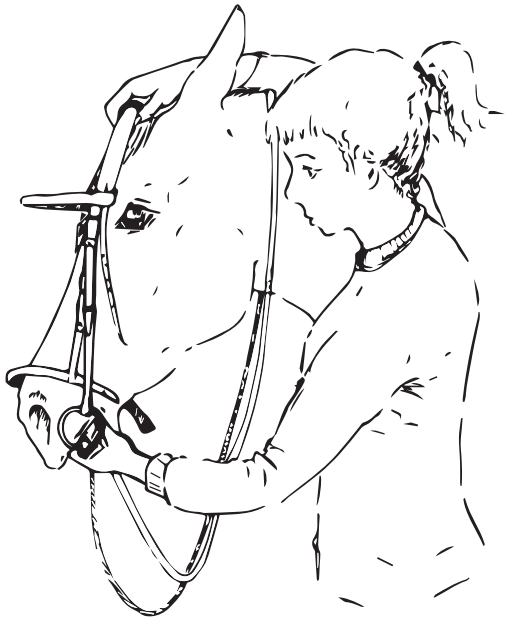
Bridling

If your horse will not open its mouth, don't ram the bit against the incisor teeth. Rather, run your left thumb up and down the bars until it opens its mouth. Pressing on the side of the bar with your thumb may also help.

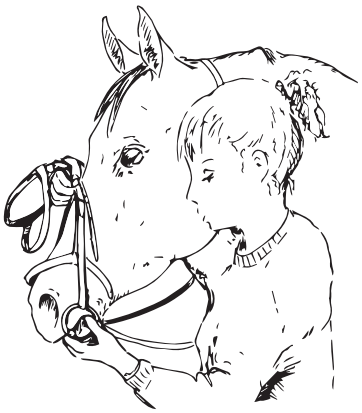
There are two accepted methods of bridling a horse. Some horses may respond better to one method than the other.

Method One

- Untie your horse.
- Undo the halter buckle and slip the halter off your horse's nose and re-buckle it around your horse's neck.
- Hold your bridle with your left hand, laying the reins over your left arm or shoulder so they won't get in the way, or place the reins over the horse's head around the neck to keep them from falling on the ground.
- Place your right hand over the poll of your horse between his ears, and grasp the crown piece of the bridle.
- With your left hand, spread the bit between your thumb and second finger. While pulling the bridle up with your right hand, gently place the bit at the horse's mouth. Open the mouth by inserting your thumb in the interdental space (where the lips end). Pull up on the bridle until the bit rests on the bars of your horse's mouth.
- Change hands and hold the crown piece up and in front of your horse's ears with your left hand. Gently pull the headstall over the ears, one ear at a time, guiding the ear on the opposite side, then guiding the ear nearest you under the crown piece with your right hand. Folding the ears forward, when placing equipment over them, is more gentle on their ears.



- Adjust the brow band so that it is straight and buckle up the throatlatch (if you have either of these). Between the throatlatch and your horse's throat, you should be able to fit three to four fingers (or a fist sideways).
- Fasten the cavesson or noseband on an English bridle so that one or two fingers can be inserted between the cavesson and the nose, with cavesson inside the bridle cheek pieces.
- If using a curb chain or strap, adjust it so that it is not twisted and so that two fingers can be inserted between the strap and the horse's jaw.
- Undo the halter and place it in a safe place.



Method Two

This method is often used by shorter riders with tall horses or for harder to bridle horses (to allow more head control).

- Same as Method One, except place your right arm under your horse's jaw, around its nose and grasp the cheek pieces of the bridle (Step 4). Remember to pull up with your right hand.

Unbridling

- Buckle a halter around your horse's neck, just behind its ears, so that you have control if it tries to move away.
- Place the lead shank and reins over your left arm, being careful not to have them dragging on the ground.
- Unbuckle the throatlatch and noseband (if you have one).
- Hold the crown piece of the bridle in your hand. Remove it, one ear at a time, by gently pulling the crown piece; first over the one ear nearest you and then over the other ear farthest away from you.
- Once the ears are released from the crown piece, continue holding tension on the bridle with your hand to hold the bit in your horse's mouth.
- Slowly release the tension on the bridle and allow the bit to slip gently out of your horse's mouth. Be careful that the bit does not bang any teeth.
- Once the bit is out of the mouth, hold the bridle in your left hand and continue to halter your horse.

Improper bridling and unbridling can cause head shyness.

When removed too quickly the bit can catch on the horse's teeth.

Consequently, the horse throws its head up and pulls away, temporarily avoiding the unpleasantness.

Storing Your Bridle

Western: Hang the bridle exactly as it would sit on your horse's head if the horse were facing you with the reins crossed over his neck. The crown piece and throatlatch would be touching the hook where they would touch the horse's poll. The reins are then either crossed over and hung on the hook over the crown piece or placed together and draped over the crown piece from left to right or right to left.

English: Hang the bridle as you would the Western bridle, except the cavesson and throatlatch are done up and the reins go behind the bit, inside the cavesson and are buckled over the throatlatch.

Lunging

Lunging is a common way to both train a green horse or to exercise a schooled horse. When training a green horse, lunging allows the handler to introduce many new things to the horse without having to be on its back. You would start out with little or no equipment on the horse except for the halter or lunging cavesson and splint boots or leg wraps. Then you progress to where the horse would be lunged with the saddle, bridle, leg protectors, and possibly side reins. The goal of lunging should be to move the horse forward into the bridle or halter with upward and downward transitions in all three gaits, with the horse responding in a relaxed manner to the voice and body aids. Lunging improves a horse's balance in both directions and teaches contact with the bit or halter.

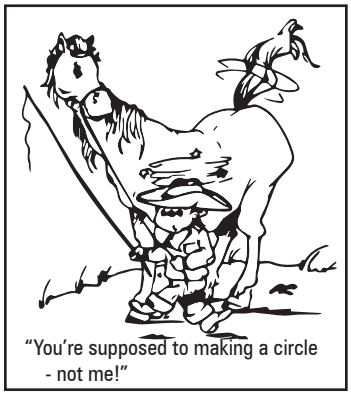
Lunging can also be a safe way to exercise an injured horse that needs to move. It is also a safe way to remove excess energy before riding. **When learning to lunge, always get the assistance of an experienced horseperson.**

Lunge in an area with soft, even footing where your horse will not be at risk for injury. Avoid heavy, deep, or uneven footing. Do not lunge in too small a circle. Ten metres is getting too small; 20 metres is preferable. A small circle makes it hard for your horse to stay balanced, making him much more likely to stress his lower legs.

Never lunge on a circle that is small enough to put you in kicking range.

Equipment

- A well fitted halter or lunging cavesson.
- Splint boots or wraps.
- Lunge line or rope (at least 4.5–6 metres and preferably10 metres or 15– 20 ft and preferably 32 ft in length) .
- Lunge whip or horseman stick/string of length that communicates effectively with the horse. These range in lengths (including lash or string) from approximately 2.5 metres or about nine ft and higher.
- Gloves.

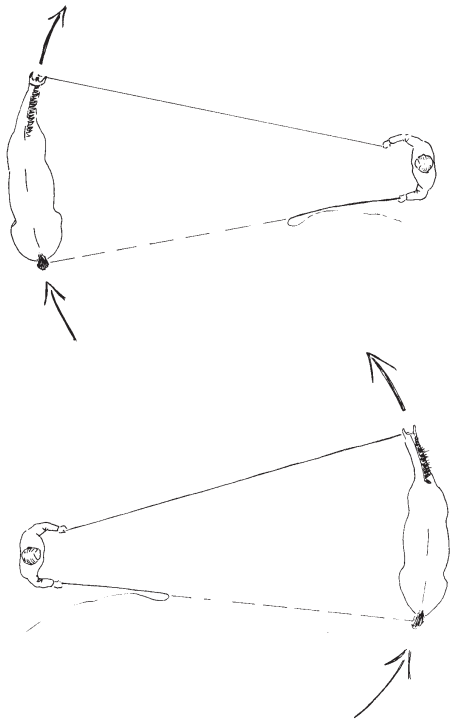


"You're supposed to making a circle - not me!"

Teaching a Horse to Lunge

There are many ways to teach your horse to lunge. The following is one method.

When you are teaching your horse to lunge make sure the footing is suitable. Use a corral or small area where the horse cannot run away. If this is not possible, use bales or heavy poles to mark your circle. The first thing to teach your horse is to go around you. To lunge a horse to the left (counter-clockwise), hold the shank in your left hand. Hold it in your right hand when the horse is going to the right (clockwise). Hold the whip in the other hand. Excess rope should not be coiled around your hand. Fold the rope in bends and hold in either hand, depending which hand you are most comfortable. Fold the rope in an organized manner to allow you to feed more rope out should you want to move your horse in a bigger circle.



To teach your horse to move around you, hold the shank in one hand and the whip in the other. Move back from the shoulder of the horse to its flank. Tap the horse on the hindquarters with the butt end of the whip. Tell the horse to walk, making sure that you stay opposite the flank of the horse or it may stop and face you. Keep doing this until the horse moves around you on at least 4.5 metres (15 ft) of line, without stopping.

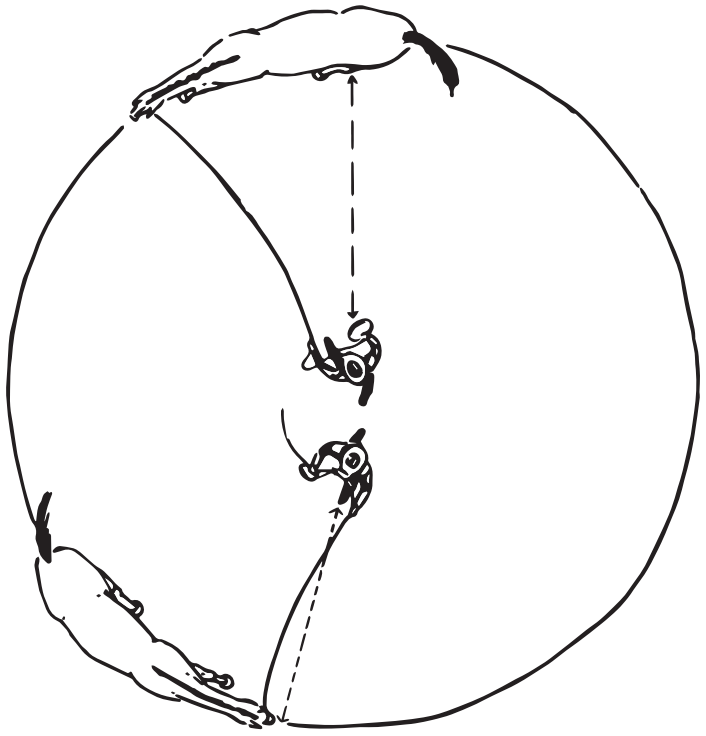
After the horse has gone around several times let it stop, and reinforce this by saying "whoa." Praise the horse for obeying and change directions. When reversing, either walk out to the horse and reverse him or do it on the end of the line. Do not pull him in to the centre. Do this every day until the horse easily walks around you.

To teach the horse to trot, tap the horse with the end of the whip and say "trot." For canter or lope, do the same while saying "canter" or "lope." Because both lope and whoa are one syllable "o" sounding words, Western riders often use the aid "lope on" so as not to confuse the horse. Another method is to "cluck" for a trot and "kiss" for a lope.

Horses understand the tone of your voice, not the words, so changing the tone of your voice when asking for a gait helps the horse understand. Speak loudly, clearly, and firmly and use the whip and lunge line to reinforce the change of gait you want.

Proper Lunging Technique

To move the horse forward, position yourself at its flank.



Restraints

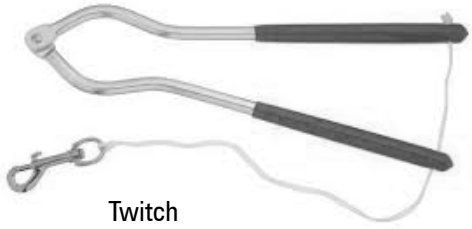
Horses do not quietly accept everything we ask. It is sometimes necessary to physically control a horse before any work can be done. This may be required for veterinary work, training, and farrier work. Any method of controlling the physical movement of the horse is called restraining. It ranges from tying the horse, to physically laying the horse on the ground. By controlling the physical movement of the horse, you reduce the chance of injury to the horse and the people around it.

The form of restraint that is used will depend on the situation, the level of training, maturity, and the temperament of the horse. Both nervous and quiet types of horses may be fidgety or nervous in a strange situation. Horses can also feel anxiety in handlers, therefore it is important that the handler is competent and calm.

Always begin with the least amount of restraint. If the horse does not respond, slowly increase the amount or intensity of the restraint. Watch the horse carefully to ensure you do not continue increasing the intensity or restraint where not necessary, and also to ensure that you have eased on the intensity and restraint when the horse is relaxing and responding. Restraints of any kind should only be used by an experienced handler.

Twitches

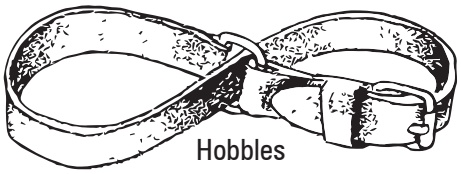
Nose twitches are used to distract the horse while other work is being done. A twitch can be used to reduce the risk of injury to the horse or handler, to administer medicine, and for safety and control. Not all horses respond to a twitch, therefore twitches should be used by a skilled horse person when all other methods are not successful.



Twitch

Hobbles

Hobbles are another method of restricting the horse's movement. Make sure you get the assistance of an experienced horse person to help you teach your horse to hobble if he is not "hobble-broke."



Hobbles

Groundwork Safety Checklist

Basic Safety Rules	
Safety Tools	**Check**
You avoid working alone.	
You communicate your intentions with other handlers in the area.	
Inexperienced handlers are adequately supervised until they are competent.	
Handlers have a strong understanding of a horse's blind spots when it comes to approaching, tacking, leading, and working with horses.	
Handlers should wear appropriate gear for working with horses on the ground: sturdy footwear, weather-appropriate and task-appropriate clothing and a helmet.	
When entering enclosures with horses, always know your escape route.	
If you open a gate, close it. Swinging gates and loose gates can cause serious injury, especially if livestock bump/kick it towards a handler.	
Approaching a Horse	
Safety Tools	**Check**
You know about the blind spots in a horse and approach towards the horse's shoulder.	
You talk to the horse in a calm, confident voice—if you don't know what to say, you simply explain what you are doing.	
You have a plan for why you are approaching the horse and what your intentions are. If you are going to place a halter and lead rope on a horse, you should have those items with you. You are prepared.	
Inexperienced handlers are adequately supervised until they are competent.	
Halter a Horse	
Safety Tools	**Check**
Inexperienced handlers should be adequately supervised until they are competent.	
Leading a Horse	
Safety Tools	**Check**
You never wrap or loop the lead rope around your hand or tie it to yourself.	
You wear gloves to prevent rope burn should the horse pull the lead quickly from your hands. You also wear gloves to improve your grip.	
Inexperienced handlers are adequately supervised until they are competent.	
You follow the best practices in leading a horse. Some horses may expect to be led from the left side but many horses can be led from either side. Give as much rope as necessary for your horse to lead comfortably, but not so much slack that the rope drags and one of you may trip over it.	

