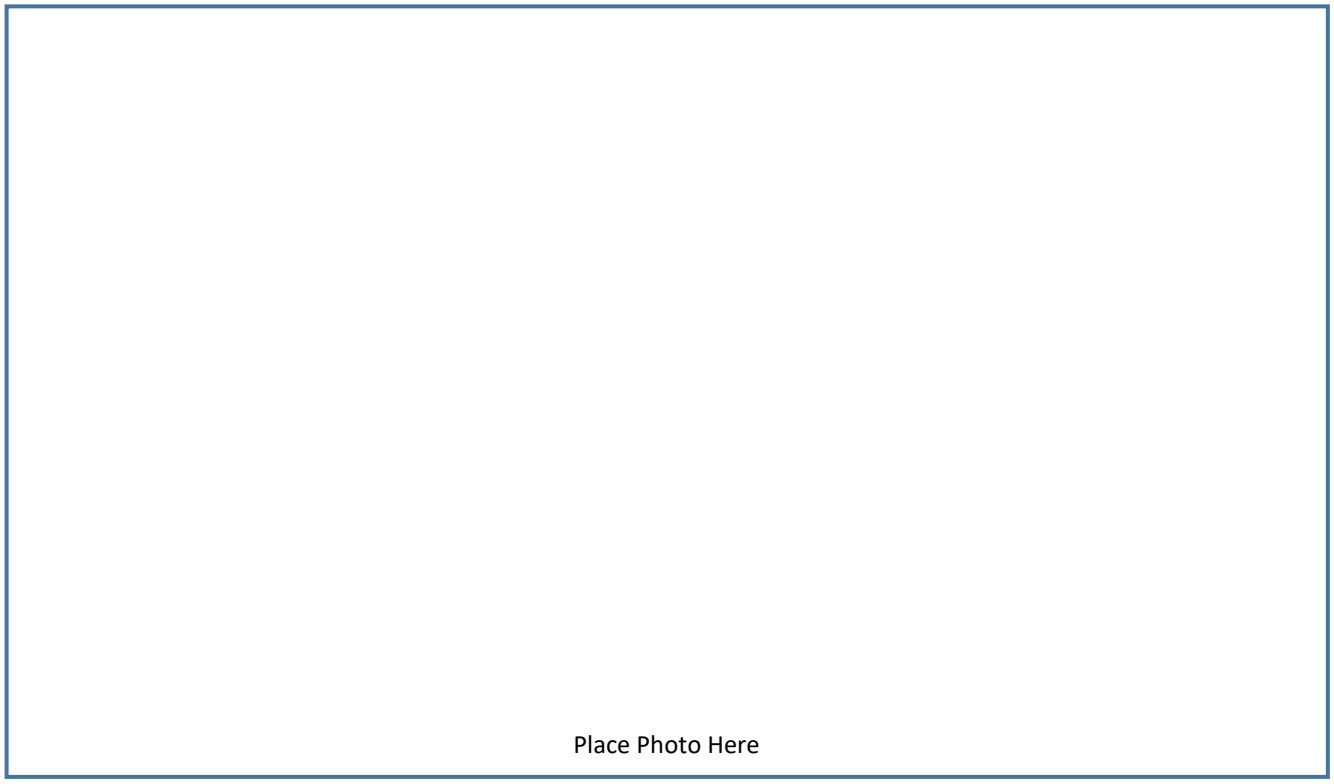
Senior
4-H Horse Project Book
(Senior Year 4)



Name: _____Birthdate: _____

Address:_____

Town: _____ State: _____ Zip Code: _____

Name of 4-H Club_____

Club Leader: _____

New York State
4-H Horse Program

The 4-H Motto

To Make the Best BETTER

4-H PLEDGE

I pledge my **HEAD** to clearer thinking,
my **HEART** to greater loyalty,
my **HANDS** to larger service,
and my **HEALTH** to better living,
for my club, my community,
my country, and my world.

My 4-H Story

- Activities you did with your club
- Different programs/clinics you attended
- What you and your horse learned this year

Fun things you did

What part of your project you liked best

What you gained out of being in the 4-H program

Activities

1. Travel to local horse farms and examine their horses for botfly eggs. Identify which species are present based on the location of the eggs found.
2. Develop a report or presentation on internet sources about the sale of horse insurance. These can easily be found by using a search engine such as Google or Yahoo and searching for "horse insurance."
3. Write a paragraph of 100 of your own words describing what to look for in a boarding contract
4. Pick one of the following events: dressage, a rodeo event (bareback riding, barrel racing, calf roping and so on), cutting, polo, fox hunting, or gymkhanas and explain the even
5. Pick a civilization or a time period and create a 1 page write up or 1 page poster, describe the living conditions, the technology used to harvest or find food, and what animals were used.
6. Imprinting is an interesting phenomenon in animals. Develop a report or presentation on imprinting
7. Draw a diagram that explains a horse's field of vision and the areas of monocular and binocular vision and describe why knowing this information is important.

Using the Targeting Life Skills Model Explain 10 life skills that you have learned throughout your time in the horse project. Give examples of how/why you have learned these skills.

Equipment Inventory

Item	Purchase price	Expected to last how many years?	Equipment cost per year*
Saddles			
Bridles			
Saddle blanket			
Saddle pads			
Halter			
Lead rope			
Lunge line			
Tie down			
Running martingale			
Bits			
Tail set			
Harness			
Winter blanket			
Cooler			
Hoof pick			
Hoof knife			
Hoof nippers			
Hoof rasp			
Brush			
Currycomb			
Mane-tail comb			
Sweat scraper			
Shedding blade			
Sponge			
Leg wraps			
Bucket			
Feed tub			
Clippers			
Hay net			
Girth			
Whip			
Tail braces			
Tail switches			
False tails			
Splint boots			
Quarter boots			
Ribbons			
Cart			
Trailer			
Fly masks			
Supplies: Shampoo, conditioner, detangler, fly spray, hoof polish, etc.			
Other:			
		Total equipment cost this year $	

* Divide purchase price by the number of years the item is expected to last.

IMMUNIZATION

Date	Vaccination

PARASITIC CONTROL

Date	Product

HOOF CARE

Date	Details

DENTAL CARE

Date	Details

PHYSICAL & MEDICAL RECORD

Date	Details

NOTES

Date	Details

What kind of insurance and contracts should be used by horse owners?

In today's world, equine owners must consider their need for insurance and the use of contracts.

WHAT IS LIABILITY? Insurance covers liability. Liability means an individual, business or organization is legally obliged and responsible. Liability could mean an obligation to pay money to another party. The person, business or organization held liable is responsible for paying the debt or compensating the wrongful act. Liability is any legally enforceable obligation.

INSURANCE Insurance protects an individual, business or organization against unexpected losses. Common insurance programs in the equine industry include:

- Farm, ranch and stable
- Commercial equine liability
- Care-custody-control
- Equine events
- Horse clubs
- Pleasure and show horse owners
- Equine mortality insurance
- Transportation
- Buy-sell contracts

Farm, ranch and stable insurance: Farms, ranches and stables require a specialized insurance and agent to protect the investments from the emotional and financial impact of fires, theft or litigation (legal action). Some of the coverage options include:

- Dwellings, stables, barns, riding arenas and other farm buildings
- Guaranteed replacement cost on dwellings
- Replacement cost -- actual cash value on other farm structures
- Tack and equipment
- Computer hardware and software
- Named perils (hazards) on horses
- Spoilage coverage for medicines and vitamins
- Machinery coverage
- Personal liability
- Premises or operations liability for boarding, breeding, training, showing, riding instruction
- Track liability for incidental horse racing
- Care, custody and control coverage
- Operations continuation expense -- loss of income or expenses to carry on normal business after a loss

Individuals and organizations will need to decide which kinds of insurance they need and how much coverage to buy. This will be different for every situation.

Commercial equine liability insurance:

Commercial horse trainers and instructors should carry liability insurance. This policy provides comprehensive general liability coverage for bodily injury and property damage claims as a result of business activities such as training, instruction, clinics, horse sales, breeding and boarding. This type of policy protects an individual from a variety of claims brought against him or her as a result of equine business activities.

