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Practical Management of Blind Horses

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A variety of equine ophthalmic diseases may eventually cause horses to lose their sight. In many cases, the attending veterinarians have provided proper treatment and the caretakers have followed medication schedules, but blinding sequelae still occur. Recurrent uveitis is the most common cause of blindness; but corneal disease, accidents, trauma, tissue degeneration, and infection also have the potential to cause vision loss (Fig. 13-1). Data on the incidence of blindness in horses are scant, but field experience suggests that at least 1% to 2% of horses lose sight in one or both eyes during their lifetime.

The following is a list of several facts relating to the size and temperament of horses that are of concern if vision loss is imminent.

1. Horses have a natural history as grazing animals hunted by predators. This gives them a wary temperament. They are prone to display sudden fight-or-flight responses. When cornered, horses may kick, strike, or run.
2. Horses are herd animals that follow a strict social hierarchy. Visual cues are paramount in establishing the dominance order of the group. Individual animals that ignore the visual cues of their herd mates are often bitten, shoved, or kicked by dominant individuals.
3. Horses are large creatures, usually weighing more than 1000 pounds. However, their lower legs have a diameter as slim as that of a baseball bat and are relatively fragile. Horses trapped in fences or other hazards often panic. The result can be fractured extremity bones and other severe injuries.

Given these truths of equine anatomy, social life, and behavior, how do horses cope with the loss of their primary orienting sense? Remarkably, they may adapt well as long as they have steady temperaments and dedicated owners who are committed to the challenge of providing a safe and predictable home.

ADAPTATION TO BLINDNESS

Although blindness can occur suddenly, onset in most horses is gradual. Caretakers of horses with failing vision usually notice progressive uncertainty, especially in low-light situations. Typically, horses may bump into walls or fences and show reluctance to walk over terrain that is unfamiliar. Often, herd behavior changes, even among horses that have been pastured together for years. Horses that are ridden may shy frequently, refuse to obey simple commands, and show reluctance to move forward. Some horses go through a period of fear when complete blindness occurs, showing anxious behavior.¹ Rapid circling, “freezing” in place, prolonged neighing, spooking, and aggressive body motions (e.g., crashing into walls, running over a handler) may be observed. Other horses do not show a dramatic behavior change but may traumatize themselves by running into unfamiliar obstacles. Initially, the balance of blind horses may be altered. They may show a head tilt or postural change and may walk in circles. As time goes on, acceptance of vision loss occurs, and the behavior of individual animals becomes more settled and predictable. Owners of blind horses report that the adjustment period takes anywhere from a few weeks to a few months.

Safe adaptation to blindness is highly dependent on the temperament of the individual horse.¹ Many horses exhibit little change in behavior, quickly orient themselves to their environment, and accept blindness without incident. However, horses that show excessive fear during the adaptation period can be dangerous. Frantic behavior (e.g., circling in a stall, calling to herd mates, ignoring restraint attempts with lead ropes or ties) can cause injury to the horse or handler. Generally, horses that have very high-strung, nervous dispositions are most challenged. Animals with calmer demeanors may adapt well.

Owners and other handlers can help horses through the adaptation phase by providing a safe environment



Fig. 13-1 Jake, a 25-year-old Appaloosa gelding. Jake has been blind since the age of 16 as a result of insidious uveitis; both eyes were enucleated to resolve recurrent calcific keratopathy. Jake is used regularly for trail riding. (Photograph courtesy Lisa and Greg Weren, Hilton, NY.)

and spending time with the horse after vision has been lost. Identifying the stressors that cause anxiety (primarily confinement and separation from other horses) is important. Although blind horses have been known to “map” and adapt to a wide variety of stalls, sheds, and pastures, common sense dictates that the ideal initial environment should be a treeless paddock with a board fence and a stall or run-in shed with smooth, solid walls. Some horses benefit from the presence of a calm, sighted companion in their paddock or barn. Others fare better if they are kept alone during the transition period. All horses with recent loss of vision benefit from steady handling, regular grooming, and predictable schedules for meals and turnout (Table 13-1).

Blind horses appear to be settled by the voices, smell, and touch of people they knew and trusted when they

had sight. These people usually provide the training of a newly blind horse, and this interaction is a key factor in the transition phase. Adaptive lessons are learned as long as the trainer gives consistent cues and is relaxed and nonthreatening. The initial training generally consists of essential verbal cues such as “whoa,” “step up,” “step down,” and “stand.” As training goes on, the horse may learn to pick up nonverbal cues as well by responding to the trainer’s touch, footfalls, and body position. People working with newly blind horses should be patient, because some lessons take longer to learn than others. Owners who have chosen to maintain blind horses benefit from talking to others who have gone through similar experiences.

