



Caring for Horses Through Life and Death

Do the difficult things while they are easy and do the great things while they are small. —Lao Tzu

Medical advances and an ever-increasing knowledge base about health and disease over the last century have resulted in longer lives for humans and animals. There is no question that these advances have saved lives, but not all applications have been desirable. As the survival time for people with incurable conditions (including aging) has improved, we have come to realize that prolonging life does not always equal quality of life. With this in mind, people are now more willing than before to talk about the end of life for themselves and their families. They are giving thought to whether they want their lives prolonged by technology—drugs, feeding tubes, respirators, dialysis—and expressing these health care preferences in legal documents called *advance directives* in the event they cannot be expressed later.



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This *Horse Report* is about giving similar consideration to end-of-life assessments and decisions for your horse.

In an essay entitled *Gift to a Friend*, Dr. Gregory Ferraro wrote about his views on euthanasia. He acknowledges that one of the unfortunate aspects of life is that we usually outlive the animals with whom we share intimate friendships. Frequently, their death comes dramatically and with certainty. Severe illness or tragic accident provides no alternative to the end of life decision.

More commonly, these matters are not so clear-cut. Increased longevity due to better care, as for humans, has resulted

in increased populations of older horses in their twenties and beyond who will one day begin a decline. Illness and debilitation may come gradually over an extended period, accompanied by a subtle rise in suffering. During this period of time, we may be so caught up in saving the life of our beloved friend that we find it difficult to recognize the intersection of progressive medical treatment and the relief of suffering.

Euthanasia, or the humane termination of an animal's life, is a gift that we give

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DIRECTOR'S MESSAGE



Dr. Claudia Sonder

Facing the end of life of a loved one is one of the most difficult experiences any of us can imagine. It is a huge loss that triggers all sorts of emotion and introspection. Regardless of whether a death is sudden or protracted with illness, the healing process takes time and occurs in stages. One of the great gestures that we humans can extend to our loved ones is to prepare an advance directive. This eases the task of making critical decisions in a time of grief and provides a plan to follow that ensures that final wishes are met. For many, the death of a beloved horse is a similar kind of loss and yet too many of us have not considered how we will face it. Although our horses cannot verbally guide us in decision making, their body language and behavior help us to know when it is time. I witness tremendous grief and internal turmoil when my clients must make a life or death decision for their horse, even when there is no hope of recovery. Euthanasia is one of the kindest acts we can provide in these cases, and yet the decision to euthanize is fraught with questions and uncertainty.

Recently, I watched a dear client of mine struggle with the passing of

her aged Belgian gelding. His team mate, who pulled a winery cart with him for years, had passed the year before and he was retired. My client felt strongly that he had mourned significantly after the loss of his friend, and although he had a young Belgian companion, he had never really regained the spring in his step. He had gone down in his stall area and could not get up. His size and power made the attempts to assist him dangerous and stressful for all involved. Despite IV fluids, pain medication, and attempts to roll him onto his good side, he finally laid his head in the sand and told us he was done. He was part of the legacy of the winery, and I watched the family struggle with letting him go. They knew they were facing the end of a life and the end of an era. Allowing him to pass quietly was their final act of kindness.

Most of us experience euthanasia initially through the loss of a dog or cat. In small animals, the process is

Being admitted to the profession of veterinary medicine, I solemnly swear to use my scientific knowledge and skills for the benefit of society through the protection of animal health, the relief of suffering.... (Veterinarian's Oath)

often conducted in a quiet room and the pet simply falls asleep in front of our eyes. The grief is the same, but there is comfort found in the peaceful nature of their passing. The size of the horse changes the picture. They simply lose consciousness as well, but in most cases there is a fall to the ground involved. The horse is not aware of the fall, but the lasting image it creates for the horse owner compounds the grief. The added logistical issues of caring for a 1,200-pound animal after its death adds economic and environmental factors that must be considered.

The William R. Pritchard Veterinary Medical Teaching Hospital at UC Davis sees many challenging cases that require intensive care beyond the scope of what can be accomplished in the field. The team approach to patient care gives horses their best chance of survival despite the odds. Several of our staff are specially trained to support clients through difficult decision-making. Having a plan ahead of time that designates a friend as a vital contact, that includes a financial plan and a contingency plan for the unexpected can greatly reduce the stress and anguish associated with facing an equine emergency.

Many horse owners anguish over the timing of euthanasia. Is it too soon? Did I wait too long? Did I make the wrong decision? What about my other horse? Thankfully, there are published guidelines that provide criteria for humane euthanasia in horses. This *Horse Report* takes on this difficult topic in the hopes of

facilitating preparation for euthanasia and answering some of the difficult questions about the process. The decision to euthanize is extremely personal and based on knowledge of the horse and awareness of a threshold of acceptable pain and suffering. That threshold can be subtle or shockingly obvious, and having the tools to navigate these decisions will allay some of the inherent fear involved in planning for the inevitable. ✱

Caring for Horses

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to our suffering animals. When properly chosen and applied, it is one of the most humane acts a person can accomplish. Unfortunately, there is no one who can give you a precise answer as to when such a gift should be given. It is a personal decision that each of us under difficult circumstances has to make based on our own values and experiences.