Care-custody-control:

Individuals caring for or boarding horses can be held responsible if there is some problem. Some examples would be if a boarded animal is injured attempting to jump a fence; if a horse being trained dies in a barn fire; if an animal ingests a foreign substance in its feed and dies; or if an employee forgets to lock a gate and a broodmare gets loose, is injured and loses her foal. Care-custody-control insurance coverage protects individuals against liability resulting from death or injury to horses in their custody. The protection also provides that if a horse owner makes negligence claims against a policyholder, the insurance company will defend the policy owner. Also, the insurance company will be responsible for making payment if it is determined that the loss is due to negligence and the policyholder is legally liable.

Equine event insurance:

Equine event insurance is a policy for sponsors of horse shows. The coverage provides protection from liability claims resulting from bodily injury or property damage to a spectator while attending a show. This insurance can cover spectator liability; products liability, for example concession stand sales; show judges and officials; and the premise owner.

Often this policy can extend insurance coverage for the preparation and dismantling of the show -- one day before and one day after the show. The premium is based on the number of show days and the limit of liability selected.

Horse club liability insurance:

A horse club liability insurance program covers the premises where meetings, shows and other activities are held by the club. Non-competitive events are automatically covered when they are conducted for the sole benefit of the members. This type of liability commonly covers spectator liability, personal injury coverage (including libel or slander), premises owner's protection, products liability coverage (for example at a concession stand), and coverage for show judges and officials.

Pleasure and show horse owners liability:

Pleasure and show horse liability insurance programs provide complete liability protection to the person owning a horse or horses used exclusively for pleasure or show where a homeowner's or tenant's policy will not provide coverage. The individual cannot be personally involved in a professional training, breeding or boarding operation. A pleasure and show horse owner's liability plan covers an individual against bodily injury claims which may result from the use of their horse and includes property damage claims.

Equine full mortality insurance:

Equine full mortality (death) insurance includes theft, transport and limited emergency surgery. Subject to the conditions in the policy, each insured animal is covered against loss by death only. The policy does not cover minor injuries, depreciation in value, failure of the animal to perform, or for veterinarian or similar expenses to preserve the horse's life. Depreciation is the loss of value of an asset caused by time or wear and tear. Assets are everything of value owned by an individual or a business.

The policy also insures against loss resulting from the intentional and voluntary destruction of an insured animal for humane reasons to terminate incurable and excessive suffering arising out of a peril insured against.

Coverage is limited to specified dangers such as fire, windstorm, tornado, hail; explosion or earthquakes; flood, drowning; accidental shooting; and transportation. This type of insurance also covers the direct damage caused by theft or attempted theft, attack by dogs or wild animals, and collision of an animal with a vehicle.

Optional coverage in equine full mortality insurance may include:

Equine major medical and surgical which covers veterinarian fees that are a direct result of medical and surgical treatment;

Equine loss of use;

Importing costs or international transit;

Gelding surgical coverage (death during gelding);

Stallion infertility; and Barrenness in mares

BUYING OR SELLING ON CONTRACT

Mortality insurance can be purchased for the sale or lease price of a horse. This protects the financial interests of both the buyer and the seller in the animal. Rates are based on the breed, use and age of each horse. All horses must be checked by a veterinarian before coverage is put into effect.

BOARDING AGREEMENTS

Besides insurance to protect horse owners and those involved in equine activities, contracts can prevent misunderstandings. Boarding contracts are the most common. These will vary, but they should contain at least these five key elements:

- Handling emergencies;
- Insurance;
- Equine Activity Liability Act Language;
- Facility-wide equine health programs; and
- Release of liability.

Handling emergencies:

Emergencies ranging from cuts to colic are a part of horse ownership. The boarding contract should address how the facility can handle emergencies, especially if the owner is unavailable. This could include the right to call a veterinarian, a dollar limit on emergency veterinary care, and someone as a contact person.

Insurance:

A horse boarding facility should know that a horse has mortality insurance. Insurance policies typically require that the company must be notified promptly of serious health problems while the horse is still alive.

Equine activity liability act language:

As of February 2003, 44 states have laws that protect their horse industries. These laws require that contracts used by equine professionals (such as boarding facility operators) must include specific warning or other language acknowledging that certain equine activities involve inherent risks and that equine professionals, equine activity sponsors, and possibly others cannot be sued if a participant is injured or dies as a result of an inherent risk of an equine activity. Individuals should check their state's law to determine whether a boarding contract should include this language.

Facility-wide equine health programs:

The boarding contract offers a good opportunity to list schedules or describe the health program and have all boarders consent to it. This provision promotes the general well-being of all horses at the facility.

Release of liability:

Many states legally permit parties to sign liability releases. In those states, the releases are worthwhile. Boarding facilities that avoid releases are missing an opportunity to try to limit their liability. Releases should be drafted with the assistance of a knowledgeable attorney, and having a release does not eliminate the need for proper insurance.

SUMMARY: For the protection of the facility and its customers, the horse boarding relationship deserves a carefully written contract. Attention to the details benefits everyone. Boarding contracts should be reviewed by a knowledgeable attorney. Sample boarding contracts can be found online. Garst Farm Resort and Nosire Farm are two examples shown under Internet Resources. Other contracts can be found by using a search engine and searching for "boarding horse contract."

1. Liability means an _____ , _____ or _____ is legally obliged and responsible.

2. _____ protects an individual, business or organization against unexpected _____ .

3. Commercial horse trainers and instructors buy comprehensive general _____ coverage for _____ injury and _____ damage resulting from their business activities.

4. _____ -_____ -_____ insurance protects individuals against liability resulting from death or injury to horses in their custody and in case of negligence claims.

5. Equine _____ insurance is a policy for sponsors of horse shows.

6. A horse club liability insurance program covers the club _____ and _____ events.

7. _____ and _____ horse owners liability policies cover individual horse owners who are not personally involved in professional horse training, breeding or boarding.

8. Equine full _____ (death) insurance covers a specific animal against death by specified dangers.

9. Key elements for boarding contracts include 1) handling _____ , 2) _____ , 3) Equine _____ _____ Act language, 4) equine facility-wide _____ programs and 5) release of _____ .

10. Translate this into plain English. In your own words explain what coverage is provided by the following Insurance language:

"Coverage applies on or off premises anywhere in the U.S., Canada, and U.S. territories. Coverage is offered for bodily injury and property damage, done only by a horse which is scheduled on this policy. Various limits are available. General Liability Aggregate limits are three times the liability per occurrence limit. Medical payments up to $5,000 are included in the policy. This coverage is not available to individuals involved in commercial equine operations."

Internal Horse Parasites

What are the major internal parasites infesting horses and what detrimental effects might they cause?

A major concern of horse owners is to keep parasite infestation to a minimum in their horses.

Parasites are small organisms that live on or in and derive their food from a host organism, such as a horse. Parasites can be beneficial or detrimental to the horse. One primary management goal is to control harmful internal parasites that can lower efficiency, performance, digestion and can even kill a horse.

The symptoms of parasitism may develop slowly and may not be recognized by the person who works with the horse every day. Typical symptoms are weakness, unthrifty appearance, emaciation, "potbelly" (large, distended abdomen), tucked up flanks, rough hair coat and slow growth. The horse may also lose its desire to perform and appear lazy.

Internal parasites spend part of their life cycle in their host. Internal parasites can generally be classified as roundworms. There are six groups of roundworms: ascarids, small strongyle, large strongyle (bloodworms), threadworms, pinworms, and stomach worms. Ascarids, strongyle, and pinworms are of major concern to the horse. An insect that has an internal stage of development in the horse is the stomach bot. To minimize parasitism, the life cycle of the parasite must be broken.

ASCARIDS

Commonly called large roundworms, Ascarids are the largest parasites that live in the horse. They grow 30.5 to 38.1 cm (12 to 15 in.) and are about the diameter of a lead pencil. Ascarid infestation is primarily a problem in young horses, because older horse develop an immunity to them.