Use body and vocal cues to move and stop your horse. When using your voice, be calm, confident, and speak loud enough so your horse can hear you. If you're working around other people, this will help them know what you are doing, too.	
You think about the horse's body movements in relation to your own. Could you get stepped on, or kicked, from where you are standing?	
You have a plan for if your horse takes off. You think about what would happen if you let go of the lead rope. Could someone be seriously hurt? You know how you could gain control of your horse again.	
Tying a Horse	
Safety Tools	**Check**
Handlers should be familiar with a variety of knots, including a quick release.	
Inexperienced handlers should be adequately supervised until they are competent.	
Saddling	
Safety Tools	**Check**
Inexperienced handlers should be adequately supervised until they are competent.	
You use proper lifting techniques when saddling the horse.	
You properly secure girths, stirrups, breast collars, and ropes so they don't cause an injury while the saddle is being placed on the horse.	
Unsaddling	
Safety Tools	**Check**
You make sure that all securing straps and buckles are undone before pulling the saddle off the horse. If not, the horse may panic and pull away from the handler as the saddle hangs from the horse.	
Lunging the Horse	
Safety Tools	**Check**
Inexperienced handlers should be adequately supervised until they are competent.	
You keep the lunge line neatly folded and off the ground at all times to reduce the risk of becoming tangled in it.	
You maintain control of the lunge whip and lash so as not to accidentally cue or unintentionally hit the horse.	
You never crack the whip as it may scare horses being ridden and confuse the horse being lunged.	
You always wear protective gloves to lunge or line-drive a horse.	
You make sure that lunging equipment, such as the line and side reins, are properly attached so the horse does not panic from restraint or get tangled in the equipment.	

Chapter 14: Riding

The Riding Arena

An arena is a fenced or covered rectangular area set aside for training and riding horses. When it is outdoors it may be called a riding ring.

The “track or rail” is the part of the arena where the horses normally work. The outside track follows the walls or fence and the inside track is about 3 metres inside of the outside track.

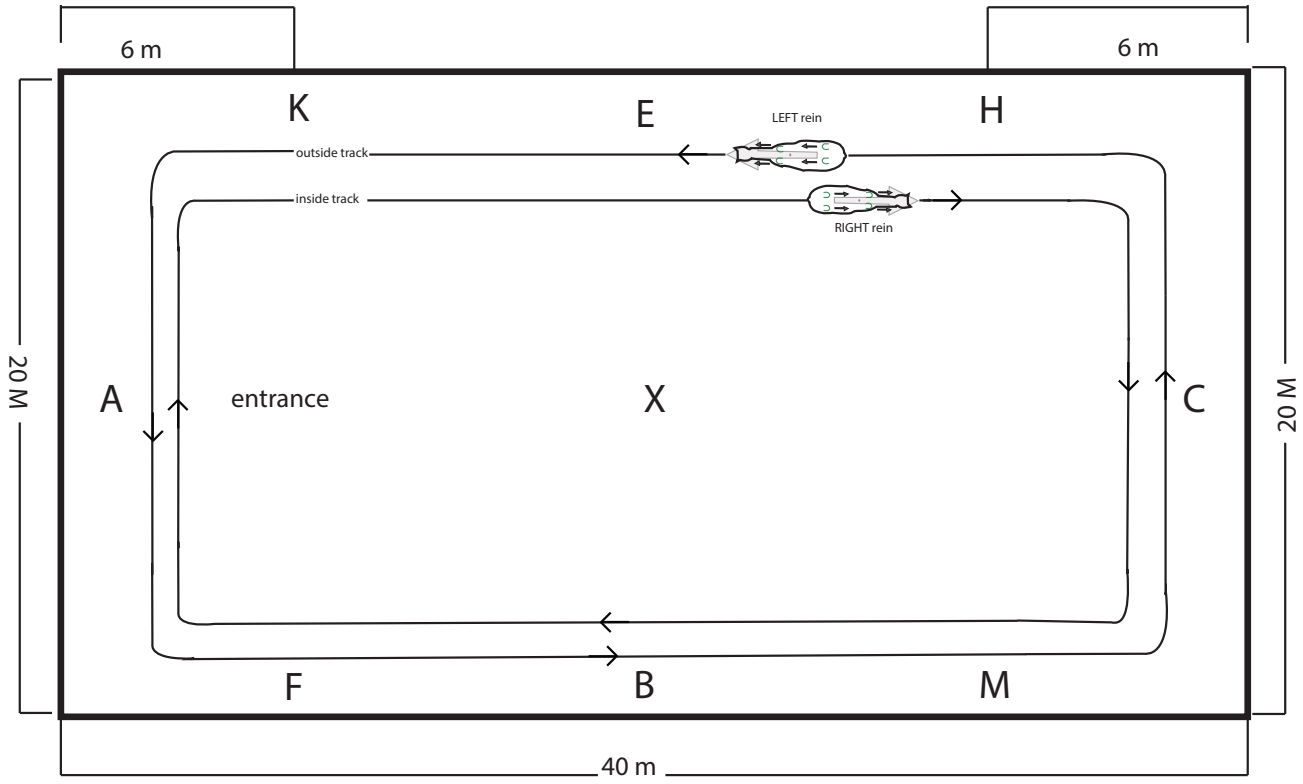
When you are riding on the track with your right side towards the centre of the arena, you are on the right rein. When you are riding with your left side towards the centre of the arena, you are on the left rein.

Rules of the Riding Arena

When riding in an arena with other riders it can become like a busy highway. It is important that you follow some basic rules to help keep the traffic flowing and to prevent accidents.

1. Riders must close gates behind them when they enter or exit the arena. Keeping the gates closed at all times ensures that horses will not bolt out of the arena. It is a good idea for riders to dismount and lead their horses through the gate.
2. Be aware of others around you. Be careful not to cut anyone off.
3. Keep at least six feet of space all around when possible (or one horse length between riders). The rider following another should be able to see the heels of the horse in front of him. Keep out of bunches.
4. Horses moving slower are given priority for using the outside track. Riders working faster must move to the inside track.
5. When riders are working in different directions, those riding on the left rein are given priority for using the outside track. Those working on the right rein would move to the inside track. This rule means riders know they will pass oncoming riders, left shoulder to left shoulder.
6. When working at the walk, a rider should use the outside track to keep out of the way of faster horses, unless all of the horses are traveling at a walk.
7. If you have to stop for any reason, you must move off the track to the centre of the arena, e.g., to adjust tack.
8. If you must stop on the rail or slow your horse down, make sure there is space behind you for riders to respond to your transition.
9. When exiting the arena, do not rush. Leave the arena at a walk, in single file.
10. The order of the letters in the diagram are in a specific order and are used as markers for teaching and riding patterns.

A—all	C—can	
K—King	M—make	with “X” in the centre
E—Edward’s	B—beautiful	
H—horses	F—foals	



Be Courteous to Your Horse

- Mount your horse gracefully, without hitting the horse's rump or the saddle with your right leg.
- Maintain effective rider position: Keep good posture, balance, and alignment in the saddle. Move with the motion of the horse.
- Ride with the correct amount of contact on the reins, to be able to effectively communicate with your horse during all exercises and situations. Ensure your reins are even.
- Do more walking and trotting/jogging than cantering/loping. Keep your horse collected to promote long-term soundness. Note: To collect your horse correctly use your legs to ask the horse to move forward, and use soft rein contact to bring the horse's nose gently toward the vertical, but never behind the vertical. The horse's neck will lower and relax, as the horse's back lifts and relaxes. The horse's gait will become lighter, and the horse's body and limbs will experience less concussion.
- Give clear consistent cues to your horse to move, stop, back up, etc. Use your natural aids (voice, hands, legs, and weight) more than artificial aids (crop and spurs).
- Pay attention to your horse's mental and physical state during the warm-up, ride, and cool-down.

Warming Up and Cooling Down

Horses require a period of gradual warm-up for proper muscle function. Cold muscles injure easily. Therefore, you should begin by walking in both directions while applying simple collection and stretching exercises. Advance to the trot/jog (again in both directions) before finally advancing to a canter/lope. Always pay attention to environmental stressors such as heat, as this will alter how you warm up your horse.

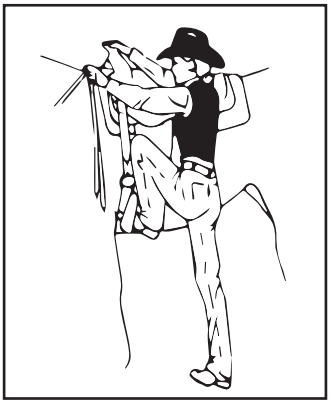
Never over-exert your horse during the ride, as this can sometimes lead to serious illness that will require veterinary attention.

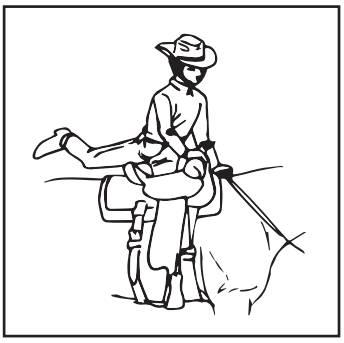
Walking your horse after a workout is essential to cool down its muscles and avoid cramps. This may be done mounted, but it is preferable for the rider to lead the horse on the ground. This also allows you to loosen the cinch/girth so that your horse may breathe more easily. Tepid water may be offered periodically in moderate amounts, while the horse is cooling down. Your horse is cooled down enough when its breathing has returned to normal without nostril dilation and when its chest and neck have dried.

Mounting

Safe and proper riding begins with safe mounting. Different styles of riding have slightly different methods of mounting, but both maintain some basic principles.

- Before mounting your horse, always lead the horse to an open location, ensuring that you are a reasonable distance from other horses, people, fences, and walls.
- Check your equipment to ensure that it is adjusted correctly.
- Check the cinch/girth and if it requires adjustment, tighten it before you proceed with mounting. Always check your cinch/girth on both sides, and ensure your cinch/girth is centred correctly after tightening.
- It is important that your horse does not move while you mount. Adjust the reins evenly with enough tension to feel the bit so that you can hold your horse steady until you are fully mounted.
- The eyes, ears, and neck position of your horse can communicate to you if the horse is going to shy or bolt when you mount. For example: an unsure horse will often have a very tense high neck set. Therefore, as you mount, you should watch your horse's head and neck for such signs.
- Short riders may need to use a mounting block to help them mount. It should be solid and safe. A mounting block may help to reduce pulling and strain on a horse's back.





Western Riding

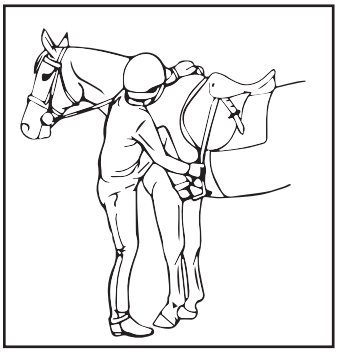
If you ride Western, you would proceed to mount using the following steps:

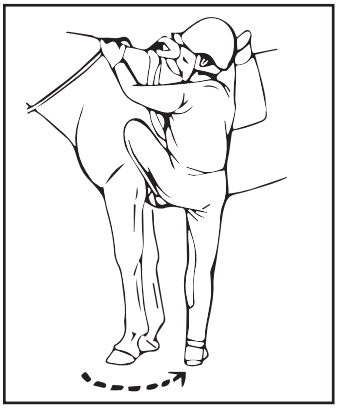
- Stand on the left side of the horse's neck holding the reins in your left hand. Split the reins by placing a finger in between each rein. Pass the right rein under the horse's neck with your left hand while reaching over the neck with your right hand to take the rein in your right hand and bring it over the horse's neck. Then cross the left rein over the horse's neck so that the bight (the extra part) of the reins is lying on opposite sides. Check to ensure that the reins are even.
- Take up the reins in your left hand tight enough to keep the horse from moving forward, but not so tight that you cause your horse to backup. Ensure your horse sees you with his left eye so that you do not startle your horse as you proceed to mount. Once you mount your horse, the reins may be moved to the side if using a leverage bit.
- Face either the same direction as your horse, or face the side of your horse, using your peripheral vision to keep an eye on your horse's head. Be careful not to push your toe into the horse's side.
- Place your left hand on your horse's neck in front of the withers, grasping the horse's mane or the saddle pad if necessary.

- Hold the stirrup with your right hand and place your left foot in the stirrup. Your right hand may also be used on your left shin to help guide your foot into the stirrup. If you are tall enough, your right hand may immediately be placed on the base of the horn (never on the cantle).
- Grasp the saddle horn with your right hand and push up off the ground with your right leg. Bouncing once or twice helps the shorter rider create energy to push themselves up rather than pulling heavily with their arms and stressing the horse's withers.
- Lift yourself to a standing position with your weight on the left stirrup.
- Pass your right leg over the saddle without touching your horse.
- Sit down gently in the saddle.
- Put your right foot into the right stirrup (without leaning over to guide your foot into the stirrup with your hand). Re-centre your saddle.
- Take up the reins and adjust them.

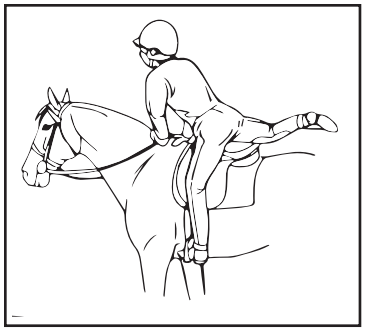
English Riding

If you ride English, you are encouraged to use a mounting block and then proceed to mount using the following steps:





- When leading a horse saddled with an English saddle, you should keep the stirrup irons run up (so they don't bang the horse's sides). When preparing to mount, your adjustment of equipment will include lowering the stirrup irons, and adjusting their length as well as checking the girth and tightening, if necessary. As you pull the stirrup irons down, keep them away from the horse's sides so that they do not knock him. When they are fully down, place them gently back against his sides.
- Place the reins over your horse's head.
- Stand on the left side of your horse and take the reins in your left hand, with the reins even and short enough to hold the horse steady.
- Facing slightly towards the forequarters, with your left hand, grasp your horse's mane at the withers (not the pommel of the saddle).
- With your right hand turn the stirrup iron clockwise towards you.
- Put your left foot into the stirrup, turning your toes into the girth, to avoid gouging your horse in its side.
- Place your right hand on the offside (right) side of the saddle.
- Turn slightly to face the side of your horse.
- Push with your right foot to spring off the ground, then transfer your weight onto your left foot which is resting in the stirrup. You should be facing into your horse when you leave the ground.