No matter how gentle an individual horse is, any horse that has lost its vision may change its behavior quickly if it senses that a nearby person is anxious, afraid, or hostile. A blind horse may also spook if an outside stimulus (e.g., honking automobile, loose dog underfoot, snow sliding off a roof) suddenly scares it. Signage should be posted on stalls or paddocks of blind horses to alert visitors to the animal’s handicap. Strangers should be cautioned about approaching horses that are in the early phases of adapting to vision loss. Regular handlers should stand near a blind horse’s shoulder when working with it, because this is the safest position from which to take evasive action if the horse reacts suddenly.

COPING IN THE DARK

Experience is the cane of the blind.

Popular Haitian saying

Over and over, owners of blind horses recite inspiring stories of the navigational skills of their “dark-adapted” animals. Many say that their blind horses travel their home terrain with such confidence that outside observers mistake them for sighted animals.

Horses that have lost vision appear to have the ability to construct a “mental map” of their environment and are capable of knowing the perimeter of several different paddocks or large pastures, as well as their stalls. Blind horses often run and play in their fenced enclosures, halting with confidence just short of the boundary. No one knows whether horses gain this geographic knowledge by “memorizing” the stride distance between fences, by feeling subtle alterations in ground topography, or by some other perceptive ability. People who confine horses in electrically charged wire enclosures speculate that the horses may be able sense the presence of the electric current running through the wire.

Blind horses demonstrate increased use of their remaining special senses, especially hearing. Their ears

Categories	Initial Adjustment to Blindness (0-3 to 6 m)	Long-Term Adjustment to Blindness (>3 to 6 mo)
Behavioral	Identify and eliminate things that cause anxiety in each individual horse (e.g., confinement, separation from other horses).	Talk to blind horses often when near them. Reinforce compliant behavior.
Environment	Treeless paddock with board fence. Stall or run-in shed with smooth, solid walls. Tape up bucket handle hooks, cover sharp nails, and remove wire in stalls and paddocks.	Remove hazards from pastures (e.g., low tree branches). Use board or smooth fencing; maintain a safe stall or shed. Demonstrate the boundaries of any new enclosure. Encourage the horse to touch fences, gates, and water sources with its muzzle.
Companion(s)	With or without presence of a calm, sighted companion in paddock and/or barn.	Choose turnout companions that are nonthreatening. If a guide horse emerges, consider putting a bell on its halter.
Horsemanship	Steady handling Predictable feed and turnout schedules Regular grooming Speak to the horse when approaching and working with it. Use consistent phrases and inflections when teaching voice commands. Approach the shoulder area initially. Stay near it when working around the horse.	Do not clip the whiskers on the muzzle. Practice loading on and off a trailer. Keep feed and water in the same location. Handle bilaterally blind horses from both sides of their bodies. For horses with unilateral blindness, avoid initiating alarming sensations (such as injections) on the blind side. Approach the shoulder area initially. Stay near it when working around the horse.

may move often, collecting sound waves like satellite dishes. They act as if their hearing is several times more acute than that of the average horse and appear to orient themselves in their environment on the basis of the loudness and direction of the sounds they hear. The sense of smell also appears enhanced, and horses are often seen scenting the ground or air, moving their noses toward perceivable smells as they search for other horses, food piles, or water.

Horses use their sense of touch, specifically their muzzles, to map their environment. The muzzle is one of the most richly innervated regions of the horse's body. The density of sensory nerves in the equine lip and nose region is similar to the concentration of sensory nerves in the human hand. A blind horse running its nose over a pasture fence or stall gathers information about the world in much the same way that a blind person reading Braille does with his or her fingertips. Blind horses should be encouraged to explore their surroundings and touch new people and things with their muzzles. The long whiskers of the lower face and lips should not be clipped because these structures help the horse "map" and understand the environment.

Blind horses with even temperaments often modify the fight-or-flight behavior that can be so hazardous to the health of a sighted horse. Many anecdotes demonstrate that these animals can choose to override their natural tendency to panic when faced with a situation in

which they are stuck or trapped. Caretakers tell stories of blind horses that were tangled in fences or farm machinery calmly waiting for assistance, and as a result, the horses experienced minimal injury. A sighted horse in a similar situation would be expected to thrash and struggle and sustain severe trauma. Still, not all blind horses show such good sense. Some sustain serious injuries if they wander into hazards such as tree branches, holes, ponds, ditches, insecure fencing, or farm equipment; therefore the environment of the blind horse should always be made as safe as possible.