The Ascarid life cycle starts with the mature female worms laying eggs in the small intestines. The eggs then pass out in the feces. After the eggs are outside the horse for about 2 weeks, they develop into the infective stage. The eggs are swallowed by the horse as it eats grass, feed and feces and drinks water. Once inside the horse, the eggs hatch into the larvae stage. The larvae then burrow into the wall of the small intestine and enter the bloodstream where they are carried to the liver and heart. They migrate through the liver and heart, and the veins that drain these organs, and travel to the lungs. In the lungs they are coughed up and swallowed. Upon reentering the small intestines they mate, and the female produces eggs.

Ascarids damage the liver, heart and lungs. Heavy infestations of mature worms can block the small intestines, causing colic. The infestation may rupture the intestinal lining, causing peritonitis and death.

Ascarid eggs are very resistant to environmental conditions and can live for years before being eaten by a horse. Therefore, paddocks, stalls and pastures can become very contaminated with eggs.

Managerial control of Ascarids requires thoroughly cleaning the stall before foaling, preventing fecal contamination of feed and water buckets, frequent manure removal, and frequent treatment with drugs.

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STRONGYLES

Strongyles are the most serious threat to a horse's health. Severe infestation of strongyle is common in horses grazed on permanent pasture. Symptoms of severe infestation are grouped in a condition known as Strongylosis and include low appetite, anemia, emaciation, rough hair coat, sunken eyes, digestive disturbances and a "tucked up" appearance.

The life cycle has some unique, important features. The eggs are laid by the adult worms in the intestines. They pass out in the feces and continue to develop for one to two days. After about a week, the larvae become infective, move up the blades of grass, and the horse eats them. Once inside the horse they migrate through various body tissues causing extensive damage. After the young worms return to the small intestines, they attach to the lining of the gut and reach maturity.

The nose botfly, Gasterophilus hemorrhoidalis, lays black eggs on the nostrils and lips. Eggs hatch in two to four days without stimulation and burrow into the inner lip membranes. After five to six weeks they enter the stomach. The rest of the life cycle is similar to that of the common botfly.

Bots cause stomach damage and can cause rupture of the stomach. To control or prevent heavy infestation, kill adult flies, remove eggs and deworm. Once the eggs are laid, they can be removed from the hairs by scraping them with a knife or sandpaper. The horses should be treated with anthelmintic medication at least four times a year, especially after the first hard frost. The frost should kill the botflies, and no new larvae should enter the horse. Strongyles cause arterial damage and the development of small blood clots in the arteries. Once the arteries become damaged, aneurysms may develop and burst. The horse bleeds internally and dies. Blood clots may break loose and become lodged in smaller arteries blocking blood flow to particular organs or tissues.

Management control involves removal of manure at least twice weekly, since the larvae become infective after about one week. Infective larvae are not as resistant to the environment as ascarid eggs and usually cannot live beyond one year. Pasture rotation or resting the pasture for a year helps control them. Routine deworming with appropriate drugs must be used to keep larvae numbers and damage at a minimum. Grazing cattle or sheep, which are not harmed by the infective larvae, also help remove them from the pasture.

PINWORMS

Pinworms do not cause much damage to the horse. The mature worms live in the colon of the large intestine. Pinworms can be as much as 7.6 cm (3 inches) long. The female worm may lay eggs in the colon where they pass out with the feces, or the female may crawl out and deposit eggs on the skin around the anus. This causes an itching sensation, so the horse rubs its tail on fences, stall walls, posts, etc. The eggs are sticky and therefore stick on wall, feed buckets and other equipment contaminating the environment and increasing the chances for reinfestation. Pinworms are controlled by manure removal and medication.

STOMACH BOTS

Three species of bots or botflies affect horses. The adult botfly resembles a honey bee. Botflies are active from the first part of the summer to the first hard frost in winter.

Common botflies, Gasterophilus intestinalis, start their life cycle by laying eggs on the hairs of the horse's legs, chest, belly and neck. The eggs on the hair are yellow and can easily be seen. The eggs hatch after about one to two weeks, when exposed to moisture, warmth and friction. Usually this condition is met when the horse licks the area where the eggs are attached. Upon hatching, they enter the mouth and burrow into the tongue and are eventually swallowed. Inside the stomach, they attach to the stomach lining and grow to maturity. On maturity, they detach themselves and pass through the digestive tract, and upon passage they develop into the pupae stage, and pass out in the feces. Outside they burrow into the ground, develop into the adult botfly and emerge in the warm weather. The life cycle takes about one year.

The throat or chin botfly, Gasterophilus nasalis, lays eggs around the chin and throat area. Their eggs incubate in four to six days and hatch without stimulation. The larvae then crawl inside the mouth and enter the gum tissue around the teeth. They leave the mouth and enter the stomach, where they attach to the stomach lining and mature. The rest of the life cycle is similar to the common botfly.

1. _____ are small organisms that live on or in and derive their _____ from a host organism.

2. Internal parasites can generally be classified as _____ .

3. _____ are commonly called large roundworms and are the largest parasites that live in a horse.

4. Ascarids damage the _____ , _____ and _____ and can block the small _____ , causing colic.

5. _____ are the most serious threat to a horse's health and are common in horses grazed on _____ pasture.

6. Strongyles cause _____ damage and small blood clots.

7. Mature _____ live in the colon of the large intestine and their eggs are sticky.

8. _____ botflies lay their _____ (color) eggs on the hairs of the horse's legs, chest, belly and neck.

9. The _____ or _____ botfly lays eggs around the chin and throat area.

10. The _____ botfly lays _____ (color) eggs on the nostrils and lips.

11. Draw the life cycles of all four internal parasites. Be sure to indicate which parts of the cycle are inside the horse and which are outside the horse.

Donkeys and Mules

How are donkeys, mules and horses related?

Donkeys are crossed with horses to produce mules. The type of mule that results depends on the breed and type of donkey and horse used in the cross. Both donkeys and horses have miniatures. For safety reasons, male donkeys and mules should never be left intact, and they should be gelded before they are two years old.

DONKEYS

Donkeys are hoofed herbivores closely related to the horse, belonging to the same genus -- Equus. A donkey is distinguished from the horse by its small size, large head, long ears and small hoofs. Donkeys are also called asses and, in Mexico and the southwestern United States, they are called burros. Two species of donkey exist: Equus hemonius, the Asian donkey, and Equus asinus, the African donkey. The African donkey includes the domesticated donkeys, Equus asinus asinus. A male donkey is called a jack and a female is called a jenny.

The donkey is still used as a pack and draft animal. Donkeys are strong for their size, with good endurance. Donkeys are more surefooted than horses in mountainous country and are cheaper to maintain, as they feed on dry scrub. They may live up to 47 years, about twice as long as a horse.

Five donkey breeds are registered by the American Donkey and Mule Society which was founded in 1968. These five breeds recognized in the United States include the Mammoth (or American standard) jack, large standard donkey (Spanish donkey), standard donkey (burro), miniature Mediterranean donkey, and American Spotted Ass. The Mammoth breed is a blend of several breeds of jack stock first imported into the United States in the 1800s from southern Europe. It is the largest of the donkeys, with the jacks being 56 inches or more high. The foundation sire was a jack named Mammoth, and his name was given to the breed.

The large standard donkey (Spanish donkey) is between 48 and 56 inches high, while the standard donkey (the burro) is between 36 and 48 inches high. The miniature Mediterranean donkey, originally imported from Sicily and Sardinia, must be less than 36 inches to qualify for registration. The height restriction is the only requirement for registration by the American Donkey and Mule Society.

The American Spotted Ass is a trademark of the American Council of Spotted Asses, founded in 1967. Donkeys can be registered as either white with colored spots or colored with white spots. However, the spots have to be above the knees and hocks, and behind the throat latch. Stockings and face markings do not qualify.

MINIATURE DONKEY

The Miniature Donkey Registry of the United States was founded in 1958 and is governed by the American Donkey and Mule Society. Color and other considerations, such as ancestry, do not define the miniature donkey. The only requirement is that it be 36 inches or less in height. Miniature donkeys can also be registered with the International Miniature Donkey Registry.

The original imported donkeys had the typical gray-dun color, in which the hairs are all gray and not mixed with white hairs. All shades of brown are also common, and black, white, roan and spots are possible. True gray is extremely rare in donkeys of any size, and is distinguished from gray-dun because true gray donkeys are born with a dark coat that lightens to almost white over the years.

