VHSA HORSEMANSHIP CHALLENGE

STUDY GUIDE

AUTHOR: JORDAN TOERING (CO-CHAIRMAN)
VHSA JUNIOR COMMITTEE MEMBERS:
HELEN LOHR (CO-CHAIRMAN), EMMA BISHOP, RILEY KING, KAYLA WOLFE

VHSA HORSEMANSHIP STUDY GUIDE

The VHSA Horsemanship Challenge Study Guide is intended to aid riders who wish to participate in the annual VHSA Junior Horsemanship Championship Competition held at the Lexington National Horse Show, as well as non-competing juniors who wish to learn more about horsemanship. It aims to provide a quick way to "brush up" on one's basic horsemanship knowledge, however it is suggested that basic skills such as wrapping, bridling, and bandaging also be practiced before taking the exam. Good luck!

The competition consists of the following phases:

Written Examination – 20% of total score

Practicum Examination – 30% of total score

First Round of VHSA Hunter Seat Medal Finals – 50% of total score

The written phase consists of a multiple-choice test that focuses mainly on terminology and general horse anatomy. The practicum phase consists of a one-on-one meeting with a Practicum Judge in which participants are asked to identify tack, equipment, and other horse care supplies. Several basic skills (variations of wrapping, bridling, etc.) are also commonly tested. (It is important to remember in this phase that using one's own personal experiences to help explain answers will boost scores.) The final phase tests the riders' ability to navigate a hunter seat equitation course, as each individual's first round VHSA Medal Final score will count as 50% of his or her overall horsemanship score.

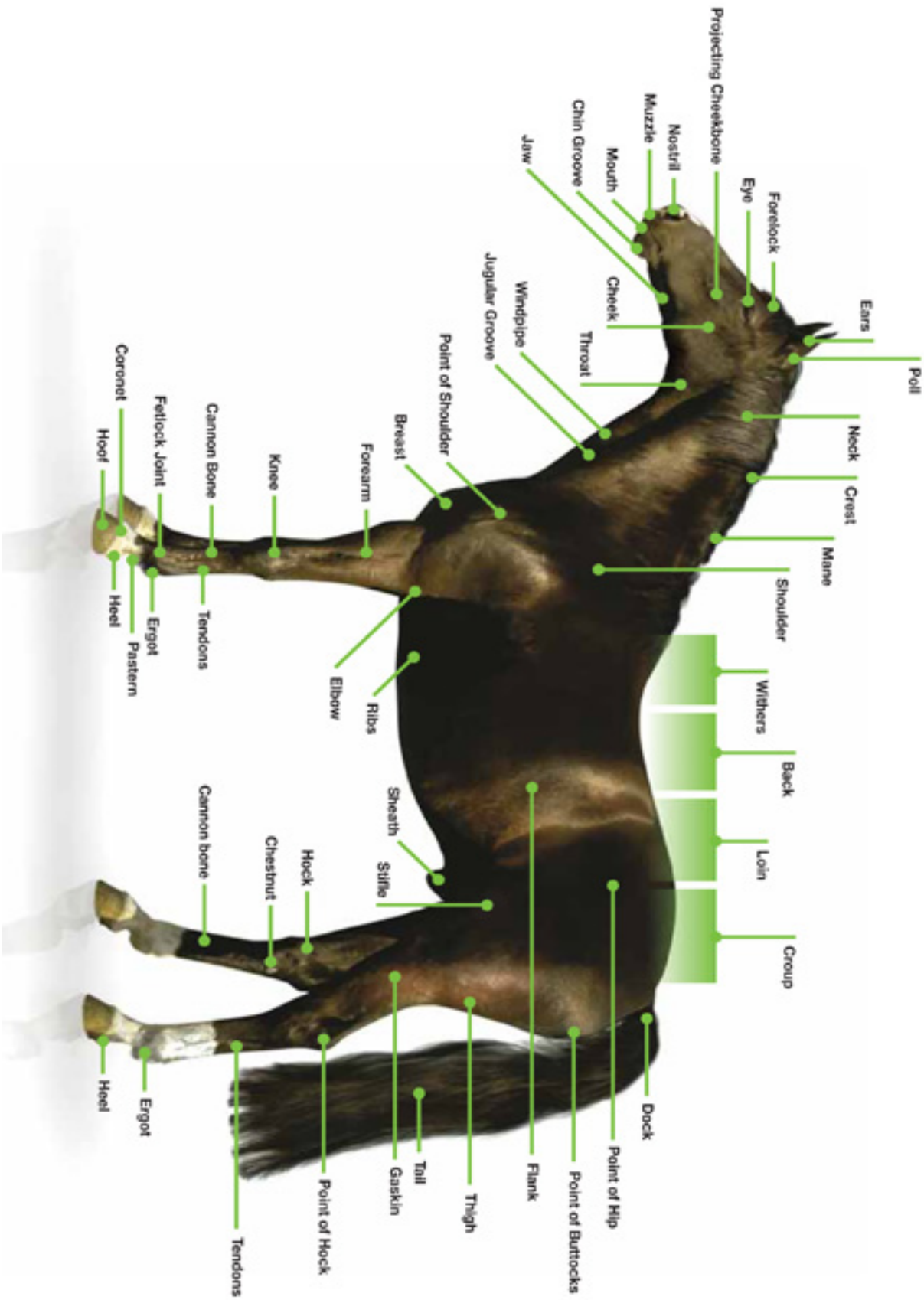
The VHSA Horsemanship Challenge Study Guide is broken into the following topics:

- Equine Anatomy & Physiology
- Bandaging
- Equine Health
- Medications
- Equine Nutrition
- Shoeing
- Tack & Equipment
- Miscellaneous
- Stride Measurements

The following information is an abbreviated form of the EAP Horsemanship Quiz Challenge Study Guide, along with additional information from several outside web sources (cited in the back of this document.) More extensive/detailed information can be found on the USHJA website.