"BULLIES AND BUDDIES": SOCIAL INTERACTIONS BETWEEN BLIND AND SIGHTED HORSES

Social interaction between blind and sighted horses is variable and highly dependent on the innate temperaments of the individuals that are pastured together. Some dominant sighted horses take advantage of a blind horse, chasing the handicapped individual away from feed sources, bullying, biting, and pushing it around. When this kind of social structure prevails, blind horses fail to thrive. They keep to themselves and hang back when the hostile herd members gather. They may lose weight because of poor access to food and may fail to come up to the turnout gate when

other horses are being brought in. They lack confidence and may adopt a skittish attitude.

Fortunately, the opposite often occurs. One or more protective individuals from a group of horses will form a “buddy relationship” with the blind individual (Fig. 13-2). Horses that act as “seeing eyes” will lead their unsighted companions over unfamiliar terrain and guide them around obstacles. Sometimes the guidance is in the form of a nose-to-tail physical presence. Other times, the paired off horses will not physically touch, but the blind horse will listen and scent for subtle clues that define the location of the buddy. The guide horse appears to make an effort to stay clear of all obstacles that could be harmful. Vocal contact is frequent, with both individuals calling back and forth to each other. In some cases the sighted horse wears a bell on its halter, which jingles as the horse moves, and the sound cues provide guidance. Observers have seen buddy horses actually appear to purposely lead blind partners through lanes and gates.

Conscientious owners spend time observing herd interactions to identify both bully and buddy alliances. The best management is to turn blind horses out only with friendly guide horses or neutral, nondominant individuals. Hostile dominant horses should be housed in separate enclosures. Blind horses gain reassurance if their pasture friends are housed in adjacent stalls in the home stable. They often project very confident behavior when their guide horses are nearby.

BLIND MARES WITH FOALS

Blind mares that deliver foals deserve special mention. They are as maternal as sighted mares and show strong protective behavior toward their offspring, especially in the first few weeks of the foal’s life. They need to know that their foal is nearby and are often more relaxed if the foal wears a halter with a bell (Fig. 13-3). Like sighted mares, they show signs of panic if separated from their offspring. A blind mare that is stressed by separation and trying to reach her foal can be dangerous, because she will be heedless of people or obstacles in her path. Farm employees and veterinarians working on blind broodmares or their foals should always take care to restrain the pair in such a way that the mare is aware that the foal is near. This usually means holding the foal close to the mare’s front end where she can swing her head and touch, hear, or smell the foal.

SPECIAL PARTNERSHIPS

The biggest factor that determines the success of adapting a formerly sighted horse to a life of blindness is the



Fig. 13-2 Shasta, a blind Appaloosa (light-colored horse with head raised), pastured with a sighted mare. Blueberry, the visual horse, acts as a guide horse and companion. Shasta has adapted fully to the pasture and knows the location of the boundary sheep wire fence. (Photograph courtesy Steve Smith, Rolling Dog Ranch Animal Sanctuary, Ovando, Montana.)



Fig. 13-3 A bell on the halter of a foal helps a blind mare know the location of the foal. Bell in photograph is larger than those normally used. (Photograph courtesy Rocking Horse Equestrian Center, Penfield, NY.)

dedication of the owner.¹ The owner must commit to the responsibility of providing a good environment for the horse and must assume the role of visual guide. The best human partners create a new handling, and sometimes a new riding, vocabulary.

Responsible caretakers use consistent pronunciation of commands and inflections that are high, low, or mid range in pitch to teach blind horses the meaning of cues such as “step up,” “step down,” “whoa,” “stand,” and “come.” Some horses respond to instructions to turn left or turn right as well. Communication is often quite refined, especially in horses that are used for dressage or other riding purposes (Fig. 13-4). Trainers, riders, and owners often speak of the rewards of working with blind horses, citing heightened awareness of their own special senses and a deep and satisfying sense of partnership with their animals with special needs.

COMMON SENSE TIPS FOR MANAGING BLIND HORSES

Table 13-1 outlines methods to help horses adapt to vision loss. Veterinarians can also provide the following list of tips to owners of blind horses.