One other characteristic of the donkey is the cross, consisting of a dorsal stripe from mane to tail, and a cross stripe between the withers. In black animals the cross marking may be difficult to detect.

The miniature donkey with good conformation appears small, compact and well-rounded, with four straight, strong legs, and all parts in symmetry and balance. The coat of the miniature donkey is not as thick in winter as the coat of larger donkeys, probably because of its ancestry from climates in the Mediterranean.

Although the most obvious use of these little donkeys is as pets, they can also be used as companions to foals at weaning time to relieve foal stress. Their calm also serves when they are used as companions for nervous horses or horses recovering from surgery. They do not take up much room in the stall, but have a calming effect. Miniatures are also used in exhibition hitches.

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FERAL DONKEYS

The donkey or burro was once widely used in Mexico and the southwest United States. A large population of wild descendants of domesticated donkeys or feral donkeys now exists in the Desert Southwest of the United States. Feral donkeys are also found in Europe and Asia, which creates some confusion about the actual true number of donkeys in existence.

The Bureau of Land Management (BLM) controls wild or feral burro populations in the Desert Southwest, managing 5,000 to 6,000 feral burros that roam public lands in the West under the Wild Free-Roaming Horse and Burro Act of 1971. This law mandates the protection, management and control of wild (feral), free-roaming horses and burros on public lands at population levels that ensure an ecological balance.

Each year, the BLM captures and places 1,200 to 1,500 burros up for adoption under its National Wild Horse and Burro Program. For actual statistics and more information,visit the BLM National Wild Horse and Burro Program website.

MULES

Being a cross between a donkey and a horse, mules are something of a genetic abnormality. An uneven number of chromosomes results when donkeys and horses breed. Horses have 64 chromosomes (32 pairs); donkeys have 62 chromosomes (31 pairs); and mules have 63 chromosomes. A cross between a donkey and a horse is called a mule or a hinny, depending on its parentage.

A mule is the offspring of a male donkey (jack), and a female horse (mare). It is like the horse in size and body shape, but has the shorter, thicker head, long ears and braying voice of the donkey. Mules also lack, as does the donkey, the horse's calluses, or chestnuts, on the hind legs.

The reverse cross, between a male horse (stallion) and a female donkey (jenny) is a hinny, sometimes also called a jennet. A hinny is similar to the mule in appearance, but is smaller than a mule and more horse-like, with shorter ears and a longer head. It has the stripe or other color patterns of the donkey.

Although mules and hinnies may display normal sexual behavior, both are considered infertile. Both male and female mules and hinnies are possible.

CLASSIFICATIONS OF MULES

Historically, mules were classified as draft, sugar, farm, cotton, and pack and mining. Draft and sugar mules were the largest, being 17.2 to 16 hh (hands high) and 1,600 to 1,150 pounds. Farm and cotton mules were intermediate in size (16 to 13.2 hh and 1,250 to 750 pounds). Pack and mining mules were smaller, but could range from 16 to 12 hh and 1,350 to 600 pounds.

Today mules are classified as draft, pack/work, saddle, driving, jumping, racing or miniature. The type of mule produced depends on the breed or type of horse and the breed or type of donkey used to produce the mule.

CLONED MULE

In May 2003 the first member of the horse family to be cloned was born -- a mule named Idaho Gem. University of Idaho (Moscow, Idaho) researchers led by Gordon L. Woods cloned the mule using a cell from a mule fetus and an egg from a horse. Idaho Gem is the genetic brother of Taz, a champion racing mule. Cloning a mule is particularly unusual because mules are almost without exception sterile and unable to produce young

1. Compared to a horse, a donkey has a smaller _____ , larger _____ , longer _____ and smaller _____ .

2. A male donkey is called a _____ , while a female donkey is called a _____ .

3. Donkeys are more _____ than horses in mountainous country, _____ to maintain and may live up to _____ years (about twice as long as a horse).

4. Of all of the donkey breeds recognized in the United States, the _____ donkeys are the largest in size.

5. The only requirement for the Miniature Donkey Registry of the United States is that the animal be _____ (number) inches or less in height.

6. The Bureau of _____ _____ (BLM) controls wild or feral burro populations in the Desert Southwest.

7. Horses have _____ chromosomes; donkeys have _____ chromosomes and mules have _____ chromosomes (fill in numbers for all blanks).

8. A mule is the offspring of a male _____ and a female _____ .

9. A cross between a male _____ and a female _____ is called a hinny or a jennet.

Biomechanics of Movement

How do the nervous, muscular and skeletal systems work together to move the horse? The nervous, muscular and skeletal systems work together to produce movement in the horse. The nervous system provides the information about the internal and external environment, and provides the stimulus causing muscle contraction. As muscles contract and others relax, they act on the joints and bones to produce movement. The bones and joints together compose a complex system of levers and pulleys which, combined with the muscular system, imparts the power of motion to the body. Nerves and sensory organs control the movement.

NERVOUS SYSTEM CONTROL A walk, trot, gallop or any other gait requires the contraction and simultaneous relaxation of the muscles. Muscular contraction is a complex interaction of many parts of the nervous system and the muscular system. Muscle action starts in the brain, where the brain processes the information received through a variety of sensory inputs. For example, the eyes of a horse may see a jump, the ears hear a command, or the sides feel a nudge from the heels of the rider. The horse's brain interprets this information along with internal sensory organs like the joint proprioceptors which give the horse a sense of the positions of its limbs. Next, the brain determines the appropriate muscles to contract or relax. This information is sent down the spinal cord and then to nerves that end on muscle cells. The muscle contracts or relaxes, and the bone and joint respond to produce the action. After this, the cycle starts over again. Nerves send information from the joint proprioceptors back to the brain. As before, the sensory information to the brain is interpreted and another signal is sent back down the spinal cord and efferent nerves to the muscle, producing movement in the bone and joint. Of course this process occurs many times and very rapidly for every movement. Some nerve signals never reach the brain. Instead they go directly to the spinal cord and then back to the nerves and the muscles. These signals are called reflexes. An example of a reflex is a kick in response to a surprise or a twitch of the skin in response to an insect.

MUSCULAR CONTRACTION Muscles are organized in muscle bundles, muscle fibers and finally the myofibrils. Muscular contraction occurs at the myofibril level. When a muscle contracts, a neurotransmitter called acetylcholine (ACH) excites the muscle cells. This causes a release of calcium ions which bind to a special protein called troponin. In turn, two other muscle proteins -- actin and myosin -- are free to bind. This causes the muscle to contract. When the calcium concentration drops and the muscle is no longer excited by ACH, actin and myosin no longer bind, and the muscle relaxes. Muscular contraction requires energy. This energy is derived from the diet and metabolic processes that produce the adenosine triphosphate (ATP) from fats, carbohydrates and proteins. ATP is the biochemical means of energy exchange. Glycogen, a carbohydrate in the muscles, is used to produce ATP. Oxygen from respiration (breathing) is also required to produce and to use ATP. During muscular contraction, as long as sufficient oxygen is available to produce ATP, this type of muscular contraction is called aerobic. During muscular contraction of high intensity or long duration, adequate oxygen is not available and the products of metabolism are converted to lactic acid to produce ATP. This type of muscular work is called anaerobic. The term "anaerobic" means without oxygen. Horse owners exercise and train their horses to increase the efficiency of the muscles by increasing the ability to deliver oxygen to the tissues. Chemical reactions for the production of ATP aerobic metabolism and anaerobic metabolism are included in three metabolic pathways -- glycolysis, the citric acid cycle(TCA cycle), and the electron transport system. In the horse's body, each of these metabolic pathways involves numerous reactions all linked together and all catalyzed by enzymes. If you want to know more, check out some of the websites listed under Internet Resources.

Muscle Fibers: Muscle fibers require nutrients to contract -- carbohydrates, fats or proteins. Different energy sources can be used by horses performing different types of activity, depending on the muscle fiber type involved. Three different muscle fiber types are associated with the athletic horse

1. Type I (slow-twitch fibers, aerobic)
2. Type IIa (fast-twitch fibers, aerobic)
3. Type IIb (fast-twitch fibers, anaerobic)

Type I are in use during relatively slow or light activity and use carbohydrates, fats or proteins. Type IIa are the stamina or endurance fibers used during periods of aerobic work such as jogging or long distance riding. These fibers can use carbohydrates, fats or proteins for energy. Type IIb are the speed or power fibers used for periods of strenuous anaerobic work such as sprinting, jumping or cutting. These fibers use carbohydrates only.

