

EQUINE

emergencyrescue

A horse owner's guide to Large Animal Rescue



MaryAnne Leighton & Michelle Staples

“This book could save your horse’s life!”

Every horse, no matter how quiet or well educated, has the potential to become involved in an emergency incident and need to be rescued. If your horse has gone down in his float, is trapped in mud, fire or floodwater, or has fallen into a ditch, sinkhole, septic tank or swimming pool, you need the information contained in this book.

Equine Emergency Rescue is the first book to address the subject of technical large animal emergency rescue in a way that makes sense to horse owners and that is specifically designed to help emergency responders rescue your horse safely, even if they are not trained in these techniques. Rescuing trapped horses is incredibly dangerous because horses are immensely strong and unpredictable and can kick with accuracy and killing force within a third of a second. This is why you and emergency responders must always treat a trapped horse as if it were a Hazardous Material – a dangerous object that will explode without warning.

Equine Emergency Rescue is a must-have guide for horse owners, emergency responders and equine and large animal vets. The information it contains could help save your horse’s life.

*‘Every horse owner needs the information in this book for their own safety and that of their horse. When you have to call fire/rescue/police you need to know how to help them – this book **shows** you how.’*

Dr Rebecca Gimenez, Primary Instructor/President,
Technical Large Animal Emergency Rescue, USA

‘... this book is a valuable resource for anyone involved in a Technical Large Animal Emergency Rescue. It is also a great guide for establishing a safe scene before the arrival of the emergency services. Keep one in your truck or towing vehicle at all times.’

Anthony Hatch, NSW Fire and Rescue and SES

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Equine Emergency Rescue

*A horse owner's guide to
Large Animal Rescue*

MaryAnne Leighton & Michelle Staples



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For Jack, for everything.

MAL

For my mom; still going strong at 94. She gave me life, and has always been my champion and a constant source of strength. I couldn't have a better role model. Thanks, mom.

MS

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Foreword

A careful initial perusal of the contents indicates the breadth and depth of this handbook for horse rescue.

The importance of a clear understanding of the safest rescue procedure cannot be over emphasised. Horses in stressful accident situations are very unpredictable and dangerous due to their body size, are often irrational, panicking and struggling to free themselves, often with a very high risk to any helpers getting caught in a danger zone.

Lack of experience in handling horses is increasing due to ever increasing urbanisation. While pony clubs do instil in children the need to be careful around horses and do teach all the basic skills on catching, holding and handling, these are still very basic skills and do not prepare any person for the perils of animal rescue.

The book carefully sets out the skills required by veterinarians, emergency workers, transport operators and others involved. It points to the need for an experienced incident controller to ensure that the chain of command is quickly established, that rescue equipment is carefully selected and maintained, and that this equipment should be immediately available from such central locations as Fire & Rescue Services and SES.

There are chapters describing the various techniques for horse extraction under different locations, all of which should assist the knowledge of the incident controller during training courses in preparation for the advent of a real accident.

The chapter on first aid is very good for immediate assessment to inform a rescue veterinarian of the horse's condition so that further remedial action may be instituted, pending the arrival of the veterinarian at the scene of the accident.

The chapter on horse floats is very useful for owners to ensure they are well informed on the functioning and safety of various types of horse transports, their maintenance and their limitations. The inclusion of a first aid kit is another very useful suggestion. The section on the tying of rope knots is again important, but to be successful needs constant revision, practice and usage so that knots can be quickly tied and put to use.

The final sections on rescues for animals other than horses rounds out this excellent book which also deals very comprehensively with suppliers of rescue equipment and the availability of Large Animal Rescue training courses in Australia, USA and UK.

The book should be read and understood by designated members of Fire & Rescue Services and SES volunteers as it is mostly likely that those two bodies will have much of this equipment available and, coupled with a good understanding of its contents, will make a valuable contribution to the rescue safety of horses and people.

Reg R Pascoe AM.

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1 Introduction



Hampshire Fire and Rescue

What is the accident you most fear could happen to you and your horse? And if that fear were to be realised, how confident are you that you could contribute to your horse's rescue without further injuring him or putting your own life and the lives of others at risk?

Every horse has the potential to become involved in an emergency incident that requires him to be rescued. Two of the most common rescues anywhere in the world are of horses trapped in mud and incidents involving horse floats. Horses also fall down cliffs and into ditches and gullies. They stumble into sinkholes and septic tanks, get stuck in quicksand and can become caught in fire and trapped or washed away by floodwater.

Tragically, if your horse is involved in an emergency situation he could sustain serious injuries or be killed, not necessarily from the original incident but from the rescue attempts of well-meaning but untrained personnel. This includes you, the owner, as well as vets and emergency responders, very few of whom are aware that specialised rescue techniques for large animals exist and that the human rescue techniques of primary triage, first aid and medical support can be applied to horses.

Paramedics would never remove an injured human from an accident scene by dragging her out with ropes tied around her neck, wrists or ankles but that is exactly how horses are manhandled, often with devastating consequences. Horses are routinely strangled, drowned and dropped and rescuers themselves are often severely injured or killed because they don't understand how potentially explosive and dangerous a trapped horse can be. Because of their volatile nature, the dangers inherent in rescuing horses cannot be over emphasised. When rescuing a horse, emergency responders must treat the rescue exactly as if it contained a Hazardous Material – a dangerous object that will explode without warning.

We have written *Equine Emergency Rescue* for you, the horse owner, because if emergency responders who attend an incident involving your horse do not understand horses or are unfamiliar with Large Animal Rescue techniques, you can show them step-by-step instructions and reassure them that using these steps will increase their own safety and that of your horse. This book is a guide to the methods and tools necessary to successfully extricate a horse or other large animal from entrapment using low-tech, low-risk options that are easier, quicker and safer than extreme techniques using helicopters, cranes or 4WD vehicles that are sometimes seen on YouTube. When using the guidelines in this book, remember that, in general, the more elaborate the rescue, the more risk to the rescuers and victim.

Equine Emergency Rescue shows emergency responders how to safely use the large surface area and skeletal strength of the horse's torso to reduce tissue damage and trauma to his delicate structures, thus increasing the chance of a successful rescue. It demonstrates how to use simple nylon webbing straps, ropes and slings to secure, lift, shift or assist a mobile or immobile horse, how to evacuate horses from stable fires and floodwater and how to approach, handle and temporarily contain loose horses. It also tells rescuers where to obtain the tools of the trade and, most important of all, who offers training in this specialised field.

These techniques work. Two decades ago, only a tiny four to ten percent of the 600-1000 large animal rescues carried out in the UK each year were deemed to be successful – that is, they did not maim, severely injure or kill the animals involved. However, when advisers who were trained in technical large animal rescue techniques joined rescue teams, the percentage of successful rescues was raised to 96% (P. Baker 2006).

Equine Emergency Rescue repeatedly stresses the need for rescuers to be aware of their own safety at all times. You will not be surprised to learn that 83% of Americans who were surveyed claimed they would risk their lives to save their animals, no matter how impossibly they were trapped. This is why emergency services consider large animals in distress to be an immediate danger to human life or health. They know they must rescue the animal or humans will risk their own lives, often leading to responders having to conduct two rescues – the animal and the human. If the worst happens to you, your horse becomes trapped and you cannot lead him out or he is unable to help himself out, never put your own life at risk to save him. Rescue is technically challenging and very dangerous. It should not be attempted by untrained owners but



Demonstrating a vertical lift (Chapter 8); a trained demonstration horse shows students how to properly and evenly support a horse's weight using the safe, two-point lift of a Becker Sling (Chapter 18). The breast collar prevents the strap around the girth from moving backwards, which would destabilise and injure the horse and create a wreck. His abdominal contents move away from the pressure of the rear strap – this does not injure him during lifts of ten minutes or less. As soon as a horse is lifted he will relax and hang limply, but as soon as his feet touch the ground he will struggle to free himself no matter how quiet, exhausted or injured he may be.



A horse's instinctive and extreme panic reaction to being lifted is to fight but these photos prove that even when he fights hard, so long as his feet are off the ground he cannot disrupt the sling or fall out. These photos clearly demonstrate the stability of the two-point lift and the importance of rescuers remaining in a safe position at all times – see just how far forward his front feet can reach. Any lifting equipment must have a quick release system that works under weight and can be used from a safe distance.

should be left to emergency responders whose job it is. Never try to rescue your horse yourself or call your neighbours or friends for help, call emergency services and your vet.

Veterinary support can be crucial to the success of a rescue but a common misconception is that a large animal vet or equine vet will know more than emergency responders about how to rescue a horse. The reality is that few vet students receive training in advanced handling of horses, large animal rescue, disaster triage, crowd control or how to organise rescue efforts. Most vets are small animal vets who have little or no experience of equine or farm animal veterinary practice or the challenges involved in sedating or anaesthetising a horse in an emergency situation. Understandably, they will be reluctant to become involved. In Chapter 4 we explain how your vet can work with emergency responders to contribute to a safer and more successful rescue. We discuss how the vet should decide a drugs regime based on the level of entrapment of the horse, anticipated length of time to extricate him, risk factors to responders and level of stimulation expected by the rescue techniques to be used.

Equine Emergency Rescue is an introduction for horse owners to the field of Large Animal Rescue and is meant to complement, but by no means replace, any textbook on the subject. It does not, in any way, take the place of training offered by experts in the field. While you will learn methods for rescuing a large animal from reading this book, there is so much more involved in the actual practise of this specialised work than any book can ever portray. While we present the safest possible methods for various types of rescue, because of the volatile nature of the horse there is no guarantee that all will go well and no one will get hurt. All rescues are different, all are unpredictable and

there is no 'right way' that works for every situation so always prepare for the unexpected. While most of the information contained within is for emergency responders, certain chapters are specifically for you, the horse owner. Read the book, study it and carry it in your towing vehicle or truck because the information it contains could help emergency responders save your horse's life.

2 For the Incident Controller



Photo: NSW State Emergency Service

In this book you will find on-scene aid written for those emergency responders who are not trained in Large Animal Rescue. The format is simple and efficient and each chapter is fully contained.

Different rescue scenarios – an overturned horse float, a vertical lift, a diagonal drag – are broken down into steps that are designed to fit easily into the Incident Control System. For instance, if you are removing a recumbent horse from a horse float you need only go to Chapter 7 to find step-by-step instructions and a list of the equipment you need. And, if a diagonal extrication changes to a vertical lift, you will be instructed to move out of the diagonal section and into the vertical lift section.

Rescuer safety must always be the number one concern at an incident involving the rescue of horses because any trapped horse poses a huge threat to both the animal itself and those performing the rescue. Horses are prey animals. They live in fear and their first response to anything that is out of the ordinary is to flee, but if that is not possible they will fight and fight hard. They are immensely strong and unpredictable and have the fastest reaction time of any domesticated animal. Even when sedated they can kick suddenly with accuracy and killing force. When working around a trapped horse it is easy to be lulled into a false sense of security if he does not appear to be struggling. When first trapped he will struggle to free himself but if that does not work he will lie still to avoid attracting predators, conserving his energy until his next attempt to extricate himself. Rescuers must remain in a safe position at all times and that includes not leaning over the horse if he is recumbent because he can explode without warning with tremendous ferocity and power, kicking high and wide and thrashing his head upwards and to the side.

Experts agree the biggest risk to rescuer safety is rescuers not understanding how to handle the animals involved and that is why you will find an extensive section on interacting with horses that includes how to read body language, how to deal with first aid problems, and the mechanics of everyday contact – how to catch and lead a horse, tie him up and get him up when he's lying down. While this section on how to handle horses is towards the back of the book in Chapter 12, we cannot overstress its importance.

Rescue straps and rope systems used in a horse rescue must be heavier and more robust than those used in human rescue because the size, weight and unpredictable behaviour of the horse can put a huge load on the system within a fraction of a second.

Plan of action



Illustration: NSW SES

The emergency services have a duty of care and, unless the owner of the entrapped horse is trained in basic Large Animal Rescue techniques or has attended an LAR awareness course, remove the owner from the Hot Zone to the Warm Zone where she should remain with the IC and veterinarian. There, with the vet, she can observe her horse from a distance, reading his facial expressions, body language and ear movements and communicating changes in his attitude and state of mind to the IC and horse handler.

Because horses are so sensitive to noise and react so badly to it, approach the rescue scene silently, with lights and sirens turned off. Turn off pagers and ask your crew to speak quietly. Evaluate the situation from a distance before a maximum of two or three crew move slowly and quietly towards the horse to avoid stimulating him into panicking or struggling, thus causing him further injury. Because of the unpredictable nature of horse rescues, your plan of action should be flexible and you should ensure your crew has enough space to escape from the immediate vicinity of the horse, if necessary. If a horse is trapped inside a float, do not open any doors or windows to avoid stimulating him into his fight or flight response.

On arrival at the rescue scene, the IC should liaise with the horse's owner or the person who

called emergency services to gather information about the incident and ascertain whether there are any human casualties. If the owner or a responsible person is not present, attempts should be made to contact them. Carry out an immediate assessment to determine if human life is at risk and remove everyone from the risk area. Once human life has been safeguarded, carry out an assessment of the horse and the environment in which it is trapped.

Call an equine or large animal veterinarian (preferably the owner's regular vet) if one is needed to sedate, anaesthetise or euthanase the horse. Ensure the vet wears appropriate safety gear, at the very least a hard hat. If the vet is injured the whole rescue can come to an immediate halt because no one else is able to administer and monitor sedation to the victim. Be aware that the majority of veterinarians treat small animals and will not be equipped and may not be willing to treat horses. Discuss the viability of the horse with the vet and owner before committing to a rescue and confirm with the vet the preferred method of extrication. If the risks outweigh the benefits or the horse is not of an age or condition that will ensure quality of life or usefulness after the rescue, then the decision may be taken to euthanase the horse prior to extrication.

If first attending crews are not trained in Large Animal Rescue, their responsibilities will consist of safeguarding the scene, carrying out immediate measures to protect human life and assessing the horse's condition. Unless the horse can be released by carrying out simple measures without endangering the crew, personnel should await the arrival of a specialist animal rescue team if one is available.

It is important to know the horse's breed because, while some breeds are reasonably tractable, others such as Arabians or Thoroughbreds are regarded as dangerous by emergency responders experienced in Large Animal Rescue. The owner

should also tell you the horse's normal demeanour, his medical history and any current medical condition, how well handled and trained or how used to humans he is, and any dislikes he may have such as an aversion to men or if you cannot blindfold or restrain him by a twitch. Identify what caused the incident, where the horse has come from and where his safe and secure destination will be once you have rescued him. Never release a horse unless you have a safe and secure place prepared for him. Consider any public safety issues surrounding the horse's release and ensure these are controlled or removed before commencing the rescue.

Determine a rescue strategy, initiate the Incident Control System and carry out an initial Risk Assessment for danger to crews or hazards that may require particular care or control measures, for example overhead power lines, high voltage electricity, unstable ground, holes or pits, other animals or machinery. Move all bystanders to the Cold Zone and the owner of the horse to the Warm Zone. Appoint a Safety Officer, enforce your inner cordon and ensure everyone within it is wearing appropriate Personal Protection Equipment. Minimum PPE for animal incidents should be helmet, steel-capped boots and surgical gloves to protect against zoonotic infections and biohazards.

Do not take any unnecessary risks to save a horse. Every member of your crew should be aware that a trapped horse will revert to his wild state very quickly and, in a threatening situation, will react violently to preserve his own life with no regard for any human that may be in its way. Be especially cautious if you are rescuing a stallion or colt, a mare with a foal or a hot-blooded breed of horse. If the entrapped horse is one of a group, locate the rest of the herd and identify a direct route to them.

Determine a safe access and egress route for all responders and ensure all responders in the Hot

Zone have an escape route away from the horse should it panic. Use natural barriers such as fences, ditches or hedges to establish your inner and outer cordons instead of using tape which could stimulate the horse unnecessarily. If physically defined barriers are not available, clearly communicate to all at the scene the distances required and control the Hot Zone.

If necessary, quietly and calmly clear away vegetation, wire, fences and other obstacles to improve access to the horse but ensure that you do not cause him further distress or trauma or enter risk areas around him (see diagram on next page). If the incident has occurred on a road, stabilise the vehicles involved by turning off the ignition, engaging the handbrake, chocking the wheels, blocking the vehicle body to minimise movement when rescuers get in and out, and instigate traffic management and road closures. Identify local lifting equipment and operators who work under WorkCover approvals and training. Decide whether this rescue will be a protracted incident that may require the setting-up of lighting, and appoint a guide to place direction signs and lights and marshal oncoming appliances. Thoroughly brief all crews and external agencies.

Due to the nature of most animal rescue environments, equipment can become lost or could present a significant safety hazard if put down in long grass or other vegetation. Set up equipment and personnel holding points within the Warm Zone and ensure that all equipment not being used is returned to the equipment dump.

You must be able to control the horse's head before a rescue begins so ensure it is wearing a webbing or cotton halter. Appoint one person to handle the horse and, if the handler would be in danger next to the horse, lengthen the lead rope so he can retain contact at a safe distance. The risk

Points of the Horse



area at a horse rescue moves with the horse. During the rescue, allow the horse to use his head and neck to balance and to use his own strength and the way he is built to assist in his own rescue. Allow him time to work out where he wants to move to as this will reduce his tendency to panic and will enable him to assist in his own rescue. Always brief the handler as to what to do if the horse becomes difficult to control or attempts to escape. This predetermined plan should be communicated to all in the risk area and beyond as the handler may need space to control and calm the horse.

Ensure sufficient control measures such as sedation or anaesthesia are in place prior to rescue and, in conjunction with veterinary advice and

diagnosis, choose the simplest, lowest-tech rescue method appropriate and suitable as this will be the quickest and safest for both horse and rescuers. Always prepare a secondary plan as a horse may move, rendering the initial plan unachievable. Ensure all personnel remain out of the kicking zones and be aware of the head-butt zone.



Assume that the horse can see and hear everything so avoid unnecessary stimulation to him from noise or sudden movement. Take into consideration the noise, actions and activities of crews, members of the public, owner, media etc outside the immediate risk area but within sight or, in particular, earshot of the trapped horse as this could cause stress or unwanted reactions. No action should be taken in the risk area without all personnel being fully briefed and updated to ensure they are not caught out by the horse reacting to stimulation, particularly during lifting and lowering operations. **Ensure all personnel maintain a safe egress.** When personnel are down slopes, in shallow water or other positions where their immediate unaided withdrawal would be compromised, attach a tag line to them that is held by backup crew members who are ready to pull them to safety should the need arise. Use heavy limb crooks as extensions of the arm when manipulating a horse's legs or placing straps around its body. Be aware that the risk to responders is particularly high in the recovery stages of an incident when their personal guard has dropped.

If the rescue involves lifting the horse vertically, use a quick-release fitting, consider any injuries the horse has sustained, the available equipment, types of anchors available, terrain and the fact that the horse will scramble or kick when he is lifted and again when he is set down when he may also try to run as soon as his feet touch the ground. You must have an overhead anchor if you are using a rope system to carry out a vertical lift. If there is no overhead anchor in the immediate vicinity, you may be able to drag the horse on a rescue glide (see Chapter 18) to the nearest overhead anchor. If none is available, you will have to resort to using heavy equipment such as a crane, backhoe or tractor with bucket. You must use an approved harness

for vertical lifts that last longer than ten minutes to avoid serious injury or death of the horse and risk to the rescue crew. Once you have rescued a horse, do not release him until you have a safe place to contain him.

At the conclusion of the incident, formally hand over to the owner or vet when you deem your responsibility for health and safety has ceased. Be aware that your crew may be at risk of contracting infections or diseases from the trapped horse or the environment so provide for decontamination of equipment and personal kit prior to leaving the site, particularly in disease control zones. Debrief crews and ensure they undertake correct personal hygiene before eating or drinking.

3 Rescuer Safety



Edwin van Berk, Leiden Fire and Rescue (courtesy of Wim Back, Utrecht University)

*The Incident Controller must ensure that training competencies of his crew are not exceeded, and if the situation is not safe **do not attempt a rescue.***

During a large animal rescue, responders will react differently according to their knowledge, level of experience and the flow of adrenalin. All responders should be aware that a horse in an emergency situation is fearful, anxious, possibly injured, unpredictable and extremely dangerous. He can strike with his front feet, kick with his back feet, bite chunks of flesh from your body, batter you with his head or crush you, and he will run over the top of you in an attempt to escape.

Hazards posed by horses

- > Horses are prey animals; that means they are hard-wired to expect that anything in their environment that is moving or they do not recognise is going to kill and eat them
- > Horses are thus motivated by fear and this fear provokes a flight or fight response. Their first response is to run away but this may be impossible if they are trapped. A stressed or frightened horse may fight violently in an attempt to free himself, thrashing and kicking with killing force
- > Treat horses as you would a Hazardous Material – a dangerous object that will explode without warning – and conduct the rescue accordingly
- > Horses weigh between 150-700 kg but heavy breeds may weigh more than 1000 kg
- > Horses are herd animals and they find security in numbers. Other horses in the vicinity should be considered as they may have direct bearing on the demeanour, stress levels and behaviour of the trapped animal
- > Herd behaviour may lead to crowding by other herd members, which may hinder the rescue. Removal of the herd must be weighed against the likely adverse stress reaction of the victim, but with overriding regard for the safety of all those present
- > Once sensing freedom, horses may attempt to return to the herd with no regard for any humans around them
- > The presence of other horses or other animals should be considered when taking down fences or opening gates for access prior to the rescue

- > Mares protecting foals may react uncharacteristically to a perceived threat
- > Entering a confined space with a distressed horse should not be allowed under any circumstances until effective control measures (sedation or anaesthesia) are in place

Other hazards

- > Any person at a rescue who is untrained in animal rescue procedures should be considered a hazard due to the known possible reactions of both human and horse at the rescue scene. This includes veterinarians, owners, equine workers and handlers, farm workers, rescue organisations and animal welfare groups. Trained responders will move fast as soon as the IC says, 'Get out **now!**' and, once safe, will ask why they had to get out of the way, whereas untrained rescuers will first ask 'Why?' by which time it is too late and they are already injured
- > The irrational behaviour of an owner, if not controlled, can compromise a rescue and put responders at risk because a horse will pick up on the owner's emotion and will react to it
- > Hazardous materials such as poisons, chemicals, drugs, solvents, fuel, asbestos and gases may be present on agricultural establishments or in a horse float and these require early identification
- > There may be methane gas or low oxygen levels in confined spaces
- > Veterinary drugs are a serious hazard in themselves and management of drugs and sharps should be monitored. If the vet does not carry a sharps container, provide one. It is an ingrained habit for a vet to hold a loaded syringe in his mouth – please provide a rescuer to hold and manage the vet's drugs and equipment
- > Many rescues occur in rural areas which can be remote with access difficulties
- > Ditches, heavy vegetation, locked gates, pedestrian-only gates, weak cattle grids, low branches, septic tanks, abandoned bores and inaccessible or unstable ground can all prevent vehicular access to the site
- > Overhead power lines should be identified and risk-assessed if you are considering lifting a trapped horse
- > Beware of electric fences that will differ in strength depending on the livestock contained. Some will be attached to a battery while others will be connected to the mains electricity supply
- > Knowledge of vegetation indicator species will enhance your recognition of unstable ground

- > Land that is perfectly traversable in the dry may be inaccessible to most vehicles during the wet
- > Hidden hazards may include potholes, sink holes, mine shafts, disused quarries, animal burrows, septic tanks and covered swimming pools
- > Underground hazards may have caused the entrapment of the horse following collapse or through unsecured entrances. For example cesspits, drains, bores, tanks, mines or tunnels. Structural collapse may have weakened surrounding ground
- > Rescues from mud in estuarial waters and on beaches present a significant hazard that is increased by tidal movement
- > Darkness not only hampers a rescue but hides dangers including low overhead power lines, machinery, pits and holes
- > Manual handling of equipment will be a significant hazard in the environment surrounding a horse rescue, and this will be enhanced by darkness
- > Cuts and abrasions from thorns, barbs or overhead obstructions may be encountered

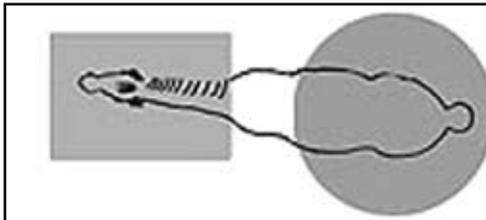
Keep the horse calm

An animal handler must be appointed and no procedures undertaken until he is briefed and ready. For safety, the handler must keep visual contact with the horse at all times, therefore do not distract him. It is important that all personnel maintain position and coordinate all efforts and movements. No actions should begin until everyone and all equipment are ready and the horse is sedated, if required. A horse rescue will use the same training principles as any other emergency but, because rescuing horses poses a threat to human life, it is important to plan thoroughly and use the Incident Control System. Ideally, all emergency responders should be trained in animal physiology and behaviour because all animals react differently to humans and all pose different threats.