1. Blind-proof the environment. Tape up bucket handle hooks, cover sharp nails, and take down pieces of wire in stalls and paddocks (Fig. 13-5). Cut down low hanging tree branches. Consider board fencing for paddocks.
2. Do not clip the whiskers on the muzzle because these are helpful sensing structures.
3. Demonstrate the boundaries of any enclosure to the horse. Encourage the horse to touch fences, gates, and water sources with its muzzle.
4. Talk to blind horses often when in their presence. Use reassuring tones and keep the pitch consistent, especially when issuing commands. Avoid any voice tones that communicate anxiety. Repeat commands to reinforce understanding. Reinforce compliant behavior.
5. Practice loading on and off a trailer. The experience of stepping up onto a ramp or step trailer may help the horse learn ground voice commands.
6. Monitor herd interactions and choose turnout combinations that isolate the blind horse from dominant bullies. If a guide horse emerges, consider putting a bell on its halter (Fig. 13-3).



Fig. 13-4 Valiant, a Dutch Warmblood gelding performing a dressage test in Florida. Bilaterally blind since the age of 6, this horse has been trained for upper level dressage since he lost his sight. His rider, Jeanette Sassoon, provides performance cues or “aids” by subtle shifts in the position, pressure, and balance of her hands, legs, and body. (Photograph courtesy Dr. Dennis Brooks and Jeanette Sassoon.)



Fig. 13-5 Stalls in which blind horses live should be free of hazards. Bucket handle hooks should be covered with tape to prevent trauma to the globe and lids.

7. Make any environmental changes slowly. Try to keep feed and water in the same location.
8. Handle bilaterally blind horses from both sides of their bodies. For horses that are sighted in one eye, avoid initiating alarming sensations (e.g., injections) on the blind side. Approach the shoulder area initially, and use this region as a base location for most handling and leading.
9. Be aware that blind broodmares do not know what time of day it is and may deliver foals in broad daylight. It may be helpful to hang a bell on the halter of the foal in the first weeks of life (see Fig. 13-3).
10. Set limits and expectations for behavior and reinforce them. Spoiling a blind horse is *never* a good idea.

LIVES THAT BLIND HORSES LEAD

A veterinarian cannot make recommendations that blind horses be ridden, because each horse's circumstances are unique, and safety considerations must take priority in any choice of equestrian activity. However, some comments can be made about the various ways blind horses are managed.

Many blind horses are kept as simple "pasture pets." They may or may not be ridden but are treasured family members. Their owners enjoy caring for them and are happy to provide them basic shelter, feed, and handling in return for their affection and companionship. If the horse has a calm and gentle temperament and has successfully adapted to blindness, it may provide a steadying influence in the form of company for flighty young stock or older sighted horses who do not tolerate solitude. Enucleated or phthisical blind animals have a "different" appearance that is at first a bit startling. When these horses are kept as pasture pets, they often teach children and adult family members valuable lessons in tolerance and acceptance.

Other blind horses are used as trail horses. These animals generally have a strong bond with their riders and are highly cued to riding aids and voice commands. Mileage on unfamiliar trails cements the trust between horse and rider, because the horse depends on the rider for guidance and avoidance of hazards. Blind trail horses are taught to step over logs and small obstacles in their path in response to voice or tactile cues. Anecdotal reports indicate that many blind horses adopt a very confident attitude on the trail if their partnership with a rider is strong. Some horses like to take the dominant "lead" position if riding is done in a group; others prefer to follow sighted horses. Most owners who maintain blind trail horses report that these animals are eager to go out on rides, willing to enter and exit trailers, and very agreeable companions on the trail. Like blind people who travel with guide dogs, these horses seem to enjoy an outing using the rider as a pair of "seeing eyes."

Many mares that go blind are used as broodmares. Their breeding behavior is similar to that of sighted mares. However, lacking photoreceptors, they do not respond to artificial light treatment for inducing estrus early in the year when the natural photoperiod is short. Most cycle normally by April and thus can be bred relatively early in the year. Their gestational issues are exactly the same as those of sighted horses, and they should be placed on the same schedule for nutrition, deworming, and vaccination as other mares on the farm. If a mare became blind as a result of leptospirosis-associated uveitis, then serologic testing is recommended for other broodmares on the farm, because leptospiral infection is well documented as a cause of abortion. Most sighted mares foal in the middle of the night, but blind broodmares can foal at any time of day or night, so extra vigilance is warranted when these mares near their due dates.

A few blind male horses have been used as breeding stallions. With proper handling, breeding these horses can be successful. However, a veterinary consult is advised if a blind mare or stallion is under consideration for breeding. In some instances (e.g., Appaloosas with

insidious uveitis or German Warmbloods with certain equine leukocyte antigen [ELA] haplotypes), there may be a genetic predisposition to blindness (Antczak DF et al. Unpublished data, 1989).² These animals should not be used for breeding.

