



Training Horses Safely

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Horses possess many attributes, which make them a species of choice for human companionship and service. Relating to horses requires a certain level of knowledge of their behavior. Without this knowledge, involvement with them can be dangerous.

Horse Behavior and Trainability

When training horses, it is fundamentally important to understand basic behavior as it relates specifically to the equine. Behavior is a product of both instinct and previous experiences. To some degree, all horses behave in a similar fashion, but differences in response may be witnessed due to breed, age, management systems, level of training, etc. Successful training depends on the trainer's understanding of the horse's behavioral traits and how stimuli (cues) can be applied to modify behavior. Behavioral traits important to training include the fight or flight response, memory, perception of and reaction to stimuli and social structure. It is also important to not overestimate the cognitive ability of the horse, or to humanize their way of thinking as this can lead to a misunderstanding of their behavior.

The Fight or Flight Response

Horses are a prey species and they survive by fleeing from danger. When a horse feels unsafe or experiences a sudden unexpected stimulus, their natural response is to flee. Danger could be perceived as something that has invoked fear in the past or simply something new or different. The instinct to flee can cause safety problems when a horse is handled or confined. If a horse panics, it may run over handlers, fences or other obstacles, which can cause injury to itself or others. Proper training lessens the instinct to escape. Horses must be exposed to a variety of environments and circumstances to habituate them to new experiences and generalize their training to new environments.

In natural conditions, the fight response is typically witnessed when flight is no longer a possibility, or in defense of territory, offspring or other desirable resources. In domestic horses that are housed in more confining management systems, fighting is a frequent part of social order disputes not observed as frequently in free roaming populations. Domestic horses can also be observed to use the fight response when they feel trapped or threatened without the perceived possibility of escape. Domesticated horses can also become aggressive and strike, kick, bite; or run over objects, people or other horses when defending desired resources. Building security and respect at early ages decreases this response

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toward humans. Any horse can become aggressive toward a handler; especially stallions, mares with foals, older horses with little training and young horses in the initial phases of training.

Memory and Repetition in Training

Horses have good memories, but they do not have an appreciable reasoning ability. They learn through repetition. Initially, trainers allow simple and slow responses to cues. Advanced training results from the use of step-wise training procedures that allow the horse to add intricacy and speed to previously learned responses.

Perception and Reaction to Stimuli

In the wild, horses rely on early recognition of danger and quick response for survival. This poses both advantages and disadvantages when training. Horses are very perceptive and can react suddenly to sounds, sights, movement, touch and smell. Even a familiar object can elicit sudden responses, if it moves erratically or appears in a novel location. Trainers capitalize on a horse's sensitivity to touch and movement when teaching a horse to respond to cues.

Social Structure

Horses are naturally gregarious, or social animals, and seek safety and comfort from other horses. Many of the tasks we ask horses to perform are contrary to their nature and thus must be taught. For example, horses leaving the herd, being forced to stay at the head or tail of a line, riding in close proximity to other horses, etc. At the same time, understanding the social structure and agonistic behaviors of horses, or those related to fighting is important. If observing a group of horses, the horse that causes another horse to move out of its way or space is the dominant individual in that interaction. While dominance is part of the social order of a herd, it is unlikely that horses perceive humans as horses in that same social structure. However, the behavior of yielding to pressure or moving away is innate to horse behavior. Horses are trainable because they can be taught to recognize reinforcement of responses rather than the dominance of humans. It is more important that trainers are clear and consistent in responses to behaviors, rather than trying to exert dominance over the horse. Trust is developed when a horse feels secure about the actions of humans developed through consistency of behaviors. A horse develops security when actions of humans

are consistent and recognizable from past interactions under similar conditions.

Training Principles Based on Learning Theory

Several training principles are used based on expected horse behavior. These behaviors allow us to somewhat predict how a horse will respond to a stimulus. Trainers use a system of reinforcements or punishments to either encourage a horse to repeat the same behavior or decrease the likelihood of the behavior occurring again. Thus the horse modifies its behavior according to the actions of the trainer.

Stimulus -> Response -> Reinforcement

Stimulus

The “stimulus, response, and reinforcement” principle is used to train horses. We apply a cue (stimulus), the horse reacts (response), and we reinforce the response based on its acceptability. In actuality, the reinforcement by the human can be thought of as the human response. The response to most cues must be learned by the horse because the desired action often does not come naturally. In general, most cues will ask a horse to move away from, or acknowledge an increase in pressure, such as the leg or bit.

Response

A horse will respond to a cue by either behaving correctly, ignoring the cue or even react in an undesirable manner. When a handler pulls a lead rope to cue the horse to move, an acceptable response would be for the horse to move in the direction of the pull and a subsequent release from pressure on the halter. An unacceptable response, such as moving against the direction of pull, should result in a correction of that behavior. This acknowledgement of behavior by the trainer is performed through either reinforcements or punishments.