EFFECTS OF FATIGUE AND HEAT Fatigue of muscles follows continued work, principally due to the accumulation of waste products in the muscle cells. Recovery requires removal of the accumulated waste products by the blood and lymph system, and a fresh supply of nutrition brought to the muscles.An untrained horse fatigues more easily than a trained horse, mainly because the muscles, respiration and circulation do not operate as efficiently in an untrained horse. A limit to continued muscular effort exists and continued muscular activity can be harmful. A proper balance between the products of muscular activity and the ability of the blood to remove waste material needs to be maintained. An animal should never be worked until exhausted. Heat is a byproduct of muscle contraction. To prevent an excessive increase in core body temperature, heat must be dissipated. In the horse, heat is dissipated through sweating (evaporation) and by air movement across the body. To do this, the blood transports the heat from the working muscles and the core to the skin. This can decrease the blood flow to the muscles. Also, the electrolytes lost in sweat are important for fluid balance, acid-base balance, and proper muscle contraction and nerve function.

MUSCLES INVOLVED IN GAITS A gait may be defined as a horse's way of going or the way of moving its legs during progression. A gait is characterized by distinctive features, regularly executed. Action refers to flexion of the knees and hocks, the height the horse lifts his feet from the ground, the speed or rate of movement, and length of stride. An understanding of gaits is important to detect lameness, to train a performance horse, or to signal a horse for a specific gait. Some gaits of a horse are natural, while others are learned or artificial. Most horses must be trained to execute the artificial gaits. All horses are considered to have four natural gaits -- walk, trot, canter (lope) and gallop. Any gait that a horse will execute without training is natural. Muscles that the horse uses to execute the various gaits form four functional groups. Contraction and relaxation of these groups in the limbs and the attachment of the limbs to the body create the gaits of a horse and other movements with the following actions:

1. Flexors decrease the angle of a joint.

2 Extensors increase the angle of a joint.

3. Adductors pull a limb toward the center plane on the horse.

Abductors move a limb away from the center plane of the

Extensors muscles of the front leg include:

- Brachiocephalicus
- Supraspinatus
- Triceps brachii
- Extensor carpi radialis
- Extensor carpi ulnaris
- Common digital extensor

Flexors of the front leg include:

- Teres major
- Latissimus dorsi
- Biceps brachii
- Flexor carpi radialis
- Flexor carpi ulnaris
- Deep digital flexor

Adductors of the front legs are the pectoral muscles. The abductor of the front leg is the deltoideus.

On the hind leg the extensors include:

- Biceps femoris
- Semitendinosus
- Semimembranosus
- Gluteus medius
- Quadriceps femoris
- Gastrocnemius
- Long digital extensor
- Lateral digital extensor

Flexors of the hind leg include:

Iliacus

Popliteus

Deep digital flexor

Superficial digital flexor

BEFORE AND AFTER MOVEMENT Some general concepts apply to all athletes regardless of species. These guidelines improve performance, prevent injury and minimize the soreness associated with exercise. A warmup stretches and relaxes the muscles to allow for greater flexibility. The warmup also increases the muscle temperature and blood flow, allowing more efficient transfer of oxygen and use of energy. After exercise, the horse should be cooled down. The cool down period consists of light work decreasing in intensity. This period helps remove metabolic byproducts such as lactate out of the muscles, prevents muscles from tightening up after exercise, and minimizes soreness.

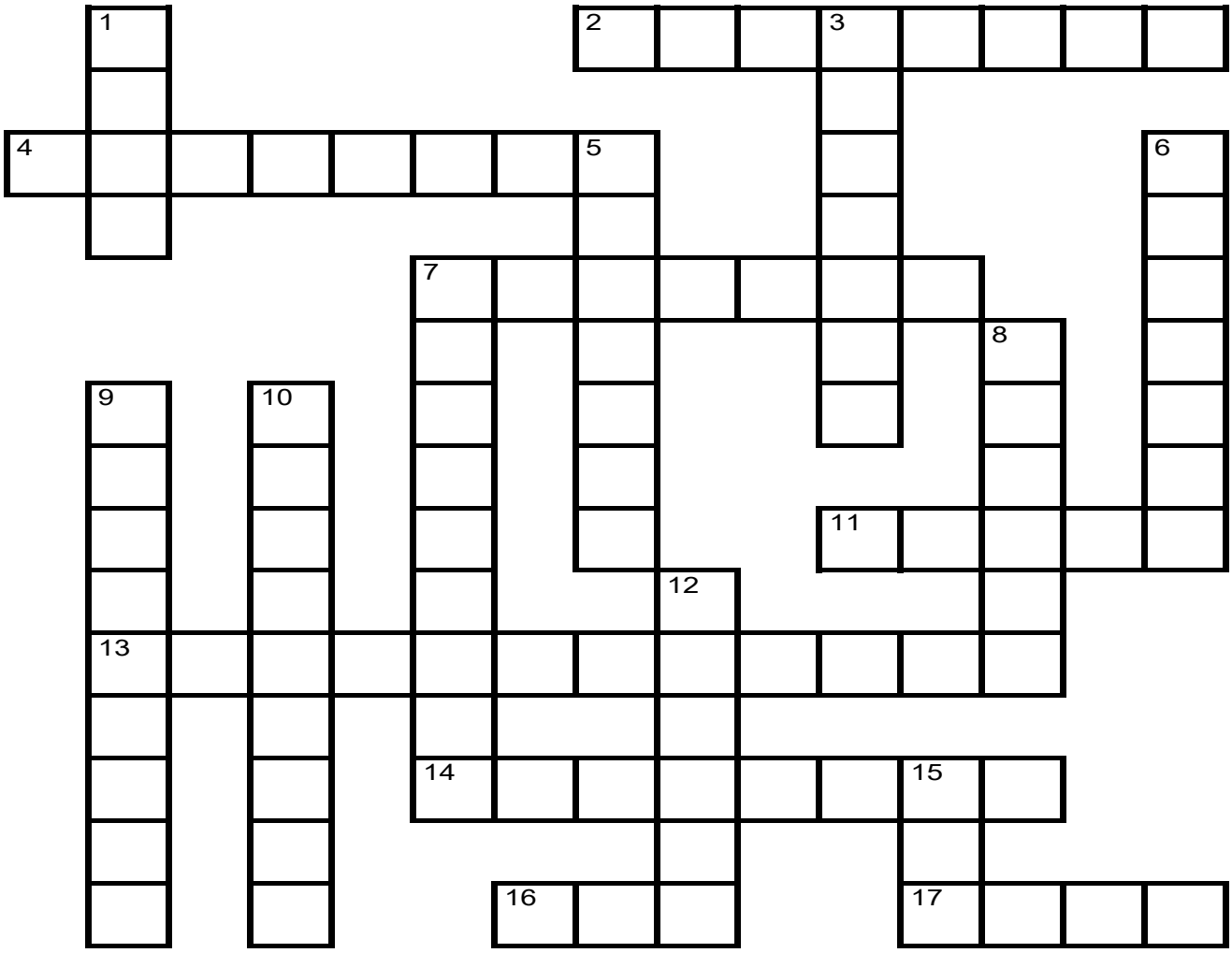
CONFORMATION AND ACTION Conformation, the form or structure, has a bearing on how the horse moves. For example, a base narrow horse, with toes pointing in, results in a horse that paddles. A crooked legged horse cannot move true. Unsoundness in the pasterns, cannon bones, knees and especially the hocks, also affects movement.

1. Complete the table below by indicating the action of the muscle type.

Muscle Type	Action
Flexors	
Extensors	
Adductors	
Abductors	

2. In your own words describe the events of a muscular contraction beginning with the nerve signal to the brain and ending with the nerve signal to the brain.