The decision is rarely made easily but often comes less painfully to those who have thought about it ahead of time. Veterinarians with experience in this area will tell you that animal owners who have contemplated the question of euthanasia and settled upon a plan well in advance of the need to act lessen their trauma in making the decision.

We recommend that animal owners, especially those with older animals, establish a close working relationship with their attending veterinarians. They should discuss the subject of euthanasia with those caregivers and come to an understanding of how the events surrounding the loss of their animals should be handled—not just if, when and how euthanasia should be performed, but who should be present, where it should occur, and what is to be done with the animal afterward. Preplanning for these circumstances will minimize the unpleasantness inherent in these events and serve to provide optimal care for your horse.

Life for all living creatures comes to an end. While it is easier to avoid thinking about the subject, we have the ability to make that end lovingly easy for our beloved animals.

Reasons for Euthanasia

There is a wide range of reasons to consider euthanasia of a horse, but usually the horse is considered old and debilitated (falls), sick, injured, dangerous or unwanted. Some decisions are based on an acute emergency situation, while others are related to chronic and progressive conditions that worsen over time. Catastrophic accidents are usually an emergency, such as those caused by natural disasters, as are accidents that occur during transportation, breeding and foaling, riding, training and other equine activities.

As horses age, there may be a progressive compromise in the function of their vital systems, behavior, or ability to move about, all of which can cause the horse to suffer. Illnesses in horses of any age that have a poor prognosis, treatment that is cost-prohibitive, or associated pain that cannot be controlled or alleviated should be considerations for euthanasia. Common examples of this are progressive laminitis, advanced neurologic disease and unresolving colic.

Safety factors may warrant consideration of euthanasia with a horse that is dangerous to itself, to its handlers, or even other herd mates. Personal situations of the horse owner or management of the horse may also be a reason for requesting or electing euthanasia. Situations may include the physical inability to treat or care for a horse or financial impairment such as loss of a job. When financial constraints are present, every effort should be made to rehome a healthy horse.

In summary, justification for euthanizing a horse for humane reasons should be based on both medical considerations as well as quality of life issues for the horse. Although not a replacement for consultation with a veterinarian, the following guidelines for euthanasia developed by the American Association of Equine Practitioners (AAEP) and the United States Humane Society should be considered:

- Is the horse's condition chronic, incurable and resulting in unnecessary pain and suffering?
- Does the horse's condition present a hopeless prognosis for life?
- Is the horse a hazard to itself, other horses or humans?
- Will the horse require continuous medication for the relief of pain and suffering for the remainder of its life?
- If the horse is suffering but treatable, is proper and recommended care of the horse within the means of the rescue/retirement facility, such that the health and safety of the other horses are not compromised?
- Is the horse constantly and in the foreseeable future unable to move unassisted, unable to interact with other horses or unable to show behaviors that may be considered essential for a decent quality of life?

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Your veterinarian would be able to guide you in making this determination, especially regarding the degree to which the horse is suffering. Each case should be addressed on its own merits, as individual horses differ from each other as much as human beings differ from each other.

**Decision-Making Techniques:
When Is It Time?**

Dr. Carolyn Stull, a UC Davis Cooperative Extension Specialist and lecturer on animal welfare issues, has authored numerous articles on the welfare of horses and has been a major contributor to this *Horse Report*. In a 2013 article published in the *Journal of Equine Veterinary Science*, she describes the general humane endpoints for horses that could be considered by their owner, including the development of conditions that result in untreatable excruciating pain, a 20% decrease in their normal body weight, or the inability to reach food and water. The endpoints should be recognizable to the owner and can be monitored over time to establish their significance.

For example, a horse with a catastrophic injury that is not treatable may exhibit painful behavior and not be ambulatory enough to reach food and water. An old horse may slowly lose weight over time, even though all efforts have been made to provide it with appropriate feed and water. These horses can be monitored for weight loss and behavioral changes in order to set a humane endpoint. Establishing the endpoints will help evaluate the progression of the disease or injury and assist in the decision-making process.



The MEDW criteria can be used in daily monitoring of the stages of disability of a horse, such as a geriatric horse, to evaluate normal ambulatory movement (M), eating (E), drinking (D), and body weight (W). The horse should also be evaluated for its ability to rise from a recumbent position. Horses that can no longer rise on their own will be susceptible to colic. Unlike dogs and cats, horses cannot tolerate being down for more than a few hours due to their propensity to compromise gut function while down.