Reinforcements (the Human Response)

The concept of reinforcement simply is something that will *increase* the likelihood or encourage the horse to perform that same behavior again. Reinforcements may be positive or negative, which simply refer to the application of, or the removal of a stimulus. To understand this principle, it may be easier to think of these terms as a mathematical operation. Positive reinforcement is something that is added to the horse, while negative reinforcement is something that is subtracted or removed from the horse. Food is an example of positive reinforcement as it is given or *added* to the horse. Food rewards are used in short term task training, such as performing tricks. The disadvantage of food reward reinforcement is the horse's preoccupation with the reward frequently distracts its attention to longer termed, step wise training characteristic of most horse training programs. If used, food reward training should be used with discretion, and not as the sole reinforcement tool. Horses do enjoy wither scratching, which can be used as a natural positive reinforcement that is not food based. Many other positive reinforcements are learned. For example, a horse learns that a gentle pat or a rub on the neck is a reward because it is associated with a release from training or exercise.

Negative reinforcements are those stimuli or cues which are *removed* from the horse when it performs correctly, for example the release of a bit or rein cue. Negative reinforcements are the primary basis with which horses are trained, and is commonly thought of as pressure release type training. It is also one of the most commonly misunderstood terms because it may imply unpleasant connotations. Negative reinforcement should instead be recognized as a release or easing of tension in response to the correct behavior. Reins, legs, spurs, and halters can all be seen as agents of negative reinforcements.

Avoidance is also a principle used in negative reinforcement. The horse learns to avoid an additional aversive stimulus by responding acceptably to initial cues. For example, a horse is cued to move away from leg pressure. If the response is acceptable, it is reinforced by the release of leg pressure, or negative reinforcement. If the horse ignores the cue, it will be followed by a more aversive stimulus (i.e., a kick reinforces a leg squeeze). Through repetition, the horse associates the unacceptable response with more aversive stimulus and learns to respond to the initial cue. In essence, horses begin to respond to very light cues to avoid the stronger, more aversive stimulus.

Punishments

Punishments are broadly defined as those actions which will act to *decrease* the frequency or likelihood of a behavior occurring again. These can be separated into both positive and negative categories. Positive punishment describes an action applied to or *added* to the horse to discourage its performing the behavior again. In this example, the incorrect response of failing to move away from leg pressure is followed by a positive punishment, the kick. Punishments, used correctly can help eliminate bad habits and aggressive behavior initiated by the horse, such as bucking, rearing and kicking. Negative punishments, or the *subtraction* or removal of something are used less frequently in horse training. An example might be the withholding of feed from a horse that is actively pawing to be fed. It is important to understand the word punishment does not imply cruel or abusive training, which is never acceptable.

Unintended Training

It is equally likely to reinforce behaviors not desired as much as behaviors that are desired. For example, if a farrier picks up a horse's foot and the horse swings away, removing the farrier in essence it has learned an undesirable behavior. Everyone working with horses should realize how quickly these escape behaviors can be learned. A horse that successfully bucks off the rider might be tempted to do so again to *subtract* the rider from its environment!

Some desired actions of horses go away without proper reinforcement. For example, if leg or rein pressure is not released following a correct response, the horse may quit responding to the cue.

Cues require correct reinforcement throughout the horse's performance career. The goal of training is for the horse to respond to all cues in an acceptable manner. However, even a highly trained horse requires consistent application of reinforcements to maintain its level of training.

Repetition and Consistency of Cues and Reinforcements

Horses learn through repetition. Repetition increases a horse's ability to master a task. It also serves as a review before new or more intricate movements are performed. Too much repetition allows a horse to learn to avoid the physical or mental output of a maneuver. This can happen when a barrel horse runs a pattern too often, for example.

The ability to learn cues quickly and accurately depends on the consistency of reinforcements. Horses are very perceptive. They are able to recognize slight differences in cue application. This allows for more intricate stimuli and more advanced maneuvers.

Habituation

Training programs desensitize horses to unfamiliar stimuli. For example, the introduction of a bit causes a horse to bite and chew on the mouthpiece. This response will usually go away when the horse learns to tolerate or become accustomed to the mouthpiece. Through the use of slow, step-wise training methods, most horses readily accept unfamiliar areas or objects such as trailers, indoor arenas, traffic or people. With experience and consistent training, horses learn to ignore many of these. However, loud noises or unfamiliar sights may frighten any horse, so handlers must be prepared at all times.

Contingency

Horses respond quickly to stimuli. To be effective, reinforcement must occur immediately after the horse's response so the horse learns to associate the reinforcement with the preceding cue. Poor timing of signals and reinforcements based on an overestimation of horses' cognitive ability "He knows what I want and is just being stubborn," can result in unwarranted punishments with little relation to the original response.