- > Horses are medically fragile and in a very short period of time can become dehydrated, hypothermic and develop muscle damage, kidney failure or life-threatening shock
- > Many horses die from shock due to fluid loss, not from injuries
- > Horses are more susceptible to stress than humans
- > Stress is detrimental to the horse's medical state but, more importantly, it increases the danger to rescuers
- > Assume the horse can see and hear everything in the rescue scene and beyond

- > Keep noise and movement to a minimum near the victim because horses are afraid of loud noises, flashing lights and strange sights and smells
- > Horses are also afraid of being trapped in confined spaces and being approached by strangers
- > Only one person should approach the horse (and check out the truck or float if one is involved in the incident), all others stay back
- > Speak softly in a quiet monotone to the horse to lower his level of fear. Stroke him rhythmically to soothe instead of patting which is a more aggressive action.

Stay away from the horse's head and hooves



- > If you are not familiar with working around horses, it is impossible for you to appreciate just how dangerous a trapped horse can be
- > Horses do not think through situations the way humans do, they react with astonishing speed
- > Stressed or frightened horses will thrash and can kick with killing force within a third of a second
- > Stay out of the danger zone – directly in front of the horse, within range of his thrashing head, and 1.3 metres to the rear and to the side of his hind legs



Anthony Hatch, NSW Fire Brigades and NSW State Emergency Service

Whilst this rescue involved a cow, the principles are the same with a horse rescue. None of the rescuers was wearing protective gear, they positioned themselves in the danger zone and, because they were not wearing helmets, the two on the left were at extreme risk of being seriously injured or killed had the cow tossed her head. When trapped, a large animal will typically lie still until stimulated by touch, noise or a sight that frightens it, at which time it may explode, taking rescuers unawares.



Anthony Hatch, NSW Fire Brigades and NSW State Emergency Service

Whilst still not wearing protective gear, the rescuers are now using human backboards to protect themselves should the cow kick with her front or back legs

- > Horses can strike forward with their front feet and kick forward, sideways and backwards with their hind feet
- > A horse may be wearing steel shoes which will have a greater impact if he kicks
- > If he is not wearing shoes, his feet may be sharp
- > A horse can bite, and bite hard
- > He can raise and lower his head quickly and can hit and push you with his head
- > He can swing his body in a wide arc
- > Even if the horse is recumbent, beware of his thrashing legs and head
- > Never get into water with a horse
- > Give the horse room to move and feel comfortable, do not crowd or confine him

For most situations, do not attempt to move a horse without an equine or large animal veterinarian being present

- > Your inability to communicate with a horse in distress, combined with his sheer size, power and the unpredictable nature of his reactions, will often lead to a decision by the IC, in conjunction with the vet, to control the risk with drugs
- > Varying degrees of chemical control range from a mild tranquiliser to full field anaesthesia, determined by the method of extrication chosen, the risk to rescuers and the condition of the horse. Close liaison with the vet should be undertaken to ascertain levels of consciousness and timescales
- > Proper sedation may lessen the danger for the horse and his rescuers. On the other hand, horses are unpredictable in their reaction to sedation and can be extremely dangerous when coming round
- > Horses can be stimulated out of a sedated state with little or no warning signs. It is difficult to read a horse under sedation and to be able to anticipate his actions of fright or aggression
- > In order to guarantee a safe environment for rescuers, full anaesthesia should be routinely applied to situations where rescuers may have to work for a prolonged period in the kicking zone or in areas with no egress, for instance horses trapped in cattle grids
- > Do not enter confined spaces with horses in distress; consider restraint and stopping techniques that can be applied at range, or use full



Dr Rebecca Gimenez

Students at a large animal rescue training course in the USA use long-handled tools as extensions of their arms to keep them out of danger when handling the recumbent horse's legs.

No safety harness, no helmets and totally unprepared for the explosion.

Photos: Edwin van Berk, Leiden Fire and Rescue
(courtesy of Wim Back, Utrecht University)



anaesthesia if there is a requirement to work in close proximity to a horse within a confined space

- > The vet must wear appropriate safety gear (minimum is a helmet and gloves). If the vet is injured the rescue operation must come to a complete stop because the vet is the only person on scene who is qualified to administer chemical sedation, anaesthesia or euthanasia and monitor the effect of these drugs

Consider all horses, sedated or not, as potentially explosive

- > Never attempt rescue procedures that are outside your scope and level of training
- > Know or find out how the trapped horse is likely to react under stress
- > A horse can be five to sixteen times larger than you
- > Be aware that all horses are quicker and stronger than humans and that you cannot physically restrain a panicking horse
- > A bolting horse – even a pony or miniature horse – can, and will, drag a person
- > Use the most low-risk, appropriate and efficient rescue technique
- > Always use the Incident Control System and always appoint a Safety Officer
- > Wear Personal Protective Equipment
- > Before taking any action, stop and evaluate
- > Photograph or video the rescue
- > Debrief after the rescue

- > Record any injuries to crew, vet, owner or bystanders

Contain the horse once he has been removed from danger

- > Establish a safe holding area
- > If the horse gets loose, don't chase him
- > Do not act like a cowboy by trying to rope the horse. Generally, we do not catch our horses this way and you will only frighten him more
- > Do not make direct eye contact with the horse – he will perceive this as a predatory action and may run away from you
- > Move slowly, fluidly and quietly around the horse. Do not move suddenly from side-to-side or look suddenly from side-to-side in front of the horse
- > Use the proper equipment and make sure it is strong enough to do the job

4 For the Veterinarian



Dr Rebecca Gimenez

Because vet students are not trained in large animal rescue, disaster triage or advanced handling of horses, your first exposure to an emergency horse rescue may be when you are thrown in at the deep end following a call from emergency services.

This, you will agree, is not ideal. Not only are you not trained in the techniques used to rescue large animals, you are also not trained how to work effectively with emergency services, nor in safety procedures, crowd control or how to assign tasks within the Incident Control System.

It can be critical to have an equine or large animal vet on scene for sedation, anaesthesia, euthanasia and welfare of the horse. Your presence at a rescue scene can ensure the safety of responders who are probably not familiar with horses and therefore will not understand how medically fragile they are and how explosively they can react. You can remind them that they must always have an escape route away from the horse in case it panics or reacts adversely to sedation, and you can prevent them from inflicting further injury to the victim by ensuring they do not attempt to pull the horse out using ropes tied around his head, neck or legs. Your timely action can have a critical effect on a horse's survival and future usefulness, but to be effective you must wait until you are invited to enter the Hot Zone – the area under the command of the Incident Controller that is closed to all but essential emergency personnel.



Illustration: NSW SES

The Incident Control System described in Chapter 6 is a method used by all emergency responders to identify leadership and resources and ensure the safety of all at the scene. Teamwork, communication and people skills are critical at a rescue scene but your unfamiliarity with the ICS may make you unwilling to accept the authority of the Incident Controller or to follow his directions and support his decisions, thus compromising your own safety and that of emergency responders and the horse. However, you will be accustomed to communicating and working with owners in distressing medical situations, skills that are especially important at a rescue when an owner insists on

actions or therapies that are not in the best interest of the horse or that would endanger the horse or the rescue team. Please read the information in Chapter 6 for your own safety and so you understand how the emergency services work and the relationship between the emergency services and the veterinarian. This will help you participate in and contribute to the smooth execution of the rescue operation.

On your arrival at a rescue scene, please do not go off and do your own thing but immediately identify yourself to the Incident Controller for a two-way briefing. The IC is responsible for anyone who is injured during the rescue and he is the person who will direct you into and away from the danger zones at the appropriate times. You should obtain and wear a helmet and vest with 'VET' written on them that will give you recognition and respect as the most important member of the team – if you are injured the whole rescue must stop because who else is qualified to administer and monitor drugs to the victim?

Go big early

It is now accepted by vets who are experienced in Large Animal Rescue that when you first treat the horse you should 'go big early' with sedation/anaesthesia to flood receptors that are already coated with adrenalin.

In discussion with the IC, decide a drugs regime based on the level of entrapment of the horse, anticipated length of time to extricate him, risk factors to responders and level of stimulation expected by the rescue techniques. The level of chemical control should be on a scale of 1 to 10 with 10 being fully anaesthetised. In order to achieve good sedation to overcome the stress hormone, you will need to administer a high dose of an effective sedative, usually an 'alpha 2' drug, which may have to be eight to ten times the routine dose but still within safe ranges as described by the manufacturer. As alpha 2 drugs have a ceiling of effect and more concentration of drug will not make the horse more profoundly sedated but will just prolong the effects, you will need to make a cocktail of drugs to get the desired control. An opioid drug such as morphine (or a related drug) will usually be added to the mix, giving a synergistic result that enhances the effects considerably (2 + 2 makes 6 or 8, rather than just 4) and bringing good pain control. Other pain control drugs can be added to the drug cocktail to produce even better sedation if required.

It is known through experience that horses not given enough sedative in the first instance may react to stimulation, overpowering the sedative and becoming extremely dangerous. After this has happened, it is rare to get a good level of control with top-ups and the sedative remains ineffective. This means it is vital that the drugs regime is properly planned and that enough sedation is given at the start of the rescue so that the welfare of the horse and the safety of the rescue team are safeguarded. Also, with prolonged extrications, when using single bolus top-ups the sedative effect works in peaks

and troughs with the horse being deeply sedated one minute and later becoming light. During an extrication it is difficult to assess this and it relies on good timekeeping with regular top-ups.

Even so this is not a precise science. A task or stimulation that might cause no reaction one minute could cause an explosive reaction soon after if the horse is becoming light. Therefore if a rescue is likely to be prolonged, the use of a continuous-rate infusion of sedative cocktail should be considered. Using a drip to constantly achieve the required level of sedation is infinitely safer than top-ups and can be applied indefinitely. All vets should carry drip bags so this is easily achieved despite not being the norm for them.

If there are any significant concerns about safety to firefighters, or significant trauma to the animal then full anaesthesia should be considered. This can easily and safely be achieved by adding more drugs to the cocktail.

The stress and trauma of rescuing a horse can cause him pain and lead to hyperthermia, heat stroke, hypoventilation, colic, shock, sepsis, laminitis, diarrhoea, lameness, changes in attitude, general health or appetite, or pressure leading to ischemia. Horses may appear normal after being rescued but may still be in medical distress and at risk of dying. A horse's quick descent into stress and the fast onset of muscle damage, hypothermia, dehydration, cardiovascular shock and kidney failure make it critical that he receive treatment immediately and that treatment continues throughout the rescue and in the following days. Hypostatic pneumonia from lengthy recumbency and the severity of skin or muscle damage during rescue will not be immediately apparent so care should extend over a length of time.

5 For the Horse Owner



Hampshire Fire and Rescue Service

For your own safety and that of the emergency responders who are trying to save your horse's life, please:

- > Do not try to rescue your horse by yourself. You could imperil his life by delaying rescue, you could injure or kill him or you could be seriously injured, killed or need to be rescued yourself
- > Do not allow untrained people, no matter how well-meaning, to jeopardise their own safety, your safety and that of your horse by attempting to rescue your horse
- > Call 000 (112 from digital mobile phones, 111 in New Zealand) – tell the operator you need the police, that a horse is involved, to notify an equine or large animal vet if you are away from home or have not already done so, and ask for response vehicles to arrive on-scene with their sirens and lights turned off because loud noise will frighten an already stressed horse and could put him into life-threatening shock
- > Tell the operator your exact location, including any cross street, landmarks or milestones
- > Stay on the line to the operator in case emergency responders have questions for you
- > If you are at home or near home, call your own vet if your horse needs to be sedated or have injuries treated
- > Stay calm – horses respond to human fear. You may think your presence comforts your horse but he can sense your fear and will react to it and, just as importantly, you will find it easier to make rational decisions if you are calm
- > Keep your horse calm. Try to keep the atmosphere around him as quiet and peaceful as possible to reduce his stress. Food is a good natural tranquilliser for horses so give him a little hay
- > Always assume your trapped horse will act unpredictably. Never assume that because he is normally placid he will remain so under stress. Emergency responders treat horses as they would a Hazardous Material – a dangerous object that will explode without warning – and they will conduct the rescue accordingly
- > Before emergency responders arrive, always remain in a position where your horse cannot bite, strike, crush or kick you or hit you with his head
- > If you are away from home and your float has been damaged, the local pound keeper normally has a vehicle that can carry horses
- > Be patient

On the way to a competition in the UK, Dancer, a well-travelled, 16.2hh Dutch Warmblood, reared and put her front legs over the chest bar. When her owner pulled up and opened the access door Dancer lunged forward, seeing this tiny opening as her escape route. Her head and narrow front end fitted through the door but her pelvis and hips became trapped. In her panic, Dancer sustained deep cuts and abrasions to her head, flanks and hindquarters, some of which needed stitching. A local vet sedated her before firefighters used a hydraulic ram to spread the sides of the door apart to free her. Note that everyone involved in Dancer's rescue is wearing a hard hat or helmet.

Photos: Hampshire Fire and Rescue Service



- > When emergency services personnel arrive, allow them to take control of the situation – they are trained in rescue techniques, you are not
- > One of the biggest challenges to emergency responders at the scene of a horse accident is you, the owner – try to put emotion aside and act rationally when you are asked to leave the immediate area
- > Your biggest contribution to your horse's rescue is reading his facial expression, body language and ear movements and communicating changes in his attitude and state of mind to the Incident Controller and vet
- > Be respectful of the chain of command of the people who are putting their lives at risk to help you and your horse, they are trained to work within a system that is designed to ensure their safety and yours
- > Horse rescues must follow established procedures for the safety of the horse and everyone at the scene. The Incident Controller will need to stand back for a few moments to assess the situation, address safety issues, decide which rescue technique is most suitable and discuss sedation with the vet, all of which take time but are essential to avoid problems during the rescue
- > Please do not act aggressively towards rescuers and do not ask them to perform actions that could endanger their lives – no matter how valuable your horse is or how much you love him, human life always comes first
- > If the Incident Controller asks for your help during the rescue, make sure you are wearing sturdy boots and a hard hat
- > It is normal for you to feel afraid, angry or guilty but do not take it out on the rescuers, they are there to help you
- > If the emergency responders attending your incident do not know about Large Animal Rescue, show them this book

6 Calling for Help



When you call 000 or 112 (111 in New Zealand), remember, the more information you are able to give the operator, the better prepared the responders will be and the quicker the incident will be resolved.

Tell the emergency operator:

- > That you need the police (they will take charge and coordinate rescue efforts)
- > The nature of the incident
- > Your precise location including the nearest cross street, and whether road vehicles can access it
- > How many people and horses are involved and if they are injured
- > If humans are trapped or dangerously close to the horse
- > If the horse is in water
- > If the owner is present
- > That you need an equine or large animal veterinarian
- > That you need transport for your horse if you are out of range of your float or it is damaged.

Emergency responders are trained to assess each emergency situation on its own merits, to understand any and all hazards that may present danger to themselves, bystanders and the horse, and to assess the risks before deciding which rescue technique is appropriate. All emergency service agencies use a standardised Incident Control System so that everyone at the scene pulls together rather than each doing his own thing. It is important that horse owners are aware of the command structure within the Incident Control System and the purpose of the inner and outer cordons that are designed to ensure the safety of everyone and, thus, the best outcome for the horse.

Incident Control System

The following describes for the horse owner how a rescue is structured, organised and carried out and where the owner fits into this system.

In Australia and New Zealand, most emergency services use the Australasian Inter-service Incident Management System (or AIIMS-ICS) to manage and organise emergency operations. This is a standardised on-scene management system designed to provide efficient and seamless structure to an incident. The AIIMS-ICS combines

personnel, equipment, procedures and communications within a common organisational structure and is designed to aid in the management of resources during an incident.

Incident Control

Which organisation takes control of an incident is often pre-determined through State legislation. For most horse rescue operations, the controller of the rescue unit assigned to the rescue operation will assume the position of Incident Controller, or IC. The IC will manage the overall incident, assessing the incident, planning and approving actions to be taken to control the rescue operation, ensuring the safety of all personnel, allocating tasks, reporting the situation, and appropriately liaising with any supporting personnel, the public and the media. In NSW, Police are in charge of rescue but often don't turn up to animal rescues so the officer in charge of the rescue team will be the IC and may wear an IC vest. If Police are on scene, the police officer may put on his IC vest and the rescue officer will change to an Operations Officer vest.

At a small or routine horse rescue, although it is advisable to appoint at least one person as a Safety Officer who concentrates solely on safety, the Incident Controller usually carries out the safety, operations, planning and logistics functions. He maintains a span-of-control of five – that is, only five people directly report to him. If the rescue operation grows and multiple services, other organisations or individuals are brought in or the media becomes involved, the span-of-control may quickly exceed five. The IC may then elect to delegate one or more of the ICS functions to another officer as follows:

Operations – the Operations Officer is normally from the agency with the greatest expertise in undertaking this type of incident and/or with

the most resources committed to the incident. The Operations Officer oversees and manages the rescue operation, creating the necessary sectors and tasks and freeing up the IC

Safety Officer – the Safety Officer assesses hazardous and unsafe situations and maintains an overview of the safety of the operation, including the safety of rescue personnel and others present and the safe use of equipment and methods (the emotions of a rescue can easily draw rescue personnel into using unsafe positions or practices). The Safety Officer should stand back from the rescue operation and will call a stop to operations if any unsafe practices are carried out

Planning – the Planning Officer anticipates what may occur next and plans for the next phase of the rescue

Logistics – the Logistics Officer ensures resources, equipment and support are available

Rescue Operation Support

The IC or Operations Officer will determine what additional support may be required:

Veterinarian – an equine or large animal vet is the medical authority on scene who usually makes the decision on whether the horse can be moved or if he needs to be euthanased

Animal Handler – the person in charge of the horse during the rescue. This person would talk with the owner to get relevant information about the horse, would talk to the equine vet and report back to the Incident Controller about the horse's medical needs, and would monitor and interact with the horse during the rescue

Protecting the horse(s) from the environment – tarps, tents or blankets

Heavy lifting – a crane or backhoe may be required to lift or dig out the horse

Lighting – including lighting the broader scene to ensure no trips or falls

Additional personnel – including relief personnel for a protracted operation

Stock control – if horse(s) are free and running in public areas

Fencing or yarding – to house the horse once freed

Catering – to provide sustenance to personnel working at the scene

Hydration – ensuring all personnel have ready access to water

Rest and rotation – preferably away from the scene and under shelter

Owner – who is the ultimate authority regarding the horse and has the final say in what happens to him

Plan of Action

The IC will assess the rescue operation and plan out the actions needed to release the horse from the entrapment. At small operations, the plan is often developed in the IC's head, however, at larger operations an Incident Action Plan may be written out.

All plans should be developed with an alternate plan of action as well as an emergency plan of action (in case things go terribly wrong). It is important for the IC or Operations Officer to brief all involved so that all personnel working at the rescue operation work to the same plan. A plan and subsequent briefing will normally follow a given format:

Situation – brief overview of what has occurred and what has taken place to date, resources available and any issues like weather or the deteriorating condition of the victim

Mission – objectives to be achieved

Execution – strategy, tactics and tasks allocated

Administration – staging areas, rescue operation support

Command / control /communications – who is in control (who is the Operations Officer and who is the Safety Officer?)

Safety – any special safety warnings, no-go areas or health issues

Rescue Operation Sequence

Most General Land Rescue Units follow a rescue sequence to ensure an efficient and effective rescue operation:

- > Respond or proceed to the incident, once urgency has been determined
- > Arrive and assess the rescue operation / liaise with owner
- > Locate the animal(s) and assess the rescue requirements
- > Identify and eliminate any hazards (this is ongoing throughout the operation)
- > Implement rescue operation management (this is ongoing throughout the operation)
- > Determine and request operational support (this is ongoing throughout the operation)
- > Gain access to the animal(s)
- > Provide veterinary care
- > Extricate and remove the animal(s)
- > Conclude the rescue operation

7 Extrication from a Horse Float



Roger Lauzé

This chapter contains step-by-step instructions for trained emergency responders on how to remove a horse that has gone down in a float or from a float that has overturned, how to right an overturned float, information on the configuration and construction of horse floats and the disadvantages of using power tools to extricate a horse from a float.

Horse floats are usually strongly built and it is rare for a horse to be severely injured, even in a rollover. Very few rescues involving horses trapped in floats need to be carried out immediately, in spite of pressure from the horse's owner, police, media or bystanders. As long as the horse remains inside, his chances of survival are good. However, each rescue is different and rescuers must take many factors into account before choosing a safe means of rescue.

A horse trapped in the confined space of a float poses extreme risks to anyone who attempts to get inside with him. The vet should consider restraint and stopping techniques that can be applied from a distance, or use full anaesthesia if there is a requirement to work inside the float with the horse. The simplest, safest, least intrusive course of action should be used to extricate the horse and if the horse is able to help himself, he should be assisted to do so. It is preferable and much safer to lead, drag, lift or roll a horse from a float than to cut him out with power tools.