- Lean slightly forward, keeping your body close to the horse.
- Bring your right foot close to your left.
- As you pass your right leg over the saddle without touching your horse, bring your right hand to the forward arch. This will help you support and balance your upper body.
- Sit down gently in the saddle.
- Put your right foot into the right stirrup iron (without leaning over to grasp the stirrup with your right hand).
- Take the reins with both hands and adjust them.

Dismounting

Before dismounting, always check to see that your landing area is safe and free of obstacles. For Western riders, the correct methods of dismounting include sliding down from the horse without using the left stirrup or leaving your foot in the left stirrup and stepping down from the horse. The method you choose will depend on your size. For smaller members, sliding down is safer.

For English riders, the correct methods of dismounting include sliding down or vaulting from the horse, without using the left stirrup. English riders do not dismount by stepping down from the horse.

Stepping Down, Using the Left Stirrup (Western)

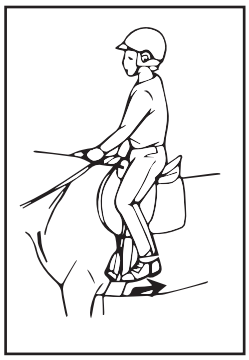
- Take both reins in your left hand and place your left hand on the horse's neck or wither for balance.
- Reposition your left foot further out of the stirrup so there is no chance of it getting caught. Then remove the right foot from stirrup.
- Grasp the base of the horn with your right hand.
- Bend your upper body slightly forward.
- Swing your right leg back and over the saddle.
- Bring both your legs together.
- Step down from the horse, facing into the horse with the reins still in your left hand.
- Remove your left foot from the stirrup as your right foot touches the ground. Your feet should land facing the same direction as your horse's feet. This is less stressful on your knees and ankles in case your horse moves.
- Loosen the cinch to let the horse relax, breathe freely, and to allow the heat from its body to dissipate.

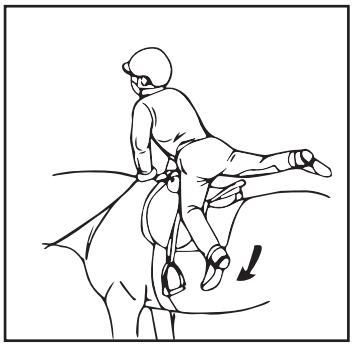
Sliding Down from the Horse

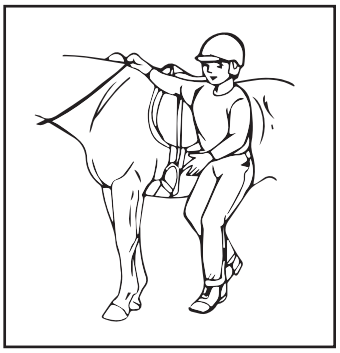
1. Take both reins in your left hand on the horse's wither.
2. Reposition your left foot further out of the stirrup so there is no chance of it getting caught. Then remove the right foot from the stirrup.
3. Grasp the base of the horn with your right hand.
4. Bend the upper body slightly forward.
5. Swing your right leg back and over the saddle.
6. Bring both your legs together.
7. Lean forward over the saddle and kick the left foot out of the stirrup. Be careful and NEVER lean forward over the right side of the saddle. If your horse jumps, you could fall off on your head. Face slightly forward and rest the outside of your right leg against the saddle. Slide down with just the right leg touching the saddle.
8. Keeping the reins in your left hand, let your feet drop to the ground together. Bend your knees to absorb the shock.
9. Take both reins down.
10. Run the stirrups up (if riding English) and loosen the girth to let the horse relax, breathe freely, and to allow the heat from its body to dissipate.

Vaulting from the Horse (English)

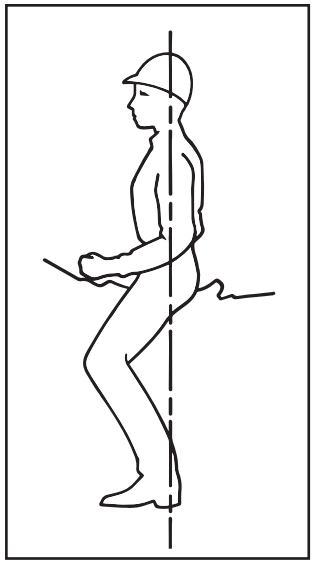
Vaulting follows the same steps as sliding down from the horse, except the rider kicks both feet out from the stirrups and pushes from the horse. The rider lands on the ground with both feet, a short distance from the side of the horse.







Rider's Position



No matter what your style of riding is, having a good balanced position is important. **Your body position affects how your horse moves.**

In the basic seat position, you sit centred, deep in the saddle, with your body balanced and relaxed. Maintain a supple riding position by using your core muscles to stabilize your seat so that your arms and legs are not affected by a lack of balance in your torso. If you are stiff, you can't flow with the movement of your horse and you will fall "behind the motion." Note the line (on the graphic) from the ear to the point of shoulder to the hip to heel. Your leg should rest gently on the horse's side to maintain light contact with the horse's body through your inside thigh and upper half of your calf. Your foot should be at the same angle as your knee, and angle of the knee is determined by the size of the horse's barrel. The ball of your foot should be in the stirrup. Do not press down on the stirrup as this will cause your toes to point down and will force your heel upwards. Your heel should be slightly lower than your toe to allow more flexibility in your ankle.

Basic Seat Position

- Sit in the saddle with equal weight on both pelvic bones. Supported by your pubic bone, the triangle is the central point for the rider's balance and influence.
- Sit on the vertical with your head directly above your spine.
- Sit so that a perpendicular line would join the tip of your kinee to the tip of your toe.

Note: Lifting your toes in your boots is sometimes helpful to relax your ankle.

Your hand and arms should be supple, with your elbows relaxed toward your body. You should hold your reins just above and in front of the saddle horn or pommel.

An imaginary line should run through the centre of the back of your head, between your shoulder blades, and down the centre of your back to the horse's spine. If you allow yourself to become uneven anywhere, the horse will be forced to become uneven to compensate for you, and he will not be able to work to his best ability.

Most positional problems have their beginnings with bad habits. Develop the following good habits and you will ride with good position.

Head

You should be looking ahead and watching where you are going. Your head should be square with your shoulders and not tilted. Keep a "chin-up" position, or your entire body will tilt forward and pull the weight out of your heels. The weight of your head is noticeable to your horse. Your horse will be more inclined to go in the direction you are looking, because your head position will assist your balance to travel that way, making it easier for the horse to respond. If checking diagonals and leads by looking at the horse's shoulders, be careful not to lean your head as the extra weight shift may unbalance your horse.

Shoulders

As you sit in the saddle, your shoulders should be level. Shoulders that are not level are a sign that you may have your weight shifted. This makes the horse lean in the same direction. Loping/cantering in small circles will cause you to want to drop one shoulder, so pay careful attention to keeping them even. As well, always remember to relax your shoulders downward as raised, tense shoulders, even if they are level, will make it hard to sit deep and use your seat effectively.

Back

Your back should be straight, but not rigid.

Stomach

Your stomach should be flat, with your core muscles engaged to help stabilize your seat.

Arms

The arms should hang naturally from the shoulder with the elbows at your side, but not held rigidly. Your whole arm should stay soft and relaxed, right from the shoulder through the elbow to the wrist. This allows your elbow to open softly to let the hands go forward as the horse's head moves, and maximizes your communication with the horse through the feel in your hands.

Hands

When riding with two hands, the rider's hands should be placed slightly above either side of the withers and slightly in front of the saddle. When riding with one hand (either hand is acceptable, but when competing, always check your association's rulebook), the rein hand should be held in front of the saddle and just above the withers. The motion of the rein hand should have a lifting effect to correctly communicate to the horse through use of a leverage bit/bridle, rather than a direct rein pull (pulling straight back to the rider). If you or your horse does not understand this, it is preferable to ride in a snaffle. The hands should remain securely on the reins, but not rigid (imagine holding a baby bird…you don't want the baby bird to fly away, but you don't want to grip the baby bird so tight that you injure him). The hands follow the movement of the head and neck. As a rider advances, the improved feel a rider develops allows the rider to adjust rein tension through the fingers.

Seat

Your hips and pelvis are your body's main shock absorbers, so they must remain relaxed to follow the rhythm of your horse's gait. Sit squarely in the middle of your saddle with the same amount of weight on each seat bone. The inside of the leg should remain in contact with the saddle without gripping. Your seat bones and pubic bone should form a triangle and be in contact with the saddle so that your whole body sits at a 90 degree angle to the saddle. Be careful that you do not sit back on your buttocks and back of your thighs as this will cause you to fall behind the motion of the horse's gait. When you sit behind the horse's gait, your hands can become too heavy and your seat may inadvertently drive too much.

Legs

The most important way to communicate with your horse is through your legs and seat. The legs are used to balance the upper body in the saddle and cue the horse. Different events and disciplines use different stirrup lengths. The difference in the stirrup length depends on the type of work you and your horse will be doing. For all saddles, the stirrups need to be short enough that the legs and ankles can act as shock absorbers. To do this, the knees and ankles must have a slight, relaxed bend. Your legs should hang long and relaxed at the horse's side with no tightness in the knee joints. It will be the inside of the calves that apply pressure/cues to ask the horse to move.

For most Western and English riding, the stirrups should hang so that when your foot is out of the stirrup, the bottom of the stirrup touches your ankle. If you are involved in cattle work, gymkhana, or jumping events you may want the stirrups slightly shorter.

The lower leg is important for leg aids. It may be used to squeeze or bump the side of the horse. The lower leg needs to be kept still when you ride, or your leg aids will not be effective. This is because if the horse has been getting signals continually, he will not know which to obey. The distance between your lower leg and the side of the horse will depend on the length of your legs and how they fit against the body of the horse.

Foot

Foot position affects how you can use your legs. The ball of the foot should be resting on the stirrup with most of your weight carried down through your heel so that your heel is lower than your toe. If you place your weight on your toe, it will push you up out of the saddle. If your toes point down it is possible that your foot will slip and go through the stirrup (NOTE: It is a good safety practice for young children to ride with tapaderos (a hood that fits on the stirrup)). Putting your foot too far into the stirrup makes it hard to flex your ankle. By placing slightly more weight on the inside of your foot, your ankle will cock slightly and align the inside of your leg correctly with your horse's side.

The feet of the rider should be nearly parallel to the side of the horse. Toes pointing outward can cause problems, especially if the rider is wearing spurs. You can accidentally jab the horse because of an incorrect foot position. Also, the direction of the foot will turn the whole leg. This makes it hard to get the inside of your calf, knee, and thigh against the saddle.

(There is an exception: Observe your natural foot position when standing on the ground. If you stand with your toes naturally pointed out slightly, do not try to force your leg into position when riding your horse, as this will create tension in your leg and cause your whole position to become rigid.)

Learning to ride includes the use of your whole body. It is not enough to sit in the correct position on a standing horse. You need to practice the use of your body as the horse moves. Balance comes with experience and correct positioning on a moving horse.

When you are riding, your centre of gravity is located about 10 cm below your navel. In order to maintain your horse's balance, you must align your centre of gravity with that of the horse. Your position will vary depending on the work that you are asking of your horse. This is why jockeys who gallop race horses are hunched over the horse's withers (as the speed of the horse increases, the horse's centre of gravity moves forward) or why dressage riders doing collected work sit deep and further back, helping to slow and collect the horse (as the movement of the horse slows, the centre of gravity moves back).

If you can maintain your balance over the shifting centre of gravity of your horse, your horse will stay balanced, will be more confident with your aids, and will not have to work as hard. No matter what style of riding you are interested in, balance is important. The rider's position can influence the horse's way of going to a great extent. Learning to relax and allowing yourself to feel the horse's movement can greatly add to you and your horse's enjoyment.

Developing a Seat

Lunging is an ideal method for a horse, rider, and instructor to work together to produce a first-class seat. A beginner rider who is lunged on a reliable horse can develop a deep, balanced, and relaxed seat in the saddle. He/She can concentrate on balance and correct position, while enjoying controlled forward motion.

Rider Exercises

There are several exercises which can be used to help increase a rider's suppleness, balance, rhythm, and focus.

An exercise that can be used before the rider ever gets on a horse is to have the rider sit on a barrel that is lying on its side. Have the rider assume a proper riding position with his/her head up, eyes forward, and hands in the proper position for holding two reins. Have the rider rock the barrel from side to side, pushing off and landing with their heels and not their toes, to practice keeping the feet in the correct position. Remind the rider to breathe. This exercise will greatly increase the suppleness in the mid-section of the body (develop usage of core muscles) and will help stretch the back of the calf.

There are also many exercises that can be done while sitting on a horse with a competent handler holding or leading the horse by its halter (which may be placed over or under the bridle), and a lead shank. Do not hook the lead shank to the bit or lead with a rein, as this would be unsafe. The reins should be secured if riding in a Western saddle by tying a knot in the reins at an appropriate length and looping them over the horn, or if riding in an English saddle, by tucking the reins under the stirrup leathers. The rider should be wearing a helmet that fits and is secured correctly, boots with a heel and smooth sole, riding gloves, and a flak jacket is always a good idea. The rider's hair must always be tied back if it is long, and wearing sweaters with a hood is unsafe.

These following exercises should be started while the horse is standing still. Once the rider becomes more confident, and if the horse is quiet and safe enough, some of these exercises may be done at the walk and then the jog/trot, with stirrups or without, as the rider progresses.

- Reach forward with both hands and touch your horse's mane in front of the saddle, then ¼ of the way up its neck, ½ way up its neck, ¾ of the way up its neck, and then try to touch its poll.
- With your right hand, reach around in front of you and try to touch your horse's left hip. With left hand, try to reach around and touch its right hip.
- Reach back with your right hand and try to touch your horse's tail. Do the same with your left hand.
- With both arms stretched forward, rise in your stirrups and hold the position.
- Reach down and touch the right boot with the right hand and then the left boot with the left hand.
- While sitting in the saddle, remove your feet from your stirrups and away from your horse's sides and rotate your feet in circles first clockwise and then counter-clockwise.
- With feet out of the stirrups, stretch your toes down as far as you can and then up as far as you can, repeating several times.
- With your feet out of the stirrups and while sitting straight up in your saddle, stretch your right leg back as far as you can and then forward as far as you can. Repeat with your left leg.
- While keeping a proper seat and position, rotate both arms forward, out to the sides, down, and then back and reverse.
- Do the airplane exercise where the rider rides with arms stretched out to the sides and then swing the upper body right and left.
- Ride with one arm reaching forward and the other back, and switch.
- Punch one fist out straight in front of you and then the other, alternating back and forth in rhythm with the gait of the horse.