TABLE OF CONTENTS

EQUINE ANATOMY & PHYSIOLOGY

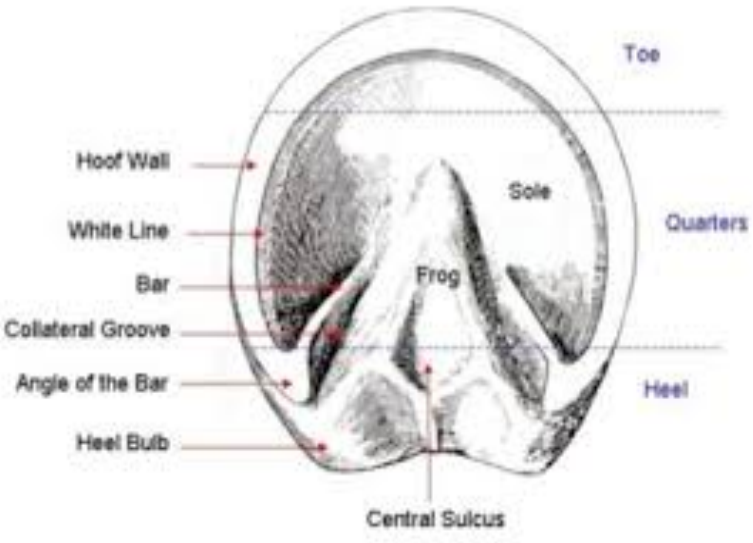


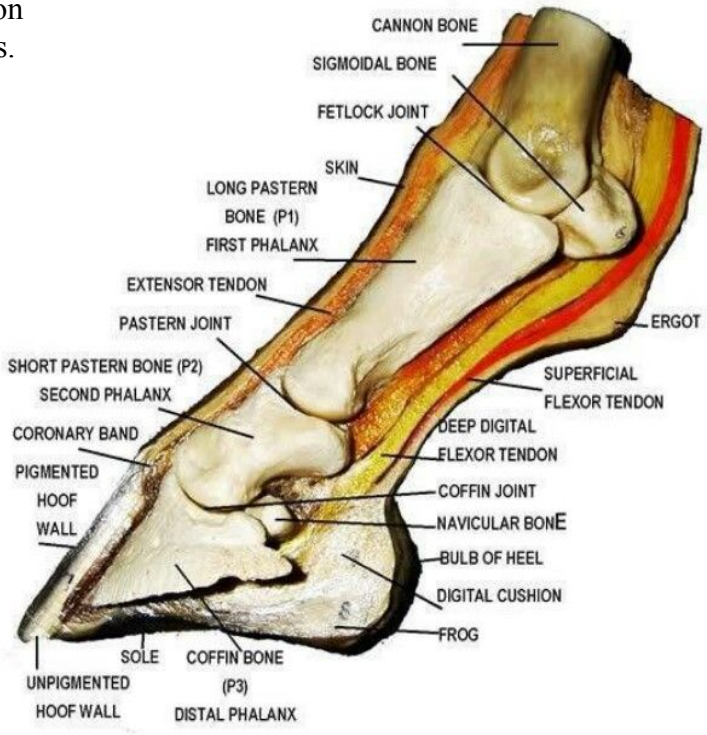
GENERAL INFORMATION:

- Horses are measured in hands (4 inches each) at the highest point of the wither.
- The horse's body contains just over 200 bones. The alignment of these bones determines the horse's conformation, movement, mechanics, and efficiency.
- **Joints** occur every place two or more bones meet. They minimize frictional forces between bones and stabilize skeletal structures during movement. Torque and uneven loading are key factors in joint injuries.
- **Ligaments** connect bones to each other across a joint. They stabilize the joint and prevent over-flexing and twisting. They are not as elastic as tendons and therefore tear more easily. Examples include suspensory and check ligaments.
- **Tendons** connect muscle to bone and are protected by tendon sheaths filled with synovial fluid. They stretch and contract to help disperse concussive forces. Elasticity is compromised in damaged tendons, which are prone to re-injury.

HOOF STRUCTURE:

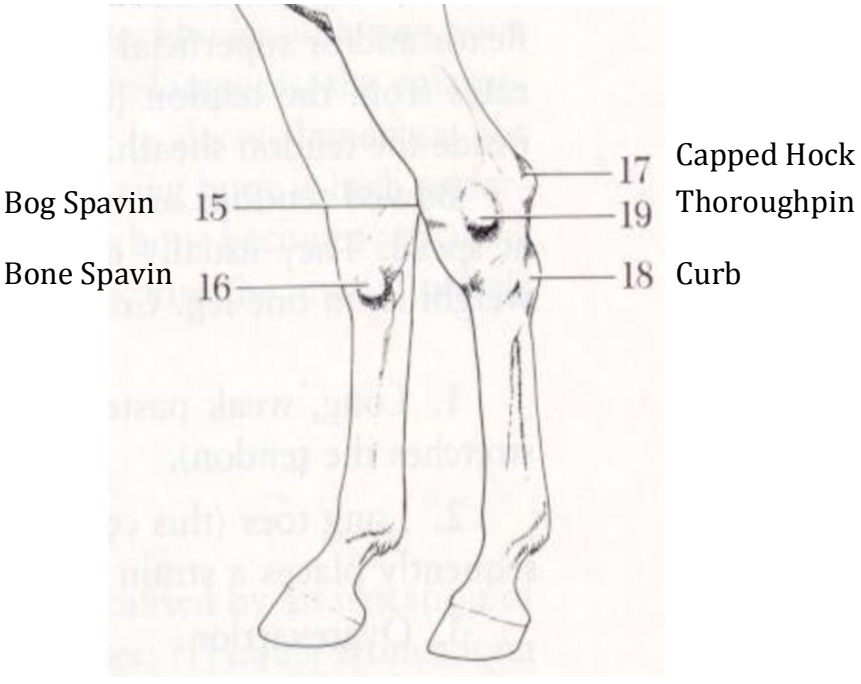
- The front legs typically bear 55-60% of the horse's total weight.
- The function of **long pastern bone** is to increase the flexibility of the fetlock joint and reduce concussion. The length, flexibility, and slope of the pasterns greatly affect the horse's movement and the smoothness of its gaits.
- The **short pastern bone** is located between the long pastern and coffin bones. The rounded edges allow the hoof to twist in order to adjust to uneven footing.
- The **navicular bone** is boat-shaped, relatively thin, and has limited blood supply. It functions as a fulcrum and ball bearing for the deep flexor tendon that passes underneath it.
- The **coffin bone** is completely encased in the hoof and determines the shape of the hoof. Its function is to provide for the attachment of the deep digital flexor tendon and protection of blood vessels and nerves.





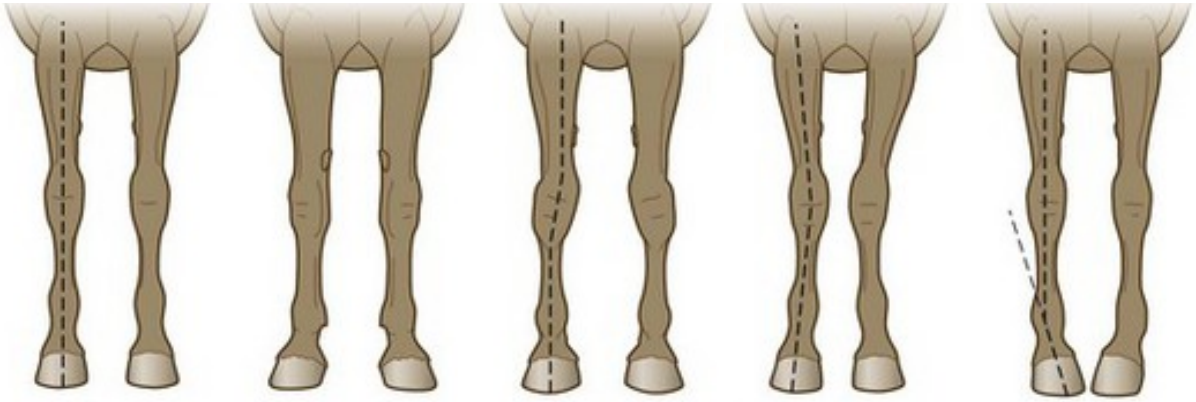
GENERAL CONFORMATION FAULTS:

- **Splints** are hard, visible bumps located on the splint bone, which is along the inside of the cannon bone. They may be caused by poor leg conformation such as bench knees, acute injury from one leg striking the other, or other kicks/blows to the leg. As the injury to the ligament connecting the splint and cannon bones heals, the calcium-producing body forms scar tissue on the leg.
- A **bog spavin** is a fluid buildup in the hock due to inflammation. It appears as a round, moveable swelling on the inner hock.
- A **bone spavin (jack spavin)** is degenerative joint disease in the hocks. It appears as a bony enlargement on the inner and lower hock.
- **Capped hocks** are caused by direct blows to the site of injury (commonly due to kicking stall walls). They are located on the point of the hock.
- **Thoroughpins** are windpuffs of the Achilles tendon behind the hock. They appear as moveable swellings above the back of the hock.
- **Curbs** are caused by inflammation or tearing of the plantar tarsal ligament at the back of the hock.
- **Windpuffs** are soft, fluid-filled swellings located near the back of the fetlock joint, resulting from inflamed deep digital flexor tendon sheaths.
- **Parrot mouthed** horses have a jaw abnormality in which the upper teeth protrude over the lower teeth.
- **Sway backed** horses have a spine that rounds down toward the ground, giving the topline a concave appearance. Indicates weakened ligaments and muscular attachments. Long backs are more likely to sway and induce chronic pain than short backs.