STEP 1

Scene safety

As with any incident, scene safety and rescuer safety are your first concern. Check for fallen power lines, leaking fuel or other hazards and check the overall stability of the float and towing vehicle. Stabilise the float before you attempt anything else; 500 kilos of panicked horse will rock, tip or move it. You may need to unhitch the float from the towing vehicle. Do not enter the float to reassure or touch the horse. Do not lower the tailgate or open the side door or the horse will try to escape or begin to struggle violently. Cover windows and the gap at the top of the tailgate with a tarp or sheets of ply to prevent the horse from trying to escape through them. When you look into the float to check the condition of the horse, look through windows or use the smallest possible opening for the shortest possible time. If it is a warm day, keep the horse cool with fans or water.

Secure the area

One person only should make sure the area around the float or the accident site is safe for other people. That person should approach slowly and quietly to avoid further frightening the horse. Keep all non-responders away and ask them to move and speak quietly. While you are waiting for the vet and emergency services, set up a safe containment area to take the horse to once he has been rescued.

STEP 2

Call a large animal veterinarian who is experienced with horses

You may have to wait an hour or more before the vet arrives. The vet will probably need to sedate the horse before extrication, and will almost certainly have to treat him once he's out. Another major consideration is that the presence of the vet will decrease the danger to rescuers.

STEP 3

Appoint one horse handler for each horse involved

Once the horse is sedated, this experienced person will stay at his head, talking softly and calmly for the duration of the rescue. The handler will monitor the horse's physical and emotional condition, interact with the vet and watch for obstacles when moving the horse. The handler should watch the horse's ears to determine what the horse is focusing on; there may be another horse distracting him or a dog frightening him. Because Fire and Rescue is responsible for the owner should she be hurt during the rescue, to prevent Public Liability issues, unless the horse owner is trained in basic Large Animal Rescue techniques or has attended an LAR awareness course, remove her from the Hot Zone to the Warm Zone where she should remain with the IC

and veterinarian. There, with the vet, she can observe her horse from a distance, reading his facial expressions, body language and ear movements and communicating changes in his attitude and state of mind to the IC and horse handler.

As much as possible, keep other people away from the float. If you are waiting for the vet and it is possible and safe to do so, take and record the horse's vital signs as demonstrated in Chapter 13 *Horse First Aid for Emergency Responders*. Ask the owner if the horse was sedated prior to traveling and pass this information to the vet. Once the horse is out of the float and on his feet, keep him on a short lead. Find out if the horse is insured and ask the owner to advise the insurance company that the horse has been involved in an incident. There may be an existing protocol about handling him which, if not followed, may result in the insurance company not paying out if they are not advised in advance.

Do not open the float's doors or windows

A horse that feels trapped or frightened will try to escape, even through a very small opening, injuring himself and anyone around him. In a float with solid sides and with doors or a blind above the tailgate, look through the front or side window to determine the location of the horse's head, or walk around the float to assess the situation before attempting to gain access. If you are unable to see the horse from the outside, quietly and slowly open the smallest door or window only wide enough to peek in then close it immediately.

Check the float for humans

Although it is illegal for people to ride in a float, you may find someone in there. If the float has living quarters at the front, check there as well. Check also for dogs or other small animals.

Keep the horse calm

This will be your main focus throughout the rescue.

- > Horses live in fear and defend themselves by flight or fight
- > When they feel trapped their stress level shoots up. This can be disastrous for their medical condition and makes the danger much greater for rescuers
- > Panicked horses may thrash about and strike out with hooves and teeth at anyone who gets close. You are at risk of being kicked, bitten, crushed, trodden on or rolled on by a panicked horse. The calmer the horse, the safer the emergency responders will be
- > Avoid eye contact with the horse
- > Avoid sudden movement
- > Speak softly
- > Handle stallions with immense caution as they can react quickly and aggressively
- > Mares protecting foals may also react aggressively
- > Keep the area free of chaos and keep the noise level down. Extreme fluctuations in light and darkness, such as those caused by floodlights or flashing lights, are frightening to a horse and affect his ability to see properly. Loud noises terrify him. By keeping the area free from chaos you will lessen the horse's urgency to flee, thereby lessening the risk to rescuers.

STEP 4

Gather the equipment you need

(see Chapters 17 and 18)

- > 150-mm wide, 9-metre long webbing rescue strap, commercially made or fashioned from decommissioned fire hose, or a tree guard from a 4WD recovery kit, or narrower webbing. Lengths of retired fire hose without the couplings are easier to use than hose that is still in service. Tie the hose in a water knot (see Chapter 15 *Knots*) and secure with duct tape
- > Rope
- > Soft material to place under the horse's head and over his eyes to protect them
- > A shepherd's crook, strop guide or other hooked pole to manipulate the rescue strap
- > If you plan to drag the horse away from the float, you will need a rescue glide, inflatable rescue path, rescue mat, old horse rug or something solid and non-shredding like plywood.

Make a pair of earplugs for the horse as muting the sounds of the rescue may help calm him. Stuff 6-8 cotton balls into the feet of a pair of cut-off pantyhose or fine-knit socks and tie knots at the open ends for easy removal.



STEP 5

If the horse is wearing a halter, ask the handler to attach to it a strong, soft rope, at least 6½ metres long. This is called a 'lead rope' and it should be long enough to reach from the horse inside the float to the handler on safe ground outside the float at the point of exit. If the horse is not wearing a halter and none is available, use the lead rope to make an emergency halter (see Chapter 17).



Never attempt to lead or control the horse with a bridle, even if it is wearing one. A bridle contains a piece of metal called a 'bit' that is placed in the horse's mouth. Pulling or tugging on the bit will cause pain and the horse will often throw his head in the air in an attempt to escape this pain. The straps of a bridle are easily broken, leaving the way open for security issues.

STEP 6

Create a safe area behind the float to contain the horse once he is out and on his feet. Portable panels are the best option; there may be a set attached to the float itself that you can use. Two-metre-high plastic netting reinforced with rigid PVC pipe can be held by rescuers and used to contain a horse. Another possibility is to park vehicles, nose to tail, around the back of the float. As a panicked horse can easily jump a metre or more high, do not use sports cars or other vehicles that are low to the ground. If the horse becomes frightened once he is out of the float, he may decide to leave the scene, whether you are prepared for him to do so or not, and may run out into traffic or another new danger.

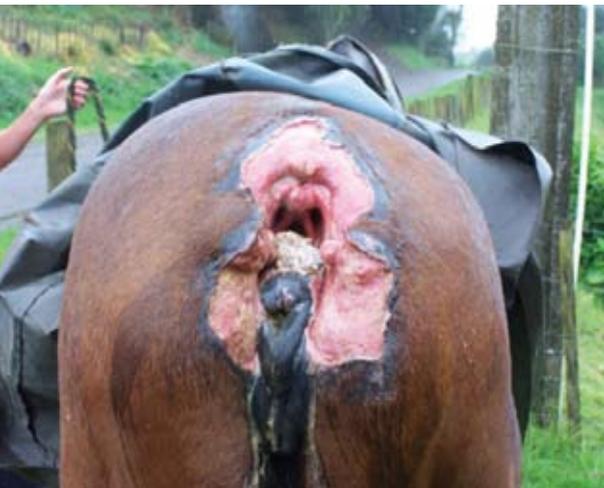


STEP 7

If the horse is standing in the float, uninjured, and an exit is available, lead or back him out into the safe, enclosed space you have prepared for him. Always assume any horse will panic, and ensure everyone except the handler is well away from this contained area. As the horse calms down and the handler is confident she is able to move him safely, she should take him to a quieter area or to rescue transport.



If the horse is recumbent (lying down), uninjured and calm, and the pull is a short one with little friction so he will slide freely, or the horse's life is in danger and he needs to be moved immediately, it may be possible to move him without sedating him first, and by pulling with a rope tied to the hairs of his tail below his tailbone (which is part of his spine). See Chapter 15 *Knots*. Protect the horse's head, particularly his eyes, and pull by hand only. You must pull slowly, fluidly and with total control. If the horse becomes caught or friction becomes too much, stop pulling or you will cause severe injury. Never use a car, tractor or other vehicle to pull a horse and never attach a rope or chain to a horse's tailbone, head, neck or legs.



This pregnant mare went down in her float and a passing farmer offered to get her out. He tied a rope to her tailbone and pulled her with his tractor, ripping her tail from her body and exposing her pelvic cavity and spinal canal. She was later euthanased.

STEP 8

If the horse is injured or the exit is blocked, do not do anything more until the equine or large animal vet arrives to sedate the horse. Otherwise the horse will remain frantic and will be a much greater danger to himself and rescuers. Be aware, however, that horses can react unpredictably to sedation and the risk to rescuers cannot be overemphasised. A sedated horse can appear to be asleep one second and explode the next.

STEP 9

Create a rescue opening

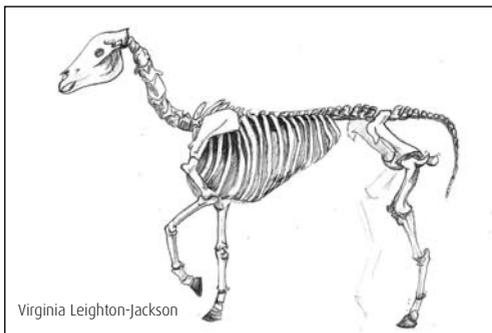
If the horse cannot be moved down the tailgate or through an existing exit, you may have to use power tools (see later in this chapter, *Power Tools for Extrica-*

tion). If so, start them some distance from the float and bring them closer gradually, to avoid panicking the horse. If you are using a tool that creates sparks, cover the horse or otherwise shield him but do not cover his nostrils. Horses are obligate nose breathers which means they can only breathe through their noses. Be aware that horse floats typically contain flammable materials such as sawdust, wood shavings and hay so have fire protection on hand.

STEP 10

If the horse is recumbent (lying down) you will have to pull him out. **Do not pull him out by his head, neck, legs or tailbone** which can cause life-threatening injuries.

Use a 150 mm commercial rescue strap (see Chapter 18), or make one using 70 mm fire hose, a tree guard from a 4WD recovery kit or wide nylon webbing straps. The wider the strap the more comfortable it will be for the horse and the less damage it will do to his delicate tissues. If you are making your own, cut 15 cm slits about 30 cm from each end of the hose, or tie securely-knotted loops at the ends of the webbing. Avoid further injuring the horse by placing the straps around strong bony structures before pulling. Before extrication, pull the end of the horse's lead rope (the end not attached to his halter) out through the exit opening so it can be used to control him once he is free. Protect his head, particularly his eyes, before pulling.



Forward and backward assist straps use the bony structure of the horse.

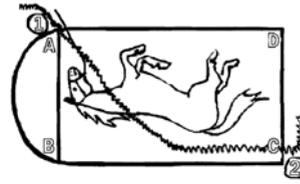
Some horses travel wearing saddles, bridles or harness. These may complicate your ability to drag a trapped, recumbent horse out of a float and, if more than one horse is involved, their harness can tangle making your job even more difficult. If tangled, cut the harness off the horse once you have a halter on him. On the other hand, you may be able to use a sturdy saddle or set of harness to help drag him out of the float.

STEP 11

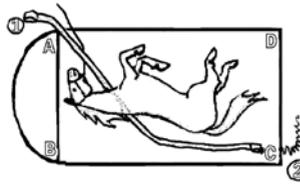
When applying the strap you must at all times stay out of the line of fire of the horse's hooves and head. Manipulate straps with a shepherd's crook (see Chapter 18), walking stick, umbrella or other hooked pole. Ensure any sharp edges or points are wrapped to prevent injury to the victim and/or rescuers.

Start by using 50 mm webbing or rope at least seven metres long. The objective is to get the webbing under the sedated horse's body and use it to pull the rescue strap through after it. If there is a door at the front of the float, or on the side opposite the exit, use this. If not, use the opening you created.

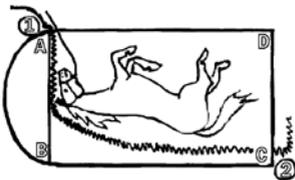
Rescuer 1 (at the end opposite the exit) will push most of the webbing into the float beside the horse using a shepherd's crook or other hooked pole, retaining at least two metres of the webbing with which to pull. Rescuer 2, using the structure of the float as a shield, will take the crook and go to the exit or rescue opening. If there is nothing to use as a shield, stay away from the danger zone.



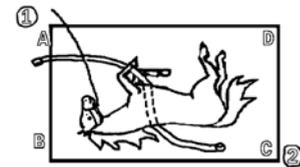
Using a sawing motion, Rescuers 1 and 2 will work the webbing under the horse until it is positioned in the natural hollow under his neck at the shoulder (there is another natural hollow under his body, forward of the back legs).



Rescuer 1 ties the rescue strap to her end of the webbing and Rescuer 2 pulls the other end of the webbing until the rescue strap is lying under the horse's neck and along his back. If a vet is on scene he will probably have lubricant that will make it easier to slide the strap under the horse. Untie the narrow webbing or rope and remove it.

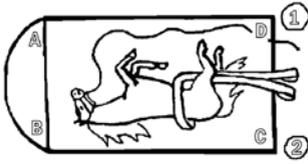


Rescuer 1 at Corner A pushes the webbing across to Corner B. Using the shepherd's crook, Rescuer 2 pulls it along behind the horse's back to where she is standing at Corner C.



Rescuer 2 and helpers use the shepherd's crook or pole to reposition the strap so it is at right angles to the horse's spine. At this point, the procedure is different for backward and forward extractions.

Backward extrication



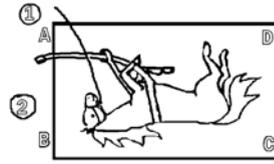
Position the rescue strap in the hollow just forward of the sedated horse's hips (his hips are where a human's would be if she were on her hands and knees). With the shepherd's crook, pull the end that is lying underneath the horse back through his hind legs towards his tail, then drape the top end over his waist and pull it back through his hind legs towards his tail. Secure both ends to the pulley system or pulling team, and prepare to pull the horse out by pulling the two ends together. Using this method, the pressure is on the horse's hips, not on his internal organs or belly.



If the horse has to be pulled over an obstruction, make a ramp with boards or strong ply. Wedge one end under the leading end of the horse and prop the other on the obstruction so you can slide him over it. Since this makeshift ramp can be unstable and the process of getting the ramp under the horse can be dangerous, try to remove the obstruction first.

Forward extrication

Position the rescue strap until it is under the horse, right behind his front legs. Using the shepherd's crook, lift the end of the strap that is underneath the horse, pull it forward, between his front legs, and pass it to Rescuer 1.



Lift the other end of the strap (which has been freed from the webbing) over the horse's back and also pull it through his front legs. Pull the longer end of the rescue strap through the loop (or slit) in the underneath end, creating a 'noose' around his middle. Attach a pulley system or pulling team to the long end of the strap, in preparation for moving the horse.



Alternatively, if you can, centre the strap under the horse's chest, cross it over at his withers and bring it back down between his front legs and through the loop. Pull both straps together.

STEP 12

Pulling the horse out

To avoid panicking the horse, create an atmosphere of quiet and calm in the rescue area. If possible turn off all engines, power tools and emergency lights. Keep all radios out of the immediate vicinity. All the horse should be able to hear are the Incident Controller and the horse handler. As horses may weigh up to 1200 kilos, even with a rope system you will need a lot of people to help pull him out. Consider using bystanders. **Never pull a horse with a vehicle** unless you have absolutely no other choice. You lose the 'feel' for what is happening with the horse and if the ropes or straps become tangled or the horse's leg becomes trapped, the delay in the driver getting the message to stop may be disastrous for both victim and rescuers.

The horse handler calls the shots

Until now, the Incident Controller has been in charge. However, once you are ready to move the horse, the horse handler becomes the one who calls the shots. The handler watches the horse at all times and decides when to pull or stop pulling, depending solely on the horse's condition. The handler signals the pulling to begin once all rescuers are in place, all straps are in the correct position, padding is in place to protect the horse's head and eyes, and the horse is as calm as the handler and chemical restraint can make him. The instant any problem occurs, the handler immediately gives the signal to STOP! This can be if the horse begins to panic, one of his legs gets caught, a strap works loose, or anything else that may adversely affect the horse or handler.

Once the horse is ready to be pulled

The handler should move to the tailgate (or the rescue opening) and, using the shepherd's crook

or pole, bring the lead rope out through the exit and pass it to her so she has control of the horse once he is freed. **Do not use the lead rope to pull the horse out.**

Pull slowly and steadily

Again, keep the noise and confusion down. All people pulling should be on one side of the rope so that if the horse panics, they can drop the rope and run in one direction. If necessary, using a pulley you may be able to locate the team of rescuers off to one side.

STEP 13

The horse is out

At this time it is **critical** to avoid any unnecessary noise or confusion. The horse must remain calm. However, after sedation some horses can wake up in an instant, panic and injure themselves and any rescuers around them. A panicked horse can explode in a fraction of a second; this is part of his survival mechanism. He may rear up on his back legs, kick with front or back legs or run blindly in any direction, including over the top of anyone who is in his way. In his panicked state, he may not even see people or objects around him so the experienced handler should be the only person who is close to the horse at this stage.

Allow the horse to lie calmly. **Do not rush him to get up.** A horse that is recovering from sedation will be unsteady on his feet and may stagger or fall, injuring himself or his rescuers. Remember to have the veterinarian on-scene in case the horse needs further sedation, and use panels or temporary fencing to prevent the horse escaping.

The handler must maintain control of the horse at all times.

Sometimes you can be lucky and a rescue is simple. This traffic accident on England's M3 motorway involved a horse float containing one horse, Bertie. Once they had ascertained that Bertie was not injured and that he had regained his feet on his own, was calm and did not need to be sedated, emergency responders from Blue Watch at Rushmoor, Basingstoke's Special Equipment Unit and Odiham Fire and Rescue stabilised the float, then lowered it so Bertie could walk free. He immediately loaded onto another float.

Photos: Hampshire Fire and Rescue Service



Righting an overturned float



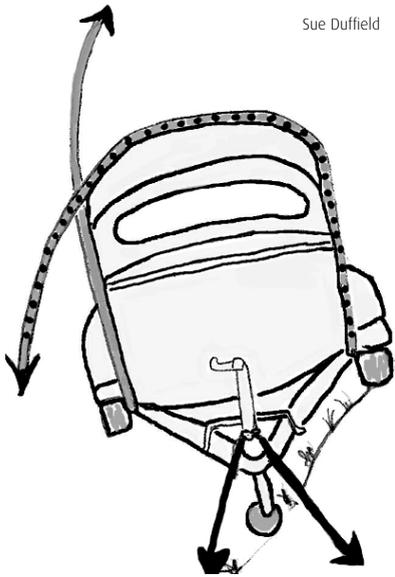
Tori Miller

Occasionally in a float rollover, the integrity of the float is not seriously compromised, the horse is uninjured and he is in a position where he will be standing once the float is upright. It is possible that the only method available to get him out could be to right the float so he can simply walk out. This is a highly controversial procedure but advocates say it has advantages. The first and foremost is rescuer safety. Even though the float is damaged and you may be unable to use it again, the horse is contained inside. He can be calmed or sedated, then backed or led out when it is safe to do so. There is also less possibility of injury to the horse from collapsing float parts, sparks from power tools or his own panic. And, if there are many horses in the float, this method could be an efficient use of rescuers' time and cause less stress on the horses. Righting a float this way is a judgment call that is usually made in conference between the veterinarian and the rescuers who must satisfy a few criteria before considering this method:

- > Is the integrity of the float such that it will withstand the procedure?
- > Will the horse be standing when the float is back on its wheels?
- > Are his injuries sufficiently minor that the horse will withstand the procedure? (this is a decision for the on-scene veterinarian)
- > Does the vet need to sedate the horse? If so, you will have only a short time while he is sedated to carry out the manoeuvre so it is imperative to plan the operation and have all members of crew ready before sedation is administered
- > Do you have the manpower and equipment powerful enough to overturn the float?

If you choose to right an overturned float before removing the animals, take into account the following:

- > Ensure you have plenty of room to work safely
- > Be sure all personnel know the plan
- > Have a spotter who will monitor the operation and advise the pulling team of any problems
- > Each horse will need a handler and will need to wear a halter with a lead rope that is long enough to reach from the horse to the handler who is standing clear of the trailer and on safe ground
- > The horse must be in a position so that he will be standing once the float is upright
- > The handler must not hold the rope while the trailer is being righted



- > Attach your ropes or straps to secure points of the float, such as the axle or upright struts
- > Run one strap from the 'low' side of the float, over the top, and attach it to a rope system
- > Run another strap in the opposite direction, from the 'high' side of the float, over the top, and attach to a rope system
- > Fix the 'low' side rope system to a secure anchor – the axle of a vehicle or a tree would be secure enough. Have personnel on the live end of this system to let the trailer down onto its wheels in a slow, controlled manner
- > The ropes running from the 'low' side of the float will also be manned with personnel who will be responsible for righting the float
- > Attach a rope to the float's towbar and secure it to keep the float from skewing as it is being righted. When considering the rope system you will use, take into account the weight of the trailer plus the weight of the animals and the equipment

Information for Emergency Responders about Horse Floats

Horse floats vary in construction and come in a variety of floor plans from the very basic single-horse straight load to a combination of float plus living quarters. Knowing a little about float construction and layout will aid you in deciding how to extricate trapped horses. Tailgates can be heavy and spring-loaded and can be dangerous if opened when the float is on its side or upside down.

Straight-load float

Horses stand facing forward, with their heads at the front of the float and their hindquarters at the back. These are usually double floats for two horses although single floats are available, as are

triple floats for three horses. Dividers separate the horses. Horses usually exit by backing down the tailgate at the rear although some floats also have a small door and ramp to the side at the front of the float. Two horses make a two-layer rescue; three horses a three-layer rescue. If the horses are wearing saddles or harness they may be tangled or hung up on the divider.

Angle-load float

These floats can hold three or more horses depending on the length of the float. Horses stand at an angle, usually 35°-45°, tied head-forward along the left side (when viewed from the back). The di-

dividers between the horses are usually removable. If the float lands on the left-hand side where the horses are tied, this will leave them attached to the float, head down with their hindquarters in the air. If the float goes down on the right-hand side, horses may be hanging from their lead ropes. Be sure to cut these ropes immediately.

Gooseneck float

A gooseneck is usually a combination of angle-load float and living quarters, although some have space for harness carriages or sulkies. A gooseneck can be pulled by anything from a one-tonne truck to a semi. Horses stand at an angle, tied head-forward along the left-hand side (when viewed from the back). The dividers between the horses are usually removable. If the float lands on the left-hand side where the horses are tied, this will leave them attached to the float, head down with their hindquarters in the air. If the float goes down on the right-hand side, horses may be hanging from their lead ropes. Be sure to cut these ropes immediately.