Some endpoints using the MEDW criteria include the constant struggling of a horse to perform simple movement activities (M), a compromised eating desire or dental function (E), a failure to consume adequate amounts of water (D), or a deteriorated body condition with a loss of 20% or more of body weight (W). These simple observations can be recorded daily over time and reviewed in making an informed decision for euthanasia of an individual horse.

Assessing the horse's quality of life is another technique to assist owners and veterinarians with decision-making. This method assesses the horse at regular intervals using criteria such as the impacts or deficiencies of its environment, nutrition, behavior, and biological and pathological measures, as well as the owner's evaluations. In many instances, palliative care can be instituted that provides quality of life over quantity.

The scientific literature contains a number of studies on assessing the quality of life in horses. Several studies point out that while health is an important aspect of defining quality of life for a horse, any judgment about quality of life should include discomforts of emotional/psychological origin such as fear, anxiety, boredom, frustration,

loneliness, separation distress, and depression, some of which may be husbandry-related. Conversely, pleasure derived from physical contact, eating, social companionship and mental stimulation should also be included in the overall assessment. Quality of life is a uniquely individual experience and should be measured from the perspective of the individual horse. Owners often fear they will not know when it is time and worry that they are holding on to meet their own needs. Ultimately, most horse owners have a threshold or line that exists, and when the horse crosses it, the decision becomes more obvious.

Acceptable Methods for Euthanasia

Acceptable euthanasia methods result in a rapid loss of consciousness, followed by respiratory and cardiac arrest, and finally the loss of brain function. The American Veterinary Medical Association has specified acceptable methods of euthanasia as including an overdose of barbiturate drugs, gunshot, or application of a captive bolt device.

Both gunshot and captive bolt are humane **only** if applied to the appropriate site on the skull and should be performed by a skilled person. The benefit of these forms of euthanasia is that the drug pentobarbital is not involved, which renders the body safe for the food chain. Gunshot is also often the only humane means to euthanize a gravely injured horse when a veterinarian is not available. For more information on appropriate administration of these techniques, we refer the reader to the *2011 AAEP Euthanasia Guidelines* (www.aaep.org/euthanasia_guidelines.htm) and the *AVMA Guidelines for the Euthanasia of Animals: 2013 Edition* (www.avma.org).

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Perspectives from Our Veterinarians

**From Dr. Gary Magdesian
Equine Emergency and Critical
Care Specialist:**

Euthanasia is a highly difficult and emotionally wrought decision; however, it is an often necessary medical option available for horses with chronic pain and hopeless medical conditions. Though one of the most difficult decisions owners must face, to euthanize a horse is also sometimes one of the most humane and selfless acts that can be made on behalf of the horse.

While this decision is extremely difficult and impacting for owners, sometimes the veterinary perspective may not be obvious at first glance. As a veterinarian who constantly strives to save life and end suffering, the act of euthanasia is not something taken lightly. Having to euthanize a horse, or any animal for that matter, is counter to my being. Each time I must remind myself that the process is in the benefit of the horse and client. Each euthanasia process affects me profoundly and leaves its mark.

**From Dr. Jeannine Berger
Equine Behavior Specialist:**

Euthanasia is a final decision and therefore one that needs to be made after careful consideration of many aspects. First of all, one has to consider the animal's overall welfare. In my life I have euthanized many client-owned animals as well as a few of my own. Often people ask me, "Isn't that the most difficult aspect of veterinary medicine?" In my opinion, it is making the decision that is the most difficult aspect. As the past owner of many dogs and cats and the current owner of four dogs, four cats, three horses and a flock of chickens, I know exactly how an owner feels when he or she is faced with that final decision.

In my role as a veterinarian, I am not making the decision. However, I consider it my responsibility to provide my client with as many facts as he or she needs to make this difficult decision, or sometimes to decide against it and pursue other options. However, once a client has reached the decision that euthanasia is best for his or her animal, it is my goal to make this final step as stress-free and painless as possible, both for my patient and my client since the owner trusted me with the care of his or her animal. A good client-doctor relationship based on mutual respect and trust is necessary. Therefore, I have to say no, it is not the most difficult aspect of being a veterinarian, but it is the most difficult aspect of being an animal owner.

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Considerations in the selection of the most appropriate euthanasia method include human safety, such as the falling or thrashing of the horse, horse welfare in ensuring a quick and painless death, the amount of restraint necessary for each method, cost and environmental effects. Selection of the location of the euthanasia procedure should consider the comfort of the horse and safety of the handlers, but also the subsequent removal of the body. The location of euthanasia must allow enough room to accommodate the unpredictable direction of the horse falling.

Pentobarbital combination is the most commonly administered form of acceptable euthanasia of companion horses in this country. Dr. Claudia Sonder (Center for Equine Health), a practicing equine veterinarian for the past 17 years, offers the following perspective: Light sedation prior to euthanasia is advisable to minimize any anxiety associated with the event. A local anesthetic is often used to place an intravenous catheter once the horse has been sedated. Taking the time to perform these steps helps to ensure as peaceful a passing as possible. Such preparation is not always possible, and procedural decisions should be based on safety for the horse and handler.