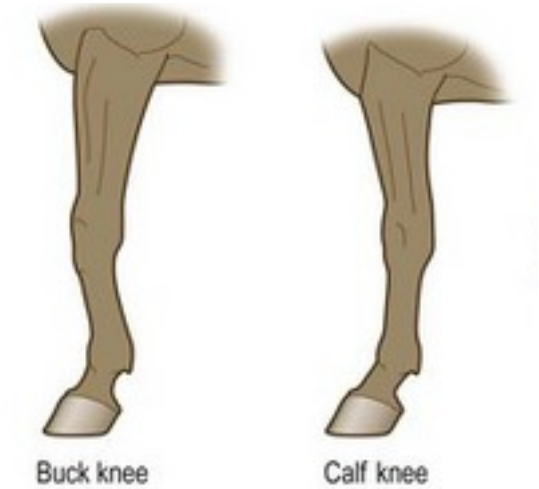


FRONT LEG CONFORMATION FAULTS:

- **Bench knees** occur when the cannon bone is not directly underneath the knee. Instead, it is set on the outside of the knee, which predisposes the horse to splints.
- **Bowlegged** horses have knees that point away from each other.
- **Knock-kneed** horses have knees that point towards each other.
- **Pigeon-toed** or "toed in" horses have feet that point toward each other.
- **Splayfooted** or "toed out" horses have feet that point away from each other.
- **Calf kneed** (back at the knee) defines a knee that is set too far back.
- **Buck kneed** (over at the knee) defines a knee that appears to protrude forward over the cannon bone.
- **Short, upright pasterns** are poor shock absorbers and may predispose a horse to navicular or ringbone.
- **Long, sloping pasterns** are weak and predispose a horse to soft tissue injuries and bowed tendons.
- **Club footed** horses are prone to bruising and stress in the coffin and navicular bones due to the high heel and short toe.



Correct Toed out Bench kneed Knock kneed Toed in

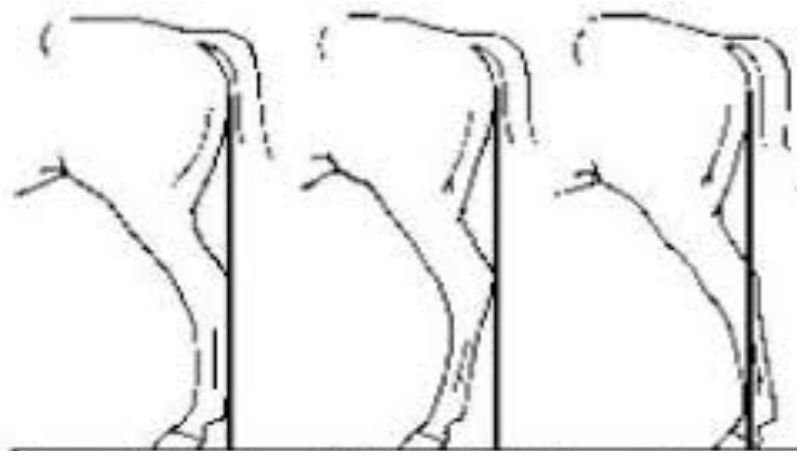


Buck knee Calf knee

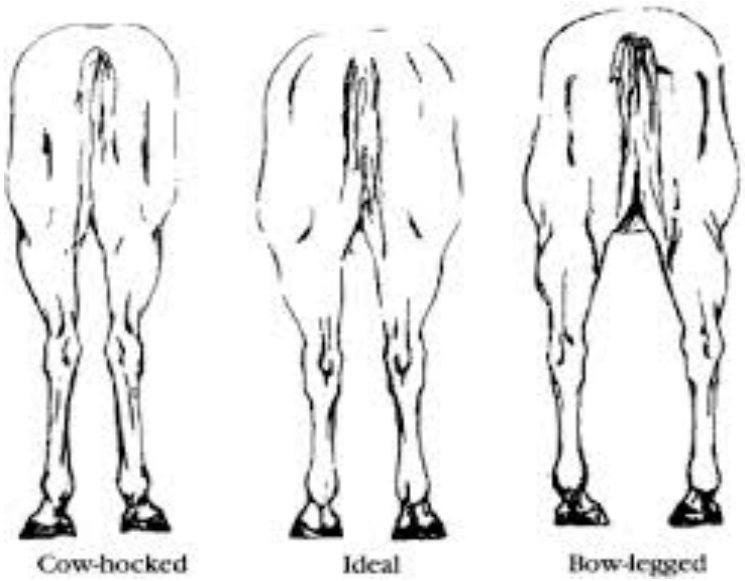
Club foot

HIND LEG CONFORMATION FAULTS:

- **Bowlegged** horses have cannon bones that rotate inward and hocks that rotate outward.
- **Cow-hocked** horses have cannon bones that rotate outward and hocks that rotate inward.
- **Toed out** horses have fetlocks that are directly under the hocks, but the toes turn out under the fetlocks.
- **Camped out** horses have hind legs that are set behind the plumb line that runs from the point of the buttock through the point of the hock, down the back of the cannon bone and to the back of the heel bulbs.
- **Post-legged** horses have hind legs that are too straight in the hock angle.
- **Sickle hocked** horses have hind legs that angle in under the body.



Post-legged Sickle-hocked Camped-out

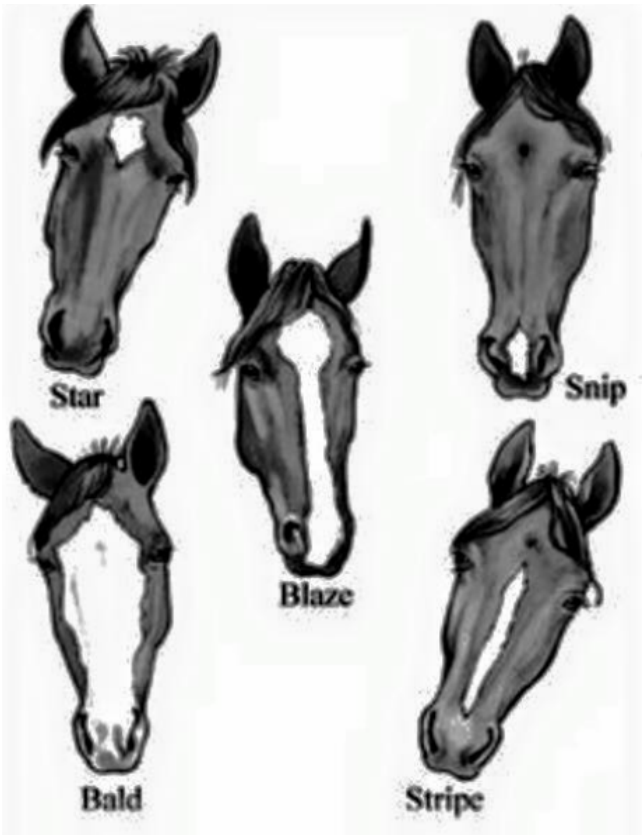


Cow-hocked Ideal Bow-legged

MOVEMENT:

- A horse's average stride measures 12 feet long.
- A horse's walk has four beats, the trot has two beats, the canter has three beats, and the gallop has four beats with a moment of suspension.
- **Interfering** occurs when one leg strikes the other during exercise.
- **Plaiting** occurs when the horse moves as if on a tightrope.
- **Forging** occurs when the toe of the hind foot makes a sound as it hits the front foot on the same side at the trot.
- **Over-reaching** occurs when the toe of the hind foot grabs the heel of the front foot causing injury.
- **Paddling** occurs when the foot swings outward. Typically occurs in the front.
- **Winging in** occurs when the foot swings inward toward the opposite leg.