Horse trucks

This is a box on a truck chassis with a ramp either at the back or one side. Horses are usually tied along the left-hand side and stand across the width of the truck with dividers between them. If the truck lands on left-hand side where the horses are tied, this will leave them attached to the float, head down with their hindquarters in the air. If the truck goes down on the right-hand side, the horses may be hanging from their lead ropes. Be sure to cut these ropes immediately.

Access doors

Access doors on single, double and triple horse floats and goosenecks are located at the front left-hand side and open out. You can enter the float

through the access door but it is not wide enough for a horse to fit through so be careful; the trapped horse may see this opening as an escape route and try to get out this way. Some floats have a horse exit complete with a ramp at the front, but these are rare. Caution: tailgates on horse floats are potentially dangerous because they are spring-loaded, heavy and can be difficult to open.

Dividers

Dividers can be a single length of pipe from front to back, a full wall, or anything in between. They can be fixed or removable.

Tack rooms and tack boxes

These are storage areas that can be located or accessed inside or outside the float, or at the rear left of an angle-load or gooseneck in which case you will have a harder time extricating the horses. You can pull them out more easily if the float lands on its right-hand side. If it lands on its left-hand side with the tack room on the bottom, the easiest way to get the horses out is to remove the tack room before the horse or, if this is not possible, by making a ramp over the tack room.

Windows

Most floats have a large window at the front and smaller (sometimes sliding, sometimes with bars and no Perspex) along the sides. Horses may try to escape from even the smallest window.

Floors

Most modern floats have structural hardwood or metal floors covered with heavy duty rubber matting or with a sprayed-on rubber surface. Older floats often have wooden floors covered with loose rubber mats. Owners often put pine shavings on top of the mats to absorb urine and manure.

Construction materials

Galvanised steel, aluminium, fibreglass, timber, Formply.

Hitches

If you need to call for a towing vehicle, it is important to let them know if the float has a standard heavy-duty towbar, a square-hole towbar or is a gooseneck. Couplers and balls should be 50 mm in diameter and must meet Australian Standard AS 4177-3.

Dangers

Most goosenecks and many double and extended double floats have a kitchen at the front that could contain a gas cooker, microwave, water tank and

possibly a petrol or diesel generator or battery. All floats are connected to their towing vehicles with stout electric wiring.

Bonus

Look for halters, lead ropes, horse rugs, rescue equipment, First Aid kit, chocks for wheels and other useful items in tack rooms and kitchen cupboards.

Weight of conventional floats

Type of float	Average weight	Range of weight
Double (2-horse)	1600 kg	700 – 1640 kg
Triple (3-horse)	2000 kg	1500 – 2300 kg

Power tools for extrication – the good, the bad and the ugly

All steps in any rescue are carried out in the same sequence – manipulation (moving things), disassembly (unbolting), displacement (spreading) and cutting. Remember that horses are extremely sensitive to noise, vibration and light so use the tool that will cause the least amount of panic. Some cutting tools will create more havoc at a horse rescue scene than they will help you so a spreader should be your first choice, followed by a hydraulic cutter, then a rotary saw and, if all else fails, oxy-acetylene. Horse floats are like metal caves, amplifying and reverberating sound, and power tools will cause them to shake. If you are going to use 'bad' tools, tell the veterinarian so she can insert ear plugs into the horse's ears and sedate him to keep him from going into shock. One person should remain with the horse to check how he reacts to the noise and vibration.

If you have to cut a hole in a float to remove a horse, don't just remove enough material to get the horse out – cut off the whole side or top so there is enough room for human helpers as well as the horse. Fold back the edges or otherwise blunt them so they don't cut the horse and rescuers. When working with power saws and cutting torches, protect the horse from sparks and shrapnel by covering him completely with a horse rug or woollen blanket and put ear plugs in his ears. Use only rugs made from natural fibres to ward off sparks; synthetic fabrics could melt into the horse's skin.

Covering the horse's eyes may prevent him from panicking at the sight of sparks. However, if you do cover his face, remember to leave his nostrils free so he can breathe. Before you begin, remember that many trucks and floats are bedded with combustible straw, sawdust or shavings and

may contain horse feeds including chaff, grain, grass hay or lucerne hay in the float with the horses or in the tack compartment.

Consider continuous-rate-infusion sedation or anaesthetising the horse during noisy, protracted rescues.

Hydraulic Rescue Equipment

Consider using a hand pump for tools instead of a motor-driven one.

Generator

Place as far away from the scene as possible to help reduce the noise, smell and vibration.

Hand tools

Saws, hammers, axes, sledgehammers and battering rams all create noise and vibration. The lesser degree of stress offered to the horse by not using power tools needs to be weighed against the speed offered by those power tools.

Air chisels

An air chisel may be fast and effective but the noise, vibration and possible sparks can panic the horse, making a rescue extremely dangerous. If time is paramount, use the air chisel, but sparingly – it **will** shake the float.

Reciprocating saw

Most rescue trucks carry a reciprocating saw which is a good option for cutting through wood, steel or fibreglass.

Cutting torches

These are bad. The smell and sparks may cause the horse to panic because fire is a natural enemy of the horse. Use horse rugs or blankets or otherwise shield the horse if you need to use a cutting torch.

Rotary quick-cut power saw

This is an ugly tool and is not recommended. As the saw cuts through metal it produces a shower of molten metal sparks that can ignite flammable vapours or combustible materials. These same sparks will also injure the horse (consider using a reciprocating saw instead). Use fire protection whenever using spark-producing tools.

8 Vertical Extrication



Dr Rebecca Gimenez

This chapter contains step-by-step instructions for emergency responders on how to extricate a horse from mud, a hole, swimming pool, septic tank or steep gully, using an appropriate harness or slings attached to a crane, A-frame, backhoe or tractor.



Michelle Melaragno

As a prey animal, a horse does not like being lifted vertically – he cannot run from danger if his feet are off the ground. The same scruff reflex that causes a kitten to relax and go limp when her mother carries her by the scruff of the neck causes a horse to relax and become passive when his feet are raised off the ground. However, he will scramble or kick when he is lifted and again when he is set down, when he may also try to run as soon as his feet touch the ground. Rescuers must be aware of the danger and stay well out of his line of fire and away from the safe area at his shoulder. Always use a quick-release system during a vertical lift. Give the horse plenty of room and allow him time to settle once you have completed the manoeuvre.

STEP 1

Secure the area

Make sure the area around the site is safe for people to approach. One person only should approach the horse quietly and slowly to check for hazards. If the horse is trapped in a septic tank or hole, test the air quality before attempting a rescue. If the incident involves a gully, sinkhole, mine shaft or the edge of a cliff, make sure the ground is solid before approaching. If there is any doubt about the integrity of the ground, personnel approaching the edge should wear a rescue line and harness, approach from a different direction or decline to conduct the rescue. **Rescuer safety is your first concern. Keep all non-responders out of the area.**

STEP 2

Call an equine veterinarian or large animal vet who is experienced with horses.

The vet will need to sedate the horse before extrication, and will almost certainly have to treat him once he's out. Another major consideration is that the presence of the vet will decrease the danger to rescuers. You may have to wait an hour or more before the vet arrives.

STEP 3

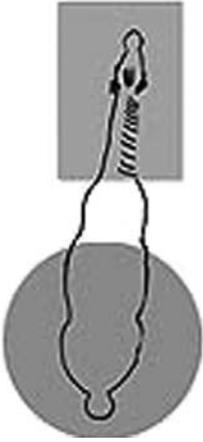
Appoint one horse handler for each horse involved

This experienced person will stay at the horse's head, maintaining control of him and talking softly and calmly for the duration of the rescue. The handler will monitor the horse's physical and emotional condition, interact with the vet and watch for obstacles when moving the horse. To prevent Public Liability issues, unless the horse owner is trained in basic Large Animal Rescue techniques or has attended an LAR awareness course, remove the owner from the Hot Zone to the Warm Zone where she should remain with the IC and veterinarian. There, with the vet, she can observe her horse from a distance, reading his facial expressions, body language and ear movements and communicating changes in his attitude and state of mind to the IC and horse handler. As much as possible, keep other people in the Cold Zone.

Find out if the horse is insured. There may be an existing protocol about handling him. Ask the owner if the horse was sedated prior to travelling and pass this information to the vet. If you are waiting for the vet and it is possible and safe to do so, take and record the horse's vital signs as demonstrated in Chapter 13 *Horse First Aid for Emergency Responders*.

Keep the horse calm—this will be your main focus throughout the rescue.

- > Horses defend themselves by fight or flight
- > When they feel trapped, their stress level shoots up. This can be disastrous for their medical condition and makes the danger much greater for rescuers
- > Panicked horses may thrash about, strike out with hooves and teeth at anyone who gets close, or may run over anyone in their way. The calmer the horse, the safer the emergency responders will be
- > Stroke, don't pat, the horse
- > Avoid eye contact with the horse
- > Avoid sudden movement
- > Speak softly
- > Keep the area free of chaos



Avoid the danger zone—directly in front of the horse, within range of his thrashing head and 1.3 metres to the rear and to the side of his hind legs

Keep the noise level down

Loud noises and extreme fluctuations in light and darkness (such as those caused by floodlights and flashing lights) are frightening to a horse. By keeping the area free from chaos you will lessen the horse's urgency to flee, thereby lessening the risk to rescuers.

STEP 4

Gather the equipment you will need

You will need:

- > A vertical lift harness – either commercial or you can make one yourself from hose, 50–100 mm webbing or wide, soft cotton rope (see Chapter 17)
- > Rope to secure the horse in position
- > Soft padding material
- > A mechanism to raise the horse above the walls that are trapping him
- > 150mm webbing rescue strap (commercially made or fashioned from decommissioned fire hose or narrower webbing) or a tree guard or winch extension strap from a 4WD recovery kit. Fifteen-metre and thirty-metre lengths of retired fire hose without the couplings are easier to use than fire hose that is still in service. If preparing hose for use in Large Animal Rescue, a selection of both sizes is recommended. Tie the hose in a water knot (see Chapter 15) and secure with duct tape
- > A strop guide, shepherd's crook or other hooked pole to manipulate the rescue strap
- > If you plan to drag the horse you will need a rescue glide, rescue mat, inflatable rescue path (see Chapter 18) or something solid and non-shredding like plywood
- > With a water rescue, find an empty large soft drink bottle, large balloon or ball
- > If lifting is a possibility, get your equipment ready beforehand
- > See **Step 8** on *Establishing a Means of Pulling the Horse up Vertically*
- > For an open water rescue you might use floatation devices (see Chapter 18)
- > Make a pair of earplugs for the horse to mute the sounds of the rescue. Cut the feet off a pair of pantyhose and stuff 6–8 cotton balls into each one (or use a pair of fine-knit socks). Tie knots at the open ends so you can pull them out of his ears when the noise has abated.

STEP 5

If the horse is wearing a halter, ask the handler to attach to it a strong, soft rope, at least 6½ metres long. This is called a 'lead rope' and it should be long enough to reach from the horse to the handler who will be on safe ground. If the horse is not wearing a halter and you cannot find one, use the lead rope to make an Emergency Halter (see Chapter 17).

Never attempt to lead or control the horse with a bridle, even if he is wearing one. The straps of a bridle are easily broken, leaving the way open for security issues. A bridle contains a piece of metal called a 'bit' that is placed in the horse's mouth. Pulling or tugging on the bit will cause pain and the horse will often throw its head in the air in an attempt to escape this pain.

STEP 6

Create a safe area around the scene to contain the horse once he is free. Portable panels are the best option. Two-metre-high plastic or wire netting reinforced with rigid PVC pipe can be held by rescuers and used to contain a horse. Another possibility is to create a temporary yard by tying ropes to trees. Be aware that the horse may panic once extricated and end up back from where you just rescued him.

STEP 7

If the horse is standing it may be possible to fill the hole or gully with material the horse can climb or stand on to extricate himself. Heavy planks of wood on top of straw bales can be used to pad the area, raising the horse to a level where he can climb out. If the horse is not injured, it may be possible to lead him to a less steep area where he can scramble out on his own.

Sometimes a horse falls down and stays there or has given up and lain down. As a prey animal, down means dead and he may have given up hope of living. Also, if a horse has been down for a while, the weight of his own body may have caused muscle damage, swelling of muscle tissue or pressure sores



M Bickford

If you have room, try rolling him over. Work facing his spine, not his feet. Using 25 mm tube tape, apply a lark's head knot (see Chapter 15) to the horse's pastern (between his 'ankle' and foot) on the hind leg that is resting on the ground. Two people roll the horse, one pulling the leg at a 45° angle over his head while the other supports his head with a taut lead rope as he rolls over. All rescuers should remain at a safe distance from the horse.



Hampshire Fire and Rescue Service

If you have the material and manpower, try pushing him up into an upright position to remove the weight from his lungs and make it easier for him to breathe. The handler can gently pull on the lead rope attached to the horse's halter while

several other people can push from the back. Ensure all rescuers are in a safe position when attempting this. Do not stand near the horse's head or on his 'feet' side. Once you roll him up onto his sternum, pad the ground behind his back with straw bales or other soft material to keep him upright.

If the horse is not injured, encourage him to stand. If, however, he is in a stupor you may have to work to get his attention – yell, wave your arms or slap his rump. Once he is up, give him time to find his feet and calm down before going any further. If the horse is obviously injured or you think he may have internal injuries, he may be unable to stand so do not force him.

STEP 8

Establish a means of pulling the horse up vertically



Dr Rebecca Gimenez

If it is impossible for the horse to get himself out using his own power, you will have to lift him out. Use a crane, front-end loader or large tractor with a bucket or lifting ability, a heavy duty bipod (A-frame) that can hang a pulley over the horse, a truck with a lifting arm or a tow truck. If using a backhoe, it is safer to lift with the scoop side as,

even though the bucket on the arm has the advantage of turning once its load is in the air, the typical backhoe may not be rated for the weight of a horse. Use the scoop on the other side which can usually lift at least a tonne. If you are using the 'arm side', load the scoop with dirt or rocks to keep the backhoe from tipping.

It is ideal to have something that, once the horse is lifted free of the hole, can turn and deposit him on safe ground. An A-frame or bipod is one option since the arc of the bipod will swing the horse out of the hole. Another option is to attach a side rope to the sling around the horse (not to his head, neck, tail or legs) so he can be pulled over to safe ground once he is out of the hole. Have this in place before proceeding.

STEP 9

Apply the vertical lift harness

If you do not have a ready-made harness, make one (see Chapter 17). This harness supports all parts of the horse by distributing the weight evenly, **but cannot support the horse for more than ten minutes** and is not to be used with a helicopter. Suspending a horse for longer than ten minutes can result in extreme injury. Place the harness on the horse and have everything ready before attempting to lift him. The horse would appreciate it if you pad the insides of his legs and shoulders where the harness makes contact with his delicate skin. Once the harness is in place, start at the beginning again and take up all the slack before tying the final knot.

If the horse is lying on his back or side or is injured and cannot be righted before extrication, the vet will have to sedate him and you will have to drag him from wherever he is. Remember, working around a horse's feet and legs is dangerous. Once the horse is sedated, position a rescue

Flash Gordon discovered the hard way that a cattle grid is not horse-friendly. Hampshire Fire and Rescue's Large Animal Rescue Team sedated Flash before trying to prise apart the steel bars. When that didn't work, they cut them. Note how the team protected Flash from the sparks caused by the cutting tool. Once he was free, rescuers used Flash's winter rug as a makeshift rescue glide to avoid causing friction burns to his skin as they pulled him to safety. He made a full recovery.

Photos: Hampshire Fire and Rescue Service



glide, rescue mat, inflatable rescue path (see Chapter 18) or equivalent next to and as far under the horse's back as you can get it. When a horse is sedated, he does not blink properly so cover his eyes to prevent damage from wind, sun or rain, but be aware that the action of covering his eyes may also panic him. Do not cover his nostrils or he may not be able to breathe.

If a commercial rescue glide, rescue path or rescue mat is not available, use makeshift material such as a horse rug, heavy tarp or plywood sheet. The material must be sturdy enough to bear the horse's weight over possibly rough terrain, and be non-shredding so that pull ropes can be attached.



Dr Rebecca Gimenez

Either drag the horse or roll him onto the glide. Work facing his spine, not his feet. To roll him use 25 mm tube tape and apply a lark's head knot (see Chapter 15) to his pastern (between his 'ankle' and foot) on the hind leg that is resting on the ground. Protect the horse's head – especially his eyes – before pulling that leg at a 45° angle over his head, and supporting his head with a taut lead rope as he rolls over. Once the horse is positioned properly, tuck his feet into his body and tie them together, front feet to front feet and back feet to back feet, then front feet to back feet. Use straps or webbing to secure the horse onto the slider. Make sure his head is supported and well padded with blankets,

towels or sweatshirts. If you are using a rescue glide or rescue mat, tie his head to the equipment so it won't drag on the ground or come loose from its bindings while he is being dragged. Attach your haul system to the front of the apparatus and pull.

Allow the horse to lie calmly once you have pulled him from danger. Do not rush him to get up. A horse coming out of sedation can injure himself and those around him trying to stand while still under the influence of the sedatives. Once he is on his feet apply the vertical lift harness.

STEP 10

Lift the horse as smoothly and efficiently as possible. Horses usually struggle when they feel themselves being picked up, but generally relax once their feet are off the ground. Expect a struggle when the horse's feet touch the ground again at the end of the rescue, or the opposite may occur and he may collapse. Remain calm and quiet.

STEP 11

Once the horse is on the ground the handler should be prepared for him to panic, and should stand facing his side so she can pull the lead rope at right angles if he attempts to flee. Move the horse into the safe area you have already created and allow him to settle. Keep all other rescuers away and ask them to remain quiet. When the horse is calm, you can remove the vertical harness.

9 Diagonal Extrication



M Bickford

In situations where a horse is cast in his stable or trapped in a ditch or gully and is unable to stand and walk out, you may use a diagonal extrication as follows:

Step 1

Secure the area

Make sure the area around the site is safe for people to approach. One person only should approach the horse quietly and slowly to check for hazards. If the incident involves a gully, cliff edge, sinkhole or mine shaft, make sure the ground is solid before approaching. If there is any doubt about the integrity of the ground, personnel approaching the edge should wear a safety line and harness, approach from a different direction, or decline to conduct the rescue. **Rescuer safety is your first concern. Keep all non-responders out of the area.**

Step 2

Call a large animal veterinarian who is experienced with horses

The vet will need to sedate the horse before extrication, and will almost certainly have to treat him once he's out. Another major consideration is that the presence of the vet will decrease the danger to rescuers. You may have to wait an hour or more before the vet arrives.

Step 3

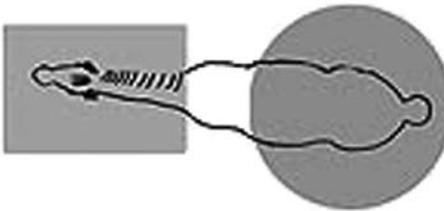
Appoint one horse handler for each horse involved

This experienced person will stay at the horse's head, maintaining control of the horse and talking softly and calmly for the duration of the rescue. The handler will monitor the horse's physical and emotional condition, interact with the vet and watch for obstacles when moving the horse. To prevent Public Liability issues, unless the horse owner is trained in basic Large Animal Rescue techniques or has attended an LAR awareness course, remove the owner from the Hot Zone to the Warm Zone where she should remain with the IC and veterinarian. There, with the vet, she can observe her horse from a distance, reading his facial expressions, body language and ear movements and communicating changes in his attitude and state of mind to the IC and horse handler. As much as possible, keep other people in the Cold Zone. Find out if the horse is insured and ask the owner if the horse was sedated before travelling. Pass this information to the vet when she arrives. If it is possible and safe to do so, take and record the horse's vital signs as demonstrated in Chapter 13 *Horse First Aid for Emergency Responders*.

Keep the horse calm

This will be your main focus throughout the rescue.

- > Horses defend themselves by fight or flight
- > When they feel trapped, their stress level shoots up. This can be disastrous for their medical condition and makes the danger much greater for rescuers
- > Panicked horses may thrash about and strike out with hooves and teeth at anyone who gets close. The calmer the horse, the safer the emergency responders will be
- > Stroke, don't pat, the horse
- > Avoid eye contact with the horse
- > Avoid sudden movement
- > Speak softly
- > Keep the area free of chaos.



Avoid the danger zone – directly in front of the horse, within range of his thrashing head and 1.3 metres to the rear and to the sides of his hind legs.

Keep the noise level down

Loud noises and extreme fluctuations in light and darkness, such as those caused by floodlights or flashing lights, are frightening to a horse. By keeping the area free from chaos you will lessen the horse's urgency to flee, thereby lessening the risk to rescuers.

Step 4

Gather the equipment you will need

(see Chapters 17 & 18)

- > A rescue strap to secure the horse in position – either commercial or you can make one yourself from 70 mm fire hose, a winch extension strap or tree guard from a 4WD recovery kit, or 50-150 mm nylon webbing
- > Rope
- > Soft padding material
- > A pulley system
- > Possibly a vertical harness
- > A strop guide, shepherd's crook or other hooked pole to manipulate the rescue strap
- > If dragging the horse you will need a rescue glide, rescue mat, inflatable rescue path or something solid and non-shredding like a heavy tarp or plywood.

Make a pair of earplugs for the horse because they may help calm him by muting the sounds of the rescue. Stuff 6-8 cotton balls into each of the cut-off feet of a pair of pantyhose or a pair of fine-knit socks and tie knots at the open ends for easy removal. If the owner is on scene, ask if she has any rescue equipment that you can use. The smell of petrol diesel or smoke can cause uneasiness in the horse. Dab Vicks VapoRub or citronella under his nostrils to mask the smell.

Step 5

If the horse is wearing a halter, ask the handler to attach to it a strong, soft rope, at least 6½ metres long. This is called a 'lead rope' and it should be long enough to reach from the horse to the handler who will be on safe ground. If the horse doesn't have a halter on and you can't find one, use the lead rope to make an emergency halter (see Chapter 17).

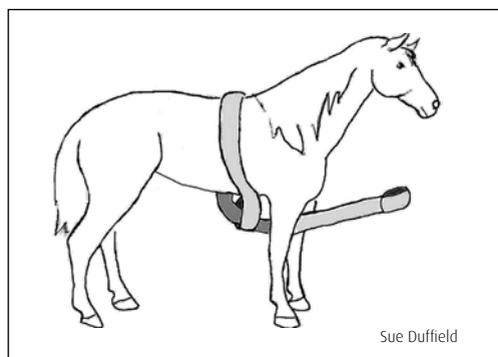
Never attempt to lead or control the horse with a bridle, even if he is wearing one. The straps of a bridle are easily broken, leaving the way open for security issues. Also, a bridle contains a piece of metal called a 'bit' that is placed in the horse's mouth. Pulling or tugging on the bit will cause pain and the horse will often throw his head in the air in an attempt to escape this pain.