Good Balanced Position:
- eyes up
- arms hang beside ribs
- knees and ankles relaxed
- head balanced
- back straight
- balanced on seat bones
- feet and legs under body
- heels down

Problem Position:
"Slumping"
- head and eyes down
- round back
- sitting on buttocks
- rider out of balance
- arms out ahead of body
- knees pinching
- heels up, toes down

Problem Position:
"Chair Seat"
- back straight, but feet and legs ahead
- rider out of balance backward
- knees tight
- heels level

Problem Position:
"Perching"
- too far forward
- stiff, hollow back
- knees tight
- legs too far back
- heels level or up

- Do a posting trot with arms stretched out in airplane formation.
- Sit up straight with arms crossed in front of body at shoulder height.
- Sit up straight with arms crossed behind body at waist.
- With one or both arms stretched in a straight line above the head from the shoulder, rotate the arms both clockwise and counter-clockwise. Keep arms in motion with the motion of the horse.
- With one or both arms stretched in a straight line above the head from the shoulder, rotate one arm clockwise and one arm counter-clockwise. Keep arms in motion with the motion of the horse.

The following exercises will help to improve a rider's strength and flexibility while off the horse. For the abdominal muscles and hip flexors, which are both important to the rider'supper body position:

- Lie flat on the back, bend the knees to avoid strain to the lower back. With your hands behind head, slowly bring the head towards the knees and slowly back to the original position. Rest and repeat.
- Lie flat on the back with one knee bent and the other leg straight. Raise the straight leg but do not point the toe. Lower the leg and repeat with the other leg.

For the back and neck extensors and pectorals:

- Lie on table or bench with arms clasped under it to anchor the upper body. Both legs are raised and lowered with the knees kept straight.

For the hip extensors that help control the thigh and pelvis position:

- Get down on your hands and knees with the head up, looking forward. Straighten one leg and push it to the rear. Hold to the count of five, bring leg to original position and repeat with other leg.

A balance and coordination exercise:

- Stand with the feet apart, head up and arms to the side. Slowly bend the knees, lean forward and raise the arms forward into a position similar to the forward jumping position. Stand up again and repeat.

To strengthen the inner thigh muscles:

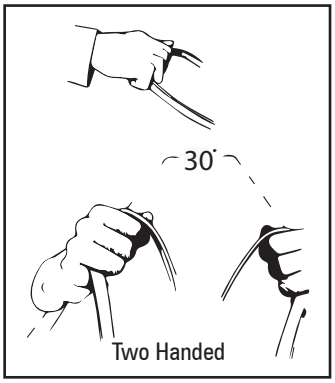
- Sit on a bench and push the knees out with the hands while pushing in with the knees. Tense the muscles for five seconds and relax. Repeat. The same exercise can be done with a large beach ball. This kind of exercise is called an isometric exercise.

For the hip abductors:

- Lie on a bench with the top leg resting on another bench of similar height, raise and lower the other leg slowly. Turn over and repeat for the other leg.

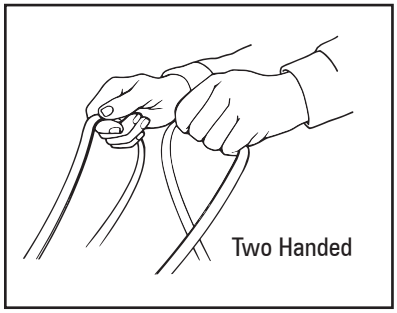
Holding the Reins

Holding the reins in two hands is important for beginner riders, to teach them balance and how the horse responds to different reining aids. You must know how to hold the reins in two hands when schooling horses. Western riders should know how to effectively use two hands before they ride with one hand. English riders always ride with two hands on the reins. When riding Western in one hand, it is most common for right handed people to ride with their left hand and left handed riders to ride with their right hand leaving their "best" functioning hand free to rope, open gates, and so on.



Two Handed Position

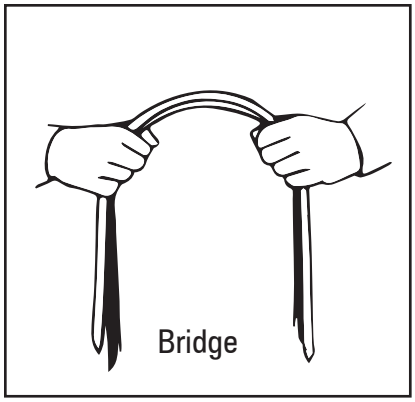
(This is an accepted method for English and Western riding). The reins are held in the palm of the hand by closing the thumb and index finger, not gripping with the other fingers. The hands should be slightly inclined (30 degrees) with thumbs up and the ends of the reins passing up through the hands to the thumbs.

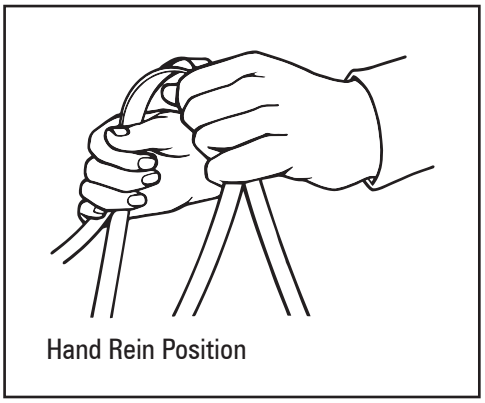


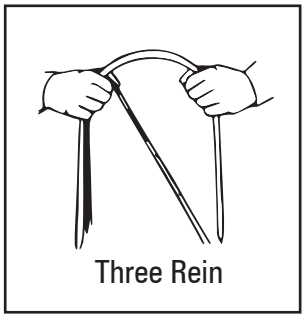
The reins may be held under the little finger or passed between it and the ring finger. The loose ends of the reins should hang over the horse's neck on the right side, although for safety, the loose ends of the reins can be crossed over the horse's neck in case one rein is dropped. To adjust the length of the reins, the left hand should grasp the right rein and the right hand grasp the left rein until the desired length is achieved. This allows you to always have a light contact with the horse's mouth.

Bridge Position

This position is used with split reins. Cross the reins over the neck of your horse so that the loose ends of the reins hang on each side of your horse's neck. Pick up the reins, as though they were one, joined rein. You will now be holding both reins with each hand. As above, the reins may be held under the little finger or pass through the hands up to the thumbs. To adjust the length of the reins in this position, you can slide each hand along the reins, by holding the reins steady with your other hand.

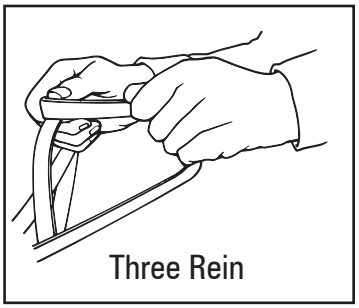





Three Rein

Three Rein Position

The three-rein position is similar to the bridge position. The difference is that one hand will hold the rein from its side and the other will hold its rein as well as the bight (the extra part) of the opposite rein. The single rein is held on the inside or active rein side and switches as the active rein switches. Usually this rein is shortened on the active side.


Three Rein

This rein position is useful when training horses that are advanced enough to be ridden in one hand, but sometimes need to be schooled in two hands, because in this position it is easy to smoothly switch between riding your horse in one hand or two hands.

With Western riding, as horses and riders mature, they will advance on to use a leverage bit held with one hand. They may ride with either hand, with the ends of the reins hanging down the same side as the hand holding the reins.


One handed
with split reins.

Split Rein

Another method of holding split reins is to have no fingers between the reins. The proper method of holding split reins is to have the pointer finger between the reins with the palm down.

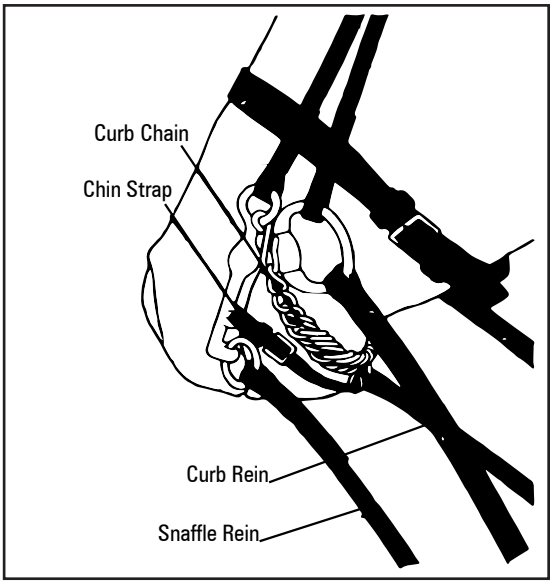
One handed
with romal rein.

Romal Rein

When using romal reins, no fingers can go through the reins. The reins run up through the bottom of the hand and out through the top. The extension of the romal is held with the free hand at least 40 cm from the rein hand.

Four Reins

With English riding, as horses and riders mature, they may advance to use a leverage type bit, such as a pelham or double bridle, but will continue to use two hands on the four reins. The snaffle rein is normally carried outside and underneath the little finger, the curb rein is carried inside the snaffle rein and is carried between the little and ring finger. This allows you to ask with the snaffle rein before demanding with the curb rein.



Rein Effects

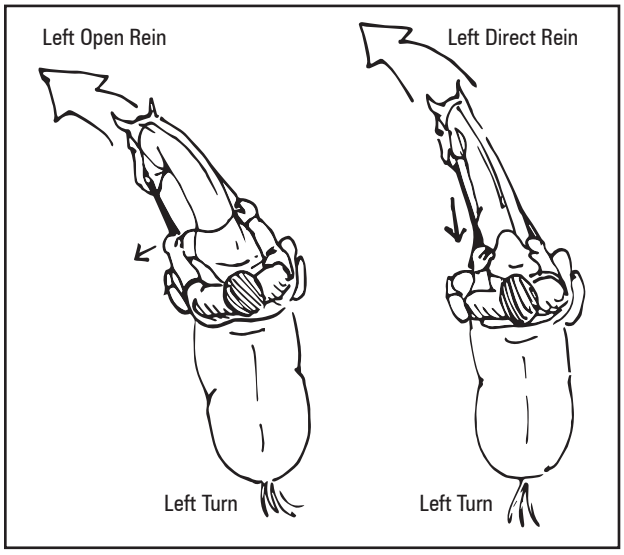
The reins are an important part of the rider's equipment. They can be used in a variety of ways. The rider's hands control what happens to the reins, which are attached to the bit in the horse's mouth. It is important that the rider develop "good hands" so as to be kind to the horse's mouth. You can very quickly ruin a horse by using the reins in a harsh manner and destroy this means of communication to your horse.

The open and direct rein are mainly used for forward turns (open rein) and putting a horse on a circle with an inside bend (direct rein). Positioning the horse's head often occurs with the use of either an open or direct rein.

Open Rein

The open rein is often used on young horses where the rider "opens" the hand away from the neck on the same side they wish the horse to turn into. It directs and encourages the horse instead of forcing him. One of the most important uses of an open rein is in the case of a runaway or any out-of-control horse. An open rein is applied as strongly as necessary until the horse circles down and control is regained. This is called an emergency stop. Caution must be used, however, not to bend the horse's neck excessively as this may cause the horse to lose its balance and fall to the ground, which could result in injury to both rider and horse.

It is always advisable to seek the help of a credible professional for any situation with a horse that does not get resolved promptly. It is important to have either a chin strap (Western) or cavesson (English) to prevent the bit ring from being pulled into the horse's mouth. Rubber bit donuts may also be used on green horses to help prevent the bit from slipping through the mouth, which increases the comfort for the horse.



Direct Rein

The direct rein is a more subtle rein that produces the same action as the open rein. With the direct rein, you apply pressure on the bit by bringing your rein hand back towards your hip. This leads the horse into the turn. There should be a straight line from your elbow to the horse's mouth. For example, if the horse is turning to the left you use the left rein to create the turn.

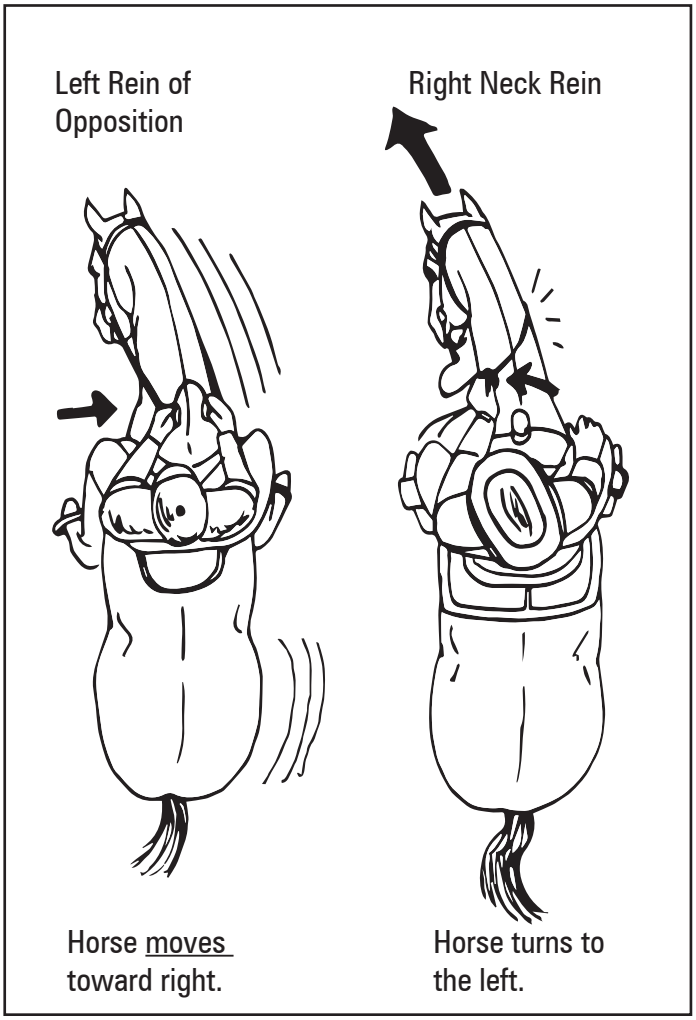
You may apply a one-handed direct rein aid to turn but usually you do not want this much lateral bend in the neck. If riding with two hands and two direct rein aids are given at the same time, the horse should flex, slow, stop, or back. The direct rein is used more often as the horse advances in its training. It is also used to collect the horse or decrease speed.