When the euthanasia solution is administered intravenously, the horse loses consciousness rapidly and no longer perceives its environment or feels pain or anxiety. In human medicine, the vein to brain effect is very rapid, and most patients cannot count to 10 before they are fully unconscious. There is moderate variability in drug tolerance in all species, and time to loss of consciousness can vary from horse to horse. Circumstances that have

created lower blood pressure, such as severe colic, infection, shock, and moderate sedation can prolong the onset of loss of consciousness.

When the horse starts to lose consciousness, it will usually take a deep breath and then start to buckle. The fall occurs because the brain is no longer aware of its surroundings and is no longer controlling the muscles and reflexes that maintain stance. The horse does not know it is falling and cannot control its actions or feel significant discomfort. Some horses simply sit down, others land with significant force. For the horse owner, this is a difficult image to process, and a very different experience from the small animal euthanasia, which allows for close contact as the pet passes. Many horse owners elect to stay for mild sedation but walk away before the euthanasia solution is administered. They do not want the lasting image of a fallen horse. Many will elect to come back after the horse has passed to spend some additional time before saying a final goodbye.

Once the horse is down, there are several natural processes that occur as life energy passes out of the different body systems. Again, the horse is no longer aware, but these phenomena can confuse and startle an observer. It is not unusual for the horse to take a large, deep breath called an *agonal breath*. This is associated with nerve discharge to the diaphragm and breathing musculature. The horses can sometimes paddle their legs or show muscle tremoring. This, too, is associated with final nerve discharges that are not controlled by the brain, and this activity can go on for several seconds to minutes after death has occurred.

The attending veterinarian will listen to the heart to substantiate lack of contractions. Random electrical activity of the heart can persist for

many minutes after the heart is no longer beating. The veterinarian will also check the horse's corneal reflex by touching the eyeball and looking for the blink reflex to subside. The entire process of death can take several minutes after the horse has lost consciousness. With any euthanasia method, death must be verified and confirmed before leaving the animal.

The euthanasia solution is toxic to pets and wildlife, so any blood that remains at the site should be collected with a shovel and disposed of in a durable, plastic bag. Aftercare of the body should be arranged in advance whenever possible. Most counties have a local service that is available to pick up a deceased horse and transport him to a rendering plant or to a crematorium. It is not legal to bury horses in most counties because of the environmental implications. Horses euthanized by means other than lethal injection do not pose a risk to wildlife unless they had an infectious disease process. The process of loading the horse into the transport truck is upsetting for many, and most horse owners elect not to witness that portion of the process.

There is a fee associated with aftercare that varies from county to county and can range up to several hundred dollars. Planning ahead for these expenses minimizes the stress associated with the end of a life.

Disposition of the Body

There are often local regulations regarding disposal procedure options of an equine carcass. Rendering is the most common method of disposal, but burial and cremation are other methods frequently used for horses. A rendering facility processes (renders) animal waste materials from supermarkets, butcher shops, restaurants, feedlots, ranches and dairies. These materials

are then recycled and used for the manufacturing of soap, paints, cosmetics, lubricants, candles, animal feed and biofuel. State and local county laws will specify whether burial is allowed in a given area of the country, along with requirements for soil depth. Composting and depositing the carcass in a landfill may be an option in some states but may require special regulatory permits or approvals.

If your horse is euthanized at a veterinary hospital, disposition of the body is usually arranged through the veterinarian. At the UC Davis Veterinary Medical Teaching Hospital, clients sometimes elect to have their horse undergo a necropsy to reveal the cause of death and contribute to science and the education of veterinary students. The information gained from a necropsy may also serve to help other horses in the future or provide information for the horse owner on their management practices. For example, the discovery of parasites or enteroliths (stones in the gut) can affect the subsequent care of herd mates.

Some horse owners elect to have their horses cremated. Since the average cost of cremation is approximately \$1.00/pound in our region and does not include transport to the facility, planning ahead for the cost and logistics of cremation is recommended for those who prefer this option for their horse. Several family owned crematories exist in the region near UC Davis and may be contacted for information: www.preciouspawsandclaws.com/8.html and www.koefran.com/services.html.

Human Emotions and the Grieving Process

The deep love and strong bonds we have with our animals can evoke

From Dr. Claudia Sonder Director, Center for Equine Health Private Practitioner

In all my years as a DVM, I have assisted with numerous euthanasias, and yet no two have ever been the same. The circumstances surrounding the event and the nature of the horse and their caretaker created personal and individual experiences that have enriched my understanding of what it truly means to be a veterinarian.