Step 6

Create a safe area at the top of the slope for the horse to stand once you have extricated him, and ensure there is enough room for the veterinarian to work. Portable panels are the best option, or rescuers can hold two-metre-high plastic or wire netting reinforced with rigid PVC pipe to contain the horse. Another possibility is to make a temporary yard by tying rope between trees but be aware that a horse could try to jump out if he becomes frightened and may end up back where he started.

Step 7

If the horse is standing, apply the rescue strap



For a **Forward Assist** use either a commercial strap or make one from fire hose or webbing. Apply the rescue strap over the horse's back and take it down behind his elbows, with the short end

under his chest and the long end passing through the loop or slit in the short end. The long end then comes out between the front legs and is fastened to a rope. On the other end of the rope is a pulley system or a pulling team that can pull the horse while the handler guides him with the lead rope attached to his halter. The straps lie over strong bony structures of the horse, avoiding further injury.



In a **Wideman Configuration Forward Assist**, find the middle of the rescue strap and hold this at the centre of the horse's chest. Pass the ends over his back, down behind his elbows, then forward through his front legs, and pull the ends through the loop at his chest. Attach the ends of the rescue strap to a pulley system or rope. The horse does the work while rescuers assist him with the rescue strap and the handler guides him with the lead rope attached to his halter.

Sometimes a horse has fallen down and stayed there, or has lain down and given up. To a horse – a prey animal – down means dead and he may have given up hope of living. Also, if a horse has been down for a while, the weight of his own body may have caused muscle damage, swelling of muscle tissue or pressure sores.

If you have room, try rolling him over. Facing his spine not on his 'feet' side, pad his pastern (between his 'ankle' and foot) on the rear leg closest

to the ground and tie a rope or length of webbing over the padding.



M. Bickford, courtesy Pineland Farms

Two people should roll the horse, one pulling at a 45° angle over his head while the other puts tension on the lead rope to support his head as it rolls. Also, you can roll him this way if his feet are facing uphill.



If you have the material and manpower, try pushing him up into an upright position, removing the weight from his lungs and making it easier for him to breathe. The handler can gently pull on the lead rope attached to the horse's halter while several other people can push from the back. Once you roll him up onto his sternum (breastbone), pad the ground behind his back with straw bales or other soft material to keep him upright. Ensure all rescuers are in a safe position when attempting this. Do not stand near the horse's head or on his 'feet' side.

If the horse is obviously injured, or you think he may have internal injuries, he may be unable to

stand so do not force him, instead skip to Step 10. If the horse is not injured, encourage him to stand. If he is in a stupor you may have to work to get his attention – yell, wave your arms or slap his rump. Once he is up, give him time to find his feet and calm down before going any further.

Step 8

Fasten a rope to the rescue strap

Attach the other end of the rope to a pulley system that is secured to a very stout tree or similar anchor, above the 'place of safety'. The pulling team can extend in a line at an angle to the direction of pull, as the pulley will redirect the force to pull the horse up the slope. Your anchor **must** be solid – 500-plus kilos of struggling horse can pull rescuers over the edge with him. If the anchor is secure and the horse struggles he will most likely calm down if you work slowly, quietly and confidently. Make sure you have a breakaway strap between the anchor and the horse that can be cut quickly.

Step 9

Assist the horse up the slope

The horse handler should encourage and guide the horse by the lead rope attached to his halter while rescuers assist him with the rescue strap, **but the horse does the work**. He is under control of the lead rope, which keeps him pointed in the right direction, and by applying slight tension on the rescue strap you will prevent him losing ground. Once he reaches the place of safety, release tension on the rescue strap and remove it. Remember that a horse is unpredictable; rig your lines so they can be released or cut at a moment's notice. If you and the horse are unable to traverse the slope, you will need to consider a vertical extrication. See the **Vertical Lift** section in Chapter 8.

Step 10

If the horse cannot walk out



If he is injured and you are not considering a vertical extrication, the vet will have to sedate the horse before you can pull him out. Once he is sedated, position the rescue glide, rescue mat, inflatable rescue path or equivalent next to and as far under the horse's back as you can get it. Attach the webbing strap to his downside rear leg, and then pull it at a 45° angle to his head, supporting the head while you roll him onto the sliding material. If you do not have a rescue glide you can use a heavy tarp, horse rug or sheet of plywood (which will work but will be a lot harder on the horse and rescuers). The material you use must be sturdy enough to bear the horse's weight over possibly rough terrain and be non-shredding so that pull ropes can be attached. When a horse is sedated, he will not blink properly so cover his eyes to prevent damage from wind, sun or rain, but be aware that the action of covering his eyes may also panic him. Do not cover his nostrils or he may not be able to breathe.

If you are using a rescue glide or rescue mat, once the horse is positioned properly, tuck his feet into his body and tie them together, front feet to front feet and back feet to back feet, then front feet to back feet. Use straps or webbing to secure the horse onto the glide. Make sure his head is supported and well padded with blankets, towels or sweatshirts. Tie his head to the glide or mat so it won't drag on the ground or come loose from its bindings while he is being dragged. Attach your pulley system to the front of the glide and pull.

If the horse is injured and you plan to transport him to a veterinary clinic or hospital, you may want to slide him directly into a horse float. If not, and he can stand once you get him to your designated safe place, roll him off the slider and remove the straps. Allow him to lie calmly until he is ready to stand. Do not rush him to get up. A horse coming out of sedation can injure himself and those around him while trying to stand.

Step 11

If the horse is recumbent and needs to be dragged backward for a few feet



The horse handler should kneel on the horse's neck to keep him from trying to rise while all other rescuers work from behind the horse. Feed two rescue straps under him, keeping in mind that the horse's head and neck muscles are powerful and he can inflict a great amount of damage if he begins to struggle.

Feed one rescue strap under the horse at his withers (behind his front leg), and run it between his front legs, under his neck, and back to the rescuer. Feed the other strap under the horse at his hips (in front of his back legs), and run it between his back legs, being careful where you place the strap, and back to the rescuer. The horse handler is responsible for keeping the horse's head out of the dirt. If more than four people are needed to pull the horse, double up on each strap. Pull evenly and slowly and constantly watch for an adverse reaction from the horse.

10 Other Rescues



Stress, hypothermia, hyperthermia and changes to the horse's body from being immersed in water or mud or from lying down for long periods will affect his chances of survival.

If a heavy animal such as a horse is immobile for a long period, if he is positioned awkwardly or exposed to rain or extreme cold or heat, serious damage occurs to his skin, joints and muscles, the blood supply to his internal organs and tissues is impaired and changes occur to his digestive system that can result in shock and death. His body temperature will drop quickly when he is immersed in mud or water so once he is out, if possible wash him with warm water and put a warm rug on him to prevent hypothermia. Even if the horse seems to survive the rescue with no obvious external problems, he should still be monitored by a vet as collapse or death can occur some days later.

The emergency services have a duty of care and, unless the horse owner is trained in basic Large Animal Rescue techniques or has attended an LAR awareness course and you know you can direct her movements, remove her from the Hot Zone to the Warm Zone where she should remain with the IC and veterinarian. There, with the vet, she can observe her horse from a distance, reading his facial expressions, body language and ear movements and communicating changes in his attitude and state of mind to the IC and horse handler.

Mud, gravel, sludge, peat bog, sand, quicksand

Mud rescues are one of the most common and most difficult of horse rescues and they require detailed planning to avoid causing serious injuries to the horse and rescuers. Getting a horse out of mud or other unstable ground is extremely difficult. Keep the horse calm as he may sink deeper if he struggles and be aware that he may be at risk of asphyxiating from the pressure on his ribcage. Do not attempt to pull him out by his halter or a rope around his neck as you could cause nerve damage, skull or facial injuries or even decapitate him. Mud can exert a strong suction that can be so great that trying to pull the horse out using a winch or tractor could pull his hooves from the pedal bones and cause serious injuries to his joints and leg muscles. Rope, mechanical rope systems or manually pulling offers the greatest control of a mud rescue.

Approach the horse from the safe area behind him and remember that he may thrash his head while you are putting a halter on him. Rest his head on an inflated inner tube or something similar so that his nostrils do not sink below the surface, putting him at risk of drowning. Assess all risks and prepare a contingency plan before setting up your rope system and deploying your crew. To prevent responders from becoming trapped in the mud and also needing to be rescued, place a sheet of plywood, a ladder or a commercial rescue path (see Chapter 18) on the surface of the mud for them to work from.



Michelle Melaragno

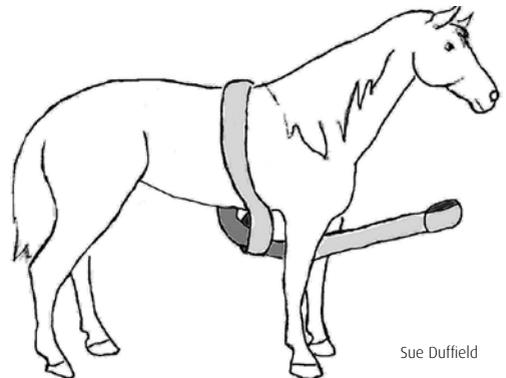


Dr Rebecca Gimenez

You will use the **Vertical Lift** (Chapter 8), **Diagonal Assist** (Chapter 9) or **Forward Assist** to get the horse out, depending on how far from stable land and how stuck he is, but getting a strap down one side, around his belly and up the other side is far from easy. Reaching down from

beside the horse is marginally safe due to the drag of the mud on his body but be aware that he may thrash his head or move erratically.

A **Forward Assist** is used to aid a horse that can walk and is capable of using his head and neck for balance, but is unable to extricate himself from the mud or other unstable ground. To get a rescue strap around the horse's girth, tie a length of light rope or strong cord to a strop guide or rescue stick (see Chapter 18), shepherd's crook or other hooked pole and push the pole down into the mud, behind the horse's elbow, under his belly and as far up the other side as possible (we said this would not be easy). Either another rescuer on the other side of the horse should capture the end of the cord and pass it to you or you should capture it and pull it towards yourself, then pull the pole back from under the horse. Attach one end of your rescue strap to the cord and use the cord to pull the rescue strap under the horse and around to you. Feed the long end of the rescue strap into the loop at the end you have just pulled around the horse, and then use your pole to position the loop under the horse's sternum.



Sue Duffield

Manoeuvre the long end of the rescue strap through the horse's front legs and attach to your pulley system or a pulling team that will pull the horse while the handler guides him with the lead

rope attached to his halter. Once the rescuers are in place, free the horse's legs from the suction of the mud by injecting air or water under his body but be sure the rescue strap is in place or he is suspended in a sling and ready to be lifted before you do this as he may sink deeper. Remind your crew that their safety comes first. If you have to clear ropes from around the horse's legs, do so from a distance and ensure rescuers legs are not tangled in ropes.

Swimming Pool Rescue



Corte Madera Fire Department

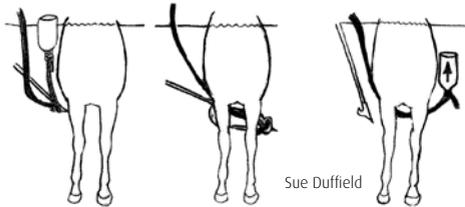
A horse in a swimming pool presents unique challenges to rescuers. **Do not get in the pool with the horse.** If possible, empty the pool to make your job easier and safer and to prevent the horse suffering from hypothermia. Construct a ramp from marine ply (minimum 5/8" thick), with battens to prevent the horse from slipping as you lead him out. Duct tape around the horse's hooves will improve traction. If you cannot empty the pool and the horse is swimming in the deep end,

encourage him to go to the shallow end where the water is shallow enough for him to stand, put a halter with long lead rope on him and lead him up the steps if they are safe for him to climb. If the horse will not cooperate and will not come close enough to be haltered, you will probably have to lasso him, but bear in mind that he will not be used to having a rope thrown at him and may panic. He may become exhausted swimming or struggling. If he refuses to climb the steps, or if they are very steep, you can try a **Forward Assist**, a **Wideman Configuration Forward Assist** or a **Vertical Lift** rescue (see Chapter 8). Allow him to use his head and neck for balance and give him sufficient room to navigate.



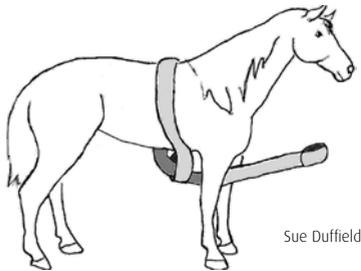
Jackie Darbyshire

To get the rescue strap around his girth, if you do not have a custom-made Collins Water Balloon (photo above, see Chapter 18), attach an empty soft drink or juice bottle, balloon or partially-inflated ball to one end of 8-10 metres of light rope or heavy cord. Using your shepherd's crook or long hooked pole, gently and slowly push the bottle under the horse. Once the cord is far enough under his belly for the bottle to rise to the surface on his other side, attach the rescue strap to the end of the cord and feed it under the horse and up the opposite side. Use your crook or pole to bring the



Sue Duffield

rescue strap towards you over the horse's back and then manipulate it into the configuration needed. If the horse is stressed and panicking, this should be a slow, calm process. You can use this technique to attach a **Vertical Lift** harness to the horse, in which case repeat the above steps with another rescue strap around the horse's midsection and, once the harness is attached, the horse can be lifted using a crane, tow truck or tractor in the same way as if he were in a hole.



Sue Duffield

A **Forward Assist** is used to aid a horse that can walk and is capable of using his head and neck for balance, but is unable to negotiate a slope or steps without assistance. The rescue strap is applied over the horse's back and behind his elbows, with the short end beneath his chest and the long end passing through the loop in the short end. The long end then comes out between the front legs and is fastened to a rope. On the other end of the rope is a pulley system or a pulling team that can pull the horse while the handler guides him with the lead rope attached to his halter. Avoid tangling the rescue strap or ropes in the horse's legs.

In a **Wideman Configuration Forward Assist**, find the middle of the rescue strap and hold this at the centre of the horse's chest.



Michelle Melaragno

Pass the ends over his back, down behind his elbows, then forward through his front legs, and pull the ends through the loop at his chest. Attach the ends of the rescue strap to a pulley system or a rope that your team can use to pull the horse while the handler guides him with the lead rope attached to his halter.

Open Water Rescue

Water compounds the challenges encountered in rescuing horses. Rescuers can be confronted with variable conditions, the water itself will slow their reactions, the footing may be unknown or unstable and the horse may be uncooperative, confused and react unpredictably. Remember that the horse is a prey animal who will conserve his energy for when he needs it and may explode into action when you least expect it.



Tori Miller

During this training exercise, students use a purpose-built flotation device. However, any device that provides flotation under the head and supports the horse in a sling suspended from air logs or inflated fire hoses is effective. Once the horse has reached water shallow enough that he can stand, the device should be removed.

Water rescues require a highly trained rescue team to cope with unexpected and unique hazards. As yet there is no ideal method for rescuing horses trapped in floodwater and trained and experienced emergency responders have drowned during these rescues. There may be hidden debris or holes and the water may be contaminated by sewage or chemicals. The horse may be exhausted, dehydrated, struggling or have immersion injuries. Assess the risk from a distance by using binoculars if necessary and assist and direct the horse from a distance if possible. Read the horse's attitude and only approach him if you are sure he will cooperate with you. Carefully plan your approach and working positions and do not put yourself at risk of his flailing head and hooves should he panic. Establish both personal and animal safety zones, read the water before beginning the rescue and work safely from the shore, a boat (without a propeller) or a platform. The horse may panic when approached by rescuers in a boat or wearing personal floatation devices. Rope systems must be able to handle the weight, size and movement of the horse as well as that of the water.

Rescuers should aim to help the horse to help himself. Horses will seek high ground to escape floodwater. If they are not injured or at risk it is safer to leave them where they are, providing fresh drinking water and food until you can recover them once the water has subsided. If necessary, use GPS to pinpoint their location. Horses can swim but they tire quickly. Their heavy heads make it difficult for them to keep their nostrils raised above the surface of the water, thus they are at serious risk of drowning if they have to swim for long periods.

Water rescues are often time-critical due to rising tides, the presence of currents or the risk of the horse suffering hypothermia or drowning. You should approach a submerged horse slowly from

the front to give him time to become accustomed to unfamiliar equipment and so you don't frighten him into trying to escape into deeper water. You may be able to lead him to safety using a halter and long lead, keeping his head out of the water. You may be able to get a rope or rescue strap around him by using your crook and soft drink bottle as described under Forward Assist in the previous Swimming Pool Rescue section. If you are on the bank and it is safe to do so, use a Forward Assist to help him up the bank but be careful because banks may collapse suddenly. Otherwise, use a Vertical Lift (Chapter 8) to remove him from the water. Be aware that a horse that has been trapped in water – even warm water – may be suffering from hypothermia and will need to be warmed when he is on dry land. He may also have immersion injuries and should be treated by a vet.

Flowing Water Rescue

Flowing water rescue is extremely dangerous and you should not attempt it unless you are trained; the chances are you will also need to be rescued. Flowing water is relentless, powerful and can kill. It is predictable only if you know what you're doing. The information given here is for your information only. Be prepared that a rescue from flowing water may not be successful.

It's important to understand that, like humans, horses have a stress response and may panic if caught in moving water. It is best, if possible, to have the owner assist in stabilising the horse. However, the emergency services have a duty of care and, unless the horse owner is trained in basic Large Animal Rescue techniques or has attended an LAR awareness course and you are sure you can direct her actions, remove the owner from the Hot Zone to the Warm Zone where she should remain with the IC and veterinarian. There, with the vet,

she can observe her horse from a distance, reading his facial expressions, body language and ear movements and communicating changes in his attitude and state of mind to the IC and horse handler.

Be sure to have experienced people on shore because a kick from a horse to a human chest or head can kill. The lowest tech, least dangerous type of rescue should be your first choice. For example, extend a pole with a looped rope on the end from the shore to the horse and snare him. This way, rescuers stay safe while bringing the horse to the shore. However, this method is obviously limited in use. Throwing a rope over a horse's neck requires cowboy skills and repeated unsuccessful tosses will probably frighten the horse away. Sometimes just verbal encouragement or offering food will change the horse's direction and he will come close to shore where he can be caught. If you have the time and space you may be able to string a barrier such as inflated fire hose or swimming pool noodles to stop the downstream progress of the horse and encourage him to swim toward shore.

Once you enter water, either swimming or in a boat, you are stepping up to a much higher level of danger. A boat can be used to herd the horse towards a safe area at the shore. This is a high-risk option to both the horse and the rescuers but is a common solution. Some hay or grain in a bucket might induce the horse to follow the boat to safety or the horse could be haltered and led by the boat. Swimming around large animals is extremely dangerous and should not be attempted. Helicopter rescues are usually not an option, despite incredible video footage on YouTube. They are expensive and many times more dangerous than a boat rescue. Like other types of water rescue, specialised equipment is required; a helmet and personal flotation device are a must. Other useful equipment includes a knife, headband torch, whistle, and a wetsuit.

Water facts

- > If you can stay out of the water, do so. If you have to go into the water, dress accordingly. Moving water will draw heat out of your body at a rate of about 250 times that of air
- > Know the dangers. Flowing water consists of more than just water. Debris such as tree branches can float or be lodged under the surface. There may be rocks to trap your feet (or the horse's), or manmade obstacles such as collapsed dams, bridges or abandoned cars. There is also the possibility of hazardous materials if the water is caused by a flash flood
- > The speed of the water is quickest in the middle, just below the surface, and the flow of the water will push objects into the middle of the river. A bend in the river is slowest on the inside, and the flow of water is pushed to the outside of the bend. The slowest water is at the bottom

- > Use the natural flow of the water as described above to help the horse to shore
- > If you mistakenly think you can tame swift water, consider that the river flowing down to Niagara Falls is only about thigh-deep
- > In flowing water one of the most dangerous situations is an obstruction called a 'strainer' – this is like a kitchen strainer, it allows water to flow through but not large objects like a human body
- > Water passing through obstacles forms a visible 'V' that points downstream, indicating the deepest water and a possible clear path between obstacles. A 'V' that points upstream can indicate obstacles under the surface.
- > Appoint several downstream safeties. These people need to be trained to swiftwater awareness and provide throwbag cover for anyone who may accidentally enter the river
- > The horse's size and weight mean you will need solid anchors for your rope system
- > Set up your rope system at a steep angle and construct a line from inflated hose to reduce injury from the impact
- > If possible, anchor your system on a bend in the flow of water
- > Ensure no debris becomes tangled in the rope
- > Allow plenty of room with an easy exit from the immediate vicinity of the water for recovery of the horse

Rescue scene

- > Everyone working in or around the water needs a personal floatation device (PFD) and a helmet – this is critical to safety. Ensure anyone working within three metres of the water has a PFD and helmet
- > Appoint upstream spotters to keep a lookout for debris and other river users. It is very common for large trees to float down flooded rivers. These can easily become entangled with rescuers in the water and cause death or injury. These spotters can also direct upstream water users to exit the river before they reach the rescue site
- > Maintain a priority of safety. In order of priority: self, team, public, victim, then property. Ensure bystanders are well controlled and kept away from the water's edge. It is common to have undercut banks and onlookers may approach the water's edge and have the bank collapse, causing them to enter the river and add to the complexity of the incident
- > Send a spotter upstream (from where the water is coming, downstream is the direction to which water is flowing) to warn of floating debris and stop any boat traffic
- > Agree on your signals beforehand. Once you're involved with the rescue is not the time to talk about what a signal means
- > Set up a second rescue team downstream to keep both the victim and rescuers from passing this point and being lost
- > Establish a containment / decontamination / warming area for the horse once he's out of the water
- > Accept that it may not be viable to rescue horses from swift-water incidents
- > If you are ever knocked off your feet in swift water, don't try to stand up again. Face downstream with your feet up and use your feet to push off rocks and underwater debris. Look for a clear spot on the bank to land. If the water is deep, swim to shore.

Hobbled Lift



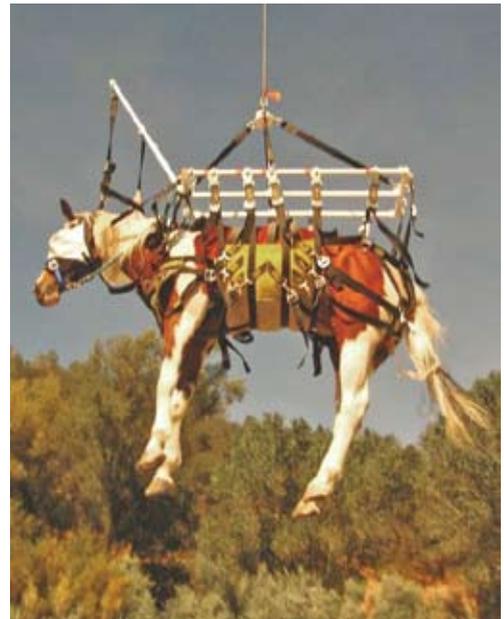
Anthony Hatch, NSW Fire Brigades and SES

A hobbled lift is used in veterinary hospitals to lift a sedated horse onto an operating table and it can be used to lift a horse that is cast on his back in a hole or gully or trapped down a steep cliff from where it is impossible for him to walk out. Although a horse's lower legs look like ideal anchor points for ropes and webbing straps, the pasterns (between his 'ankle' and hoof) do not have layers of protective muscle or fat, only a thin layer of skin covering easily injured ligaments, tendons, nerves and blood vessels. Therefore, the pasterns should be padded and the contact area of the webbing should be as wide as possible to prevent injury to these delicate structures. Great care should be taken because it can be highly dangerous for rescuers to place straps on a horse's lower legs, even when that horse is sedated.