Indirect Rein

This rein effect is used to apply pressure on one side of the horse's neck. The horse should always look away from the indirect rein. Indirect rein pressure must always be light, and must not be a pull. The rider should keep his reining hand inside his shoulders. If the indirect rein is crossed too far over the neck, the rein pressure will increase on the mouth so the horse will turn one way but his head will go the other, making the horse very unbalanced, and causing the horse to become very confused about the indirect rein.

An indirect rein is assisted by a direct rein in the learning stages. The aids would be indirect rein and leg aid on the same side. If the horse does not turn away from neck pressure, a direct rein assists in getting the horse to look where he is going.

The indirect rein is a lead up to the neck rein and is called a neck rein when the rider advances to one hand. If a neck rein is used properly, the pressure is mainly on the neck, not the mouth. You could think of it as a "touch rein" versus a "pull rein." When the horse turns away from a neck rein, the rider will see part of the horse's opposite eye (inside). It is often used in Western to demand a prompt turn of the horse's shoulders.



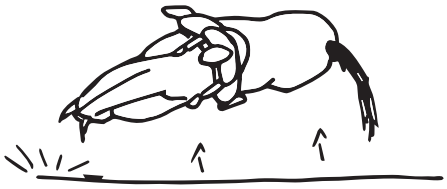
Rein of Opposition

Once a rider is past the beginning stages of riding it is important to learn how to correctly use a rein of opposition.

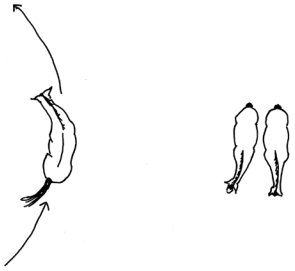
A rein of opposition is a rein used to either correct or supple the horse's shoulders. Therefore it is a great tool to use if the horse is shying, or falling in or out of a circle. When using the rein of opposition, pressure is put on the bit and neck on one side of the horse in order to move his shoulders sideways in the opposite direction. To do this, the rider moves the rein toward their opposite shoulder but keeps it short enough to not cross the neck line. This rein effect requires the other rein to be used as a support rein so the horse does not overbend in response to the rein of opposition. The support rein also helps the rein of opposition reduce forward motion so the shoulders can be moved laterally. In almost all cases the rider assists the rein of opposition with a leg aid on the same side. The other leg is open to allow the shoulders to move. Using your seat to create a weight aid may also be used on the opposite side as the rein of opposition. The reason you sit away from the rein of opposition is because if you are asking the horse to move/lift his left shoulder using a left rein of opposition, and you are sitting on your left seat bone, the horse will naturally want to step left to maintain

his balance under your weight. Conversely, if you sit on your right seat bone (taking your weight off the left side of your horse), while asking the left shoulder to lift and move right, the horse will be better able to move that shoulder.

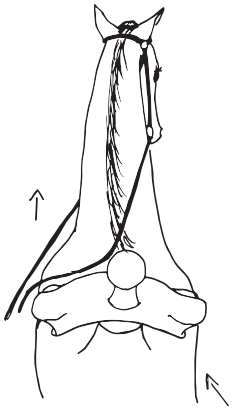
Example: When you ask your horse to canter/lope off on the left lead, you would not sit left. Instead, you sit on your outside (right) seat bone to allow the left shoulder the freedom to move into the canter/lope departure.



Problem: For example the horse falling out of a left circle to go back to friends at other end of arena. Shoulder (pushing right) to the outside of track, head bent too far left to the inside.



Correction: Right rein of opposition, right leg, left seat bone, left support rein, left leg open. If the rider is using a right rein of opposition, he should be able to see the horse's right eye and the horse's shoulders moving left. Always maintain forward movement.



Support Rein

A support rein is a secondary rein used with another rein effect. It is the less active of the two reins but essential for the active rein to do its job. It is usually a holding rein and its position may vary to get the desired result.

The Aids

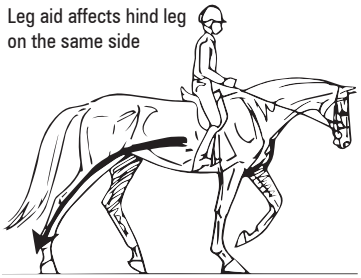
The aids (cues) are the way a rider communicates with their horse so that the horse understands and can be directed by the rider. You use aids or a combination of aids to tell your horse what to do. With proper consistent training your horse will learn to obey these aids.

The goal of training is to get the horse to respond to as light an aid as possible. A light aid is like a whisper, a strong aid is like a shout. The natural aids are your voice, legs, weight, hands. Artificial aids are tools that reinforce natural aids such as spurs and whips.

Natural Aids

Voice Aid

Your voice is a valuable form of communication with your horse. He will know from the tone of your voice whether you are pleased with him or not. Commands should be kept clear and simple. Often a stern "No" is all it takes to stop bad behaviour. "Good boy" is a good way to let him know things are going well. "Whoa" is used to teach a horse to stop, and other voice commands used for lunging include "Walk," "Trot," and "Canter," as well as clucking to ask for a trot, and making a kissing sound to ask for a canter.



Leg Aids

It is the legs that are used first and most importantly to instruct the horse to do something. Leg aids are used to ask for movement, increase impulsion, and control direction of the hindquarters. They are also used to bend the barrel of the horse and move the horse sideways. The legs create the power, while the hands gently guide the horse in the right direction.

- Walk–Squeeze or bump with both legs.
- Trot– Squeeze or bump with both legs.
- Canter/Lope—The inside leg gives the aid gently on the girth, the outside leg gives the aid firmly behind the girth.
- Backup —Squeeze with the legs to cue for movement, then movement is directed backward with pressure of the hand aids.

Turning–The inside leg at the girth creates bend which initiates the turn, the outside leg determines the amount or quickness of the turn (by the amount of pressure applied) and controls the hindquarters.

Weight Aids

The way you carry your weight on your horse is important to you and your horse. The rider can shift the weight in the saddle to help cue for a change of gait or direction. Weight cannot be used alone. It is most effective when used with hand and leg aids. You can use your weight to help balance your horse as it works.

Vertical Weight

To use your weight vertically over the horse you need equal weight in both stirrups and with your centre of gravity balanced over the midline of the horse's back. If you shift your weight in any direction the horse will notice. Use your vertical weight to affect the speed and rhythm of your horse. Leaning forward or back in the saddle will affect the speed of the horse by putting you ahead or behind the centre of gravity. In order to use the position successfully, you must keep your body in a vertical line from the shoulders down to the saddle.

Vertical Weight

Posting to ride a brisk trot is an example of a vertical movement. The height and speed that you post will affect how fast your horse moves and its length of stride. The longer you sit in the saddle, the slower your horse will go. Vertical weight is also used in a downward transition (slowing down from one gait to the next). Imagine that you have become so heavy that you are being pulled down through the saddle. The horse will slow down. What happens is that your pelvic bone tilts back slightly and your weight shifts back.

Horizontal Weight

Using your horizontal weight, means shifting your weight from one seat bone to the other while keeping your body straight up and down. This weight shift can be used in preparation and during lead departures, turns, sideways movements, and circles. Riding without stirrups is a good way to get a strong feeling for weight distribution.

Horizontal Weight

Hand Aids

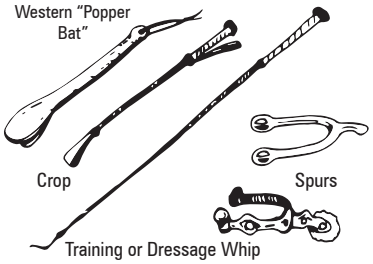
Note: Equipment is just a tool that we use to communicate with the horse, but you first have to be able to use your hands correctly with any equipment. Your feel, timing, and balance all affect how your horse responds to you and the equipment. For example mild bits, when used incorrectly, can still create confusion for the horse.

Your hands are used to guide and help your horse. Use them lightly, so that your horse will keep a responsive mouth. Never pull steadily with all your strength as this will ruin the mouth and encourage your horse to pull against your hand aids. Never jerk your horse's mouth. Good hands come from having a good seat.

Your hands control the energy created by the legs (decreasing speed or allowing speed to increase). They control the forehand of the horse and actions such as bending the horse and controlling direction. Signal your horse by using light pulls and slacking ("give and take") of the reins with your fingers.

Equipment is just a tool that we use to communicate with the horse, but you first have to be able to use your hands correctly with any equipment.

Artificial Aids



- Artificial aids like those in the image, are those that reinforce the natural aids of legs, hands, weight, and voice. They are sometimes used for correcting bad habits.
- Artificial aids must be used with education, self-control, judgement, and purpose, and never with temper.
- Usually one or two taps will be sufficient. Repeated hitting or spurring will only make a horse angry or frantic, and may create a dangerous situation for horse, rider, and others who are nearby.
- Artificial aids must never be used on or near the horse's head.

Changing Direction

When changing direction you must use seat, hands, and legs together to aid the horse for a balanced turn.

Hint: Look up and where you want to go. Your body naturally follows as will the horse.

To Turn to the Horse to the Right:

- Centre your weight evenly in the saddle.
- Ask lightly and open, or draw back the inside rein (if two handed) otherwise lay the neck rein against neck (whenever you apply the neck rein, ensure you do not pull back on the neck rein as this would mean the neck rein is functioning as a direct rein instead, and could confuse your horse. Keep your hand motion forward when using a neck rein).
- When riding with two hands, turn your head, then your shoulders, then your hips in direction of turn (this allows the outside rein to soften as horse's head moves in direction of turn).
- If neck reining, remember the rider should be able to see some of the horse's eye on the side he is turning to as the neck rein is applied. Also, remember that the neck rein is a "touch rein" not a "pull rein." Keep your hand forward as you apply this rein aid.
- As horse steps around, lightly bump at the girth with your outside leg if you want the horse to turn around more tightly on the forehand.
- The outside leg controls the amount of impulsion (go) a horse has and the inside leg controls the bend of his ribcage.
- For a left turn, apply the opposite aids. Use pressure and release with all aids to reward the horse for correct responses.

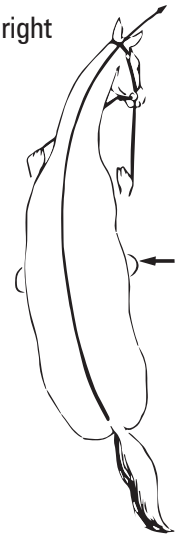
Which Rein are You On?

When riders are being instructed, they will usually be riding in a circle around an instructor. The hand and leg on the inside of the circle (nearest the instructor), are referred to as the inside hand and leg. The hand and leg on the outside of the circle are known as the outside hand and leg. When the inside hand is your left hand (you are going anti-clockwise), you are on the left rein. If you are told to change the rein, this means you turn the horse and circle in the opposite direction. The inside hand is now your right hand, which means you are now riding on the right rein (you are going clockwise).

Riding a Circle

A circle is a continuous bend around at least four points. A circle begins and ends at the same point and the rider should see the same amount of the horse's inside eye all the way around the circle.

Circle to the right



The horse is moving around a turn with both rein guidance (forehand) and leg pressure (hindquarters). Note horse's bent body.

1. As you start to move around the arc of the circle, you want your horse to follow his nose and look where he is going.
2. Ride with a rein in each hand and using your inside rein, slightly tip his nose into the arc of the circle, so that you just see the corner of his inside eye and his head and neck match the arc of the circle. You want to move your inside hand a few inches away from the withers (opening the door). This is using an open rein.
3. The rider's outside leg is used on the girth to keep the horse moving forward; or behind the girth to stop his hindquarters swinging too far to the outside of the circle.
4. Now apply inside leg pressure to arc his spine and rib cage in the same arc as the circle. You want to slightly push his rib cage to the outside of the circle while keeping his head and neck matching the arc of the circle. The arc of his entire body should match the arc of the circle.
5. If he doesn't respond to light inside leg pressure, bump him lightly with your inside leg at the girth until he moves his rib cage to the outside of the circle; then stop bumping with your inside leg as a reward.
6. Remember to keep your horse's shoulder up. You want your horse to stay upright so he learns to move balanced and collected. To keep his inside shoulder up, lift your inside rein slightly above his mane. If your horse does not lift his shoulder, you may then try to use an inside rein of opposition to help him understand to elevate his shoulder, as this rein aid will help shift his weight to the outside shoulder.
7. The rider's focus should be 1/4 of the circle ahead.

When your horse is correctly bent and traversing nicely around the circle, lighten your pressure to reward him and see if he will hold the arc of the circle. Correct him as needed. As the Western horse and rider progress, the slightly open inside rein will become more direct and the bend will be maintained with minimal inside leg aid.

Troubleshooting

If your horse begins to drift in to the centre of the circle, use more inside leg pressure to send him back out. Ensure that you are not leaning in, as your weight will cause the horse to try and balance himself by moving underneath your weight.

If it feels like your horse is falling into the circle and dropping his inside shoulder, lift your inside rein to lift his inside shoulder. You might also have to apply inside leg pressure to send him out.

If your horse turns into the centre of the circle, lighten your rein pressure. Use only a small amount of inside rein pressure and increase it as needed to match your horse's head to the arc of the circle. Anytime your horse bends too much, apply leg pressure on both the inside and outside to help the horse straighten his body and re-establish forward motion. Once your horse is moving forward freely again, you may try again to ask more with the inside rein.

If your horse drifts to the outside of the circle, keep the slight bend in his head and neck with your inside rein and use a light outside neck rein and strong outside leg pressure to send him back into the circle. Sometimes, a horse will follow his shoulders rather than his nose (when a horse pushes to the outside of the circle with his shoulders, there is too much weight on the outside shoulder). In this case, try using a slight reverse bend to help the shoulders move back onto the circle. Use a slight outside rein of opposition (with a reverse bend) to help the horse transfer weight off the outside shoulder. Be careful not to sit over the outside shoulder while you are asking the horse to take weight off it.

Absorbing the Horse's Motion

Four joints are important in absorbing the horse's motion when riding—ankles, knees, hips, and elbows. The upper body should remain as still as possible but not stiff during the gaits. Moving the hips independently allows this to happen.

Correct Position and Aids for Various Gaits

The Walk

The walk is a four beat gait and is a pace that the horse naturally offers the rider. The horse takes long, relaxed steps of equal length and usually overtracks, which means the horse's hind feet step further forward than the hoof prints left by the front feet.

Aids for the Walk: From the halt, the rider asks for the walk by gently squeezing or bumping both legs against the horse's side and by following the movement of the horse's head and neck with his hands and arms.