The most profound experience I had involved a 34-year-old mare and her 30-year-old son. They lived together in mountain meadow and had never been separated. The son was colicking and the mare had been declining in her advanced age. The owner, who had foaled them both out, felt strongly that they should pass together, as the mare would be distraught without her companion. We took great care to minimize stress and sedated the gelding while we euthanized his mother. She passed quietly and peacefully to the ground 60 feet from the gelding. When we administered the overdose of anesthetic to him, even though he was sedated and apparently unaware of his surroundings, he walked forward and laid down at the rump of his mother. The force of his fall caused her tail to flip up and fall across his face. As I stood there in disbelief, I realized that he finished his life right where he started it. I have never since seen a horse walk the way he did after being medicated. To this day, I am thankful to have been a part of that experience.

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**From Dr. Monica Aleman
Equine Neurologist**

Euthanasia is never an easy decision. Ethical, religious, personal beliefs, and emotional factors might result in contradictory opinions on whether euthanasia should be performed. The decision is always painful and difficult for all those caring for the horse. This includes the veterinarian.

In my 20 years as a veterinarian, it has always saddened me to have to euthanize such a noble, amazing and beautiful animal, even when I know the decision was the best for the horse. I do believe in euthanasia to end suffering, intractable pain, chronic painful and debilitating conditions that might interfere with daily activities such as eating, drinking, and enjoying being a horse. I also include in reasons for euthanasia conditions with a poor to grave prognosis in which quality of life is no longer apparent. I say apparent because nobody knows to what extent horses tolerate pain or not feeling well. Horses cannot tell us with words how they feel. We as veterinarians do our best to interpret pain by clues such as body language (anxious expression, for example) and physical parameters such as heart rate, and others.

I think sometimes there is a misconception, in certain cases of chronic or terminal diseases, in which people interpret eating as "doing well." Of course, eating is better than not eating at all. However, I have seen horses eating just before their death. Limited financial resources and lack of possibilities for adoption that do not allow proper care and relief from suffering and pain merit consideration of euthanasia. Horses do deserve quality of life and if they cannot be properly cared for, resulting in starvation or painful conditions, it is better to euthanize. Quality of life needs to be defined and discussed with the owner. Extreme emotional attachment may preclude facing reality and making decisions, resulting in prolongation of unnecessary suffering for the horse.

As a veterinarian and horse lover, I do feel responsible for the horse's well being and consider myself an advocate, a voice for the horse. I provide, to the best of my ability, all the information needed by the owner to make the best decision, and if I consider it to be the best decision for the individual horse based on my knowledge and experience, I recommend euthanasia. There is NO veterinarian that enjoys performing euthanasia. We are veterinarians in the first place because we love animals, and our job is to make their lives healthy and better but also to not let them suffer.

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profound grief and mourning when they die. It is important to honor the emotions experienced during this time and allow time to grieve.

Dr. Stull has found that although horses are often categorized as "livestock," the relationship between people and horses is similar to the human-animal bond described for companion animals such as dogs and cats. Interviews with horse owners revealed strong feelings of attachment toward their horse, deeper levels of communicating, emotional solace with their horse, and physical displays of affection. The severity of response to the death of a horse often correlates to the duration and intensity of this relationship.

The partnership of horse and rider as an athletic team adds to the sense of loss. The years of trust and experience that go into a successful team cannot easily be duplicated and the loss of a teammate can signify the end of the road in achieving a specific athletic goal.

Grief and coping mechanisms from the loss of a horse can be experienced not only by the owner or rider of the horse, but also by care providers, grooms, trainers or even the horse's veterinarian. It is expected that the different stages of grief associated with human loss are also experienced following the loss of a horse, including denial, anger, bargaining, depression and acceptance. These stages may not occur for all owners but should be recognized as part of the grieving process.

Some owners may also have other emotional reactions following the death of their horse, such as guilt or relief, depending on the specific circumstances and the role of the

horse for the owner. Owners may also experience isolation, withdrawal and loneliness or fear a lack of recognition without their horse. A pet loss program offered in some areas by the local hospice organization or veterinary hospital can offer support, counseling or other outreach education for the grieving horse owner.

In many cases, the barn environment creates a strong social support network that is separate from work and family life. There are many things that barn members can do to support their fellow horse enthusiast through their time of grief:

- ◆ Sharing photographs, poems, plant memorials
- ◆ Making a donation to a charity as a memorial to the horse and owner
- ◆ Reaching out to talk and share stories and listening

Ms. Soli Redfield, Large Animal Client Service Coordinator at the William R. Pritchard Veterinary Medical Teaching Hospital, has found that clients are grateful for the mementos she prepares after a horse has been put down. A few of these mementos are shown here. ✱

What we have once enjoyed deeply we can never lose. All that we love deeply becomes a part of us. —Helen Keller

Acknowledgements

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Shayne was 51 years old when he died earlier this year. Photo courtesy Remus Memorial Horse Sanctuary, Essex, UK. <http://www.remussanctuary.org/blog-entry/rip-shayne>



Mementos prepared for clients of the William R. Pritchard Veterinary Medical Teaching Hospital.