Biomechanics of Movement



Across

2. System containing muscles
4. Carbohydrate in the muscles used to produce ATP
7. Muscle contraction when oxygen is available
11. Walk, trot and gallop are all ____.
13. The form or structure of a horse
14. System containing bones
16. Short for adenosine triphosphate
17. Byproduct of muscle contraction

Down

1. Slowest gait
3. Ions which bind to troponin
5. System containing nerves
6. Muscles that decrease the angle of a joint
7. Muscles that pull a limb toward the center plane
8. Flexion of the knees and hock
9. Muscles that move a limb away from the center plane
10. Muscles that increase the angle of a joint
12. Fastest gait
15. Short for acetylcholine

Protecting Children From Farm Accidents

How dangerous is it for children who live on farms, and what can we do to reduce the risks for farm children?

Newspaper headlines across the country scream the details of an epidemic reaching across rural America: "Three-Year-Old Drowns in Grain-Filled Gravity Flow Wagon"... "Area Teen Mauled by Farm Bull" ... "Farm Pond Claims the Life of Area Toddler" ... "Local Youngster Killed in Tractor Accident," etc.

Unfortunately, these headlines could go on and on. Each year in this country approximately 300 children are killed in farm accidents, while more than 24,000 sustain serious injury. A National Safety Council study found that children aged 5-14 were 66 percent more likely to suffer from a farm work accident than adults aged 45-64.

SELF REGULATION INCREASES RISK

Risk is the chance of loss or injury. Farming is one of this country's most dangerous professions, primarily because each farm is self-regulated. A lack of rules and enforcement of rules has made our farms a very dangerous place, especially for children: On-farm safety checks are not required, so many times safety guards and shields are taken off to make adjustments or repairs and are not replaced. There are no limits on working hours. Long hours during busy seasons often result in fatigue for parents of farm children. In what other occupation do you take your child to work with you on a daily basis?

Although the Federal Fair Labor Standards Act sets rules and limits for minors working for employers, there are no rules applying to farms where minors work for their parents. Parents are left with the responsibility of setting the rules for their own children. That's why it is so important for them to be well-informed about farm safety issues.

UNDERSTANDING THE RISKS Farming creates risks for all ages. Understanding the nature of those risks can help family members to reduce those risks and prevent accidents.

Ages three and under: Children ages three and younger face the greatest danger of being run over or being injured in falls. Toddlers are exceptionally curious and are attracted to the sights and sounds of the equipment. Ingesting farm chemicals is another major area causing injury or death for this age group.

Ages four to six: Four- to six-year-olds are more aware of their surroundings, but many times are unaware of the dangers associated with the environment. For many children this is the age during which they are allowed to ride on a tractor or equipment with their father, their mother or an older brother or sister. This is a very risky practice with children in this age group, and lives are too often claimed by falls and runovers.

Ages seven to nine: Seven- to nine-year-old children are aware of dangers, but many times do not think about the consequences before they act. This age group desires to be involved in adult activities, which increases the likelihood that they will act quickly without regard to safety. Again, runovers and falls are the main causes of injury or death for this group.

Ages 10 to 12: Ten- to twelve-year-old children begin to mature physically and start to pressure parents for the chance to "prove" themselves and be like an adult. While children at this age can probably do many farm activities, they lack the mental and emotional ability to handle a crisis situation. Often children in this age group are given responsibilities well beyond their years.

Ages 13 to 15: Thirteen- to fifteen-year-olds many times feel that they are invincible. They are characterized as risk takers. Peer pressure is intense and these children again take on responsibilities without the ability to handle an emergency situation.

Ages 16 to 18: Sixteen- to eighteen-year olds must also be aware of risks. This group is nearing adulthood and can be injured for the same reasons that adults have accidents. Accidents are often caused by hurrying to get things done and by taking dangerous short cuts. Imitation of careless adults is also a common cause of injuries and deaths to young people in their late teens.

WHAT CAN BE DONE

The first line of responsibility falls on parents, as well as older brothers, sisters and other family members, to protect farm children from dangers. But the responsibility doesn't stop with farm families.

It is also important for others in agriculture to help farm families with safety issues, by making certain that they understand the risks, know how to reduce risks and have adequate tools to carry out safety measures. These "others" who can help farm families include: Agribusinesses, their dealers and salespeople can help by highlighting the required cautions on their products and equipment. Equipment designers and manufacturers should be willing to use their engineering resources to go beyond the minimum safety requirements set by law. Business also can help to finance safety information and educational efforts.

- Farm organizations can lend their support by distributing safety information, helping to finance safety education and by supporting legislation that helps to promote safety on farms.
- FFA chapters and 4-H Clubs can help to promote safety among their members, as well as helping to inform other farm families in their area about accident risks and safety practices.
- Schools where farm children and youth attend can help to educate children and their parents about farm accident risks. Teachers, as well as students, can help to distribute information to farm families to help them prevent accidents.
- News organizations, newspapers and farm publications can play a very important role by reporting accidents as well as helping to distribute farm safety information. The AgEdNet.com is helping to promote farm safety by adding farm safety lessons.

Government agencies can help to develop information on the extent of farm accident risks. Lawmakers need to keep farm safety issues on their legislative agenda. That includes making certain existing laws are being carried out, and determining what additional legislation may be needed.

WHAT FARM FAMILIES CAN DO

There is little doubt that children can learn good work habits by helping with farm chores, but limiting children to chores that are appropriate for their age is the number one measure in preventing farm accidents. Parents need to take into consideration mental, social, emotional and physical factors when deciding what their children should be doing to help.

Simply telling children to stay back, stay out, be careful or use common sense is not enough. Adults must be good role models, ALWAYS following strict safety guidelines. We must always remember that because a farm is many times a family business, children grow up being exposed to numerous dangers and too often they become complacent about the dangers around them.

- Some ways to help overcome that complacency include:
- Attaching warning or safety stickers to equipment.
- Attending safety seminars and enrolling in farm safety courses.

Most importantly, being aware that high risk situations occur whenever children are around moving equipment. They can easily fall from tractors and equipment, and are quick to dart in front of or behind moving implements and are tempted by the excitement of a grain bin or farm pond.

What are the main types of injections and how are they administered?

Giving an injection is a very common task in the life of a veterinarian or technician. The three most common injection techniques are subcutaneous, intramuscular and intravenous. Each technique does require a certain skill level to accomplish. This is especially true when the patient is less than cooperative. The patient may be moving and may even be trying to bite, scratch or kick the person administering the injection. Practice definitely helps to make the procedure more efficient.

VETERINARIAN'S LOG:

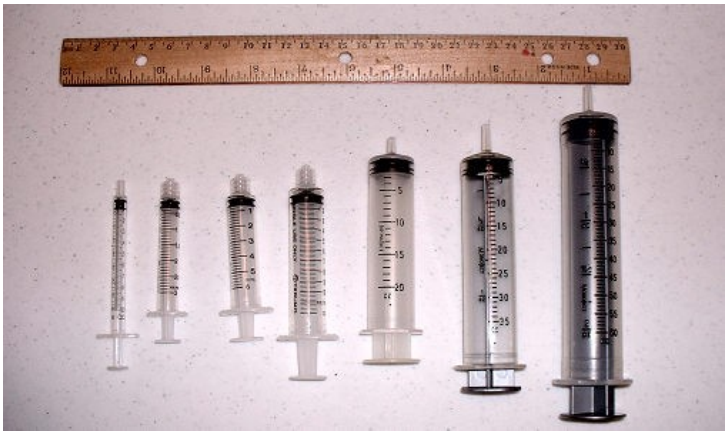
During one small animal appointment, I was preparing to vaccinate a puppy. I saw the owner turn to face the door of the exam room. The owner said, "I hate needles, I just can't watch." This is not at all unusual. Many people have a definite aversion to receiving an injection and, out of sympathy, do not want to watch their pets injected either. Giving injections is such a routine part of my job that I do it almost without thinking. I no longer have to think about each step, but I do perform each injection with a consistent technique.

ADMINISTERING INJECTIONS

Administering injections is a required skill for veterinarians and technicians. Injections are given with a syringe and an attached hypodermic needle. The hypo- prefix means below or under. Combined with "derm," referring to skin, hypodermic translates into below the skin. Hypodermic needles are used to administer medications below the level of the skin.