Fatigue

Some horses learn to ignore constant stimulus by building physical and mental barriers. Horses fatigue easily, so cues must be short in duration (i.e., a pull and release of the reins or a squeeze and release with the legs). When the stimulus is constant and prolonged, most horses will either ignore it, become dull, or may try to escape by fighting the pressure (i.e., running away while the rider is pulling back on the reins).

Fatigue also limits the length of single training sessions. Young horses, mentally and physically unconditioned to training, must be worked in short training sessions. The session length and number of cues can be increased as the horse matures and learns. Varying the type of work and intermittently allowing the horse to relax during a training session prevent fatigue.

Shaping Behavior with Step-wise Training Programs

Advanced training requires mental and physical maturity. With advanced training programs, coordinated maneuvers are divided into a series of simple tasks. Movements are added as the horse masters each task. For example, when stopping, a horse must shift its weight to the hindquarters and flex at the poll. The horse must first learn to carry its body in a collected frame. It must respond to voice commands, body movement of the rider and mouth pressure from the bridle. Learning is enhanced when movements are first taught at slower speeds,

such as a trot rather than a lope or gallop. The slower speed allows the horse time to learn the correct response without the greater physical demand and coordination required at greater speeds. As neuromuscular coordination advances along with greater understanding of the required task, faster and more complex behaviors can be achieved.

Safety Principles Related to Training and Behavior

1. Recognize the horse's natural defense mechanisms.

- Frightened or aggressive horses may panic, escape or fight. They may have little regard for human safety. Learn to recognize the differences between fear, pain and aggressive behavior. A frightened horse will have little ability to focus on the desired learning task. Horses that initiate dangerous, aggressive behavior must be punished to eliminate the response.
- Understand horse behavior as it relates to herd social order, stallion sexual behavior and mare and foal relationships. Expect some horses to be more reactive or defensive than others.
- Watch for the visual signs of behavior and attitude. Recognize the signs of a frightened, confused or aggressive horse.
- Don't try to herd or lead a horse when standing directly behind or in front of it. These are blind areas in a horse's visual field. A horse may bolt forward or kick when frightened or startled.
- Approach a horse at its shoulder. This allows use your body to impede movement while positioning yourself in a safe location.
- Make a horse stand when turning it loose until safely positioned to avoid being run over or kicked. Position the horse so it is facing you and its head is facing a wall or fence before removing the halter. This will keep the horse from bolting and running.
- Don't allow yourself to be trapped between a frightened or mad horse and a stall wall or other barrier.
- Do not chase horses when trying to catch them. This action increases the horse's desire to escape.

2. Recognize the reactivity of horses.

- Be cautious in new environments. Recognize small changes in the environment that may frighten a horse.
- Move slowly and deliberately around horses. Avoid sudden movements that may confuse the horse or be perceived as a prelude to punishment. Punishment usually involves quick movements.
- Introduce clippers, blankets and saddles in a safe, familiar place. With experience, most horses learn to ignore the sound, sight, smell or movement associated with routine procedures.
- Always be prepared for an unexpected stimuli that may frighten the horse, especially in new environments.

3. Understand the need for continual training.

- Stay alert to cues and reinforcements at all times. Be consistent with cues and acceptance of responses. Recognize that cues are applied to horses constantly while handling them.

- To develop and maintain trust and acceptance of training, apply appropriate and consistent reinforcement and punishment, depending on the horse's response.
- Allow for escape and avoidance options when applying cues. Give the horse an identifiable reward by applying simple, consistent cues with appropriate negative reinforcement for the desired response.
- Train the horse to respond to a rider's hand, voice, leg and body cues through the use step-wise training programs.
- Apply contingent reinforcements so the horse will associate them with the intended cue.

4. Use proper equipment and facilities to encourage acceptable responses.

- Safely restrain horses when treating, washing or performing activities the horse may perceive as threatening.
- Tie horses with quick release knots.
- Evaluate enclosed areas for horse and rider safety.
- Use roundpens and other enclosed areas when teaching horses to respond to training aids.

- Understand the function of different bits and training aids and use them in a safe manner.
- Maintain equipment in good repair. Perform routine equipment checks and replace older, worn parts that could fail under stress.
- Properly fit equipment allows for consistency of cues, release of pressure and safety.
- Wear protective clothing and safety gear, such as boots, pants and head gear or helmet. Make sure clothing and safety gear fit properly and securely.

5. Learn the procedures of horse handling and use.

- Obtain advice and instruction from qualified, experienced individuals.
- Become familiar with the activities intended for participation before introducing them to the horse.
- Initiate newly learned techniques with the direction of experienced individuals.

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