

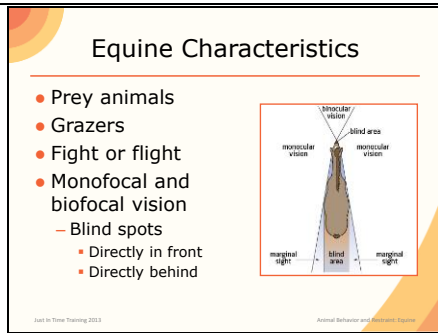
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December 2013

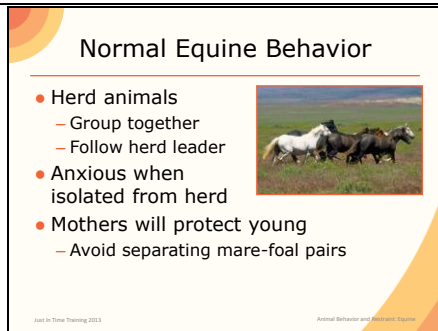
During animal health emergencies involving equine species, tasks requiring the handling and restraint of the animals are likely. Having a basic understanding of equine behavior and restraint will allow for more effective efforts thereby minimizing stress on the animals and reducing the risk of injury to responders. This Just-In-Time training presentation will overview basic equine behavior as well as handling and restraint measures that may be needed for animal health emergencies.

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Equids, including horses, mules and donkeys, are grazers and prey animals. As such their “fight or flight” reaction is prominent, and their senses are developed to rapidly detect changes in their environment. This acute ability to detect movement, often results in equids to be “spooked” easily. Horses have widely spaced eyes, and as a result have a large field of peripheral vision; however, this area is only monofocal (one-eyed vision), so their depth perception is poor. This one-dimensional view is another contributing factor for horses to “overreact” to objects or sounds things behind or beside them. Horses do have some areas of binocular vision (where it sees with both eyes at once) but this area is very small, and includes the area directly in front of them. Horses have two “blind spots” – a small spot directly in front of their nose and directly behind them. These are important characteristics to keep in mind when approaching and moving equine.

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Equids have a very strong herd instinct and try to stay together in a group, especially when they are frightened. There is a distinct social order within equine herds. This can be used to an advantage in moving large groups of horses at one time. Equids will follow the lead horse, (e.g., stallion or dominant mare); however, it is important to be aware that the dominant horse will also strive to protect the herd, so must be handled with care. The social nature of equids makes them very nervous in situations where they may become isolated from the group. Most equids when frightened will flee, but if they are isolated and or cornered, they may strike out with their hooves or teeth. Always move with caution when working with a mother and her young because she could injure herself or the handler if she feels her foal is in danger. Avoid separating mare-foal pairs if possible. [Photo: A herd of mustangs. Source: Wikimedia Commons]

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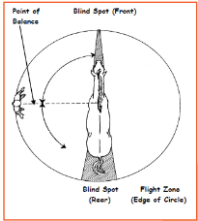
An important step when moving equine is to be aware of their body language. This can provide insight and perhaps a warning should the animal strike out in fear. When a equid lays its ears back, it usually means the animal is angry or feeling threatened. The animal may also swish its tail when it is agitated. Caution should be used if either of these signs are noted. If the equid has one or two ears slightly back, it means the animal is listening. If both ears are forward, the animal is attentive and listening. When approaching the animal, always make sure it sees you. Avoid the animal’s blind spots. Use caution when working around the horse’s head, legs, and tail. If it becomes startled or irritated, the horse may move suddenly and injure the handler. [Photo: An irritated horse – the ears are laid back against the head.]

Source: Rutgers/New Jersey Agricultural Experiment Station. The Basics of Equine Behavior Fact Sheet #525 at <http://www.esc.rutgers.edu/publications/general/fs525.htm>

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### Flight Zone

- Animal's personal space
- Indicator or possible threat
- Size determined by
  - Tameness
  - Degree of excitement
- Animal moves away from things in the flight zone



The diagram shows a horse from a top-down perspective. A vertical line through the horse's body represents the 'Point of Balance' at the shoulder. A light gray shaded area behind the horse is labeled 'Blind Spot (Rear)'. A light gray shaded area in front of the horse is labeled 'Blind Spot (Front)'. A large circle centered on the horse's body is labeled 'Flight Zone (Edge of Circle)'.

The flight zone is important to consider when approaching horses. The flight zone is the animal's personal space, and is used as an indicator of impending threats. The size of the flight zone depends on temperament of the horse and its experience with people. With frequent handling the flight zone will decrease in size and may even disappear, but if a horse hasn't had much handling or is constantly approached head on, it will have a much larger flight zone. When a person moves into the flight zone, the animal will move away from the person (or threat). The handler should avoid deep invasion of the flight zone. This can cause an animal to panic. In an attempt to escape, it may run away or turn back and possibly charge the handler if provoked.

To determine the edge of an animal's flight zone, slowly walk up to the animal. The point at which the horse begins to move away is the edge. This is the best place for a handler to work. The point-of-balance, which is located at the shoulder, perpendicular to the body, is used to move horses back or forward. To make the horse move back, the handler should stand in front of the point-of-balance, and to make the horse move forward they should stand behind the point-of-balance

This diagram shows the flight zone of an animal. Note the blind spot behind the animal (light gray), this area should be avoided. To make an animal move forward, the handler should enter the edge of the flight zone behind the "point of balance" or shoulder. It is best to work at a 45-60° angle behind the animal's shoulder, moving back and forth parallel to the direction you would like the animal to move in. [Illustration: Equine flight zone. Source: American Youth Horse Council. Approaching a Horse Safely. Available at: <http://ayhc.com/uploads/approaching-a-horse-safely-2011.pdf>]

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### Herding & Moving Equine

- Startled by sudden movements and loud noises
- Avoid
  - Abuse
  - Loud noises, yelling
  - Isolating animals
  - Distractions
- Use slow movements
- Easily dominated by humans

Equids are easily dominated by humans when handled properly and gently. However, most equine are startled by sudden movements and loud noises. Avoid approaching the animal from the rear or directly in front; it is best to approach at an angle from its shoulder. Give the animal a chance to see you. Use slow movements when moving equine. Be aware of the animal's surroundings and ensure there is nothing in the movement path that could cause them to startle. Frightened and startled equine may react by spinning or bolting; responders should keep an escape route in sight at all times to avoid being trampled or kicked by a startled animal. Avoid isolating the animal from its herd. Keeping equids in familiar groups can help to reduce stress on the animals.