Syringes:

Syringes come in a large variety of sizes, defined by the volume in milliliters that they can hold. Common sizes are 1, 3, 6, 12, 20, 35 and 60 milliliter. The syringe is chosen by using the smallest size syringe that will hold the required volume. This provides the highest degree of accuracy in delivering the appropriate volume. Also, syringes become more difficult to handle as they become larger.



Syringes shown are sizes 1, 3, 5, 12, 20, 35 and 60

Hypodermic needles:

Hypodermic needles are described by length and diameter. The length is still typically described in inches. Many sizes are available, but common needle sizes are 5/8, 1/2, 1, 1 1/4, 1 1/2 and 2 inches. The diameter of the needle is called the gauge. Common gauges are 25, 22, 20, 18, 16 and 14. These gauges are listed from the smallest to the largest diameter. The smaller the gauge number, the larger the needle.

Needles shown are of various gauges.
From left to right: 25 g. X 5/8", 22 g. X 1", 20 g. X 1", 18 g. X 1.5", 16 g. X 1.5" and 14 g. X 2".
Notice that the caps for the needles are color coded, allowing for easy selection.

INJECTION TECHNIQUES

The three most common injection techniques are subcutaneous, intramuscular and intravenous.

1. Subcutaneous injections deliver the medication under the skin but above the muscle tissue.
2. Intramuscular (IM) injections deliver the medication into muscle tissue.
3. Intravenous (IV) injections deliver the product into a vein.

The technique will depend on the medication chosen and the speed at which the treatment is required to begin. For example, a tranquilizer given subcutaneously may take 15 to 20 minutes to reach full effect. The same medication given intravenously may reach peak activity in less that a minute.

Another example is a long-acting antibiotic commonly used in cattle. When given intramuscularly, it is effective for 48 hours. The same medication can be used in larger volumes subcutaneously to provide up to 96 hours of treatment. This can be very important when handling the animal to deliver the injection is difficult.

1. Subcutaneous injections

A subcutaneous injection delivers medication under the skin, but above the muscle tissue. Dogs and cats have loose skin over their bodies. In food animals, the skin of the neck is also loose enough to allow for easy subcutaneous injection.

The skin can be tented upwards to allow for injection between the skin and the underlying muscle. While the skin is held upward, the needle is directed along the direction of the tent. The needle is inserted until it is felt to slide through the skin. The sensation of the needle passing through tissue is transmitted through the syringe into the hand of the person doing the injection. This feel can only be learned through experience.

Typically the plunger of the syringe is aspirated (pulled back) to determine if any blood comes back into the syringe. Many medications that are being given subcutaneously or intramuscularly, should not be given intravenously. If blood is detected, the needle should be directed to another location.

A common mistake while performing a subcutaneous injection, is to direct the needle perpendicular to the tented skin. In this direction it is very easy to pass the needle completely through both layers of skin and the medication is then squirted onto the outside of the animal.

2. Intramuscular injections

In intramuscular injections, the needle passes through the skin and subcutaneous tissue and into the deeper muscle tissue. As in the subcutaneous injection technique, the plunger is pulled to test for blood coming into the syringe. If blood is detected, another injection site should be used.

In dogs and cats, muscles along the spine (epaxial muscles) and in the hind leg are commonly used for IM injections. Many people find injections into the epaxial muscles intimidating, when first learning the technique.

It is important to remember that the spinal cord is completely protected by bone, so the risk of damage to the spinal cord is quite low. Injections into the hind limb carry the risk of hitting the sciatic nerve, which can result in paralysis of the affected leg. To avoid this, the muscles cranial to the femur and the medial caudal muscles are used for injection.

Note: Cranial refers to being close to the head or skull, while caudal refers to something close to the tail or posterior portion of an animal.

In the larger domestic species such as horses and cattle, the muscles of the neck are commonly used for injections. There are two reasons for this. First, injecting into the neck helps to keep the person away from the dangerous hind legs. Second, this site does not damage the high-quality cuts of meat in the hind leg of food-producing animals. Injections into these sites can cause scarring, which will damage the quality of the meat at the injection site.

CLINICAL PRACTICE:

Although it may appear that a veterinarian or technician is giving an injection without much thought, many factors go into the process. The volume and the characteristics of the medication influence the size of the syringe and choice of needle.

Many medications have the consistency of water and can be given through a relatively small diameter needle with a length adequate to deliver it to the proper location. Other medications have a much thicker consistency. Although they can be forced through a small diameter needle, it requires much higher pressure and longer time to administer the medication. This increases the duration of pain for the animal and increases the chance that the animal will move too much to allow all of the medication to be delivered. Therefore, a larger bore needle is used in these situations.

During the process of learning to administer injections, many people handle the syringe with two hands. It is much more difficult to react to movement of the animal when using this technique. With practice, a syringe can easily be manipulated with one hand. It is very useful to learn to use the syringe with one hand before administering any injections. The plunger of the syringe can be pushed and pulled while keeping the tip of the syringe stationary.

A major reason for administering an intravenous injection is to supply electrolytes and fluids. For example, a dog that has severe vomiting and diarrhea loses fluids and electrolytes in the vomitus, in the feces and through urine. The dog is unable to take in fluids orally to meet these losses. As a result, the dog lacks adequate fluid volumes in its body and is described as being dehydrated.

Intravenous fluid administration is a common technique used in animals that are dehydrated to replenish their fluid reserves. Intravenous fluids may need to be administered over a course of many days, which makes using a needle impractical.

In these situations, a catheter is used. A catheter is a hollow tube which permits the injection or withdrawal of fluids into or out of the body. A needle is used to enter the vein and then a softer and flexible catheter is slid deeper into the vessel. The needle is removed from the vein and the catheter can be taped to the body to maintain its position. The catheter can be left in place for several days, allowing for fluids to be administered at a constant rate.

The administered fluids are used to replenish fluids in the dehydrated animal and then supply its maintenance needs while it recovers. As with any injection technique, practice helps the veterinarian or technician become comfortable in handling the catheter.

1. The word hypodermic translates into _____ the _____ .

2. Injections are given with a _____ and an attached hypodermic _____ .

3. Syringes come in sizes defined by the volume in _____ .

4. A syringe is chosen by using the _____ size syringe that will hold the required _____ .

5. Hypodermic needles are described in length by _____ and in diameter by _____ .

6. Subcutaneous injections deliver medication under the _____ but above the _____ .

7. Intramuscular injections deliver the medication into _____ tissue.

8. Intravenous injections deliver medicine into a _____ .

9. A _____ is used to administer fluids at a constant rate over a period of several days.

3. Intravenous injections

Intravenous injections deliver a substance into a vein. Becoming proficient in performing intravenous injections definitely takes the most skill and practice. Typically, application of manual pressure or a tourniquet blocks blood flow through the vein. This helps to distend the vein, making the vein more prominent and visible and allowing for easier needle entry.

The vein is generally identified both visually and with palpation (by touch) to positively identify its position. In this technique, the needle must pass into and be threaded through the lumen (the hollow interior) of the blood vessel.