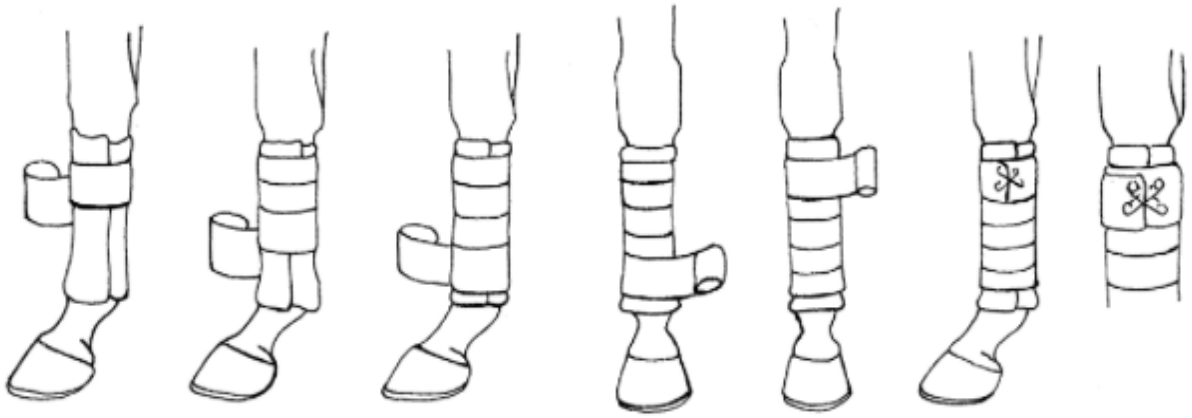
MARKINGS:



BANDAGING

STANDING WRAPS:

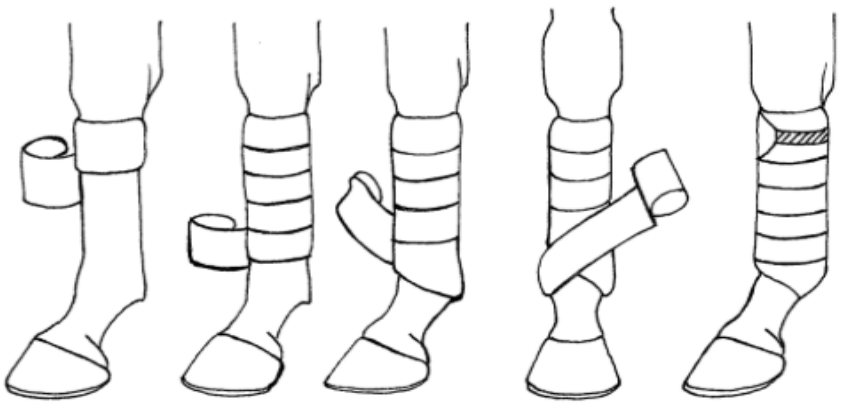
- Standing bandages should be applied in pairs (both fronts and/or both hinds), and the same individual should bandage all legs to ensure consistent tension is used.
- Bandages should be only be applied to clean and dry legs.
- Bandages should be smooth, wrinkle-free, uniformly pressured, and firm.
- Bandages should be applied from front to back (counterclockwise on left legs and clockwise on right legs) and tension should never be placed across the tendon.
- When removing bandages, never re-roll the bandage as it comes off the horse's leg, as this increases the potential for injury.
- Standing wraps should be reset at least every 12 hours.



Correct Bandaging

POLO WRAPS:

- Polo wraps are used to provide support and protection during exercise.
- When wrapping, make sure to drop the wrap around the bottom of the fetlock joint and bring it up on an angle in front. This should create an upside down "V" at the front of the joint, providing maximum support.



Correct Bandaging of Polo Wraps

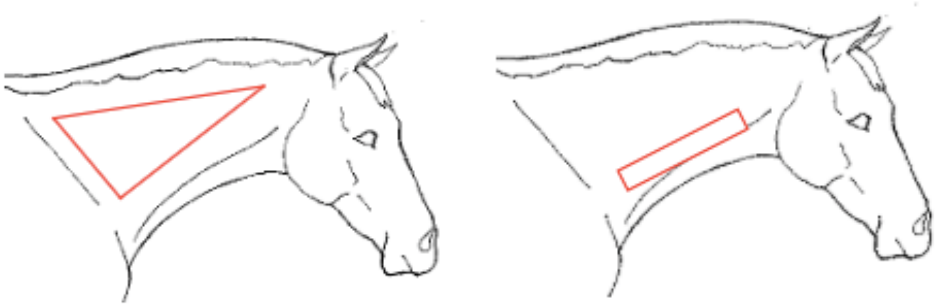
EQUINE HEALTH

VITAL SIGNS:

- A horse's normal temperature is between 99 and 101 degrees.
- A horse's normal heart rate is between 30 and 45 beats per minute.
- A horse's normal respiratory rate is between 12 and 25 breaths.

INJECTIONS:

- Injections can be given in several forms: IM, IV, Sub Q, or Intra dermal. The two most common types are IM and IV.
- **Intramuscular (IM)** injections may be given in the neck, rump, thigh, or pectoral muscles. Neck injections should be given within the triangle outlined in the diagram below.
- **Intravenous (IV)** injections are placed in the jugular vein, which runs parallel to the underside of the neck. If blood spurts vigorously from the needle, it is likely the carotid artery has been hit. Medications should never be injected into the carotid artery, as they could go directly to the central nervous system and cause major health risks. The jugular vein is outlined in the diagram below.



WOUND TYPES:

- **Incisions** are clean cuts caused by sharp objects. These may bleed and require stitches.
- **Lacerations** are tears with jagged edges that are caused by rough/irregular surfaces. These may also require stitches.
- **Abrasions** are scrapes or sores that resemble road rash.
- **Punctures** are narrow, deep wounds that can affect underlying structures.
- **Contusions (bruises)** are often caused by kicks or blows. While the skin may remain intact, the underlying blood vessels and tissues may be damaged.
- Infected wounds can be treated with SMZs and other medications.

WAYS TO PREVENT LEG INJURIES:

- Standing wraps
- Polo wraps
- Boots
- Poultice
- Liniment
- Sweating
- Icing
- Cold hosing

LAMENESS:

- Most lameness is found in the front legs and feet.
- In most cases of front leg lameness, the horse's head will bob in order to shift the weight of its head and neck away from the sore limb. The head rises when the affected leg bears weight and dips when the weight is shifted onto the sound leg.
- If a horse develops heat and lameness in one foot shortly after being shod, the most likely cause is a high or "hot" nail penetrating the sensitive hoof sole.
- **Abscesses** are infections under the sole of the hoof and vary in pain. The horse may have an elevated digital pulse or swelling. Abscesses must be drained in order to heal properly, and can often be helped by soaking in epsom salt.
- **Laminitis** refers to any inflammation of the hoof and frequently leads to founder, which occurs when the coffin bone attachment is weakened. In extreme cases the coffin bone rotates toward the sole, compressing arteries and veins, and inflicting severe pain. Symptoms include shifting weight to the hind legs, sensitive or hot feet, and general unwillingness to load weight on the front feet.
- **Navicular** syndrome is a degenerative condition that occurs when any of the following structures becomes inflamed or sore: navicular bone/bursa, deep digital flexor tendon, or supporting ligaments of the navicular bone. Initial symptoms may include mild lameness, short/choppy strides, landing toe-first, and frequent stumbling. Some predispositions to navicular syndrome include small feet, narrow heels, upright pasterns, and long toes with low heels.
- **Ringbone** is arthritis of the pastern joint and/or the coffin joint. New bone growth builds up around either of these two joints due to degenerative joint disease (DJD). Some predispositions to ringbone include pigeon-toed horses and those with short, upright pasterns.
- The drug Isoxsuprine can be used in horses with laminitis or navicular in order to relax the smooth muscle that surrounds the small blood vessels in the hoof. This in turn widens the blood vessels and increases blood flow to the hooves.