The Jog/Trot

The jog/trot has two beats to a stride, so it is a two beat gait. The jog/trot can be ridden either sitting or posting.

Aids for the Trot: From the halt or walk, the rider asks for the trot by squeezing or bumping with both legs at the same time. The hands give slightly on the reins and the seat encourages forward motion. You can use a voice aid such as clucking or saying "trot." However, check with your show rules because in some shows you are not allowed to use voice aids.

Rider Position for Trot Work

In a sitting trot, you should remain sitting deep in the saddle, maintaining the same position as when stationary or at a walk. The movement of the horse's body at the trot will cause your hips to make a slight side-to-side motion. This occurs because as the horse is stepping forward with his hind leg his hip drops; thus a following rider will allow his hip to drop at the same time. Allow this motion in your hips but keep your upper body as tall and still as possible.

The rising trot is an easy movement for the rider. When the horse trots, he is springing from one diagonal pair of legs to the other. Let the spring from one pair of legs going forward lift your seat out of the saddle. Your seat returns to the saddle as the other pair spring forward. So as your horse moves each pair of legs in a one-two, one-two beat, you are sitting and rising to the same up-down, up-down beat. Your seat should be raised by the movement of the horse, returning quietly to the saddle without any loss of balance. With each stride of the trot, the horse "bumps" the rider out of the saddle (and slightly forward), followed immediately by the rider returning to the saddle. This "rise and fall" motion should not be forced but look natural for the amount of energy that the horse is using to trot. Do not actively try to push the body up and down, or it will make your shoulders and arms appear to be bobbing. To rise, use the muscles in your abdomen, buttocks, and thighs rather than pushing from the stirrups. The shoulders stay upright and do not tip forward any farther than a 20 degree incline at the waist. The hips move forward.

The weight on the stirrup irons should not vary. The contact of the lower legs should not vary. Elbow and shoulder joints should be supple, allowing the hand to maintain the correct position. As you rise, the angle of your elbow joint will open, closing again as you return to the saddle. Your hand should maintain the same contact at all times.

Two Point Position

The purpose of the two point position is to get the rider's weight off the horse's back and to teach the rider how to use his or her core muscles to balance. The two point position is very close to the basic position except the rider's seat is raised forward off the saddle and with their weight deep in their heels, the rider balances by using abdominal, buttock, and thigh muscles. **It is called two point because the rider's legs offer two points of balance. When the rider is in two point position, the horse can more easily jump and the rider can stay secure when the horse does go over a jump.**

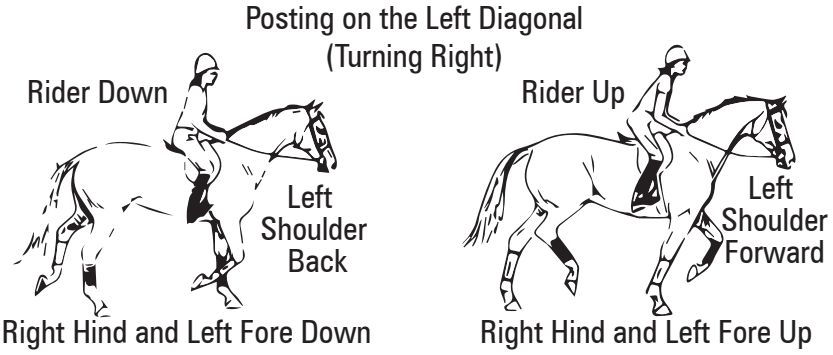
Riding Diagonals

The trot is a two beat gait which allows the rider to post. To ride the correct diagonal the rider will rise and fall in the same motion as the outside front leg and inside hind leg of the horse. For example, if you were riding to the left, you would rise when the horse's outside (right) front leg and inside (left) hind leg are off the ground, and sit when these legs are on the ground. To check to see if you are on the correct diagonal, you may glance at the movement of the horse's shoulders to determine the position of the legs.

The reason for being on the correct diagonal is that your horse's inside hind leg is in the best position to bear the full strain of your weight. When riding in a circle, the horse will find it easier to balance, if the rider is in the saddle when the inside hind leg and the outside foreleg are on the ground. Because the horse uses his legs in diagonal pairs, rise as the outside shoulder goes forward and sit as it comes back.

Posting on the Right Diagonal

In the illustration below, the rider is on the left rein, which means the rider is posting on the right diagonal. As the horse and rider pair travel left, the rider will sit when the left hind leg and right foreleg touch the ground, therefore it is helpful to think of naming your diagonal according to which front leg is on the ground as you sit.



When doing a rising trot in a straight line, a rider may use either diagonal pair to post. However, if you are going to ride in a straight line for a long time; it is advisable to change diagonals quite often so your horse remains balanced (about every 1/3 kilometre).

To change diagonals is very simple. All you do is sit two bumps of the trot and rise again. So instead of sit-rise, sit-rise, you would sit-sit-rise and this would change you to the correct diagonal.

Aids to the Canter/Lope

There are three beats to the canter/lope stride, so it is a three beat gait.

Before asking for a canter/lope prepare the horse for the upward transition by half halting to encourage collection. Apply your outside leg **behind** the girth to cue for the correct lead. Your inside leg remains at the girth and is used at the same time as the outside leg, but not as firmly.

Aids for the Western Lope

- Signal with a slight hand motion to forewarn the horse.
- Slight inside rein pressure to elevate the shoulder and to slightly direct the horse to the inside.
- Outside leg pressure and kiss (vocal aid).
- As the horse and rider advance; more outside seat aid will be given to start the lope from the outside hind leg of the horse and the rider's power source will be used.

Riding a horse at a canter/lope is different than riding at a walk or trot. The front end and hindquarters rise and fall alternately. This affects how you ride the movement. As the front end comes off the ground, you should move your hips forward. As the front end comes down, your hips should follow the movement. This will allow you to follow the motion of the canter/lope. With practice, the rider will feel the three beats of the lope and should allow their hips to move in a forward, up, and down triangular pattern.

The movement of the horse is absorbed by your hips. When you start to canter/lope you may catch yourself "pumping" (your shoulders move in rhythm to the horse). Your shoulders should stay still. A problem beginners may have is losing the correct lower leg position. Once your seat improves you will be able to maintain proper leg position.

At the canter/lope, a horse will travel on one lead or the other. This is important for smooth turns and the horse's balance. In order to determine which lead you are on, you should glance down at the horse's shoulders (without bending over) to see which shoulder is reaching more forward. This will indicate the horse's left or right lead. The rider's hips and legs will also take up the same "lead" position as the horse. If you are sensitive to this "feel" you can also determine the lead using your body, (Your inside hip will move slightly more forward with the horse's inside front leg if you are on the correct lead. If you are on the incorrect lead your outside hip will feel as though it is being twisted awkwardly forward and to the outside).

Gallop

A gallop has four beats, and like a canter/lope, has a leading leg. At a gallop, the horse is at full stretch—it lengthens out its body and neck, and each leg is fully extended as it powers forward over the ground. When riding the gallop, lean forward, lighten your seat slightly out of the saddle, and extend your arms as your horse stretches its neck forward with each stride. It helps to ride with shorter stirrups when galloping, as this makes it easier for your weight to be lifted out of the saddle.

The Aids to Halt:

At the halt, the horse must stand still and straight, its weight distributed equally over all four legs. This is termed "standing square." The English horse should remain "on the bit" (with light contact through the reins to the hands). The Western horse should stand relaxed on a somewhat loose rein when halted.

The English Halt: Ask your horse to halt by giving him cues from your seat and voice, then hands. Sit deep and squeeze lightly with your upper legs. At the same time, say whoa (if not being judged) and increase pressure on the mouth with your hands on the reins, which will block the forward movement. As soon as the horse halts, soften your hands and relax your legs.

The Western Halt: The Western rider sits deep and extends weight down the back of their legs into their heels. The verbal command "whoa" is given and reins are applied only if the horse does not stop. If the rein aid is used, two direct reins are applied with increasing pressure until the horse does stop, then they are immediately released.

The Rein Back or Backing: The rein back (backup) is carried out from the halt. It is a two beat diagonal gait and should be fluid in motion. The steps should be straight, active and unhurried, but of good length. The feet must be picked up and put down cleanly, with the horse maintaining its correct outline and remaining on the bit. The horse should not raise its head or hollow its back, and should back in a straight line.

The Aids to Perform the English Rein Back: The horse should be calm and relaxed at the halt. Squeeze both legs against the horse's sides, as you tilt your pelvis forward slightly and apply equal pressure with both hands on the reins. Leg pressure tells the horse he has to move somewhere. Because forward motion is blocked by the hands maintaining contact on the reins, the horse moves backward. The moment the horse responds by stepping backward you should release the rein pressure then "ask" again if needed.

Western Backup: Sit square and lean slightly forward to take weight off of the horse's back. Start with your hands asking the horse to flex at the jaw and poll by applying pressure with two direct reins, then take your legs off the horse and cluck (Note: greener horses may become confused when they first hear the cluck, as they may think they need to go forward. With patience and over time, they learn the difference of the combined cues). If the horse resists, then add your legs to bump the horse to elevate its back and loosen its shoulders to encourage it to backup. Always keep your body relaxed when you ask for a backup, because when the rider is stiff or braces it makes it very difficult for the horse to lift its back and move off the rein pressure.

Transitions

Three P's of Transitions
1. Preparation
2. Positioning
3. Patience

A transition refers to a **change** in gait(s) either upward or downward. The ideal is to execute in a clean, balanced manner. When you ask for a transition, the key is to make it happen like clockwork.

Preparation for the transition is more important than the transition itself and is of utmost importance to success. Do not rush into a transition. Do not surprise your horse by suddenly stopping or turning it without half halting to warn it that you are about to make a change.

Upward Transitions	Downward Transitions
• Halt to Walk Walk to Trot/Jog • Trot/Jog to Canter/Lope	• Walk to Halt Trot/Jog to Walk • Canter/Lope to Trot/Jog
Transitions can increase or decrease through more than one gait (example: walk to canter)	

Collection

What is collection? In order for a horse to be able to perform any type of movement or maneuver efficiently, it needs to have some aspect of collection. Collection happens when the horse reaches forward with its hind feet, bringing its hindquarters more "under" itself, causing its back to round and lift and giving its whole body an upward arch from nose to tail. When a horse is collected, its feet travel lighter across the ground during all gaits.

An exercise the rider can do in order to better understand this concept is to get down on the ground on their hands and knees. Make as big a space a possible between your hands and knees by placing your hands as far forward as possible and your knees as far back as possible. Notice that this causes your back to go down or "hollow out."

Now keeping that big space between your hands and knees, try to pivot on your knees and you will notice that it is very difficult because your back has sunk and you have no strength to lift your front end up and over.

The same thing happens to a horse when it is not collected or is "strung out." If its hind legs are not reaching up as it moves, there is a lot of space between its front legs and hind legs, which causes its back to sink. Because a horse's head and neck are attached to its front end, it is heavier than its hindquarters, making it very difficult for it to use its front quarters efficiently to stop, turn, lope or canter, jump; anything involving athletic ability.

Now move your hands and knees closer together and notice what happens to your back–it arches like a cat, making it much easier to lift your front end, pivot on your knees and move one hand across in front of the other.

The same applies to a horse that is collected because when it is reaching up with its hind legs, its hindquarters are more "under" its body and its back becomes arched or rounded, making it much easier to move its front end and perform the required movements.

How to Achieve Collection

There are several steps required in order to teach a horse to collect and to maintain collection while moving.

At a walk, the rider needs to put his or her legs on the horse to get the horse to start reaching up with its hind legs so that its hind legs are closer to its front legs.

Once that is happening, start to make the horse bend using an inside, direct rein with possibly a little bit of rein of opposition, to tip the horse's head slightly to the inside and help lift the inside shoulder. An outside support rein helps to keep the horse from over-bending.

While using the outside leg to keep the horse moving forward, press and release with the inside leg so that the horse is going forward around the inside leg and the ribs are moving slightly to the outside.

Once the horse is bending willingly, start to use the outside support rein to straighten the horse's head more. Use both legs to drive the horse's hind end up while using both hands to pick up a feel of the horse's mouth, causing its back to round slightly (never hold a horse's nose behind the vertical as this can cause unnatural physical strain throughout the horse's neck and back). Ideally, the horse should carry its nose just in front of the vertical.

Don't expect your horse to stay in this shape for more than a few strides to begin with as this is very hard work.

Once the horse becomes comfortable doing this at the walk, practise it at a jog/trot and then at the lope/canter.

Half Halt

The half halt is a brief, almost invisible signal to the horse to re-balance its weight on the hindquarters and therefore become lighter in the rider's hand. It is achieved by resisting the forward motion by using the hand and seat aids. The rider closes his or her legs on the horse's sides and pushes it up into the rider's hands, which just for a second blocks the horse's forward movement. This is followed immediately with rewarding the horse by the rider relaxing the leg and softening the hand again.

The half halt can be used to:

- rebalance the horse in any gait;
- warn the horse that the rider is about to ask him to do something such as change direction; and
- build impulsion within each stride, which can be stored to produce collected work or released to produce extended work.

The half halt is probably one of the most difficult things to learn or explain and takes time and practise to perfect for both horse and rider. Your hands, seat, and leg aids should be used in combination to cue the horse for changes of gait.

General Aids for Upward Transitions

The rider's legs apply pressure on the horse's sides to increase the forward movement. At the same time the hands give slightly and the rider's seat follows the movement of the new gait. The rider's upper body should remain tall and still so as not to unbalance the horse as it moves upward. As soon as the horse is in the desired gait, the pressure from the legs should be released. The rider will maintain the gait through the combination of aids.

General Aids for Downward Transitions

Relax, breathe out, and quit following the rhythm of the gait with your hips. The rider's upper legs apply pressure while the hand(s) and seat block forward movement. Only apply rein pressure if the horse does not respond. The pressure on the reins, along with downward pressure in the saddle will discourage the forward motion as the horse moves into the lower gait. As soon as the horse becomes balanced into the new gait, the backward/downward pressures are released and the gait is maintained by the rider's correct use of the aids.

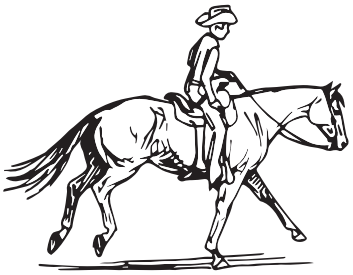
Lead Changes

Simple Lead Change

A simple lead change allows you to slow to a trot/jog before cuing your horse to change from one canter/lope lead to the other. Simple lead changes are easier exercises to help the rider to understand the combination of aids and the cues needed to make flying lead changes.