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### Capture & Containment

- Tame horses
  - Used to humans
  - Easily penned
- Wild horses
  - Other horses should be used in containment
  - Avoid running them
- Use food to entice them
- Be alert of surroundings
- Makeshift corrals can be used
- Wire fencing should be avoided

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Methods of capturing and containing equids will vary depending on their familiarity with humans and being handled. Animals that are used to human contact will generally be easily haltered, and lead to the necessary location. Try to remain on the left side of the animal as they are more accustomed to this positioning. In situations involving equids that are less familiar with human handling (e.g. wild horses), herding using other horses may be most effective. Slow, deliberate movement using the herd flight zone will be most effective. Avoid chasing or running the animals as this will cause an unorganized and stressed herd and may lead to injuries to the animals and/or handlers.

When capturing equine that aren't accustomed to human contact, use of food in a bucket may entice them to come to the handler. The handler should shake the bucket so the animal hears the food in the bucket and will come closer to be haltered. After the animal is haltered, be very aware of the surroundings and the animal's movement and be prepared for sudden changes in their movement if something frightens them. Makeshift corrals or stalls made from portable gate panels can be used to contain the equine in a safe area. Any kind of wire fencing should be avoided due to the danger of injury to excited animals unfamiliar with fences. Be sure that gates of any kind are securely fastened so no further escape can occur.

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### Behavior After Handling

- Allow access to feed, water, and shelter
- Extra caution should be taken with stallions
- Social order must be re-established
- Be alert of any injuries




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Once the animals have been moved to the safe and desired location, allow plenty of access to feed, water and shelter. Adequate space should be provided for them to exercise and lie down if they will be housed in this location for any length of time. Stallions should always be approached with caution, particularly in stressful conditions, and should not be contained together as this will only result in more problems. If new groups of equine are mixed, allow abundant space to re-establish the social order of the new herd. Also, be alert of any injuries that any of the animals may have acquired during the movement process. [This photo shows two horses grazing. Source: Wikimedia Commons]

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### Restraint

- Minimal movement
  - Stocks/Chute
  - Hobbles
  - Twitch
  - Halter with chain lead shank
- Full movement
  - Stalls
  - Corrals



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Restraint may be needed for diagnostic sampling (e.g., blood collection) or vaccination or treatment. There are many ways to restrain equine depending on their familiarity with human contact. For situations requiring minimal movement of the animal, chutes or stocks can be used to restrain the animal. Hobbles can be put on equid legs to keep them from moving as well, while still allowing them to eat grass if it is available. A nose twitch made of soft rope can be wrapped around the end of the animal's nose to keep it still. When handling stallions, a halter with a chain lead shank can be used to control the animal's head. In situations requiring maximal restraint, tranquilization or sedation may be necessary. Many protocols are available depending on the depth and length of sedation required. [Photo: Horse with a twitch on its lip. Source: Andrew Kingsbury/CFSPH]

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**Special Considerations**

- Monitor in conditions of high heat or extreme cold
- Farrier needs
- Winter weather requires special equipment
  - Heaters or wind break
  - Gritty, non-slip substances
  - Blankets

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When possible, avoid moving equine under hot conditions. Move them in the early morning or late evening hours. In times when this is not possible, move animals slowly and offer water and breaks often. In cold conditions, use caution when moving animals on slick or icy surfaces. If necessary, use a gritty, non-slip, non-toxic material if ground surfaces are icy to improve traction. If the horses will be housed for long periods of time, hoof care will be needed, especially for horses with shoes. A wind break should be provided during winter weather; heaters or blankets may also be needed.

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**Safety**

- Avoid injuries from equine
  - Kicks
  - Striking
  - Rearing
  - Biting
  - Can inflict injuries with head
  - Will run over you if desperate

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Horses can cause injuries in many ways with many parts of their body. They can kick with their back feet and strike with their front feet, both ways inflicting a lot of pain, especially when standing close to them. Rearing can also cause injuries to handlers if the animal were to land on them. Equids have teeth on both their upper and lower jaws which can bite with extreme force. They can also cause injuries with their head by throwing it around and possibly hitting the handler. If desperate, cornered, or isolated, equine will run over or through their handlers if there is no other way out. When working with these animals, avoid quick movements and always have an escape route planned when working in close quarters.

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**Additional Information**

- Approaching a Horse Safely. American Youth Horse Council. <http://ayhc.com/uploads/approaching-a-horse-safely-2011.pdf>
- Approaching, Catching, and Haltering Horses Safely. Rutgers Cooperative Extension. [http://nasdonline.org/static\\_content/documents/1043/d000837.pdf](http://nasdonline.org/static_content/documents/1043/d000837.pdf)
- Techniques for Safely Handling Horses. Oklahoma Cooperative Extension Service. <http://peds.dasn.okstate.edu/docshare/dsweb/Get/Document-2755/E-960.pdf>

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For more information on equine behavior and restraint, see the following resources.


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**Acknowledgments**

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