DENTAL CARE:

- Horses have five types of teeth: Incisors, canines, premolars, molars, and wolf teeth.
- Teeth are typically floated once a year to smooth any sharp edges.
- Wolf teeth should be removed in order to reduce interference with the bit.

COLIC SIGNS:

- Kicking or biting at belly
- Lying down at unusual times
- Pawing
- Restlessness
- General discomfort
- Lack of manure or a change in manure consistency
- Sweating
- Elevated pulse and respiration
- Lack of appetite
- Flehmen (lip curling)
- Reduced digestive sounds
- White or dry gums
- Dark red or purple gums

COLIC PROTOCOL:

- Check vitals
- Check for manure presence & consistency
- Call vet
- Remove hay, grain, & water
- Hand-walk
- Monitor closely in small area
- Administer Banamine (only after veterinarian approval)

COMMON VACCINATIONS:

- Rabies
- Strangles
- Tetanus
- Influenza
- Potomac Horse Fever
- Encephalomyelitis (sleeping sickness)
- Rhinopneumonitis (Equine Herpes Virus- EHV)
- West Nile virus

- A titer test is a lab blood test that checks for the presence of certain antibodies in the blood stream. It is often used to determine whether or not a horse is immune to a certain virus or needs vaccination (especially Lyme disease.)

COGGINS:

- A negative coggins test is required every 12 months for competition. It is a test for equine infectious anemia.
- A health certificate may be required for competing or for crossing state lines.

DE-WORMERS:

- Common signs of parasite infection include: loss of weight, loss of condition, diarrhea, lack of appetite, dull coat, and colic.
- The four most common types of internal parasites are strongyles (blood or red worms), ascarids (roundworms), tapeworms, and bots.
- Horses should be dewormed at least every 6 months (usually spring and fall.) Several types of deworming drugs include Ivermectin, Moxidectin, and Pyrantel.
- De-worming products differ in the parasites they treat, and they should be rotated in order to ensure all types of parasites are addressed.

COMMON HEALTH ISSUES:

- **Inflammation** can be located almost anywhere on the body. Several indicating signs include: heat, swelling, redness, pain on pressure, and reduced usage.
- **Hives** are elevated bumps that typically develop on the neck and shoulders. They are usually caused by allergic reactions to plants, drugs, topical products, insect bites, shavings, etc. Can be treated with Dexamethasone.
- **Rain rot** is a skin condition that causes tufts of hair to rise and scabs to develop along affected areas. Can be treated with medicated shampoo and antibiotics.
- **Ringworm** is a fungal infection in which highly contagious fungi cause irritation on the skin. Can spread to humans if not treated properly.
- **Sarcoids** are benign tumors that are localized, external, and do not affect underlying structures. They typically do not pose a health risk to the horse.
- **Scratches** are characterized by swelling and scabbing of the skin on the pasterns. They typically affect white legs more often than pigmented ones. Scratches may be caused by caked-on mud, sandy/abrasive soil, filthy bedding, sand/dirt under boots or leg wraps, or failure to dry legs.
- **Thrush** can be identified by a darkening/discoloring of the frog along with a spongy texture and foul smell. This hoof infection is the result of bacteria buildup in wet bedding material, mud, or manure.
- **Tying up** is an inflammatory event in the muscle wherein the muscles may visibly cramp, spasm, or swell. Sweating or colic-like symptoms may also arise. May be caused by over exercise, dehydration, electrolyte depletion, etc.
- **Equine Protozoal Myeloencephalitis (EPM)** is caused by a parasitic migration in the spinal cord that results in significant nerve damage. It can be transmitted through animal droppings. Symptoms include localized lack of coordination, gait abnormality, head tossing, falling, collapsing of the hindquarters, and asymmetrical muscle atrophy.
- **Choking** symptoms include nasal discharge, inability to swallow, drooling, anxiety, and general discomfort. Dehydration increases the risk of choking.
- **Ulcers** are lesions in the stomach lining of a horse. The risk of developing ulcers is increased if the horse experiences limited turnout, increased feed (especially grains), rigorous exercise, frequent travel or competition, and limited forage. Symptoms include weight loss, resistance under saddle, irritability and attitude issues, lack of energy, loss of appetite, and discomfort around flanks. Can be prevented and treated with medication.
- **Quarter cracks** originate at the coronet band and work their way down the hoof wall towards the ground. They occur due to an imbalance in the way the horse loads weight, which can be the result of faulty conformation or poor shoeing.

MEDICATION:

- The following list of medications is a minor outline of some products that can be used to treat health issues. Appropriate doses and administration methods should be consulted with one's trainer and/or veterinarian.
- The information in bold font is the most likely to appear on the exam.

NSAIDS:

- **Non-steroidal anti-inflammatory drugs (NSAIDs) control inflammation and pain from injuries**.
- Common generic and trade names include:
  - Diclofenac (**Surpass**)
  - Firocoxib (**Equioxx**)
  - Phenylbutazone (**Bute**)
  - Naproxen (Naprosyn)
  - Dimethyl Sulfoxide (**DMSO**)
  - Ketoprofen (Ketofen)
  - Flunixin Meglumine (**Banamine**) – also used to control pain with colic
  - Meclofenamic Acid (Arquel)
- Ketofen and Bute also reduce fever.

ANTIBIOTICS:

- **Antibiotics fight infection by killing bacteria**.
- Common antibiotics include:
  - **Doxycycline**
  - Sulfamethoxazole (**SMZs**)
  - Tetracycline
  - **Penicillin**
  - Gentamicin
  - Baytril

SEDATIVES/TRANQUILIZERS:

- **Sedatives depress consciousness and reduce responsiveness to most stimuli**. Common types include Detomidine (**Dormosedan**) and Xylazine (Rompun).
- **Tranquilizers produce a quieting or calming effect without changing the level of consciousness**. Common types include **Acepromazine** and Promazine (Sparine).

CORTICOSTEROIDS:

- **Corticosteroids are heavy-duty inflammation reducers for intense swelling or allergic reactions**. Common types include **Dexamethasone** and Prednisone (Deltasone).

HORMONES:

- **Hormonal drugs help regulate reproductive cycles in mares to keep them out of heat. The two most common types are Progesterone (Regu-Mate) and Depo-Provera (Depo).**

MUSCLE RELAXANTS:

- **Muscle relaxants can help manage sore and strained muscles**. Common types include Methocarbamol (**Robaxin**), Dantolene, and Lactanase

ANTI-ULCER:

- **Anti-ulcer drugs are used for both the prevention and treatment of gastric ulcers.** Common types include Omeprazole (GastroGard and UlcerGard), Sucralfate, Cimetidine, and various oral supplements.

