

Low-stress, Low-fear Equine Patient Handling

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In the last few years great strides have been made in small animal veterinary practice to implement low-fear, low-stress patient handling. Much of this advancement in quality of patient care can be attributed to the growth of the veterinary specialty board certification, which requires advanced training in science-based animal behavior, including ethology and behavior modification science. A leader in this field has been Dr. Sophia Yin, a behavioral scientist and small animal veterinarian, who spent much of her career developing and promoting the concept and re-educating veterinary professionals in the specific techniques mostly with free ‘how-to’ videos (1,2).

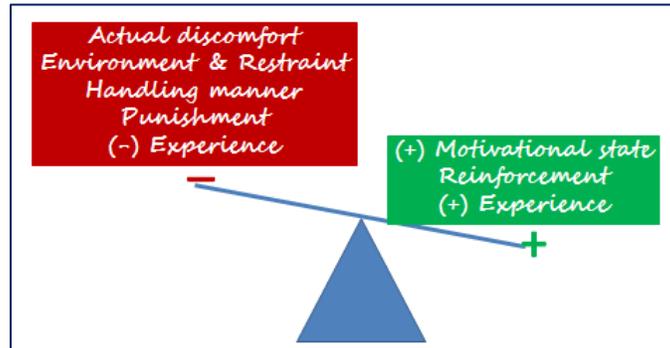
The techniques employed in low-fear, low-stress animal handling are based on solid behavioral science including principles of learning and behavior modification along with an understanding of both general and species-specific behavior. Non-confrontational handling methods based primarily on positive reinforcement are not only a more humane approach to handling of patients, when done well they are far more efficient and safe than traditional forceful restraint. For hospitalized patients, the low-stress, low-fear experience is especially important for promoting healing. Additionally, modelling and teaching of the general approach and the specific techniques to clients can greatly improve animal and human welfare in the long term. The American Veterinary Society of Animal Behavior has taken the position that all animal handling for veterinary care should employ scientifically sound behavior modification principles and techniques for reducing patient stress and anxiety (3).

Small animal practices and hospitals now market their fear-free, low-stress patient handling as value added pet and owner experience (4). Animal friendly veterinary facilities and handling not only provide added value to the modern client, but are also valuable for attracting and keeping staff. Greater safety can also lower liability and staff health insurance rates. While this approach is not yet universal throughout small animal practice, the corner has been turned, so to speak. And especially as veterinary schools are now including this approach in their curricula there is probably no going back to the traditionally more confrontational approaches to veterinary patient handling.

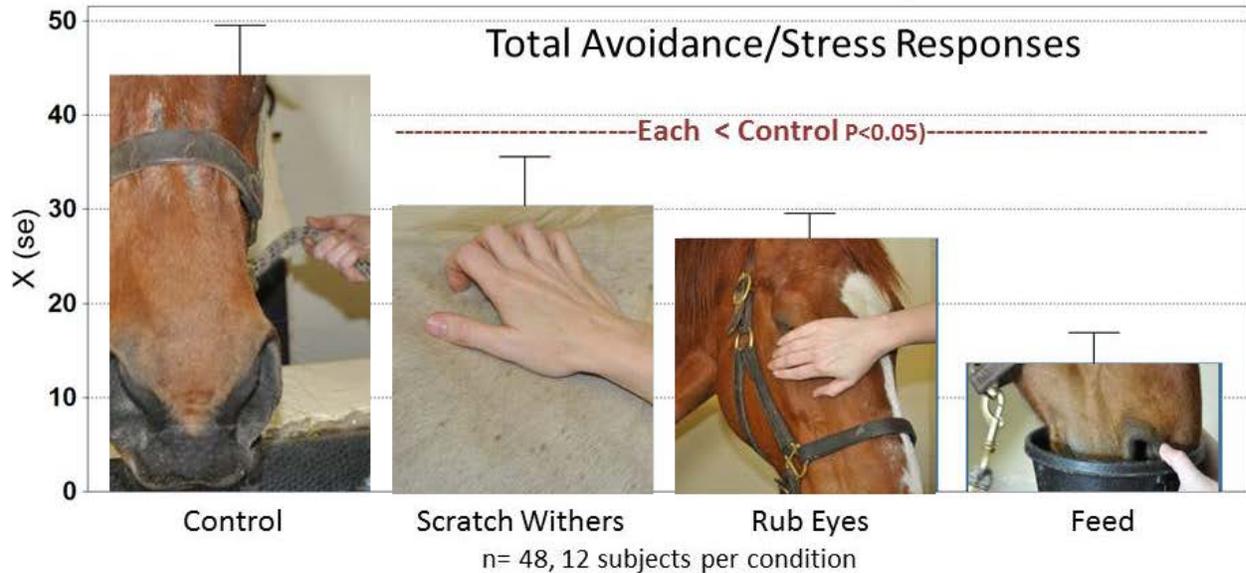
In general, large animal practices and hospitals have been lagging behind their small animal counterparts on formally embracing this approach. The usual reticence for understanding and implementing behavior modification techniques with large animals has been the notion that the danger is just too great to forego aggressive restraint, and that there is just not enough time to implement behavior modification, especially in emergencies. Behavior modification is generally misunderstood as time consuming. When done well, in most cases the behavior modification approach is typically safer and more efficient than forceful restraint or sedation. In the long term, it is extremely efficient. One of the great models for the success of this approach with large, potentially more dangerous animals, has been zoos. Over the last couple decades, the use of behavior modification and more species appropriate low-fear, low-stress handling has become the standard of care for most large animal species in zoos, both for routine and emergency health care.