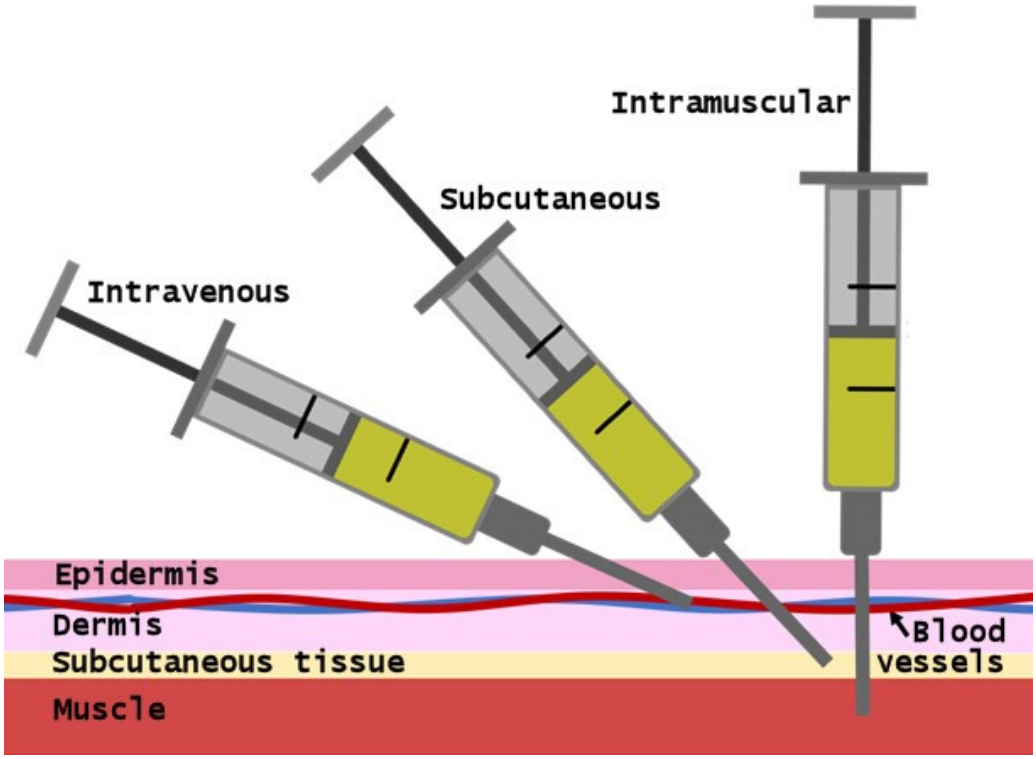
As in the other techniques, there is a feel as the needle moves through the tissue of the vessel and "pops" into the lumen. The needle passing through skin and tissue has a certain drag, which becomes much easier when it enters the lumen. Once again, in this technique, the plunger is pulled, but this time blood must be visible and flow freely into the syringe.

In dogs and cats, the cephalic vein, which runs along the length of the forelimb, is commonly used for IV injections. The jugular vein, which runs along the length of the neck, is used in all species.

In large animals, the needle may be placed into the vein without the syringe being attached. The blood dripping from the needle provides evidence that the needle is in the vein, and then the syringe can be attached for injection. This also ensures that the needle is not accidentally placed into the carotid artery that is deeper than the jugular vein.

If the needle is placed in the carotid artery, the blood will pulse out of the needle with much higher pressure than if it were in the vein. In horses, a commonly used tranquilizer can cause a life-threatening reaction if accidentally injected into the carotid artery.

In dairy cattle, there are large veins running along the length of the abdomen (commonly called mammary veins) that are also used for administering IV injections. For small volumes, there is also a vein that runs on the underside of the cow's tail. This vein can be easily found by injecting the needle in the midline until it hits the caudal vertebra. This is one site where the vessel is not visualized prior to injection. This is often called a blind stick.



Complete this worksheet to review key concepts from the lesson.

1. Farming is one of the country's most danger professions, primarily because each farm is _____ - _____ .

2. The Federal _____ _____ _____ Act sets limits for _____ working for employers, but there are no rules for minors working on farms for their _____ .

3. Risks for children ages three and younger include being _____ over, injured in _____ and ingesting _____ _____ .

4. Four- to six-year-olds may be hurt by _____ and _____ .

5. Children ages seven to nine may not think about the _____ before acting and may be injured in _____ and _____ .

6. Ten- to 12-year-olds are maturing _____ but may lack the _____ and _____ ability to handle a crisis.

7. Thirteen- to 15-year-olds may feel _____ and make take on _____ they cannot handle.

8. Teens aged 16-18 are at risk when they _____ to get things done and take dangerous _____ _____ .

9. The first line of responsibility falls on _____ and other _____ members.

10. Agribusinesses can help by highlighting _____ for products and equipment as well as by financing safety information and _____ efforts.

11. Farm organizations can distribute _____ information, finance safety _____ and support _____ promoting farm safety.

12. _____ chapters can help promote safety among their members.

13. Schools, teachers and students can help educate _____ and their _____ about farm accident risks.

14. _____ organizations can report _____ and distribute safety information

15. _____ can keep farm safety issues on the legislative agenda.

16. The number one measure to farm accident prevention is to limit children to chores appropriate for their _____ .

17. Adults must be good _____ _____ , always following strict _____ guidelines.

1. Develop a series of farm safety stickers for a particular piece of equipment.

Education Center

Cornell University
Cooperative Extension
Cattaraugus County

Education Center
28 Parkside Drive
Ellicottville, NY 14731
t. 716-699-2377
f. 716-699-5701

cattaraugus.cce.cornell.edu

4-H Youth Horse Program

COMMITMENT TO EXCELLENCE

- I believe that participation in the 4-H Horse Program should demonstrate my own knowledge, ability and skill as a caretaker and exhibitor of equines.
- I will do my own work to my fullest extent that I am safely capable and will accept advice and support from others.
- I will not use abusive, illegal, fraudulent, deceptive or questionable practices in the feeding, fitting and showing of my animal(s), nor will I allow my parents or any other individuals to employ such practices with my animal(s).
- I will read, understand and follow the rules put forth by the Cattaraugus County 4-H Horse Program, without exception, for all horse shows in which I am a participant, and I will ask that my parents and supervisors of my project do the same.
- I wish for my horse project to be an example of how to accept what life has to offer, both good and bad, and how to live with the outcome.
- I realize that I am responsible for:
    1. The grooming, and care of my project animal(s),
    2. The proper care and safe, humane treatment of my animal(s),
    3. The safe handling of my animal(s) at all times,
    4. Demonstrating strong moral character as an example to others.
    5. Supporting and respecting all the youth and volunteers at any and all 4-H events

_____ _____

4-H Youth's Signature Date

_____ _____

Parent/Guardian Signature Date

_____ _____

4-H Educator's Signature Date

NYS 4-H HORSE CERTIFICATE

____ Personally owned

____ Family owned

____ Non-owned
(See non-ownership policy/reverse side)

Date _____ 20____

Name of Animal

Date Animal Born (Mo.) (Day) (Yr.) Sex M ☐ G ☐

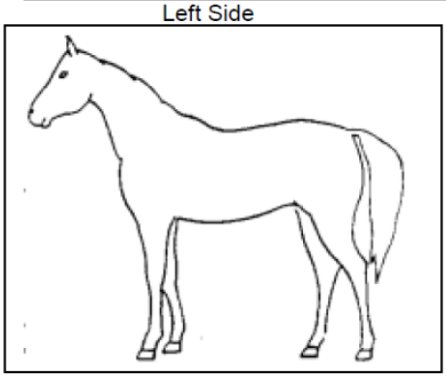
Name of Sire

Name of Dam

Registry/Breed Reg. No.

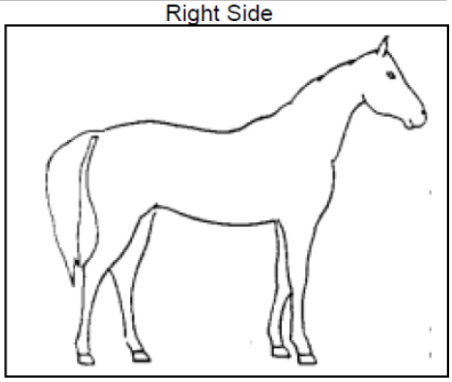
Date of Purchase Member County

Left Side



Draw markings on each side and face identical to your horse

Right Side



Color Owner

Height Address

Weight

(Zip)

Signature of Owner

This animal has been officially designated as the 4-H project animal of the 4H'er as of June 1 of the current project year.

Name of 4-H'er _____

Address _____

_____ Zip _____

Telephone _____ Email _____

_____
Member's Signature

Parent/Guardian _____

Address _____

_____ Zip _____

Telephone _____ Email _____

_____
Parent/Guardian Signature

4-H Leader Name _____

Address _____

_____ Zip _____

Telephone _____ Email _____

_____
Leader's Signature

Educator _____ County _____

Address _____

_____ Zip _____

Telephone _____ Email _____

_____
CCE Educator Signature

Remember to include a copy of your current Coggin's test - test dated this year or last year. *Proof of rabies vaccination required - must he current, given more than 14 days prior to arrival at fairgrounds, and remain current for duration of the Fair.

See reverse side for important information