JOINT SUPPORT:

- **Joint support medications are mainly used to help joints, tendons, and ligaments.** Common types include **Adequan** and **Legend**. There are also hundreds of oral joint supplement products available including Platinum and Cosequin.

TOPICAL PRODUCTS:

- There are many topical products that mainly function as one or more of the following: antibiotic, antibacterial, and wound treatment.
- Several common topical products include:
  - Nitrofurazone (yellow ointment) – good for sweat wraps and minor cuts/scrapes
  - Caustic powder/WonderDust – proud flesh control
  - Gentamicin/betamethasone spray – antibiotic & anti-inflammatory
  - AluSpray – liquid bandage
  - SWAT – insect repellant
  - Betadine – antiseptic used for cleansing wounds
  - Thrush Buster – used to treat thrush in hooves
  - Surpass, DMSO, EquiBlock, EF-5 – pain control and anti-flammatory drugs

EQUINE NUTRITION

GENERAL INFORMATION:

- The horse has one stomach that is composed of a foregut and hindgut. The foregut digests fats, proteins, and sugars through enzymes. The hindgut breaks down fiber.
- Water is used for the transportation of nutrients. Horses generally consume 8-12 gallons daily. Electrolytes are often used in warm weather to encourage drinking.
- When deciding a particular horse's diet, factors to consider include (but are not limited to): age, workload, weight, current feed, and ability to consume grass.
- Roughage should be the primary source of food for horses, though in most cases the addition of grain to the diet provides other necessary nutrients.
- Horses' diets are subject to change in order to meet health demands. They should be monitored closely to assist in injury prevention and future well-being.
- Horses that require extra fluids in their diets are often given a bran mash.

ROUGHAGE:

- Hay and other roughage, such as grass, alfalfa cubes, and beet pulp should account for approximately 80% of a horse's diet.
- Grass hay includes timothy, orchard grass, etc. These are generally given in larger amounts than legume hay.
- Legume hay includes alfalfa, clover, etc. and typically has a higher sugar concentration than grass hay. Several uses of legume hay include: increasing weight, providing extra nutrition, and coating the lining of the stomach before exercise to prevent ulcers.

Timothy

Orchard Grass

Alfalfa

TOXIC PLANTS:

- Arrow grass
- Bracken Fern
- Buttercups
- Foxgloves
- Goldenrod
- Hydrangea
- Milkweed
- Pigweed
- Goat weed
- Yew
- Black walnut trees
- Black locust trees
- Cherry trees

SHOEING

GENERAL INFORMATION:

- Common horseshoe materials include: steel, aluminum, titanium, and synthetic.
- Horses are typically shod every 6 weeks, though this may vary due to workload, specialty shoeing requirements, excessive hoof growth, injury prevention/management, etc.
- Ideally, the angle of the hoof should match the angle of the dorsal surface of the horse's pastern.

SPECIALTY SHOES:

- **Rim shoes** are similar to regular shoes, though they have a deep, wide groove through the middle, allowing for more traction.
- **Tapped shoes** have holes drilled into them for screw studs. Studs come in a variety of heights and shapes for different degrees of traction.
- **Bar shoes** wrap all the way around the hoof, offering increased support to the back of the heel. It can also help hold the hoof together.
- **Egg bar shoes** provide even more support to the back of the hoof by extending beyond the heel. Often used on horses with navicular.
- **Heart bar shoes** offer the same support as bar shoes, only with the addition of frog support as well. Often used for horses with laminitis, and is usually accompanied by pads or packing materials.

Rim

Tapped

Bar

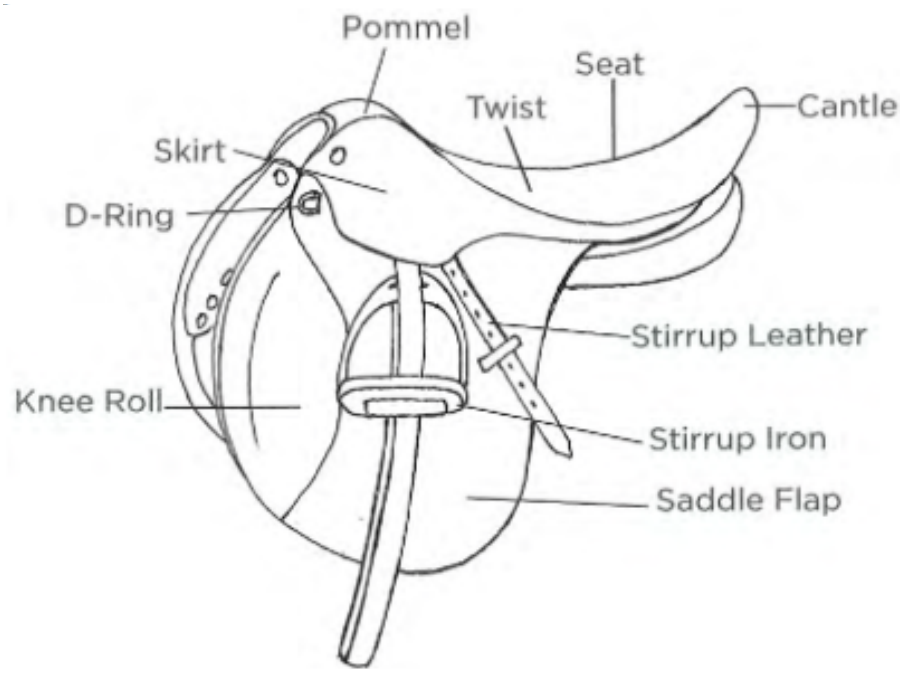
Egg Bar

Heart Bar

TACK AND EQUIPMENT

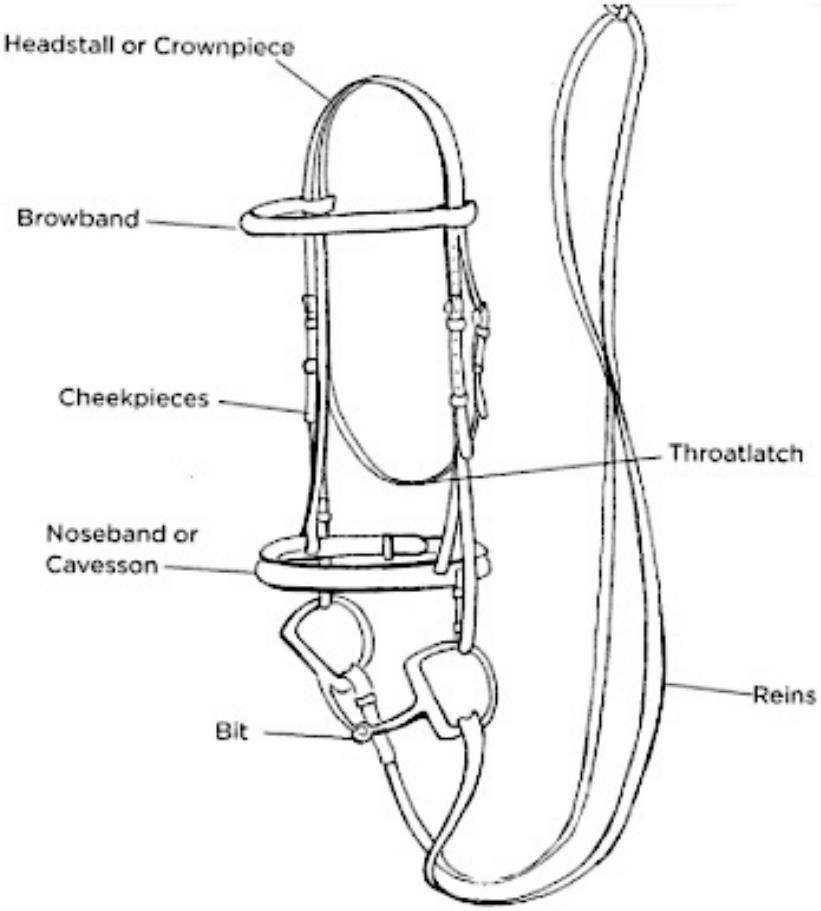
PARTS OF A SADDLE:

- Gullet
- Flap
- Stirrup bar
- Skirt
- Tree
- Panel
- Pommel
- Cantle
- Seat
- Twist
- Knee roll
- Blocks
- Point pocket
- Billets



PARTS OF A BRIDLE:

- Browband
- Crownpiece
- Cheek pieces
- Noseband
- Throatlatch
- Reins
- Converters



Rein Converter

NOSEBANDS:

- **Cavesson:** Another term for noseband. It can have a chain, rope, or tacks sewn under the front to discourage head lifting when attached to a standing martingale.
- **Crank:** Similar to a regular cavesson, though the leather passes through a ring as a means of increasing the leverage needed to tighten the noseband.
- **Figure 8:** Used to prevent horses from opening their mouths. Commonly seen in the jumper ring with a running martingale.
- **Flash:** Also used to prevent horses from opening their mouths, though it can be used with a standing martingale. The flash can be sewn in or detachable.
- **Drop noseband:** Also used to prevent horses from opening their mouths, though it changes the action of the bit by exerting pressure on the horse's nose, giving the snaffle a more downward and inward pressure than it has alone. Drop nosebands are not meant to be used with a standing martingale.
- **Kineton noseband:** Used for hard pullers, this resembles the drop noseband but has the addition of two metal loops on the side that are placed inside the bit rings and behind the mouthpiece to create a squeezing action with rein pressure.

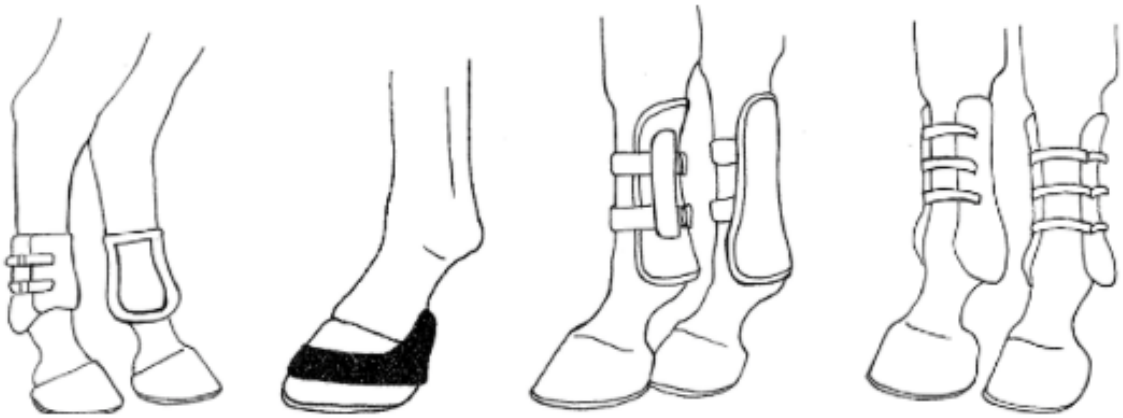
Regular Noseband | Figure 8 Noseband | Flash Noseband | Drop Noseband

MARTINGALES:

- **Standing martingales** attach to the girth and cavesson and prevent horses from throwing their heads up. The neck strap should buckle on the left side of the horse. Commonly seen on hunters and jumpers not exceeding 1.30m.
- **Running martingales** form two branches through which the reins pass through. Rubber rein stops should be used to prevent interference with the bit. Commonly seen on jumper horses.
- **Bib martingales** are similar to running martingales, though they have a solid piece of leather between the branches to prevent the horse's legs from getting caught.

BOOTS:

- It is important to make sure boots are clean, conditioned, and well fitting in order to minimize leg injuries.
- If a horse is stocked-up before a ride, the boots should be checked after warming up, as the fill in the leg may go down and change the fit of the boot.



Hind Ankle Boots | Scalper Boots | Splint Boots | Open Front Boots

- **Bell boots** are used on the front feet to prevent the horse from pulling shoes due to overreaching or grabbing.
- **Grab/scalper boots** are used on the front feet to protect the horse from injury due to overreaching. They are made out of rubber and fit tighter than bell boots.
- **Open-front boots** offer front leg protection along the side and back of the cannon bone. They are mostly used on horses that need increased sensitivity to rails.
- **Galloping/brushing/all-purpose boots** are used to protect the splint and tendon areas and offer wider protection than splint boots. Often used as an alternative to polo wraps, they may be worn on both front and back legs. They may be made out of leather or synthetic materials with various linings.
- **Hind boots** are used on the hind legs to provide the ankles with protection from interference. They may be made out of leather or synthetic materials.
- **Splint or tendon boots** are used on the front legs to protect the inside of the cannon bone and fetlock joint. They may be made out of leather or synthetic materials and are beneficial for horses with regular interference problems.

SPURS:

- Spurs are considered artificial aids and come in many different forms.
- The parts of a spur include:
  - Yoke- wraps around the heel of the rider's boot
  - Shank- extends from the back of the boot and touches the horse
  - Rowel- revolving wheel or disc that is sometimes attached to the shank
- **Prince of Wales** spurs have a flat end and are very common
- **Tom Thumb** spurs are have a very short shank with rounded edges
- **Roweled** spurs have a wheel or disc attached to the end of the shank. Thin discs are sharper than thick rollers.
- **Swan Neck** spurs have a shank that extends upwards at an angle before leveling off. They are more common in dressage.
- **Waterford** spurs have a large, round, stationary ball and the end of the shank.
- **Le Spur** spurs have small teeth located on the inside the heel band**.**

Prince of Wales

Tom Thumb

Le Spur

Waterford

Swan Neck

Disc Rowel

Ball Rowel

Rubber Rowel

BITS:

- Bit cheeks:

  - **D-ring:** Has fixed cheek pieces to prevent the mouthpiece from pinching. It is one of the most common bit cheeks.
  - **Full-cheek:** Has narrow "arms" that project above and below the rings to keep the mouthpiece form sliding in the mouth and to help emphasize turning aids. Keepers attach to the upper arms to help stabilize them.
  - **Loose-ring:** Has a loose mouthpiece that rotates on a ring. Can pinch the lips if bit guards are not used.
  - **Eggbutt:** Similar to D-rings, though they are oval shaped. They are not often seen in the hunter ring, but can be considered good for green horses.


D-ring


Full-cheek


Loose-ring


Eggbutt

  - **Gag:** Involves a rein attachment that threads through the holes in the main ring and connect to the cheek piece buckles on the bridle. Gags exert pressure on the poll while lifting the mouthpiece, encouraging the horse to lift its head and giving the rider leverage. Often used with one snaffle rein and one gag rein.
  - **Two- or Three-Ring:** Also known as a Dutch Gag or Elevator, this bit has a small ring above the main ring (for cheek pieces) and either one or two rings below the main ring. Typically, one rein is attached to the main ring for a snaffle action and another rein is attached to one of the lower rings for a curb action. The lowest ring is considered the strongest.
  - **Pelham:** Uses snaffle reins that attach to the main rings and curb reins that attach to the shank rings. The curb rein is designed to apply pressure to the poll and under the chin (via a strap or chain), which encourages the horse to bend at the poll. Often seen in the equitation ring.
  - **Kimberwick:** Similar to the pelham in that it makes use of both snaffle and curb reins, however there is no shank. Both reins attach to the main ring on the upper and lower ends. Not often seen in the hunter ring.
  - **Hackamore** bits have no mouthpiece and can exert pressure on the jaw, nose, and poll. Often used on horses that don't tolerate normal bits.