The Flying Lead Change

The flying lead change occurs when the horse switches leads in the air without changing the lope or canter gait. Horses often do flying changes naturally while exercising in the pasture. The rider must learn how to prepare and properly cue the horse to change to the new lead. The moment to cue the new lead is when the horse is balanced (straight) and during the period of suspension that follows each canter/lope stride. It is only at this point that the horse will be able to perform a flying change. Some horses tend to become excitable or nervous when they are introduced to this movement, so be sure to teach the horse carefully and patiently. Some examples of when you would use the flying lead change are in competition over fences, equitation patterns, Western riding class, reining, barrel racing, and pole bending.



Left Lead

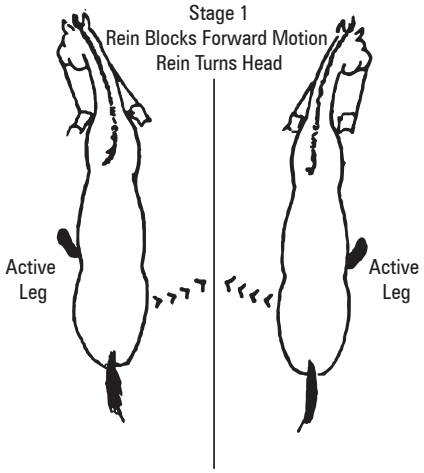
Front and Hind Legs Switch in Air.
(Flying Lead Change)

Right Lead

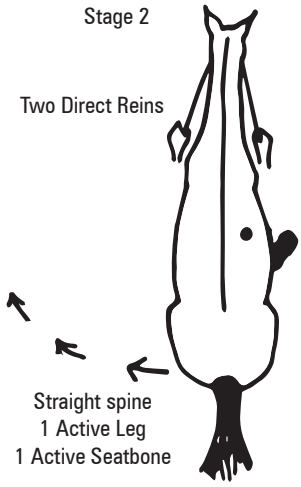
Progression of Lateral Skills

Turn on the Forehand

A turn on the forehand is executed from a halt and then the horse moves its hindquarters around its forelegs in a circle. The inner foreleg acts as a pivot and the outer foreleg describes a very small circle. It can be done through 90, 180, and 360 degrees. The outer hind leg crosses over in front of the inner hind leg to show a tendency for forward motion.

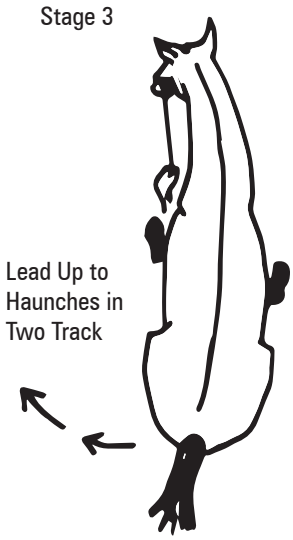


Stage 1—In the early stages of training the horse and rider, the horse's neck is bent with an open or direct rein toward the rider's active leg. This makes it easier for the rider to move the hindquarters.



Stage 2—As both horse and rider become more competent, the aids will change to two direct reins with only enough pressure to prevent forward movement. The horse's neck will straighten. The hindquarters will be moved with one active leg while the other leg will be neutral, allowing the horse's hips to move. The rider can also add slightly more weight to the seat bone on the same side as the active leg. Be careful and strive for correct movement, not speed.

Stage 3–Advanced. This exercise is used to increase suppleness, and is a lead up to collection, haunches in, and two track movements.



Step 1–Create forward motion, then bend around inside leg.

Step 2–Stop the horse in the bent position and apply these aids:

- Inside rein direct to maintain a soft relaxed bend; rein may change to a rein of opposition to prevent horse from reversing his bend when outside leg is applied. Outside rein essential as support. Be careful not to over-bend the neck or horse will not be able to give his hip.
- When the horse relaxes in the bent position, slowly add the outside leg to push his hip to the inside. The horse will usually try to bend around the outside leg so both reins and the inside leg are essential to keep the horse in the correct shape. Only ask for one to two steps until the horse starts to relax when asked to do the skill.
- Another approach is to leg yield off one leg; hesitate, then while maintaining the shape of the leg yield, use the opposite leg to push the horse's outside hip in.

Leg Yield

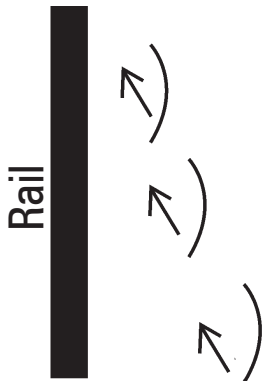
Any time the horse moves sideways or forward and sideways in response to a leg aid, he is performing a leg yield. As riders advance and they want the horse to reach up further with his hind legs and elevate his back, this exercise will help. This exercise is also very beneficial to help develop flexibility in the front end.

To teach the leg yield, begin at the walk. These are the cues for a leg yield to the left, reverse them for a leg yield to the right. Use light, two-handed rein contact on half circle to the right (clockwise). Use the following cues to arc the horse's body on the half circle's track.

- Light right rein contact to tip his head to the right (until you can just see the corner of his eye).
- Light left rein contact to prevent his head and shoulders from falling to the right. This is the support rein.
- Right leg pressure at the cinch to push his ribcage and movement to the left.
- Keep your outside (left) leg in a neutral position, applying pressure only if needed to block a leftward swing of your horse's hindquarters, or to add impulsion if he loses his "forward" motion.

If your horse does not want to move its hindquarters freely, add a little more right bend to encourage the hindquarters to displace to the left.

- Keep the horse moving forward and sideways diagonally to the left.
- The horse's head should be tipped toward rider's active leg (tipped right).
- The horse's body should be arced around rider's active leg (right leg).
- For the rein aids: use an active rein of opposition (right rein—increase this rein to help active leg create impulsion in hindquarters). The second rein is supporting (left rein).
- For the leg aids: use an active leg (right leg) to move the horse laterally, and keep the second leg (left leg) neutral unless it is needed to block hindquarters or to add impulsion.

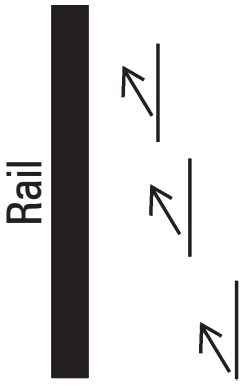


Reverse Arc Bend

This exercise is never taught until the horse is very comfortable in a natural arc bend (going forward in a circle both ways with head tipped slightly to the inside. A reverse arc bend occurs when the horse travels the circle with his head slightly to the outside, his ribs slightly to the inside and crossing his outside front leg in front of the inside front leg. The horse is taught this exercise for suppleness, shoulder control, front end flexibility, and as a lead up to turn on the haunches. It can be done at both the walk and the jog/trot.

Aids for Reverse Arc Bend: Create impulsion and slowly change the natural arc bend of the circle to the reverse arc bend. The rein on the outside of the circle becomes a rein of opposition, the rein on the inside becomes supporting (keeping the horse from over-bending and assisting in getting some lateral movement from the inside shoulder). The leg on the outside of the circle creates bend and helps the rein of opposition move the shoulders slightly to the inside. The other leg maintains impulsion. When performing reverse arc bend, it is helpful to sit away from the rein of opposition. This allows this shoulder to lift easier and move away from the rein aid. Of course, once the horse understands the exercise, returning to a centred seat is important. Once the horse and rider are competent at this exercise, it may be used in preparation for a turn on the haunches. Remember, always return to a natural arc bend before asking for the turn on the haunches or the horse will be shaped totally incorrectly.

Two Track



The two track is the movement in which your horse moves forward and sideways in a diagonal direction making two sets of parallel tracks. It is an excellent activity for developing muscle strenglth, coordination, and a suppleness. Some horses will begin a two track more easily at a trot/jog because they have more forward motion to help them move. The two track is a great exercise for horses. It encourages them to round their back, lift their shoulders, and move their weight onto their hindquarters. Cuing for the two track is similar to cuing for a side pass, except that your rein tension will be lighter and your active leg pressure is more pronounced so that your horse will maintain forward motion. A correct two track requires the horse to either remain straight in its body as it moves along the diagonal or be slightly bent in the direction of travel. Leading with either the forehand or the haunches is incorrect. The two-track is more advanced body control exercise when compared with the leg yield. It is often useful to transition from the leg yield to two track.

To do this:

- keep the horse moving forward and sideways diagonally;
- the horse's spine will be straight (the horse will be looking away from the direction of travel (Western Leg Yield);
- the shoulders and hips of the horse are an equal distance from the rail;
- for the rein aids use two direct reins; and
- for the leg aids use the active leg opposite side of the direction of travel to move the horse laterally, with the passive leg supporting the forward motion.

Utilizing the above exercise, a rider can help a horse transition from the Western Leg Yield to the Western Two Track.

To excute this transition you would:

- Keep the horse moving forward and sideways diagonally in a leg yield;

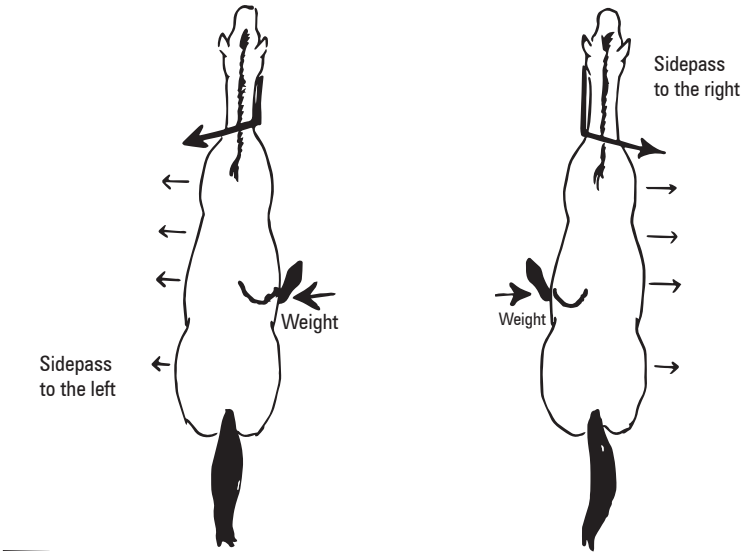
- Change the horse's bend into the direction of travel;
- For the rein aids use the inside direct rein to tip the horse's nose into the direction of travel, while the outside direct rein supports the frame and bend.
- For the leg aids use the active outside leg to move the horse laterally into the direction of travel, with the supporting inside leg being used to maintain forward motion.

The Side Pass

In the side pass, your horse moves sideways stepping to the side with both the forehand and hinquarters moving together evenly. The cues required for a smooth side pass involve control of the forehand with the reins and of the hindquarters with the rider's legs. A side pass performed correctly to the left should result in the right legs crossing over in front of the (left) supporting legs (and vice-versa when side passing to the right).

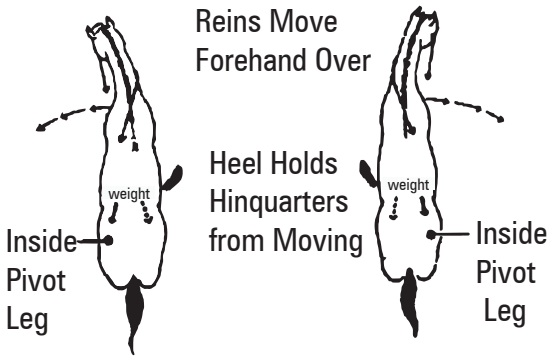
Aids: Active rein may be indirect, direct, or rein of opposition (whatever is needed to keep the horse from leading with shoulders).

- Use an active leg on the same side as the active rein;
- The second rein is supporting (doing what it has to do to make the active rein work);
- The second leg is open and inactive unless the horse is crossing behind, then it will create forward motion; and
- The seat aid may be active on the side of the active leg. If the horse's shoulders get ahead of his hips, use a rein of opposition to slow the shoulders and let the hips catch up.



Turn on the Haunches

In the turn on the haunches, the forehand moves around the hindquarters. The inside hind leg acts as a pivot. The horse must keep the hindquarters in one place as the rider cues the horse to move the forehand around step by step. It can be done through 90, 180, and 360 degrees. The outside foreleg should cross over in front of the other as it steps around the hindquarters.



The turn on the haunches is more difficult than the turn on the forehand because the horse must transfer some weight to the hindquarters in order to do it. It may be done from a halt or from a small walking circle. Sometimes it is even helpful to perform some small trotting circles prior to asking for the turn on the haunches, as this creates impulsion and will encourage the horse to lift its back and transfer weight to its hindquarters. It also helps to relax the green horse if he is becoming frustrated.

Aids: inside rein open, outside rein indirect rein or neck rein, inside leg open, relaxed, and not blocking the inside shoulder from moving, outside leg active.

Care must be taken that the rider does not try to pull the horse round with the indirect rein or the horse's shoulders, neck, and head will all be out of position to turn properly. The spine can be straight or looking slightly in the direction the horse is moving. It is a good exercise to do to get the horse's weight on the hindquarters. Turning on the haunches is used in reining, gymkhana events, and leads up to rollbacks for cattle work, and reverse in the Western pleasure class.

Haunches In

This is an excellent exercise to increase suppleness, collection, produce smooth lope transitions, and prepare for flying lead changes. In this exercise, the horse bends around the rider's inside leg, then moves his haunches inward off the track. The aids are the same as those described in the advanced turn on the forehand, except the horse must maintain forward motion (the rider's inside leg produces this). It may be done at any gait.

Shoulder In

This is a three track movement to increase suppleness and assist with balance and collection. If the horse is coming directly toward you, you can see the legs moving on three tracks.

Track 1—is the closest to inside of arena where the horse's inside front leg travels.
Track 2— is the middle track where the horse's outside front leg is directly in front of its inside hind leg.
Track 3— is the closest to rail where the horse's outside hind leg travels.

Aids: Implusion, bend, inside rein direct or rein direct or rein of opposition and outside supporting or indirect. Inside leg creates bend; outside leg works with hands to bring forequarters (shoulder) in off the track.

The Rollback

The rollback is a change of direction at the canter/lope, combining the stop and turn into one motion. Your horse should bend into the turn, turning on its hocks and using the inside hind foot as a pivot (inside foot is designated by the direction of the turn), with its front legs close to the ground to maintain momentum. A rollback to the left will come out on the left lead (and vice versa).

The rollback is more animated than a turn on the haunches. It is a lope in one lead, stop, sweep 180 degrees over the hocks away from the lead leg and immediately exit on opposite lead.