Helping a Child Cope with the Loss of Their Pet

by Soli Redfield

Losing a pet can be a difficult time for a family, given that most pets are family members. They grow with us and eventually have to leave us. It's no wonder that our first instinct is to protect our children and shield them from a broken heart. While it's impossible to completely shelter a child from the loss of their pet, you can definitely help them cope through the grieving process.

Try not to assume that a child is too old or too young to grieve. Grieving is a process that will take time. It is natural for the child to cry; let them have and embrace their own feelings. If you are fortunate enough to have time to say goodbye or time to plan the euthanasia, discuss things ahead of time. Try to do this in a comfortable setting where the child feels safe and can focus on the words you are saying.

Children are innocent and they understand things in black and

white. Be open and honest with them. If you don't know an answer, it is okay to simply say, *I don't know*. Include them in everything that is going on, explain terms in the simplest way possible: *This is a kind way to take away our pet's pain*, and *Our pet will die in peace, without feeling scared*. Explain the permanency of death and that their pet will not return. Because phrases such as *put to sleep* or *God took our pet* may be confusing and frightening to the child, I recommend using the terms *dying*, *died* and *death*. Children can be very accepting of reality. Reassure children that nothing they have said or done has caused their pet's death and that the pet was lucky to share its life with the family.

After your pet has passed, encourage your child to talk freely about their pet. It may help some children to draw pictures or to write a thank you letter to the animal. Sit down as a family and talk about all the good memories you shared, or make a scrapbook or photo album with your pet's pictures. Have a memorial;

let your child invite friends and family, say a few words and then bury special items. You can create a tombstone or personalized stepping stones for the garden. You and your child can donate or volunteer at a local animal shelter in your pet's name.

No matter how your family decides to memorialize your pet, allowing your child to go through the grieving process can help them learn how to cope with losses in the years ahead. Be sure to let your child know that pain and sorrow will eventually go away, but the happy memories of their pet will stay forever.

Soli Redfield is a Client Service Coordinator for the Large Animal Clinic at the William R. Pritchard Veterinary Medical Teaching Hospital. She expects to complete her training as a Certified Pet Loss Grief Recovery Specialist through the American Institute of Health Care Professionals in December 2013.

A Meaningful Way to Celebrate, Commemorate and Remember

Horses are special for many different reasons. The Center for Equine Health offers a meaningful way to honor horses and the people who care for them through the Equine Tribute and Memorial Fund. Gifts to the fund can be made in recognition of special horses, people and events:

This heartfelt giving also makes a difference in improving the lives of horses. The fund helps support the center's

- ★ Celebrate the purchase of a new horse or the birth of a foal
- ★ Express devotion for a much loved horse
- ★ Commemorate success in a competition
- ★ Memorialize a beloved patient
- ★ Honor a dedicated veterinarian
- ★ Remember a family member or friend.

mission of advancing the health, well-being, performance and veterinary care of horses. To make a gift online to the Equine Tribute and Memorial Fund, please visit www.vetmed.ucdavis.edu/ceh/give_online.cfm. For more information, please contact the Development Office at (530) 752-7024.

How to Prepare an Advance Directive for your Horse

Horse Owner

- Create a written document that states the horse's name, age, and physical description. If possible, include a photograph.
- If the horse is insured, include the name of your insurance company, the policy number, and contact information of the agent, as well as type of policy (i.e., Major Medical vs. Mortality).
- Designate an emergency contact person and provide multiple contact numbers.
- Designate your primary care veterinarian with contact information, including a backup DVM if one is available.
- Clearly state your intentions for your horse should it be injured or become ill and efforts to reach you fail. Include details regarding referral for intensive care and a financial cap if relevant.
- Designate your emergency contact and your veterinarian as agents to authorize humane euthanasia in the event that you are unreachable and your horse is suffering and stabilization or transportation to a referral center are not possible or humane. This wording is personal and will depend on your circumstances. Standard protocols for insured horses will be followed.
- Indicate your aftercare preferences: private cremation vs. transport to rendering.
- Indicate if you wish to keep a memento such as a shoe or piece of mane or tail.
- If you board your horse, provide your barn manager with a copy of this information.

Horse

- In an emergency, make every effort to keep the horse calm and consult with your veterinarian on management while waiting for medical help to arrive. Safety is always a paramount concern.
- In elected euthanasia for a geriatric horse, select a quiet time of day and offer a last meal or favorite part of the daily routine. This is a personal decision and can serve as a final bonding moment.
- Select a location that is relatively soft and free of debris.
- Consider light sedation as an option to minimize stress. Your veterinarian will guide you in this decision based on the circumstances of the horse.
- It is important for herd mates to understand that their friend has passed and not just disappeared. This is especially true for mares with foals, and most veterinarians will leave a deceased foal with a mare after euthanasia to allow her to adjust and recognize the finality of the situation. Instinct runs strong in mares and they will often wander away or back to food within 30 to 40 minutes. In the wild, death draws predators and the instinct is to move away.