In a hobbled lift rescue, the horse must be anaesthetised and his head and neck must be fully supported by attaching his webbing halter to the frame by its lead rope (a webbing halter spreads

the weight of the head over a larger surface area, providing greater support and therefore causing less tissue damage than a rope halter). Carefully wrap felt, cloth or other soft material around each pastern (between the 'ankle' and hoof) to protect delicate structures and to prevent the hobble from slipping. Lark's head short webbing slings around each pastern, over the padding. If webbing slings are not available, a Prusik hitch should be wrapped around the padded pastern (see Chapter 15). All four hobbled limbs can be attached to a metal frame or other suitable collection method (i.e. bow shackle), which has already been attached to a rescue rope system or crane. Ensure that the length of time the hobbles are tightened and the horse suspended from his pasterns is no more than ten minutes, to minimise long-term damage.

Helicopter Lift



There are huge inherent dangers with helicopter lifts. Any lift may be fatal to helicopter, crew and personnel on the ground below the helicopter so

most won't try it and, since helicopter rescues are extremely expensive, their use is confined mostly to rescues from floodwater or extreme terrain. Helicopter lifts are always used as a last resort when easier, cheaper and safer means of rescuing a trapped horse are ruled out.

If you use a helicopter, make sure you use a harness that is specifically designed for this purpose such as the Anderson Sling that supports the head as well as the body, and blindfold the horse. Rescue helicopters in Australia have only a two-person load – that means they can lift an equivalent weight of two adult men – and therefore are not capable of

lifting a horse. For horse lifts you will need a heavy-lift helicopter that is capable of lifting the weight of a small truck, with a pilot who has long line experience. Pilots and rescue teams should undertake regular training in large animal lifts. The lifting system should be properly attached to the lightly sedated horse before the helicopter arrives and rescuers should be prepared to instantly attach the horse's harness to the lifting cable. A second rescue team must be standing by wherever you have decided to land the horse, to disconnect the horse and its harness from the helicopter as soon as the horse's feet touch the ground, and then remove the harness.



Willard, the highly-strung, 16.2hh, 20-year-old Thoroughbred, threw his rider when he slipped off a low bridge into a muddy ditch in England's New Forest. He became hugely distressed and was in danger of drowning when he couldn't release himself from the clay at the bottom of the ditch. He was sedated before Hampshire Fire and Rescue Service's Animal Rescue Team lifted him with a Down-a-cow harness (see Chapter 18) attached to a crane. Unfortunately Willard reacted badly to the sedative and began rearing and thrashing while he was still in the harness. Jim Green, Fire Service Animal Rescue Advisor, said this was one of the most dangerous rescues he had ever attended. 'The fight that this horse put up was incredible. Despite being heavily sedated he still presented an extreme danger to firefighters who are trained and experienced in this type of incident.' Six hours after he fell into the ditch, Willard finally came to his feet. He made a full recovery.

Photos: Hampshire Fire and Rescue Service

11 Horses in Fire



Most people believe that horses in a burning stable will automatically run outside to safety.

Some horses will but others will stay where they are, in what they consider to be a 'safe' area. More importantly, if you take horses out and let them go without closing all stable doors behind them, they will often run straight back inside, putting themselves and their rescuers in extreme danger. This is totally alien to our own natural instincts but if your horse is stabled regularly, his stable becomes a 'safe' place for him. This is where he is fed and where he sleeps. When he is terrified by fire, and if he can, he will return to this safe place.

In 2002, a massive fire destroyed two stable complexes at Woodbine racetrack in Canada. According to Bob Webb who was head of fire safety at the time, the majority of the thirty-four horses lost in the fire came back into their stables and died because rescuers left the doors open after setting the horses loose. Webb was Chief of Fire Prevention for the city of Toronto for thirty-four years and at another stable fire he attended all seventeen horses were safely evacuated but only two survived because the other fifteen ran back into their stables when the doors were left open. So remember, during a fire, close all stable doors after you evacuate the horses.

Horses panic when exposed to smoke; some will climb the walls thus exposing themselves to more dense smoke which will quite likely kill them. Other horses, particularly old horses, will stand in a corner and wait to die. Horses have heightened senses that far exceed those of humans, thus they see, hear and smell things more intensely than we can. The sight and sound of frightened people, the high-pitched, continuous sounds of sirens and the bright flickering of strobe lights can create additional stress. Rescuing a horse from fire is dangerous not only because of the fire and smoke but also from the unpredictability of the horse and the possibility that the building could collapse.

Response and arrival

When responding to fire in a stable, either make a silent approach or cut the sirens several blocks before the address. Once on site, cut all flashing lights.

Because horses are instinctual animals – 'flight' animals – their basic nature in a high-stress situation is to run away from what frightens them and that will include firefighters in protective gear and fire trucks, hoses and flashing lights. So, when firefighters arrive on scene they should cordon off all exits that the horse could use – driveways, paths etc. Given the opportunity, a horse could run out one of those natural 'funnels' onto the road and create a threat to public safety. Close existing gates, position vehicles across openings or, if applicable, use brightly coloured caution tape to turn the horses back.

If horses are loose on site when you arrive, every attempt should be made to gain control of them and move them to safety. Loose horses pose an enormous threat to the firefighter, the public and to themselves (we discuss how to catch a loose horse later in this chapter).

Set up a command post and locate the person in charge of the stables and ask them the following questions:

- > How many horses are in the stables?
- > Where are they?
- > What danger zones exist (swampy areas, pits or other hazards)?
- > The location of the main power source
- > Safe containment areas (paddocks, yards)
- > Storage areas where combustible sources (hay, fuel) are kept
- > The layout of the stable complex, including rear stable doors
- > How are stable doors latched and which way do they open?
- > Are there kickboards across the entrance to individual stables?
- > The identity of experienced handlers who can aid in managing the horses.

Remove all untrained volunteers from the site. They will do more harm than good.

Handling horses

During an emotionally charged event such as a fire, whether it is in a building or in a paddock in close proximity to a burning building, expect that horses directly involved in the fire will be visibly upset and some will, regrettably, die.

Always approach stressed horses in a quiet, calm manner. Do not use jerky movements such as flailing your arms. Keep your hands out of your

pockets, relax your arms by your side and relax your body to show the horse that you are not the aggressor. Breathing deeply in and out will help.

If possible, approach the horse from his left side and, if you are able, stand at his shoulder. A comforting scratch on his shoulder and a soft voice will help calm a nervous horse. Never slap or pat a horse as he will perceive this as an aggressive move that will only heighten his fear. Once you have gained the horse's trust, you will probably be able to slip a halter on his head or tie a rope around his neck. Take great care not to stand in front of the horse or directly behind him. Both are danger zones.

Removing the horse from the stables

If circumstances allow for horses to be removed from the stables, always rescue those closest to the exits first and make your way down the aisle, removing horses as you work your way in and closing the stable doors behind you. Do not attempt to remove horses on your own but always use a buddy system. Have one firefighter manning the stable door, another manning the entrance to the stables and a third haltering and leading the horses out of the building.

Ideally, use a halter and lead rope. Some stable complexes will have halters and lead ropes hanging outside every stable door, others will keep them all in a tack room. Never wrap a lead rope around your hand. Should the horse bolt you will be dragged and you could possibly break fingers. Loop the rope in the palm of your hand so that, if necessary, you can drop it without becoming entangled.

If halters and lead ropes are not readily available, a rope around the horse's neck, secured with a loop, can be used. Other items such as belts, webbing and narrow fire hose can also be used to lead a horse. Loops should only be used when a horse

is mobile and willing to move and you should never attempt to tie a horse up by a rope around its neck.

Never use the horse's head, neck, legs or tail to pull it to safety if he is down. This could cause serious, potentially fatal, injury. Do not turn horses loose as a way to evacuate the stables. This poses real safety issues, not just for the horses but also for firefighters and other emergency personnel, not to mention the public safety threat should the horses end up on the road. Instead, ensure all responders know the basics of emergency horse handling and emergency release from stables.

Do not blindfold horses. Some horses react negatively to being blindfolded and, as inexperienced handlers, the probability is that a blindfolded horse will be too much for the average rescue operator to handle. If you have already identified experienced horse people, they can assist with horse handling and leading the horses to safety.

Statistics indicate that most fires in stables happen in the early hours of the morning when darkness makes fighting a fire doubly difficult. We offer the following suggestions for preparing your firefighters:

- > Large quantities of hay may be stored within the stable complex, possibly in an overhead loft, and hay burns fast and hot. Therefore, always establish where hay is stored in relation to the fire before you make the decision to actually enter the stables. If there is a fire in an overhead hay storage area, close all the 'hay drop' doors, if any, to lessen the draft effect and shut off additional oxygen.
- > If entering a smoke-filled stable, be prepared for obstacles in the aisles – saddle racks, horse rugs, feed buckets, tack boxes, hoses or stacked hay. All have the potential to trip you up
- > Take great care while navigating in old converted buildings including old dairies. Old dairies will probably not have a centre aisle but are more likely to have a jumble of walkways and stalls with ramps and steps to different levels
- > Tack and feed rooms are great ignition sources for fire. Tack rooms will contain leather saddles, cotton rugs, liquid cleaners, chemicals and veterinary preparations. In feed rooms, virtually everything is combustible and could pose a huge risk to firefighters
- > The doors to individual stables may be difficult to open. While most doors open out, some stables have sliding doors, a few have doors that open in and others have Dutch doors with a solid top door or bars
- > Latches may vary from heavy-duty bolts to flip-up latches and everything in between

- > Some stables are outfitted with a kickboard at the door, to keep shavings and straw used for bedding inside the stable. Horses (and fire-fighters) must step over the kickboard to get in and out of the stable. Check for kickboards to ensure you don't trip
- > Very occasionally a stable will not have a solid door but instead use a 'stall guard', usually a nylon web that hooks on either side of the doorway. This will have to be unhooked to gain access. Nylon burns very hot so take great care handling stall guards to avoid burning your hands.

Containing the horses

If you can safely remove the horses from a stable fire, you will have to put them somewhere.

- > Ask the person in charge of the stables the safest place to put the horses. An adjacent set of yards, a round yard or small paddock away from the fire is ideal
- > Appoint a qualified person to secure all gates and monitor the area/s where the horses are contained until the fire is over. Emotionally-charged horses may either charge rails or gates or jump fences in an effort to flee from perceived danger
- > Unaffected buildings or indoor arenas are good choices if the horses are able to be tied up within them. It is unwise to allow horses free movement in sheds or arenas as the propensity for injury is high. **Do not leave horses unattended if they are tied up**
- > As a reminder – always cordon off all exits to eliminate the possibility of loose horses on roads.

To catch a horse

Perhaps the most difficult task when coming upon a loose horse is catching it. Should a horse escape and gain access to public roads the task becomes inherently more difficult and dangerous.

- > Do not chase a horse, either on foot or with a vehicle. You will never catch him but will heighten his fear and exacerbate the situation
- > Stop all traffic in the area to avoid an accident. A loose horse is a public safety risk
- > Horses are 'herd' animals. Bringing a calm horse onto the scene could make the loose horse more comfortable and give you a better chance of coaxing him close enough to be caught
- > Bribing the loose horse with hay or a bucket containing a small amount of grain or pellets can be successful if he is not running in fear
- > If the horse is fleeing, going several blocks 'downwind' of him and setting up a roadblock with plastic fencing manned by humans may convince him to stop, although this can be risky as he could run around your roadblock, jump it or try to run through it. If he is bolting (running in fear) he will not see your roadblock so always attempt this measure with great caution
- > The bottom line is that horses will eventually stop when they tire of running and you will often find them munching on a patch of grass, totally oblivious to the chaos they have caused. Approach the horse as discussed earlier. If you do not have a halter, you can slip a belt or length of webbing around his neck
- > Establish a makeshift yard by either placing

vehicles or trucks in a circle, or locate a nearby fenced area into which the horse can be moved

- > Never catch a horse by wrapping a rope around its legs. The risk of injury to you is high; the risk of serious injury or death to the horse is higher.

12 Tips for Emergency Responders

on How to be Safe around a Horse



M Bickford

To remain safe around a horse you need to understand his nature and limitations.

While most horses are used to being handled by humans, rescuers in fluorescent yellow or orange personal protective equipment do not look, sound or smell like humans, they look like a swarm of wasps and smell like a bushfire – both dangerous to horses. To soothe the horse and let him know there is a person inside that unfamiliar gear, move slowly and quietly and talk to him in a monotone.

Predators and prey animals

Humans, dogs and cats with eyes at the front of their heads are predators. Large animals like horses, cows, sheep and alpacas are prey animals that are food for predators. Prey animals live in fear and instinctively know that if they stop to evaluate a strange situation they will probably be eaten. Their response is to attack or flee with little or no warning.

The horse's senses



Sight

Sight is probably the most misunderstood of the horse's senses. As horses are prey animals they have the ability to see things in the distance so they can run from danger before it gets too close. However, objects that are near can be difficult for them to distinguish hence the horse raises and lowers his head in order to focus.

Horses have a complex eye-to-brain structure and, unlike the human eye, each horse eye feeds into one side of his brain, with limited crossover. Horses have mainly monocular vision – they can see different objects with each eye – but they also have a narrow field of binocular vision directly in front of the nose – they can focus on an object at a distance with both eyes at the same time although poor depth perception means they cannot accurately judge distance. Monocular vision also means that, while the horse may not react when you work on one side of his body, when he sees you carrying out exactly the same movements on the other side he may react explosively.

A horse's large eyes are placed on the sides of his head, giving him a wide range of vision and by turning his head slightly he can see 360° around himself. He has wide peripheral vision but has a blind spot of about one metre directly in front of his nose and another of about two metres directly behind him. He overcomes this by



Shaded areas are the horse's blind spots

moving his head slightly. The shape of his eyeball greatly exaggerates any movement seen behind and beside him, making things appear to be moving more quickly than they are. Because his eyes adjust slowly to changes in light, it may take him up to fifteen minutes to adapt from darkness to bright light or the reverse and he will be nervous until he can again see clearly. For this reason, do not shine a torch or other light into a horse's eyes. Not only will you blind him but you may stimulate him into a fight or flight response.

According to Temple Grandin in *Animals in Translation*, horses see the way they do because of the difference in the shape of their eyes compared with ours. Human retinas have a fovea at the centre of the macula, a round spot in the back of the eye, where we get our best vision. Domestic animals – and fast prey animals like horses – have a 'visual streak' (see photo on previous page), a straight line across the retina that many experts believe helps prey animals scan the horizon for danger.

Most animals other than birds and primates see just two colours – blue and green – and the colours they see best are yellowish-green and bluish-purple. Therefore yellow is a high-contrast colour for almost all animals and this may be why horses react so strongly to yellow protective gear and machinery. Many animals see more intense contrasts of light and dark than we do because their night vision is so much better than ours. Good night vision involves excellent vision for contrasts and relatively poor colour vision and this vision for sharper contrast seems to make dark spots appear to be deeper than lighter spots and is the reason cattle grids work. In *An Anthropologist on Mars*, Oliver Sacks told of an artist who, when he lost his colour vision, had difficulty driving because the shadows of trees on the road looked to him like holes his car could fall into. Without colour vision, he saw contrasts between light and dark as contrasts in depth.

Hearing

Horses hear extremely well and they can hear things that are inaudible to humans. Ten muscles control each of the horse's comparatively large ears, allowing them to turn independently in all directions. The horse in this photo has one ear on the photographer in front of him and the other on his handler at his left side. His ears triangulate sound, enabling him to know where the source of the sound is long before he can turn his head to see it. The ears are one of the best indicators of a horse's mood. He holds them forward when he is interested in something in front of him, pricks them rigidly forward when he is anxious, twists them towards sounds to listen and lays them back tightly against his neck when displeased or angry. Use extreme caution around a horse whose ears are laid flat against his neck.



Smell

The horse has a more highly developed sense of smell than humans. He uses smell to identify objects and remember other horses, people and places. He may be apprehensive of strong smells, including the smell of smoke on personal protective equipment, so allow him to smell your hand, your equipment or anything that is causing him to be anxious. Never cover a horse's nostrils or you may suffocate him. The horse is an obligate nose breather, meaning he cannot breathe through his mouth.

Sensitivity

The horse is very tactile and extremely sensitive to movement and vibration. The muscles covering his body are as sensitive as our fingertips and vibrations from the ground travel up his legs, thus

he can feel vibrations from rescue equipment and traffic driving by as well as from noise. The most sensitive areas include his mouth, feet, ears and the side of his abdomen, just in front of his hind legs.

Communication

A horse signals unease by snorting or blowing loudly through his nose. This is always a danger signal – a flight or fight response is imminent. Squealing and laying his ears flat against the side of his neck are signs of aggression, also a danger signal.

Head position: The horse will carry his head fairly low, lick his lips and chew when he is relaxed. Carrying his head high is a sign of tension so watch his jaw and facial muscles for tenseness to indicate he is anxious, and watch for soft lips to indicate he is relaxed.



Body position: An angry horse may carry his head low but his body will be tense, his face rigid and he will lash his tail. An injured horse will also carry his head low, but will be hunched up and sunken. A relaxed horse may stand with one back foot cocked, resting on the toe of the hoof, and he will shift his weight from one back foot to the other.

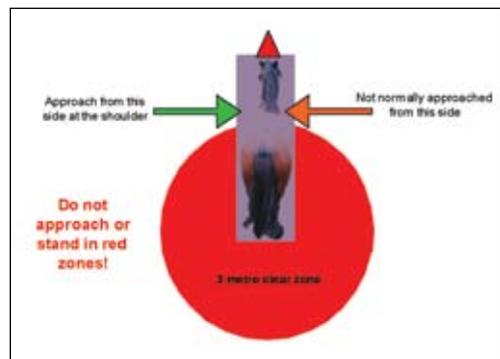
Tail position: His tail clamped between the horse's legs indicates he feels threatened or trapped. Use extreme caution. Raising his tail and holding it up off the body is a sign of alertness and excitement. Lashing his tail usually means anger (or biting insects). For simple fly swishing, the tail is relaxed and swishes slowly. Back up your observations by checking other parts of his body.

How to behave around a horse

Reduce the horse's fear by moving slowly and talking to him. Be sure he knows where you are at all times so you don't frighten him by suddenly appearing in his field of vision. Any behaviour that looks predatory to the horse will usually jump-start his fight or flight response.

Stay out of the danger zone

Horses will kick if they are startled by something behind them. If you need to be within kicking range, the safest place to be is close in to his body so a kick won't have reached its full force by the time it reaches you. Otherwise, stay back at least two metres.



1. Standing horse

Standing directly in front of a horse (within one metre) will make you almost invisible to him until he moves his head, and you can frighten him

when you move into his line of sight. When standing with a horse, the safest place is at his side, next to his shoulder. As you move around him, always let the horse know where you are and what you are doing. If the horse is lying down, the only safe place to be is above his hindquarters, away from his hooves and head.



2. *Recumbent horse (lying down)*

Some horses will rear up on their hind legs and strike with their front feet. Some will run over the top of you. Others will ‘slam’ you with their hindquarters or heads, kick backwards, and all can kick very effectively to the side with their back feet. Be aware that a horse can go from thinking of kicking to landing a kick in about a third of a second. Traditionally, a ridden horse that is known to kick wears a red ribbon in his tail. If you see any horse with a red ribbon in its tail, be extra cautious.

Talk to the horse

Horses are acutely sensitive and completely aware of everything around them. Rescuers who understand horses know to act calmly and quietly in a rescue situation and to be conscious that their actions may cause the horse to become agitated or panic. The horse will react to the tone of your voice so speak confidently, calmly and in a soothing manner when you approach him. Growling at

him may stop him doing something unacceptable. Any new sound, especially if it is high-pitched and intermittent, will cause animals to baulk because these sounds activate the part of their brains that responds to distress calls. Therefore, do not use a sing-song voice which mimics a distress call, but speak in a low-pitched monotone.

Horses are herd animals and can be very dangerous if they exhibit herd behaviour, lashing out with hooves and teeth in an effort to establish their pecking order. They can actually calm down if left together, but your position of authority won't last long in a herd, so stay out of the middle. Horses that live or travel together probably already know each other and have already established dominance. The exception is a large horse transporter where many horses are loaded together with no consideration for their natural hierarchy or behavioural instincts.

Don't behave like a predator

There is no getting away from it, humans are predators. Our body language reflects it when we are intent on something and prey animals see this as a threat. Relax your body when you approach any horse or other prey animal. Do not approach in a direct line and, above all, do not stare at him.

How to approach and catch a horse

In a rescue situation, it is critical that you have control of the horse by use of a halter and lead before the rescue begins. Take the time to evaluate a horse before you first approach him. He will be talking to you with his ears, eyes and tail. Successfully catching a loose horse requires you to gain some acceptance from him and it can take some time. Don't rush. Never drive the horse towards the person who will be handling him as this mimics the action

of the alpha or dominant horse in a herd. When the alpha horse moves with aggression the rest of the herd tries to stay out of the way.

If you walk directly and deliberately at a horse you will look as though you are stalking him. Walk slowly, as though you were casually out for a stroll, gradually getting closer to him. Watch him out of the corner of your eye rather than staring directly at him. Keep any halter or rope behind your back and talk to him or praise him. Offering a handful of hay or bucket containing grain may work but usually only if the horse is familiar with you and sees you as his food source.

Approach his left shoulder at an angle if possible and talk calmly to him. He needs to recognise you as a human rather than a new type of predator. If the horse makes any move away from you, stop immediately and wait until he settles. Do not automatically start walking when the horse moves. Sometimes, if you remain motionless, the horse will take just a few steps then stop. Remember, any indication of tension or urgency on your part will just convince the horse to move faster. Sometimes if you time your stride to match the horse's hind feet then slow your pace, he may slow down to match, and may stop when you do.

Once he lets you close, he may turn to face you. This is a sign of trust and you will notice his overall appearance will be more relaxed. Take advantage of this trust and back up a step or two. While this seems to be exactly the opposite of your goal of catching the horse, it removes the pressure of pursuit and will relax him more. Remember, horses are herd animals and they are vulnerable when they are alone. If your horse moves a step or two towards you, back up a step or two and wait. He may then approach and nuzzle you, allowing you to gently stroke his neck. Do not pat or slap him. Consciously relax your own body and gently rub his neck.