Aids for the Rollback: Ask the horse to stop by saying whoa, using direct rein pressure if needed. Do not rush the turn when you are learning, but instead wait for the horse to regain his feet after completing the stop, then apply the indirect rein or neck rein to ask for the rollback. The active rein will tell the horse which way to turn and the same side active leg will encourage acceleration in the turn. (Helpful hints: Do not try to accelerate the turn until the horse is part way into the turn and is sure what is expected of him. Do not pull back on the active rein, rather move your active rein forward through the turn to help follow the horse's neck as he turns. This makes it easier for the horse to "sweep" into the new direction.)

Extended Stride

An extended (lengthened) stride means the horse steps longer (not faster) in whichever gait it is in.

The Counter Canter

The counter canter demonstrates the horse's suppleness, coordination, balance, and obedience. A counter canter is a movement in which the horse lopes/canters on the outside lead. It involves the horse cantering with the left leg leading, while being worked on the right rein, and vice versa.

The counter canter must only be attempted when a horse can pick up and hold correct leads consistently. The horse must keep its head and neck bent over its leading foreleg, so that it is, in fact, bent in the opposite direction to that in which it is moving.

FINAL NOTE

- A final note on safe riding: always prioritize safety when working with and riding horses.
- Assess your environment before you mount.
- Do a final check on your tack and riding attire before mounting.
- Be courteous and aware of other riders and their safety.
- Always remember that your horse is a herd animal and will respond to a certain degree to the actions and reactions of other horses around him. He will also be sensitive to new situations.
- Stay alert, but calm.
- Don't assume your horse will behave a certain way.
- Remember to enjoy the ride.
- There are more of the English movements described in the Dressage and Jumping Manuals.

Riding Safety Checklist

Riding	
Safety Tools	**Check**
Inexperienced riders are adequately supervised until they are competent.	
Train to be a competent, confident rider. Take lessons, practice, and be open to learning new techniques from coaches and mentors.	
Wear the right gear—boots with a heel, task and weather appropriate clothing, etc.	
All riders should be familiar with the rules and etiquette for their riding facility, farm, or trail. If there are no riding policy or rules posted, ask for this document. If it doesn't exist, work as a club to develop criteria based on best practices.	
Put away all distractions and focus on the task at hand—no texting, phone calls, or selfies while working (mounted or dismounted) with horses.	
Give yourself and other riders enough space to safely tack up and ride.	
Ride within your abilities. Don't go too fast for the terrain or environment.	
Communicate with other riders. If you must ride alone, tell someone where are going and when you'll be back. Have a plan in place to check in.	
In a group, always ride to the least experienced rider's capabilities. I.e., do not trot or lope/canter if the least experienced horse or rider cannot cope, watch steep grades or hills, and do not leave a horse separated from the pack.	
Carry a pocket knife or multi-tool in case you need to cut your horse or yourself free.	
If you're riding outdoors, check the weather reports before setting out. Have a plan for what to do if you're stuck in thunder, lightning, hail, or other extreme weather. Decide ahead of time what to do if you encounter dogs, other wildlife, or biting/stinging insects.	
Know the location you are riding in, including the municipal address or legal land description in case you need to call emergency services. Designate a certified first aider, know the location of a phone, fire extinguisher, first aid kit, epi-pen, etc.	
Do not use equipment beyond your training capabilities such as spurs, whip, chambon/de gogue, or draw reins.	
Rules of the Riding Arena	
Safety Tools	**Check**
When riding in an arena with other riders it can become like a busy highway. It is important that you follow some basic rules to help keep the traffic flowing and to prevent accidents.	
Riders must close gates behind them when they enter or exit the arena. Keeping the gates closed at all times ensures that horses will not bolt out of the arena. It is a good idea for riders to dismount and lead their horses through the gate.	

Be aware of others around you. Be careful not to cut anyone off.	
Keep at least 1.5 metres (six feet) of space all around when possible (or one horse length between riders). The rider following another should be able to see the heels of the horse in front of him. Keep out of bunches.	
Horses moving slower are given priority for using the outside track, and riders working faster must move to the inside track.	
When riders are working in different directions, those riding on the left rein are given priority for using the outside track. Those working on the right rein would move to the inside track. This rule means riders know they will pass oncoming riders, left shoulder to left shoulder.	
When working at the walk, a rider should use the outside track to keep out of the way of faster horses, unless all of the horses are traveling at a walk.	
If you have to stop for any reason, such as to adjust tack, you must move off the track to the centre of the arena.	
When exiting the arena, do not rush. Leave the arena at a walk, in single file.	
Safety on the Trail	
Safety Tools	**Check**
Riding with a group of people on a trail can be a lot of fun. There are some basic rules to follow for the safety of people and their horses. Don't show off. This is not the time or place.	
Always allow one horse length or more between yourself and the next rider.	
Have a designated, experienced lead rider (trail boss) and someone experienced to bring up the rear. This will keep your group as a tight unit. Keep a calm horse at the front and rear of the group.	
If someone needs to stop, to adjust equipment, etc., have everyone stop. This will prevent runaways as horses left behind may try to catch up to horses that have continued on ahead. If there is a runaway horse all riders should stop. A horse is a herd animal and will likely return to the group.	
When crossing roads, have everyone line up along the road and cross over together at the same time when traffic is clear. This gets the group across safely and quickly and prevents a long string of horses crossing the road. Reassemble in a line on the other side.	
If you are riding and get caught in a thunderstorm, avoid riding under trees, on hills, or along stream beds. Try to obtain shelter under a lean-to shed or a properly grounded barn. Horses can be a high risk in electrical storms especially if they are wearing metal shoes. Try to stay in a low, heavily forested area.	
Suggested equipment to take on a ride: • protective clothing or carry rain gear; • sun screen and hat; • carry small first aid kit, phone, hoof pick; • pocket knife, water/sponge, wire cutters, and rope.	

Avoid trail riding alone; but if you do ride alone tell someone where you are going and when you expect to return.	
Avoid riding at night on roads or highways. Wear light coloured clothing and put reflective tape on rider or tack if you choose to ride at night.	
A red ribbon tied into the horse's tail indicates a kicker, so stay well back from such a horse.	
A blue ribbon tied in the horse's tail indicates a stallion, so use caution.	
Be patient with less experienced riders.	
Knowledge of proper horsemanship with regular use and review of safety guidelines will make horse experiences safer and more enjoyable. Recognize that there are no short cuts to becoming a knowledgeable horseman or woman. Be prepared to spend considerable time developing safe horse handling and riding skills.	
Keep an open mind, continue to seek more information, and be receptive to ideas of reputable, experienced people. If you have a problem with your horse, or are unsure how to safely handle a situation, do not hesitate to seek professional advice. Remember, safety is everyone's responsibility!	
Riding on or Near Roadways	
Safety Tools	**Check**
Wear highly visible, reflective clothing in addition to your other riding gear.	
Warm Up and Cool Down	
Safety Tools	**Check**
Warming up, as a rider, is a good idea.	
After your ride you cool your horse down, groom it, and offer sips of water until it has regained its breath and normal body temperature.	
Mounting	
Safety Tools	**Check**
Ensure all horses are trained to remain immobile while the rider is mounting. No exceptions.	
Mount from a mounting block if possible. This reduces strain on the rider's hips and muscles.	

Train to mount from both left and right side to create equal strength and dexterity on both sides of the rider's and horse's body. This also comes in handy if, for whatever reason, the rider is forced to mount from the off side on a trail ride or due to an injury.	
Dismounting	
Safety Tools	**Check**
Learn an emergency stop or what to do in case of an unscheduled dismount.	
Ensure all horses are trained to remain immobile while the rider is dismounting. No exceptions.	
Rider Balance and Centre of Gravity	
Safety Tools	**Check**
Ensure the horse and rider have proper balance and speed for the conditions of the footing.	
Gallop	
Safety Tools	**Check**
This gait can easily escalate into a dangerous situation. Ensure all galloping is done by an experienced rider on familiar, adequate footing, and that control is constantly maintained.	
Halt	
Safety Tools	**Check**
For safety reasons it is critical that a responsive halt is established on all horses.	

Chapter 1 Biosecurity

Information about vaccination and testing requirements in this chapter refers to: Infectious disease control recommendations for biosecurlty and vaccination by Katharina l. Lohmann (WCVM), University of Saskatchewan (March 2008) and may be found online at http://cms .abvma.ta/uploads/WCVM_ INFECTIOUS_DISEASE_ CONTROL.pdf

AEF Biosecurity Outreach: Plan, Protect and Prevent–www.albertaequestrian.com/Biosecurity

Alberta Veterinary Medical Association: Biosecurity www.abvma .ca/BiosecurityIAbout-Biosecurity.asp

Canadian Food Inspection Agency: Equine Infectious Anemia http://inspection .gc .ca/anima ls/terrestria1-animals/diseases/ reportable/eia/eng/13 29698749489/13297 03176989

University of Guelph–http://www.equineguelph.ca/Tools/biosecurity_201l.php

California Department of Food and Agriculture:
Biosecurity Toolkit for Equine Events-www.cdfa.ca.gov/ahfss/Animai_Health/Equine_Biosecurity.html

University of California Davis: generalinformation on EHV-1-www.ve t med.ucdavis.edu/ceh/ehv1_general.cfm

American Association of Equine Practitioners: Information for Horse Owners- www.aaep.o rg/

For complete information about premises identification, animal identification, and animal movement, please go to www.agric.gov.ab.ca or contact the Alberta Ag-Info Centre at 310-FARM (3276)

How to Wash Hands–http://assets.vancitybuzz.com/wp-content/uploads/2014/01/Screen-Shot-2014-01-07-at-4.22.58-PM.png?7ecf8a

Ergonomics–http://www.hippolis.fi/innohorse/safety/good_practices/ergonomics_tools_and_machines

Preventing the Spread of Disease–http://www.omafra.gov.on.ca/english/livestock/horses/facts/prev-disease-spread.htm

Zoonoses–http://www.abvma.ca/content/116/Zoonoses

https://www.abvma.ca/Biosecurity/Zoonotic-Disease.asp

Scent Free Workplaces–http://www.ccohs.ca/oshanswers/hsprograms/scent_free.html

Chapter 2: Trailering Horses

There is a good list of tips here: https://www.aspca.org/pet-care/virtual-pet-behaviorist/horse-behavior/tips-trailering-your-horse

Chapter 3: Psychology of Horses and their Handlers

Handlers are assigned or take on ability-appropriate tasks. Coaches and parents may refer to the North American Guideline for Children's Agricultural Tasks. Please refer to http://www.nagcat.org/nagcat/

Parents and coaches are aware of age-ability characteristics, and what might be safely assigned to the child or youth. Please refer to Principles of Child Development at http://www.nagcat.org/nagcat/?page=nagcat_prm_childdev.

Chapter 4: Horse Identification

Oklahoma State University website's listing of breeds throughout the world–http://www.ansi.okstate.edu/breeds/horses/

Chapter 5: Conformation and Evaluation

https://www.aspca.org/pet-care/virtual-pet-behaviorist/horse-behavior/handling-your-horses-hooves

Chapter 6: Movement

http://www.equestrianandhorse.com/equus/gaits.html

http://www.equmed.com/?p=318

http://practicalhorsemanmag.com/article/5-common-sport-horse-injuries-11606

Chapter 7: Selection and Buying

The University of Nebraska has a web page about selecting and buying a horse, at: http://ianrpubs.unl.edu/epublic/pages/publicationD.jsp?publicationId=60

Chapter 8: Horse Health

How to Take Your Horse's Vital Signs–http://blog.smartpakequine.com/2011/01/how-to-take-your-horse%E2%80%99s-vital-signs/

http://www.equinevetservice.com/vitalsigns.htm

Oral Care and Oral Medications–https://www.aspca.org/pet-care/virtual-pet-behaviorist/horse-behavior/teaching-your-horse-open-his-mouth

http://thalequine.com/thal-equine-client-handout-giving-your-horse-oral-medications/

How to Give an Intramuscular Injection–http://www.extension.org/pages/29835/how-to-give-your-horse-an-intramuscular-injection#.VTKK_iFVikp

Problems with Old Age–http://www.horse-canada.com/magazine_articles/the-mystery-of-equine-dementia/

Taking the Horse's Temperature–www.youtube.com/watch?v=tnz12oCRX5E

University of Guelph–New Horse Health Check Poster at www.equineguelph.ca/education/store.php

Core Vaccine Guidelines– www.aaep.org/-i-165.html

Proper Bandaging Technique–www.youtube.com/watch?v=3L-WLPIOuo from the Hagyard Equine Medical Institute

Chapter 9: Feeding Your Horse

Digestible Energy and other information is presented in Novak, Susan PhD and Anne Kate Shoveller PhD. 2008. Nutrition and Feeding Management for Horse Owners. Edmonton, Alberta: Alberta Agriculture and Rural Development. Available online at: http://www1.agric.gov.ab.ca/$Department/deptdocs.nsf/all/agdex12189/$FILE/460_51-1.pdf

Horse Digestion Guide–www.youtube.com/watch?v=maWxvKl-gq4

Chapter 10: Facilities

The National Farm Animal Care Council released the Code of Practive for the Care and Handling of Equines in 2003. https://www.nfacc.ca/codes-of-practice/equine

Emergency Prepareness for Farm Animals and 72 Hours Prepared available on the Government of Canada website at www.getprepared.gc.ca.

Chapter 11: Grooming the Horse

http://www.wikihow.com/Groom-a-Horse

http://www.equusite.com/articles/basics/basicsGrooming.shtml

Chapter 12: Equipment

Helmet Fitting–http://www.troxelhelmets.com/uploads/files/helmet-correct-angle.jpg

Chin strap position–http://www.troxelhelmets.com/uploads/files/helmet-correct-fit.jpg

Straps–http://www.troxelhelmets.com/uploads/files/helmet-correct-strap.jpg

When to Replace a Helmet–http://www.riders4helmets.com/2011/10/when-should-i-replace-my-helmet-expiration-dates/

Cleaning Your Helmet–http://www.troxelhelmets.com/safety/helmet-care

Safe Riding Equipment–http://horses.about.com/od/Riding_Clothes_and_Helmets/tp/Equipment-You-Can-Wear-To-Stay-Safer-While-Riding-Your-Horse.htm

Using a chain lead shank–https://www.youtube.com/watch?v=Xb62R6UgVAo

Chapter 13: Groundwork

Restraint Techniques–http://www.thehorse.com/articles/10512/restraint-techniques

http://americashorsedaily.com/restraining-a-horse-for-the-vet/#.VTKOKiFVikp

Chapter 14: Riding

What to do in a Thunderstorm–http://petcaretips.net/lightning_horse.html

Suggested video for riding without reins: Stacy Westfall at the https://www.youtube.com/watch?v=-Pg1EbXbZO4

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