DVM

- Schedule some time with your veterinarian or talk with him/her at a routine visit about your plans for your horse. Provide them with a copy of your advance directive so that they may retain it in their records. They will help to walk you through the process and answer any questions or concerns that you may have. Make a note to update the document yearly.

Not His Time

A story about an almost mortally wounded horse with a strong will to live (and a happy ending).

This is a story about a horse named Caddy, an 11-year-old Quarter Horse gelding with a fiery temperament and a talent for being an escape artist. Normally considered an extremely hot horse, he was described as “walking through walls” and pacing in his stall. He had both the power and speed befitting of a nationally top-ranking barrel horse, which he was... multiple times over.

Earlier this year, Caddy had a serious accident that nearly cost him his life. He escaped his box stall sometime in the night and had been loose on the property. When his owner called out to him in the morning, he came running. As he approached, it became apparent that he had sustained a horrific injury: a large, gaping, bloody wound on his chest exposed the inside of his pectoral region. He had lacerations on both sides of his head that extended into the sinus cavities and exposed the maxillary bone. One large cut narrowly missed an eye. It was later concluded that Caddy had run down a hill, jumped over an arena fence and crashed into a tractor drag.

Caddy was quickly brought to the William R. Pritchard Veterinary Medical Teaching Hospital at UC Davis, where he was immediately treated and stabilized by Dr. Jorge Nieto, Section Head of the Equine Surgical Emergency & Critical Care Service, and resident Dr. Sarah Gray. Because of the severity of the chest wound, Caddy was evaluated for pneumothorax (a collapsed lung) by ultrasound. He was a lucky horse, as his lungs were spared. Further evaluation of his injury revealed broken frontal and maxillary bones on his head, which raised concern over the extent of his head trauma. There was a noticeable change in the demeanor of the horse according to the owners: instead of his usual hot self, Caddy was now quiet and cooperative.

Because of his characteristic fiery temperament, his owners were extremely concerned that Caddy would not be able to tolerate confinement in a stall long enough to heal. They wondered if the horse should be put down. Since Caddy's pain was manageable and waiting the night was a humane option, Dr. Nieto advised the owners to wait for 24 hours to allow the horse a chance to respond to treatment overnight and then re-evaluate his situation in the morning. The owners agreed.

Amazingly, Caddy was a model patient. He continued to be calm and cooperative, just the opposite of what the



Caddy picture here with his riding partner Caitlin five months after his injury.

owners had expected and their main concern for being able to save the horse. He also responded very well to treatment. Each day, he made progress. After 10 days in the hospital, Caddy had healed sufficiently to move to a layup facility where he continued his recovery and eventually underwent several months of physical therapy and rehabilitation.

Equally amazing, Caddy healed so well that he was able to return to barrel racing. In August, six months after he sustained the injury, he ran his first race and has gone on to run and win six more. Caddy defied all the odds and expectations and proved himself to be a true winner. His will to live in spite of his mangled body was powerful enough that, with the excellent medical care he received, he was able to pull through with flying colors. ✨

The photographs on the opposite page show the severity of Caddy's injuries when he arrived at the Veterinary Medical Teaching Hospital. Although graphic, this is the type of injury that conjures the thought of euthanasia for a horse. In Caddy's case, Dr. Nieto encouraged the client to give the horse 24 to 48 hours to respond to treatment. For this horse, it was the right call.



The McBeth Foundation: Gift to Advance Equine Lameness Care



McBeth Foundation member Skye Woods exhibits in competition with her horse Daric.

The Center for Equine Health will further advancements in diagnosing lameness thanks to the McBeth Foundation, which is contributing \$35,000 to support the "Force Plate Project."

Currently, there is a need for research to develop better, more objective methods for assessing lameness. This project makes possible the installation of a set of force plates at the William R. Pritchard Veterinary Medical Teaching Hospital. These digital instruments will offer the latest technology and enable researchers and clinicians to quantitatively evaluate the natural response of horses.

has made a lasting impact on animal health. "By exhibiting at an international level of competition and supporting an active breeding program of Swedish Warmblood Sporthorses, our personal experiences made it extremely important for us to offer our support to the Center for Equine Health studies at UC Davis," said Skye Woods of the McBeth Foundation. "We have funded other programs in the past, but our equine friends will always be most importantly on top of the list."