This talk will focus on the behavior modification aspect of low-stress, low-fear handling of equine patients. In addition to reviewing basic principles of behavior modification, examples will be provided of various approaches and tips specifically for equine healthcare procedures, including emergency care.

KEY TAKE HOME POINTS/RECOMMENDATIONS



1. Consider the environment in which you are interacting with the patient, with the goal of making it as comfortable as possible both for the horse, clients, and any assistants. On farms, if there are options, work where the horse appears most relaxed (5). Examples of features of clinical environments that tend to increase fear and stress include unfamiliar noises or indoor acoustics, fluorescent lighting, poor ventilation, unfamiliar or insecure footing, and close confinement (eg low ceilings, narrow doorways, equipment-cluttered or small spaces).
2. As an open-plains prey species, horses have evolved to perceive and react to emotional states, particularly fear, alarm, and anger, not only of herd mates but also to members of any other species sharing their environment. If working in the presence of fearful or anxious clients, staff, or rushed, worried or fearful clinicians, it is useful to develop communication skills to diffuse tension in the patient environment.
3. Make each procedure as painless and as pleasant as possible (6-7). For each specific type of procedure, choose, for example, the smallest needle or most mouth-friendly oral syringe that will do the job, the least fear-producing environment and approach to the particular animal, the most comfortable yet effective type of restraint for that particular animal. This includes generally a calmly confident, relaxed, unrushed manner.
4. It is best to just remove from your handling “tool-box” the possibility of forceful restraint or any other form of punishment for natural or learned escape/avoidance responses or anxious behaviors. Verbal and physical reprimand may temporarily interrupt the undesirable escape/avoidance behavior, making the handler feel good and that it will work in the long-term, but only increases fear and suppresses warning signs of impending defensive aggression from the horse (8).
5. Learn to recognize the very subtle early signs of fear and discomfort in horses, so that you can intervene and work toward relaxation before fear and anxiety escalate. Practice several techniques for “soothing” and positively distracting fearful, stressed and/or uncomfortable patients. Scratching at the withers, face and/or eye rubbing, and feeding have all been found effective at reducing escape/avoidance responses and anxious behaviors of horses in a health care procedure scenerio (9).



In a simulated veterinary care scenario, each of three non-confrontational handling interventions resulted in fewer avoidance stress responses of horses compared to no intervention control (from 10).

6. Fill your patient handling “tool-box” with as many different ways of accomplishing treatments as possible, so that if Plan A is not working after one or two unsuccessful attempts, you can carry on with Plan B, C, or D as needed, rather than persisting with the same one approach. If an animal avoids with Plan A, rather than repeating that which is likely to provoke increasingly animated and effective avoidance responses, be prepared with Plan B to come at it another way to “interrupt the avoidance cycle” that shapes ever more dangerous escape/avoidance. Persisting with the same unsuccessful technique or approach only reinforces the undesirable avoidance behavior, in a negative reinforcement (pressure and release) learning paradigm.
7. Positive-reinforcement-based behavior modification involves focusing on recognizing and rewarding the behavior you want rather than reacting to or punishing the undesirable behavior (5-6). Positive reinforcement for relaxation and tolerance can consist of well-timed response-contingent food treats, or a few seconds of scratching at the withers simulating the gnawing of mutual grooming among herd mates. Scratching at the withers in this fashion has been shown to lower heart rate, most likely by the release of endorphins (9).
8. Practice and teach appropriate non-confrontational use of emergency handling aids, such as the gum pressure (chain or rope) and lip twitch. Applied and used appropriately in a respectful manner in combination with positive reinforcement, these can be useful when necessary without provoking an aversion. The lip twitch, for example, is most effective at relieving discomfort when applied 3 to 5 minutes before beginning an uncomfortable procedure, allowing for circulating endorphins to reach behaviorally effective levels. It is also best to remove the twitch while circulating endorphin levels are still behaviorally effective, usually for about 10-12 minutes after application. After that point, circulating endorphin levels typically fall below baseline, corresponding to the stage of agitation known commonly as the “blow” stage

(McDonnell, unpublished data). The handler, by monitoring the head position and facial expression, can advise the clinician as to waning effectiveness, just as one might do with drug sedation. After a few minutes, reapplication can again be effective, usually with a lower level and reduced duration, but often sufficient to complete a mildly aversive emergency procedure. Some of the particular aspects of twitch application that tend to provoke aversion are rushed or aggressive application, nicking of the teeth or gums with the head of the twitch, overtightening of the twitch, and pulling on the twitch to lead or direct the horse. Twitches with sharp metal collars or chains instead of a soft rope are not recommended.

Gum pressure similarly releases endorphins. The key to effectiveness for most horses is, respectful application, a mouth-friendly soft brass chain or cotton rope lead, avoiding the teeth, steady pressure without “shanking,”

For both twitch and gum pressure, we routinely offer a small tibit treat as we are applying and again while removing it. Rubbing the lip immediately after removal can also appear soothing to some horses.

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