At this point you may be able to calmly place a lead rope around his neck and put a halter on him. Don't be discouraged if you can't do this the first few times you try, and don't be afraid to try again and again. Depending on the horse's level of panic and the chaos of your surroundings, it may take a few tries until you gain his trust and he feels comfortable with you.

You may **want** to be aggressive with a horse, either to deflect him from charging you or just to get his attention. To deflect a charge, stand your ground, drawing yourself up as tall as possible. Throw your arms out wide, lean forward and yell. This will deter all but the most determinedly aggressive horses. To get his attention, a loud sound or one aggressive step will startle him into looking at you. Remember, gauge your movement to the situation because overreacting can undo hours of patient approach. If you need to approach a horse from behind, make sure you let him know you are there by talking to him. Approaching a horse from behind may drive him forward, or it could earn you a pair of hooves in your chest.

If another person is working with the horse, stand on the same side of the horse as that other person. This way you do not trap the horse between the two of you but give him space to move away if he needs it and gives the other person an escape route if she needs it. If you turn the horse's head to one side, his back end will move to the other side. Pull his head towards you to move his back end away. Push his head away from you to swing his back end towards you.

How to put a halter on a horse

If the horse is wearing a halter, clip the snap hook onto the ring or loop under the chin.

- > The weakest point of a halter and lead rope is the snap hook

- > A halter, particularly one made from rope, can pull too tightly on a horse, causing damaging pressure on his head, right behind his ears
- > If you use a webbing halter and attach a lead rope with a permanent knot, and then tie the horse to an object, the horse can break his neck or back struggling against the restraint.

If the horse is wearing a bridle, take it off and replace it with a halter. Do not use a bridle for leading, pulling or attempting to control a horse because the bit (the piece of metal in the horse's mouth) can cause severe damage to his mouth, tongue and teeth. Horses will often fight against the pain or pressure from the bit when being led or pulled by any part of a bridle. Also, the straps of a bridle are usually not very strong and could break. If the horse is wearing a halter that is old, worn or damaged from the incident, replace it with another halter in case the original breaks and you lose control of him.

If the horse is not wearing a halter and you cannot find one, you can fashion an emergency halter. Replace the emergency halter with a proper halter as soon as possible because, if you have to use it during the rescue, it has the potential to injure the horse if you don't monitor it constantly.

To put a halter on a horse, hold the halter and lead rope in your left hand and approach him from his left side. Quietly reach your right arm over his



neck and slowly move your left hand under his head. Transfer the long strap from your left to your right hand and move it up his neck and just behind his ears. Maintain control of the horse at all times.

Open the halter and raise it over the horse's nose with your left hand, at the same time pulling down on the long strap with your right hand. Make sure the noseband is high on the horse's face resting on cartilage and not on the soft part of his nose where it could restrict his breathing. Buckle or tie the halter, leaving a little slack under his chin and throat. You should be able to slide two fingers under the band over his nose – too tight and you will restrict his breathing, too loose and he may slip his head out of the halter. Maintain control of the horse at all times.

- > Never place your finger in any ring or opening in a halter – a sudden move by the horse can rip your finger off
- > Never chase a horse, even if he is still in a float, to catch him – a calm, non-predatory approach will give you a better result. This includes not staring, and walking slowly, not deliberately.

How to lead a horse

Most leads are less than three metres long, too short for the handler to be able to watch the horse, read his body language and control him if he becomes agitated. If you can, replace the lead with an eight-metre or longer rope.

If you need to lead a horse, stay close to his left shoulder, look towards your destination and walk there together. A horse will usually resist a person who is facing him and pulling on the rope. Lead and handle the horse from his left side whenever possible. This is the side on which a handler usually stands so the horse should be comfortable with you there and should lead easily from this position. With your right hand, take hold of the end of the rope nearest the horse, about 15 centimetres from the snap hook. Fold the other end of the rope into your left hand. Never loop the rope around your

hand and take care not to leave a long loop between your hands which could trip you up.

Click your tongue or ask the horse to 'walk', and step forward. If he refuses to move, it could be that he is frightened of something ahead, or he physically can't move. Is he injured, ill or in pain? Are you asking him to walk over hoses or other obstacles, or towards bright lights or noisy engines? If it's dark, are you asking him to go from a brightly-lit area into a dark area or from darkness into bright lights?

Sometimes you can 'unstick' his feet by turning him away from you for a couple of steps before moving straight ahead, or turning him in a very small circle, basically pulling his nose to his tail. You can circle him or back him towards your goal or, if he has a companion, lead the other horse ahead of him – the herd instinct is often stronger than fear of the unknown. Horses will typically follow their noses. If you can point the horse's nose in the direction you want him to go, he will probably follow with the rest of his body. Horses will lean into pressure so don't think you can push him where you want him to go.



If he feels the need to escape, allow him to move around you in a circle at the end of the rope. You are still in control while he feels he is running away from danger. Face him with your whole body and turn your body with him, rather than passing the rope behind you as he circles. It is easier to control a horse by a quick sideways pull than to try

to stop him if he runs away from you (rather than circling you). Use the principles of leverage to hold him on the circle and keep walking to your goal.

- > Never loop the rope around your hand – if the horse takes off your hand may become trapped and you will be dragged and possibly seriously injured. Even a 120-kilo miniature horse can drag an adult
- > Never hold the rope over your head
- > Never hold the rope behind you
- > Never tie the rope to your body or clothing.

How to tie a horse

In an emergency situation it is safer not to tie a horse

Before you consider tying a horse, check the area very carefully:

- > Is it far enough away from the incident scene to be calming to the horse?
- > Is it free from debris such as sharp branches or pieces of metal or glass that could injure the horse?
- > Is it contained?
- > Is it out of harsh weather?
- > Does it have a non-slip surface?
- > Do you have something strong and secure to tie the horse to?

Many injuries are caused to horses and their handlers through inexperience, incorrectly tying the horse, and using sub-standard equipment. Horses are extremely strong and dangerous, particularly when they panic. If the horse takes fright, even though he is tied up he will still try to escape by pulling against whatever he is tied to, possibly breaking the rope or breaking his neck.

Allow the horse to check out your safe area as you approach it. Make sure he is wearing a webbing halter, not a rope halter which can cause severe injury to the top of his neck if he pulls back. Keep your fingers out of the loops in the rope when you are tying a horse. You can lose your fingers if the horse pulls back.



Tie a single loop of twine around a tree trunk or sturdy post, creating a link that will break if the horse panics. Using a quick-release knot, tie the horse at about his eye level to the loop of twine, allowing enough slack in the rope so he can move his head but not so long that he can step over the rope – half a metre between his head and the tree trunk for horses, less for ponies or miniature horses.

A handler should remain with the horse at all times, to comfort and calm him and to untie or cut the rope or twine in case he panics and tries to escape or hurts himself pulling back.

- ✓ Tie him to a tree trunk, sturdy post or a horse float that is attached to a car or truck
- ✗ Do not tie him to a fence rail as he could pull it off
- ✗ Do not tie him to a wire fence as he could pull down the entire fence, panicking him further and putting rescuers and bystanders in extreme danger

- ✗ Do not tie him to a door handle
- ✗ Do not tie him by the reins of a bridle
- ✗ Do not leave him unattended
- ✗ Do not tie a horse on asphalt or concrete
- ✗ Do not leave a tied horse out in the sun for extended periods.

How to restrain a horse

Almost any strong flexible item except wire can be used to lead a horse if it is long enough to go around his neck – hobbles, a belt, length of rope or stocking, shirt, pantyhose or a sack. Drape it around the horse's neck, behind his ears, and bring the ends down under his chin.

You can lead a horse this way but only, of course, with his cooperation. If the material is strong enough, cut a hole at one end and feed a rope through it. Tie off the rope, join the two ends together and secure with a half-hitch. Or tie a knot in the material and tie a rope to it using a quick-release knot. Remember, this will only work as a last resort on a horse that is willing to be led. Do not try to 'rope' the horse like a cowboy. The best way to restrain a horse if you do not have a halter is to tie your own emergency halter.

Restraining a foal

Restraining a foal (a baby horse) is an entirely different matter. Young foals (like the young of any species) are extremely fragile. Also, foals may not have any experience of being handled or taught to lead. A foal will often follow his mother, especially if he is very young. However, if you need to restrain or move a young foal, encircle him with your arms and pull him towards you, holding his shoulder bone at the front end rather than his neck. You can push him along with your arm under his tail, or

restrain him with your arm around his chest. If you wrap your 'forward' arm completely around his chest so that the inside of your elbow rests under his throat, you can gain more control if he struggles by raising your arm to raise his head. Do not cut off his air in your enthusiasm. Do not attempt this with an older, stronger foal – the chances are he'll leave you in the dirt.

How to keep a horse down

If the horse is recumbent (lying down) and you want to keep him there, place some form of padding – a folded towel or blanket – under his head and over his eyes to protect them. Shade his eyes if he will be down for any length of time.

When a horse gets up, he first swings his head and neck up then brings his front legs forward. At this point his front end will be upright. He then lunges forward and his back end comes up. He is now standing.

- > If a horse is down on the ground, do not stand directly in front of his head
- > Do not stand on the 'feet' side of a downed horse
- > Remember to stay out of the Danger Zone at all times (behind the lower part of his backbone, above his tail).

When a horse is down you can lean on his neck near his head (or sit on his neck if necessary) to keep him down. If the horse struggles, reach over from the **back** of his body, push down with one hand near or on his head and the other on his front leg, or tip his nose up towards you. It may take as many as four people to restrain a struggling horse and keep him down. Horses have tremendously strong neck muscles and can launch a grown man into the air in an attempt to get up.

Do not sit on the horse's windpipe which goes along the front and middle of his neck, but sit near the top of his neck. Some horses are calmed if you cover their eyes, others panic. Do not cover the horse's nostrils because horses are obligate nose breathers which means they cannot breathe through their mouths like we do. Never try to force a standing horse down. Both you and the horse will be injured, perhaps fatally.

How to get a downed horse up

If the horse is not seriously injured, his first instinct will be to get up on his feet. This works to your advantage. Make sure the area around the horse is cleared of debris, give him as much room as possible then tug on his lead rope. But beware! He may suddenly jump up, ripping the rope from your hands or knocking you down.

You might make clucking sounds to encourage him to move. If this doesn't work, have someone smack him sharply on his hindquarters (from his 'back' side) while you tug. If that doesn't work, he may be psychologically traumatised and has given up trying to save himself. Or, the pressure of being down for a length of time has caused muscle damage, swelling of muscle tissue or pressure sores. A downed horse is at great risk of developing colic and pneumonia.

- > Do not stand directly in front of a downed horse's head
- > Do not stand on a downed horse's 'feet' side
- > You cannot get a downed horse to stand by pulling on his body parts
- > Remember the danger zone.

13 Horse First Aid

for Emergency Responders



Hampshire Fire and Rescue Service

Call an equine veterinarian!

Do not attempt treatment until the horse is out of danger and is calm and secure.

Your own safety comes first.

Vital signs *(normal range for an adult horse)*

Pulse	30-45 beats / minute (foal 50-100 beats / minute)
Respiration	8-20 breaths / minute (watch the flank move)
Capillary Refill	Under 2 seconds
Rectal temperature	37°C

Note: most horses in a stressful rescue situation will have a higher heart rate (pulse) than indicated above.



Pulse point on inside of front leg



Pulse point on the inside edge of the horse's jaw

The simplest method for hearing a pulse is to use a stethoscope just behind the horse's left elbow. Through the stethoscope you will hear two beats each time the horse's heart contracts, but you will feel only one pulse for each heartbeat if you are checking the pulse points.

Capillary refill

When you press your finger onto a horse's gum, capillary refill measures how quickly blood returns to the white spot left on the gum after you have removed your finger. A healthy horse's gums will turn pink again in a second or two. Pale, bluish, dry or dark red gums are signs of serious trouble. If the gum doesn't turn pink in less than two seconds, the horse is probably in shock. A horse in shock needs aggressive treatment from a vet to save his life. Keep the horse quiet and keep him warm by putting a horse rug or blanket on him.

Signs of trouble to report to the vet

- > The horse is hunched over
- > Dangling a leg – not to be confused with resting a leg on pointed hoof

- > Sunken eyes, dull eyes, drooping ears
- > Lowered head, stiff and 'grinning' face
- > Attempts to lie down or roll
- > Falling, stumbling, unable to rise, trembling muscles in hindquarters
- > Sweating and kicking at his belly – not the way he kicks at flies
- > Signs of allergic reaction – swelling of eyes, lips and muzzle
- > Blood in the ear canal
- > Bleeding from the nose.

Shock

Shock needs to be dealt with quickly by a veterinarian. Cover the horse to keep him warm and keep him quiet, removing external stimuli.

Watch for:

- > Trembling
- > Rapid, shallow respiration
- > Rapid, weak, thready pulse
- > Profuse sweating (cover him to keep him warm)
- > Cold ears and extremities
- > Weakness and depression
- > Pale gums.

Wounds

Do not attempt to treat wounds until you have removed the horse from danger. Evaluate the location, depth and severity of the wound and consult with the veterinarian (by phone if necessary) before attempting to remove debris or clean it. Do not remove any impaled objects from the horse, leave that to the vet but pad the area well to prevent

the object being bumped. By removing an impaled object you could inadvertently nick an artery, causing the horse to bleed to death. If the wound is bleeding, cover it with a sterile, absorbent pad (not cotton wool) and apply steady, even pressure to stop the bleeding. Do not medicate or tranquilise the horse unless specifically directed by your vet.



If the horse cannot put pressure on one leg, you may have to splint it, but splint only if absolutely necessary. Anyone who has taken a First Aid class knows about splints. Other than size, the only significant difference is that in humans you splint the limb in a 'position of use' with the foot in a walking position, the hand slightly curled. Do **not** splint a horse's leg this way. Splint it so the toe of his hoof is down and the heel up, preventing him from putting weight on the leg.

PVC pipe or lengths of timber can be used for splinting. Pad thoroughly between the horse's leg and the splint, especially the 'hollow' places where the leg does not meet the splint. Use whatever padding is to hand – nappies, towels, sheets, blankets, even crumpled newspaper wrapped in a t-shirt – anything soft. Wrap the splint with duct tape but do not attach duct tape to the horse's skin. As with human splinting, be sure to splint the joints above and below a break.

Head injury

As with humans, head injuries can be serious and sometimes they can be fatal. Some symptoms of head injury are:

- > Obvious trauma to the head
- > Staggering
- > Falling down
- > Loss of consciousness
- > Severe depression
- > Seizure
- > Holding the head at an angle
- > Great discrepancies when you compare one side of the head to the other
- > Bleeding from the nose, especially if the haemorrhage is from one nostril only
- > Blood in the ear canal after trauma can indicate a skull fracture.

Keep the horse's head cushioned from the ground if he falls, cover his eyes to protect from the sun and weather and keep him calm until the vet arrives.

Hypothermia (cold)

Some obvious signs of hypothermia in horses are shivering and cold ears and extremities. Cover the horse with blankets or horse rugs and move him to a warmer, more protected location. As with humans, a super-cold horse will stop shivering which is a very bad sign.

Heatstroke (hyperthermia)

Some obvious signs of heatstroke are:

- > Profuse sweating, including white, foamy sweat
- > Trembling and muscle tremors

- > Rapid breathing
- > Rapid pulse.

Move the horse to a shady area or erect a temporary shade if he can't be moved. Spray him with cool water and run cool water down the digital arteries in his front legs. Offer the horse cool, fresh water to drink.

Dehydration

Some obvious signs of dehydration are:



- > When you pinch a patch of skin on the horse's neck, it stays tented
- > Sunken eyes
- > Dry, sticky gums
- > Dark red gums
- > Panting
- > Cold clammy legs.

With the vet's approval, give the horse as much water as he can drink.

Euthanasia

The dictionary definition of euthanasia is 'good death'. It is derived from the Greek *eu* meaning good and *thanatos* meaning death. Euthanasia is a gentle death, free from pain and distress, and it is infinitely preferable to end a horse's life this way than to allow him to die from shock, drowning or severe injury. It is vital emergency responders understand that when a horse cannot be safely rescued or his injuries are so severe that he cannot survive, or he poses a direct threat to human life, euthanasia

must be considered. This decision must be made by an equine or large animal veterinarian if possible. Only a veterinarian or trained person should euthanase a horse.

Severe traumatic injury to a horse includes a broken neck or back, compound leg fractures, profound head trauma which will usually result in debilitating brain injury, burns to more than half of his body, lacerations that result in major damage to muscles or tendons, and prolonged inhalation of smoke or toxic chemicals. A horse must be euthanased immediately if he has a broken neck or back or multiple leg fractures, his internal organs or intestines are protruding from his body, a leg has been severed from his body, he has severe burns to more than fifty percent of his body surface or he poses a serious threat to rescuers.

If the vet is delayed or unable to attend the incident, communicate the horse's symptoms and vital statistics via telephone. However, do not approach the horse to take his vitals if he is thrashing around. Tell the vet:

- > The nature of the incident
- > If the horse is unconscious, or awake and calm, or panicking
- > Any obvious wounds
- > The amount of blood lost
- > If he is able to move his head, tail and legs, or if he appears unable to move them, or if they are at an odd angle or flopping
- > The number of breaths the horse takes per minute (watch his belly)
- > The colour of his mucus membranes (inside his eyelids or lips)
- > His heart rate – listen under his elbow for how many times his heart beats per minute or check his pulse points (see beginning of this chapter)

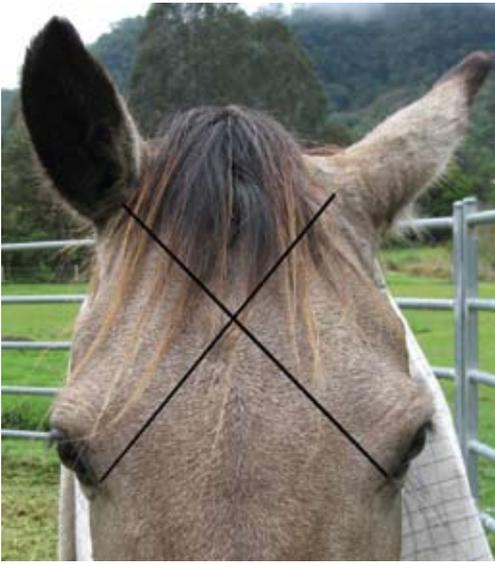
- > Check whether the pulse is strong and regular or thready and weak
- > His capillary refill time (see beginning of this chapter).

While you are waiting for the vet or deciding that euthanasia is justified, try to calm the horse. If possible, bring the owner to the horse so she can reassure him by speaking calmly to him and stroking him with a firm but gentle hand. You may have to cover his eyes from unsettling distractions or plug his ears if noise is a problem. Do not allow the horse to stand. If he is resting on his sternum (chest), prevent him from standing by pulling his head sideways with his chin to his chest. If he is lying flat, protect his head by placing padding underneath, kneel on his neck and pull his chin towards you. If the horse is not panicking but appears to be coping with his situation, offer him some hay, grain, an apple or carrot and delay euthanasia until the vet arrives.

The decision to end a horse's life is never an easy one. The owner will probably be losing her best friend and feeling guilty about making what she sees as a terrible decision, and rescuers will feel helpless at not being able to save the horse. It is important to obtain the owner's consent, contact the insurance company if the horse is insured, thoroughly document the incident, identify a qualified person and the most humane method to handle and euthanase the horse, and to ensure the safety of not only the person performing the procedure but also any bystanders.

If a veterinarian is on hand, he will sedate the horse before administering drugs that will cause death in his brain and nervous system. The horse may suddenly leap forward before falling. A fluttering, 'gaspings' breath is a reflex at the time of death, not actual breathing. However, it is imperative to verify that he is actually dead as some horses will

stop breathing and then start again if their hearts are still beating. Confirm death by checking for heartbeat and breathing and by corneal reflex – touch the surface of the horse's eye. If there is any response at all, repeat the euthanasia procedure. After the horse is dead there may be a period of up to three minutes when his muscles contract causing his legs to kick or paddle, he may vocalise and involuntarily urinate or defecate. The horse is not conscious or in pain but this can be extremely distressing for bystanders to watch.



Chemical euthanasia may not be possible in a disaster or emergency situation or if you are out in the bush with no access to a vet. Experts agree that the most effective method to euthanase all but the smallest animals is by gunshot by a trained and experienced marksman using the appropriate ammunition and firearm to ensure proper penetration of the horse's skull. If carried out properly, gunshot causes instant destruction of the areas of the brain responsible for heart and lung function. If not carried out properly, it can cause the horse to behave dangerously and erratically and will cause unnecessary

pain and suffering. Inhumanely shooting a horse in the heart or neck may eventually kill him but in the meantime he will remain conscious and in considerable pain and distress. Neither is it acceptable to kill a horse by strangulation, electrocution, cutting to cause loss of blood, blows to the head, poisoning or the use of non-penetrating bullets.

For safety reasons, the shot must enter the horse's brain through the thin part of his skull and travel along the length of his body. Draw an X on the horse's forehead, between the ears and the eyes and aim for the centre of the X. Do not stand directly in front of a horse to shoot; he will probably collapse forward as he dies. Make sure the area around the horse is absolutely clear and safe – no people or animals in front of or to the sides of the horse or in your line of fire, and stop all traffic in both directions before firing. Be aware that road surfaces, walls and metal objects around you can cause ricochet. Hold the rifle 5 cm (2 inches) from the head, if possible. Placing the weapon against the head could cause a 'plugged' effect in the rifle and emotional and physical trauma to the horse. Too far away could jeopardise the accuracy of the shot.

Under normal circumstances, you must obtain approval from insurance companies before euthanasing an insured horse, some of which are insured for huge amounts of money. However, in an emergency situation if the Incident Controller or veterinarian determines the need for immediate euthanasia, insurance companies usually will honour the policy. However, the incident must be thoroughly documented with a police report as well as photos or post mortem. If your horse is insured, read your policy and be aware of your insurance company's requirements.

14 Safe Towing for Horse Owners



Irene Hayward

While much of this book is written for emergency responders, their safety and the successful recovery of your horse, this chapter is aimed at you, the owner. By careful planning and making the right decisions, you can make a huge difference to whether your horse arrives safely at his destination or not.

One important way to make your travels safer is to teach your horse how to load willingly and how to ride in a float. Even if you don't own a float, there may come a time when you have to evacuate because of bushfire or flooding, or you might have to take your horse to a vet hospital. If a friend offers your horse a lift, would he load into a strange float, next to a horse he has never met before? How well would he travel in the stop-go traffic of an evacuation?

Buying a float and your horse's health

The most important consideration when buying a float is your horse's safety and comfort. Transporting horses is stressful to them, it can cause changes to their hormonal and immune systems and result in negative behaviour (Stull and Rodiek, 2000, Grandin 1997). Studies have shown a reduction in lung immune function of healthy horses after they have been transported, with greater changes occurring after transporting them over longer distances (Laegried et al., 1988; Stull, 1999).