Gag


Three-ring


Pelham


Kimberwick


Hackamore

❖ Bit mouthpieces:

- **Single-jointed** bits have one joint in the center. If too big, the risk of the joint hitting the roof of the horse's mouth (and therefore causing discomfort) is greater.
- **French-link** bits are double-jointed and have a small "bean" in the center that rests on the tongue and provides greater comfort than a single joint.
- **Dr. Bristols** are similar to French links, though the center piece is flat and usually rectangular in shape. The plate rests at a 45-degree angle on the tongue and has two joints.
- **Mullen-mouth** bits have no joints, but instead curve to follow the inside of the horse's mouth in order to distribute their weight across the tongue.
- **Rollers** can come in many forms on the mouthpiece, but the basic purpose is to encourage the horse to mouth the bit and make them difficult to grab.
- **Slow-twist** bits have varying severity depending on the sharpness of the twist edge and are stronger than regular snaffle bits.
- **Corkscrew** bits have a mouthpiece that has a very tight twist and is stronger than a slow twist.
- **Waterford** bits have a mouthpiece made mostly from links, therefore preventing the horse from leaning on it.
- **Cherry-roller** bits have large round rollers that spin, making it difficult for a horse to grab and lean on it.
- **Double twisted wire** bits are similar to corkscrews, however they have two separate mouthpieces, each with its own offset joint.
- **Port** bits have a mouthpiece with an upside down "U" in the middle. If the port is high enough, it can put pressure on the horse's palate to give the rider greater control.
- **Segunda** bits are similar to port bits but they have sharper points on the bottom of the center piece. The sharper the point, the stronger the bit.

French-link

Mullen-mouth

Waterford

Dr. Bristol

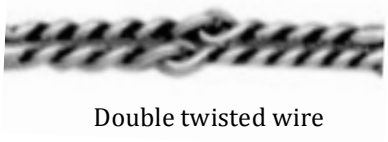
Slow-twist

Port

Cherry-roller

Corkscrew

Copper roller



Double twisted wire

Segunda

❖ Bit materials:

- **Nickel-plated** bits are less expensive but prone to rusting.
- **Stainless steel** bits are the most common and are considered very durable.
- **Rubber** bits have a hard rubber coating baked onto the mouthpiece and are considered softer than metal bits.
- **Copper/Sweet iron** bits are believed to promote salivation and a more relaxed jaw. Since copper is softer than steel, it also wears more quickly.
- **Flexi- /Happy-mouth** bits are made of a soft and flexible plastic and are believed to promote acceptance and softness. Similar to rubber bits.
- **Leather** bits have no joints and are completely wrapped in leather that is sewn around the mouthpiece to encourage softness.

Steel

Rubber

Copper

Sweet Iron

Plastic

❖ When describing a bit, it is important to be specific in order to avoid confusion.
❖ An easy way to name a bit is to use the following formula (note: the order is fairly unimportant):

Name = bit material (unless it is steel) + bit mouthpiece(s) + bit cheek

❖ Examples:

Rubber Mullen-mouth Pelham
Copper French-link Full-cheek snaffle
D-ring Dr. Bristol Slow-twist
Double-jointed Happy-mouth Three-ring gag

MISCELLANEOUS:

COMMON STABLE VICES:

- **Cribbing** is characterized by a horse grabbing onto a stall edge, water bucket, fence board, or other object with their teeth and contracting their neck while making a grunting sound. Cribbers are often prone to oral damage and/or ulcers.
- **Windsucking** is similar to cribbing but can occur without the horse grabbing onto anything. It is typically a boredom-related behavior.
- **Weaving** is the swaying of a horse from side to side while remaining stationary. It is also typically a boredom-related behavior.
- **Cast** occurs when a horse finds itself "stuck" on the ground with its legs pinned up against the stall wall after rolling over.

OTHER BEHAVIORS:

- **Roaring** occurs when the upper airway is obstructed due to a paralysis or weakening of crucial throat structures. The horse may exhibit raspy or wheezy breath during strenuous exercise. Can be treated with surgery.
- The **Flehmen response** appears mostly when a horse comes into contact with a new smell or taste. The curling of the upper lip helps trap pheromone scents so they can be analyzed more closely. This can also commonly be associated with signs of colic.

STRIDE MEASUREMENTS

Distances for Hunters Horses

Measurements are expressed in feet and inches.

STRIDES	3' 0"	3' 6"	4' 0"
1	24' - 25'	26' - 26' 6"	27' - 27' 6"
2	35' - 36' 6"	37' - 38'	38' 6" - 39'
3	48' - 49'	49' - 50'	50' - 51'
4	60' - 61' 6"	62' - 63' 6"	64' - 65'
5	72' - 73' 6"	75' - 76' 6"	77' - 78' 6"
6	84' - 85' 6"	86' - 88'	89' - 90'
7	96' - 98'	99' - 102'	102' - 105'
8	108' - 111'	112' - 115'	116' - 118'

This chart can be carried out further, and that is recommended for top level competition.
It should also be adjusted as needed for classes held at 3' 3" and 3' 9".

Distances for Hunter Ponies

Measurements are expressed in feet and inches.

STRIDES	SMALL	MEDIUM	LARGE
1	20'	22'	23' - 24'
2	30'	32'	34'
3	39'	41' - 42'	45'
4	48' - 50'	52' 6"	56'
5	58' - 61'	62' - 64'	67' - 68'
6	68' - 71'	72' - 74'	78' - 80'
7	78' - 80'	82' - 84'	89' - 91'
8	*See Below*	*See Below*	101' - 102'

This chart can be carried out further, and that is recommended for top level competition. Otherwise, beyond 7 strides, a horse distance of 108' may be used for small and medium ponies, and they will fit the extra rides in as needed. The 8 stride distance for large ponies should be correctly adjusted.

SOURCES

The USHJA EAP Horsemanship Quiz Challenge Study Guide

The United States Pony Club Manual of Horsemanship

"A Bit Confused About Bits?" The Cheshire Horse, 2015.

"Colic: Minimizing its Incidence and Impact in your Horse," American Association of Equine Practitioners, 2019.

Fabus, Taylor. "What your horse's hoof angle may be telling you," Michigan State University Extension, 2019.

Forney, Barbara. "Isoxsuprine for Horses," Wedgewood Pharmacy, 2017.

Gutierrez, Andres. "Common Types of Horseshoes," HG Horseshoeing LLC, 2015.

"Horse Wormer Guide," Horse.com, 2017.

Luker, Sophie. "Choosing the right spurs for riding your horse," Naylors Blog, 2016.

Miller, Kim F. "Horse Boots 101," Practical Horseman, 2015.

Ott, Kathy. "Equine Drugs & Medications," Equisan, 2010.

Ross, Mike W. "Hindlimb Lameness in Horses," Science Direct, 2011.

"Vaccination Schedule for Horses," Valley Vet Supply, 2019.

Wolfe, Kayla. "Equine Nutrition Basics," Virginia Horse Shows Association, 2019.

Wood, Craig. "Bones of the Hoof," Extension, 2014.