For more than 20 years, the McBeth Foundation has been a generous supporter of the School of Veterinary Medicine and

The Center for Equine Health aims to improve veterinarians' diagnostic capability and improve pain management in horses and other animals. "We are sincerely grateful to the McBeth Foundation for their generous gift and for their contributing partnership in advancing animal health," Director Claudia Sonder expressed. "Access to this technology holds great promise for furthering knowledge and improving options for pain relief and lameness diagnosis in horses." For information on making a gift to the Center for Equine Health, please contact the Development Office at (530)752-7024.

Congratulations to Dr. Jacob Setterbo, Winner of 2013 Wilson Award

This year's James M. Wilson Award was presented to Dr. Jacob Setterbo for his work on testing the dynamic properties of equine racetrack surfaces. The Wilson Award is given each year to an outstanding equine research publication authored by a graduate academic student or resident in the UC Davis School of Veterinary Medicine. Dr. Setterbo's publication, *Validation of a Laboratory Method for Evaluating Dynamic Properties of Reconstructed Equine Racetrack Surfaces*, was honored with the Wilson Award. Dr. Setterbo received his PhD in Biomedical Engineering from UC Davis in 2011.



Dr. Jacob Setterbo

Track-testing device (TTD) impact tests were conducted to simulate equine hoof impact on dirt and synthetic race surfaces. Tests were performed both at the racetrack and using laboratory reconstructions of harvested surface materials. A Clegg Hammer (a portable drop hammer that measures decelerations) was used to take racetrack measurements and to guide surface reconstruction in the laboratory. Most dynamic surface property setting differences were small relative to surface material type differences. Overall, laboratory reconstruction of racetrack surfaces guided by Clegg Hammer measurements yielded TTD impact measurements similar to racetrack values. This validation of laboratory analysis of footing holds great promise for future investigation of the role of arena footing on limb load and strain.

When the Time Comes to Consider Euthanasia

by Lynette Hart, PhD, and Benjamin Hart, DVM, PhD

Losing a horse is among the hardest and most conflicting end-of-life challenges for caregivers of companion animals. It may be useful to acknowledge several unique aspects of dealing with the euthanasia of a horse. First is the nature of the relationship, the second concerns the challenges of body size, and the third is the range of decisions to be made at the time of euthanasia.

Most people with horses have also experienced relationships with dogs and/or cats and have lived through the animals' life cycles with sad partings. Dogs and cats serve primarily as companions, and the loss of their companionship leaves big holes felt throughout the day. Although a horse is not an around-the-clock companion for many people, horses are often working partners for riding and for sport, and the working partnership is at the heart of the relationship. Because horses live longer than dogs or cats, they are with us for a longer time. Thus, they may leave an even bigger hole when gone.

Horse people universally feel that nothing equals the magnificence, beauty and power of a horse. But the body size carries obligate requirements for care, housing, transport, and medical expenses. Body size poses complexities with euthanasia that set horses apart from our experiences with dogs and cats. Nothing is simple when dealing with such a large animal. And seeing a huge animal that has been a special friend weaken or crumble can be devastating.

At the first moment that the working partnership falters or a chronic health problem arises, a horse owner may begin to glimpse some hard choices. The economics of owning a horse presents a harsh reality, and when

a horse can no longer perform as expected, the financial outlay may become unsustainable. A person may need to decide whether to maintain the horse or part with the long-term partner. Your veterinarian can assist in monitoring the quality of life for the horse, evaluating the level of pain, or assessing the likelihood of improvement over time.

Risk factors associated with people's distress in euthanizing their old horses were studied in Australia. Those who were more susceptible to guilt, sadness and loneliness (especially women), and who focused on their relationship with the horse more than the medical prognosis, had particular difficulty with the decision. Generally, a poor medical prognosis and/or pain weighed heavily in moving toward a choice of euthanasia and left the person feeling that the decision was essential.

A study in Holland revealed that relationships of longer duration resulted in more extreme grief. For those who had recovered from the grief, it had lasted an average of four months, but almost half of participants had not recovered from the loss. Unresolved questions about the illness or euthanasia also exaggerated the grief.

A person who knows the horse's situation and sees that the horse's welfare and comfort are assured throughout the process often can move forward with peace of mind in facing a painful decision. This occasion truly merits the greatest respect and consideration for the horse and the person. Revering the memory of the relationship and finding some way to celebrate the life of the horse honors the horse and can be comforting to all involved.



Not Forgotten

My dear human friend,

*A door called death has closed
between us for the moment.*

But could a little thing like that

*break the bond of love and
understanding between us,*

*Who have been so close? Of
course not.*

*Having left behind the body
which no longer serves me,*

*I can be with you always and
everywhere;*

*On long delicious walks, at quiet
times, and lively times,*

*Alone, among friends new and
old.*

*Let my excitement with life still
brighten your days.*

*As long as there is a place in your
heart which is the shape of me,*

I will be with you.

*One day you too will come
through the door,*

*And we will be together in
glorious ways we have yet to
understand.*

—Alexandra Day

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