A few blind horses have gone on to celebrated careers as high-level athletes. Dressage is an equestrian discipline practiced by many well-adapted blind horses (Fig. 13-4). The sport involves a high level of precise communication between horse and rider. The signals that are used are primarily tactile because the rider uses subtle changes in the position and pressure of the hands, legs, seat, and body balance to tell the horse to change gait, speed, rhythm, and direction. Unlike other equestrian sports that involve obstacles (jumping), high speed (racing and polo), carriages (driving), or interaction with cows, poles, or barrels (western events), dressage takes place in a level arena at fairly low speeds and thus poses fewer hazards for a blind animal. The rider tells the horse where the boundaries of the ring are by changes in his or her weight and body position and turns corners as part of the test pattern. Blind horses have been trained to Olympic dressage standards by skilled and empathetic trainers and have competed against sighted animals at a variety of levels.

HORSES WITH UNILATERAL LOSS OF SIGHT

Most of this chapter addresses the special issues of horses that have no vision at all. However, many horses lose vision in one eye for a variety of reasons, retaining normal vision in the fellow eye. Horses that lose vision in just one eye usually adapt very well. They may show a head tilt for a short time after surgery if an eye has been enucleated, but generally revert quickly to a normal head carriage. Because they cannot see people or objects that approach on the blind side, they may be skittish when approached on that side. As a result, horses that see on one side are often led and approached on that side. Painful or unpleasant stimuli such as injections are best administered on the sighted side. When the horse is handled on the blind half of the body, the handler should talk to the horse in a reassuring tone and keep a hand on the horse's body to steady the horse.

Veterinary ophthalmologists are not able to calibrate acuity or depth perception in either one- or two-eyed horses with certainty. Horses that have unilateral blindness have only half the visual field of a fully sighted horse, so obvious safety questions arise when athletic use of these animals is debated. For this reason, owners are usually advised to use one-eyed horses as

sport horses with caution. This is prudent because riding accidents can be dangerous to both horses and riders, and horses with half a visual field may be riskier to ride than others. However, a survey of the world of equestrian competition shows that unilaterally blind horses can be found leading just about every type of sporting life that fully sighted horses lead. Half-blind horses have run in the Kentucky Derby and other premiere stakes races, have competed in international events, have won championships in western events, and have had storied careers as polo, driving, harness, dressage, and show horses. Riders often comment that these horses approach jumps with confidence and appear to gauge distance well.

FINAL COMMENTS ON MANAGING BLIND HORSES

Working with horses that have lost a special sense such as vision is a humbling and powerful learning experience. The adaptive abilities of blind horses teach lessons of perception and persistence. Athletic accomplishments of blind horses testify to the mysterious mental telepathy that develops between horses and riders. The fact that some sighted horses choose social roles as guides for blind animals shows that the virtues of generosity and kindness can occur in the animal kingdom. A person who helps disentangle a blind horse that is trapped in a fence is reminded that patience and common sense can prevail in the most difficult situations.

Blind horses can be an inspiration to children and adults who live with mental or physical disabilities. They can also be beloved pets that teach lessons of tolerance and acceptance of diversity. They are living proof that communication and connection between species occurs on many levels and in many ways. Few sights are more heartwarming than watching blind horses enjoy a good roll and a playful buck in a pasture on a sunny summer afternoon. These horses are telling us that life is sweet and full of value even when it is not perfect.

However, as stated in the beginning of this chapter, horses, even sighted ones, are large and unpredictable creatures that are often their own worst enemies. Working with blind animals can be hazardous. Even the gentlest horse with the steadiest behavior can spook if provoked or startled. Some high-strung horses never adapt well to blindness and pose constant risk to themselves and their handlers.

The decision regarding how to manage a horse without vision is a highly personal one. Although special value and emotional rewards can be part of the experience of housing and caring for a blind horse,

serious injury can result as well. Sometimes hard choices must be made, and some blind horses are euthanized. Rarely is this decision made lightly, but sometimes it is the best alternative for both the horse and the people involved. In other instances, blind horses are maintained for many years as valued individuals and treasured friends. Owners weighing the difficult decision of what to do with a horse that has lost sight may be helped by the thoughts of John Milton, the blind poet

who wrote these words more than 400 years ago:

*To be blind is not miserable; not to be able to bear
blindness, that is miserable.*

*John Milton, blind British poet.
Second Defence 1654*

Ultimately, individual circumstances dictate choices of management of blind horses.

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