Horses are prey animals designed to live in open areas where they can see predators approaching. They have a finely-tuned 'fight or flight' response and will run at the least threat. But, to be able to flee, they must have solid ground under their feet. So, the fact that our horses trust us enough to go into a metal cage with unstable footing is something of a miracle. With that in mind, look for a solid, sturdy float with a light-coloured interior and ceiling (or repaint the inside of your float if it is dark), and ensure it has plenty of vents and windows that open and bars across the windows. Horses pass a lot of air through their lungs, especially when stressed, so good ventilation is a must. Horses' large bodies produce heat which can become overwhelming in hot weather, especially if there is more than one horse in the float. Hot summer roads cause metal floors to heat up. Wooden floors are cooler, as are floors lined with rubber matting that is specifically designed for floats. Please ensure the mats fit. Wooden floors or those made from laminated chipboard will rot if not maintained correctly and rotten, moist or damaged floors can give way, often whilst the vehicle is moving, causing horrific injuries to the horse. Be

meticulous about checking the floor of your float. Power-wash and thoroughly dry the floor after use and check for soundness and damp patches every time you load your horse. Lift rubber matting if you have not used the float for a while.

Inevitably in the float there will be a build-up of manure and urine which produce methane gas. Allowing this gas to remain in the float is not good for your horse's lungs. Roof vents and open windows will help eliminate fumes and heat but if you drive with open windows or are using an open float without screens, put a fly mask on your horse to avoid costly vet bills caused by small wisps of hay, insects, dust or small stones hitting his eyes.

Ensure there are no sharp edges on the inside of the float, and nothing protruding into the bay where your horse stands. Latches should fold flat and chest bars, butt bars or chains should be padded, quick-release and in good condition. All partitions should be smooth with no sharp edges, and should be easily removed. Light fittings should be protected within cages. Float tyres will need to be replaced more frequently than those on other vehicles, especially if your float is parked on damp ground.

How big your horse is determines the size of float you need. It should be roomy enough that you don't have to squeeze him into it. Measure him across his widest part and add five centimetres or so to each side. When measuring his height, do it when he is in an 'alert' stance. He needs enough headroom to travel with his head at a natural angle and to avoid injuring himself if he becomes startled and tosses his head. The height at the entry might be 10 centimetres lower than the ceiling inside, and the roof's support ribs are a height somewhere between the two.

In a straight-load float, the length usually refers to the length of the bay – the distance from the

chest bar to the butt bar or chain – corresponding to the length of the horse from chest to tail. In an angle-load float the length of the bay corresponds to the length of the horse from nose to tail and should be measured down the middle of the bay from one wall to the other to correspond to the horse's nose-to-tail measurement when he is relaxed and his head and neck are in a natural position, not compressed or stretched out. When measuring the length of your horse, take into account that he needs to move his head and neck in order to balance properly. Ensure the float is designed so he can lower his head and blow to clear his airways.

The width of the bays in angle-load floats is generally narrower than those in straight-loads. Some horses travel better in a narrower bay which supports them better than a wide bay where they can move from side to side. The average 15-16hh horse needs a bay that is about three-plus metres in length and that is wide enough so he can spread his legs to steady himself (Warmbloods, Draft Horses and tall and long horses need more length, plus extra width and height). The horse must have enough room to step forward and back and shift from side to side.

Whether you are shopping for a new or used float, take a tape measure with you. Know the outside height of your float – including any open roof vents or roof rack – so you don't rip the roof off when you park it in the shed at home or pull under a canopy, low bridge or overhang. Your towing vehicle must be heavy enough and have enough power to pull the loaded float.

Myth v reality of angle-load floats

One of the reasons angle-load floats are popular is that horses are supposed to ride more comfortably in a slanted position. A study of physics will

tell you that this isn't necessarily so. If the float is accelerating and decelerating in a straight line and the horse's body is at an angle, the pull on the horse is diagonal. This means that he has to lean into acceleration with his near-side hind leg, and into deceleration with his off-side foreleg. Over time and many kilometres, this may cause him to be stiff and out of balance, especially if he already has trouble balancing in a too-small bay.

Horses riding in a straight-load float seem to absorb motion more equally. They may be happier to load into an angle-load float than a straight-load, but that may have nothing to do with the angle at which their bodies travel. It could be more to do with the openness of the float, having a window to look out, or the angle-load may be newer than the straight-load and therefore have better suspension.

The safe horse float

If you are shopping for a float and have a limited budget, it's better to get a good used one than a mediocre new one. What determines a good float? From the point of view of rescuers, here are some points to consider:

- > Some wooden floors are not attached to the float. If the float flips over, the floorboards can come loose, injuring the horse inside and possibly dropping his legs outside where they are vulnerable to the float rolling on them
- > If the float has a rear dressing or tack room, and the trailer flips onto its left side, the tack room will need to be removed or a ramp constructed to slide the horses over the tack room and a similar ramp constructed to slide the horses onto the ground. This takes time, especially if there is no suitable material close-by. If the trailer flips onto its right side, the tack room will need to be removed or horses hauled out under it
- > In an angle-load float, if the horses are tied and the float flips onto its left side, the horses will be lying on their heads. If the trailer flips onto its right side, the horses will be hanging from their ties until they break. If ropes and halters are stout enough they can have a bungee effect, possibly breaking the horses' necks
- > In a straight-load float, when the float flips on its side, if the divider is sturdy, well constructed and stable, there is a good chance the horses will not fall on top of each other but will be kept apart by the divider
- > If wooden floorboards are not maintained there is the possibility they can rot and collapse during travel. There are horror stories about horses that have fallen through float floors while travelling. Check for rot in the boards by probing them with a knife. Spongy boards are dangerous
- > If you use rubber mats inside the float, be sure they fit snugly. A scrambling horse can move mats into a tangle if they are too small for the float
- > The float should be designed so that each horse travelling within it can be reached separately and, ideally, each horse can be removed without having to move other horses to do so.

Picture your float on its side with your horses inside. What would you like to see to help you get the horses out safely? A window near their heads – with bars across so legs or heads won't fit through, but where you can comfort your horses while rescuers work to free them and where a large animal veterinarian can reach through and sedate them? Quick releases on moveable parts? A float that is structurally strong enough to withstand rollovers? Use your own questions to help you select your next float.

It's a good idea to develop a checklist to be used before every trip and after every stop:

- > Is the float correctly connected to the towbar? Ensure that the tow ball is in the receiver, the coupler collar is closed and the safety chains are attached to the towing vehicle
- > Are the brakes hooked up?
- > Are the lights – indicators and brake lights – hooked up and working?
- > Is the float level?
- > Is the battery for the breakaway braking system charged?
- > Are the tyres in good condition and properly inflated?
- > If the float has been standing idle for a while have you checked the tyres for rot?
- > Are all latches properly secured?
- > Do you have the proper sized ball for the hitch and is it securely seated and locked?

Safe driving tips



Dr Rebecca Gimenez

In an ideal world, all towing vehicles would have these back-up systems: a tyre pressure monitor, siren and PA system, CB radio, screen for a wireless or wired CCTV to watch the horses, a Ham radio system.

If you are travelling one horse in a straight-load double float, the horse rides on the right-hand side because the road is higher in the middle. Concentrating the horse's weight over the right or 'high' side keeps the float from wanting to tip over.

A tow bar (what the Americans refer to as a 'bumper pull') does not attach to the rear bumper of the towing vehicle, but to the underside of the chassis by way of a strong frame. Horse owners have taken literally the common but incorrect term, bumper pull, with dire consequences.

Ensure your vehicle's towing hitch allows your float to travel level. If your horses have to stand uphill, they may scramble or constantly shift position to try to compensate for the angle. At the very least, they will arrive at their destination stiff, sore and probably out of sorts.



Dr Rebecca Gimenez

Never travel a horse facing backwards, unless the float is specifically designed for rear-facing travel. Because sixty percent of a horse's weight is carried over his front legs, facing him backwards in a straight-load float will put the majority of the weight on the back end of the float and excessive strain on the hitch.

Under-inflated tyres on both towing vehicle and float can cause the float to sway. Ensure your

tyres are properly inflated before each trip. Uneven wear on your tyres can be caused by uneven inflation, or by poor axle alignment in the float.

Never allow your horse to stick his head out a window while you are driving. His eyes could be injured by dust or debris, and if another vehicle passes too close, he could be injured.

You can help!

What should you carry in your float or towing vehicle to aid emergency responders if you should find yourself in a position where you need their help? Remember, few rescuers will have been trained to work safely and confidently around your horses, some will have a negative attitude about helping your horses and most rescuers will not have the specialised equipment that will make the job easier and safer.

The most important thing to carry is a good attitude. You can help on-scene, but you will not be in charge. Be respectful of the chain of command of the people who are putting their lives on the line to help you and your horses. One of the biggest challenges to emergency responders at the scene of a horse accident is the owner.

It is possible that you will also be affected by an accident that involves your float. You may be physically injured or emotionally unable to handle the situation and you never know until you've been through it. One way you can help is by being prepared. As mentioned, rescuers will probably not be trained in technical large animal emergency rescue, or even know that it exists. The good news is that much of the equipment they will need is already in their emergency vehicles. They probably won't even realise it, but with a few added items from your float they will have your horse out in no time at all.

What is it they carry that they don't realise will prove to be so useful? All fire and rescue vehicles

carry fire hose, and 4WD rescue vehicles carry a 4WD Recovery Kit containing tree guards and winch extension straps that are strong enough and wide enough to avoid putting dangerous pressure on delicate tissue, but thin enough to slide under your horse. Any of these can be used to drag a recumbent horse (one that is lying down). One end of the hose can be split so the other end can pass through, making a noose. This is used in a forward pull, where the free end will run between your horse's front legs. In a backward pull, the hose will go over your horse's back and the ends will run out between his back legs. This puts pressure on his hips, not his delicate spine.

No one will expect you to carry fire hose in your float – but you can purchase custom-made webbing rescue straps, strop guides and shepherd's crooks (see Chapter 17) or simply buy a roll of 150 mm webbing or a telescoping boat hook.

Here's a list of items to carry with you for your own safety and that of your horse:

- > Identification for both you and your horse. Of course you will have your driver's licence with you in the car, but keep a copy of your horse's registration papers in the glove box or make up an ID sheet for him. Include photos that show his colour and markings and, ideally, include a photo of yourself with him so that if, for example, you are taken to hospital and your horse has to be transported by someone else, it will be easier for you to prove ownership. Make up an ID sheet for your dog as well, if he travels with you
- > Who to contact in case of emergency. Make and carry a list containing your vet's details, your home address and phone number, and the names and phone numbers of friends who know you and your horse and who would be prepared to help in an emergency. Keep a

copy of this in your float and stick a sign on the outside saying Emergency Information Inside

- > Programme your emergency numbers into your mobile with the acronym ICE (In Case of Emergency). Emergency responders are trained to look for this on a victim's mobile phone. Keep all phone numbers current and advise the people on your list that you have included them and what your wishes would be in the event of an accident
- > A mobile phone is almost indispensable when you are on the road with horses. Sometimes you may be unable to get a signal but if you have an accident with your float and you're stranded, a mobile may save your life or that of your horse
- > Always carry a First Aid Kit. Keep it filled with supplies for both humans and animals – in most cases, what suits one species will suit another
- > Carry a lightweight horse rug and a container of water. If your horse is stressed or injured, the rug will keep him warm and help prevent shock. If he's down and thrashing, a second rug or towel will protect his head and keep dirt out of his eyes. Anxiety may cause him to be particular about the water he drinks but if he has water from home, it may soothe him
- > Carry an extra halter and lead rope in your towing vehicle. The one your horse is wearing may be destroyed and you may not be able to get to spares in your float's tack room or tack box due to structural damage or a blocked door.

First Aid Kit for your Horse

The following items, kept in a watertight container, are considered a basic First Aid Kit. Keep it handy in your towing vehicle:

- > Homoeopathic Arnica (or Rescue Remedy) drops for shock, to stop bleeding and reduce bruising (for horse and owner!)
- > Betadine or other mild iodine, or hydrogen peroxide antiseptic solution (a 7% solution can burn wounds and delay healing, so use a mild or diluted solution)
- > A 50 ml syringe or small spray bottle to wash out wounds
- > Sterile saline solution for washing out and treating minor eye injuries
- > A good anti-bacterial ointment or spray that won't slow the healing process of minor cuts and abrasions (avoid wound powder as wounds heal better in a moist environment)
- > Anti-bacterial spray for large surface wounds (if a wound requires stitching, do not apply antiseptic sprays or ointments)
- > Gauze rolls, Vetwrap*
- > Sterile pads – assorted sizes of non-stick wound pads
- > Sanitary napkins, nappies or a roll of padded cotton for use as field dressings or for padding a splint or impaled object
- > Standing bandages – 2 quilted or fleece-lined bandages for protecting the lower legs (from just below the knee or hock to the bottom of the fetlock joint, to protect the cannon bone, tendons of the lower leg and fetlock joint)
- > Duct tape (one of the most valuable tools in your kit)

- > Forceps, blunt-tipped bandage scissors, sharp scissors, tweezers, pocket knife
- > Wire cutters, hoof pick, pliers
- > Powerful torch on a headband plus spare batteries
- > Homemade ear plugs – stuff cotton balls into the toes of pantyhose
- > Stethoscope for monitoring heart rate and gut sounds
- > Digital rectal thermometer
- > Contact telephone number of your vet or friends who could assist you in an emergency
- > A book on basic horse first aid
- > An inventory so you can keep note of what you use and replace it.
- > Ice packs or chemical cold packs to decrease swelling and bruising
- > Extra lead ropes and halters, collar and lead for your dog
- > 30 metres of cotton rope or webbing
- > Heavy plastic gloves or heavy work gloves
- > Tarp
- > Rubbish bags
- > 2 clean buckets
- > Shovel
- > Notepaper and pen, Post-it notes and something for fastening notes
- > More duct tape and a permanent marker.

Also good to have on hand

- > Clean water to wash wounds (at least 10 litres)
- > A six-pack of latex gloves
- > A twitch
- > A plastic turkey baster (if you give drugs such as Bute)
- > Abdominal pads for large wounds
- > Cotton buds and cotton balls
- > Splint material in various sizes (broom handles or lengths of PVC pipe, split lengthwise)
- > Insect repellent – spray and roll-on
- > Vicks VapoRub® to dull your horse's sense of smell
- > Vaseline® to prevent scalding below a discharging wound
- > Clean towels, extra rug
- > Hot poultices to increase blood flow to an area or draw out infections

First Aid Kit for your float and towing vehicle

Just as you will carry supplies for you and your animals, your float and towing vehicle may also need some help. Keep the following on hand:

- > Extra cash
- > Tool box
- > Extra bulbs and fuses
- > A wiring repair kit
- > Fire extinguisher
- > Spare tyre and the equipment for changing it
- > Spare belts and hoses for your vehicle
- > Wheel chocks to stabilise your float
- > Emergency flares or triangles
- > WD-40 and duct tape
- > A powerful torch – preferably one in the megawatts of power.

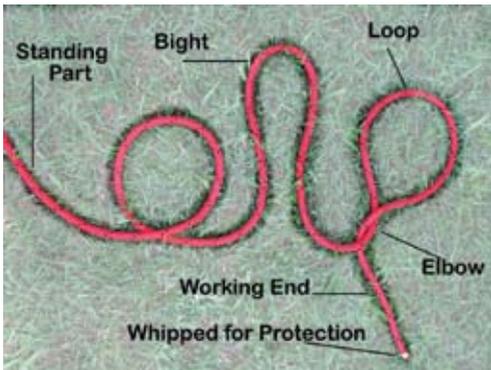
15 Knots



There are hundreds of knots for hundreds of purposes and a well-rounded firefighter knows many of them. But in case SES or Fire and Rescue haven't arrived, here are a few basic knots.

CAUTION: these knots are included in this book for your information not so you will try to extricate your horse or perform any other manoeuvre that is within the scope of training of an emergency responder. Leave the dangerous work to the professionals.

Why list knots, then? You can use them to tie up shelter for your horse, tie him up safely or haul your gear. You'll find uses for these knots, just please be safe and be sane. (Note: the knots depicted in this chapter are tied loosely so you can see how they are constructed. They have **not** been tightened as they would be for use.) Dress knots properly by ensuring the different sections of the rope in the knot do not overlap but are parallel to each other. This will avoid weakening the rope and will make it easier to untie the knot.



There are three parts to a rope: the standing part, the running part, and the fall or working end. There's a simple way to remember them – one part is standing around, not involved in tying knots, another is running around itself becoming a knot, and the fall or working end is the tail end of the rope, the part that falls away from the knot. A bight is the part of a loop that does not include the part that crosses over itself (a half-moon shape).



Bowline

Known as the King of Knots, the bowline can be used for hauling and to tie objects together. If properly made, a bowline will not slip or jam, it is easy to tie and untie no matter how much strain you put on it and is the only knot you can undo when it is wet or dry. By making the loops large you can use it as a sling, or you can hook the 'eyes' onto a winch. Make a small loop. The standing part should be underneath. Put the running part through the loop

and run it around the standing part. Bring it back through the loop. Tighten by pulling on the standing part while holding the loop.

Bowline on a Bight



If you tie your bowline on a bight (loop) the loops that you form are static and less likely to slip around. Each loop may be loaded separately and differently to the others and you can use this knot to make a sling. Make a loop at the end of your rope. Holding both pieces together, make an overhand loop and run the bight back through it. This will make a loop where you brought the bight back (called the 'eye'). Open up the bight and take it back over the overhand loop, the eye, and back past the overhand loop. Pull on the standing and running parts with one hand and the eye with the other hand until the knot is tight.

Clove Hitch



The clove hitch forms the base for many other knots. It puts little strain on the fibres of the rope but, while easy to tie and untie, it is not secure and will work loose. Stand facing the post or rail and wrap the rope around with the standing part on top. Wrap the rope around again and feed the fall through the loop formed by this second wrap. Pull tight.

Double Half Hitch



Use this knot for attaching a rope to a post. The running part goes around the post, crosses over the standing part and loops through. Where the running part comes out of the loop cross it over the standing part again and bring the running part through the second loop. Push the loops together and tighten by pulling on the standing part.

Figure of Eight Loop



The figure eight is the most useful and common knots in large animal rescue and the figure eight on a loop is one of the strongest. It is easily tied and untied and can be used to make an emergency rope halter. Form a bight of at least 250 mm where you want the loop and pass the bight anticlockwise behind and then in front of the standing part. Pass the bight through your loop and tighten, making sure the parallel parts remain flat.

Lark's head



Fold the tape or webbing in half. Place the top of the loop in front of the horse's pastern. Take the loop behind and under the foot, place the two ends of the tape through the top of the loop and pull to tighten until it is snug.

Prusik



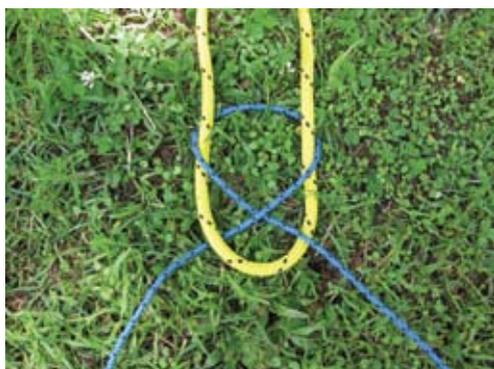
A Prusik hitch can be used as a last resort if you have to use the horse's legs to manipulate or move him. Pad the pastern (between his 'ankle' and foot) well and use as many wraps of the loop around the pastern as possible to distribute the load. This knot may slip if it gets wet or icy. Use a short piece of rope, knotted at the ends to form a loop. Place a bight of the loop across the rope. Pass the other end of the loop behind the rope and through the bight. Pass it through again so there are three wraps of the loop on the rope. Push loops together and pull tight. The Prusik hitch will slide when not subjected to a load but will grab as soon as you pull on it.

Quick Release Knot



This knot is useful if you need to tie a horse to a tree or post, or if you need to tie something temporarily and may need to release it instantly. Run the working end over the object. Twist it to form a loop with the end underneath. Form a bend in the end rope and pass it through the twist and push down to the object. You can release this knot by pulling on the end.

Sheet Bend or Becket



A great knot for joining two ropes of different diameter or used when you have absolutely no choice

but to extricate a horse by pulling on his tail hairs. Tie with both line ends on one side of the knot or the knot may open when you least expect it. Make a loop at the end of the heavier of the two ropes or the tail. Run the second rope up through the loop, over the two ends of the loop and underneath itself where it comes out of the loop. Tighten by holding both pieces of heavy rope (or tail) in one hand and both pieces of lighter rope in the other and by pulling your hands apart. **Do not tie to the horse's tailbone.**

Tape Knot (Water Knot)



Photos: David J Fred

Two overhand knots running in opposite directions, used to tie the ends of tape or webbing straps together. After you tie the first overhand knot, the second strap or rope is threaded along the knot in the reverse direction. The knot should be arranged

neatly and pulled tight. Several inches of the strap/rope should run past the knot. These knots can fail, so make sure that you leave sufficient tails of at least 20 cm (8 inches) on each tail.

Trucker's Hitch



Use this hitch to tie down a load. The friction in the hitch ensures it stays secure but it is easy to release when you take the tension off the rope. It can also be made on a bight if the load is secured at both ends. Form an overhand loop in the standing part and push a loop through it. Pull this knot tight. Feed the bitter end of the running part through or around the attachment point – post, tree, hook, etc. – and up through the loop at the knot. Cinch down and tie off with a couple of half hitches. If your rope is secure at both ends but needs to be made tighter, make a loop and tie it near one end. Feed line through the loop and cinch down. Tie off with a couple of half hitches.

16 Tips for Emergency Responders

on Handling Livestock other than Horses



Hampshire Fire and Rescue Service

When accidents involving commercial livestock transporters occur, the scene is often dangerous and confusing. You have an incident within an incident—a motor vehicle accident and a livestock incident.

Most emergency responders have little or no experience in handling livestock, and most livestock handlers have limited experience or training in rescue and recovery and in the handling of stressed livestock.

By being prepared for an accident before it happens and understanding how to effectively respond to an incident involving livestock, the welfare and safety of the emergency responders, the handlers and the animals will be greatly enhanced. A coordinated response also has financial benefits. When a knowledgeable response team handles an accident, the economic losses can be significantly lessened—fewer animals may need to be destroyed, the structure of the transporter may be salvaged when cut properly and the cost of the recovery, rescue and roundup will be less.

The following are a few key pointers on how large animals other than horses react. There is so much more involved with dealing with each species than we can detail here and the information we provide is a very basic guideline as accidents involving these animals are quite volatile and challenging:

Cattle



Hampshire Fire and Rescue Service

- > Cattle will rush (stampede) if frightened—their instinctive reaction to danger is to flee
- > They will charge when frightened and will run over you if they have no other way out
- > Cattle feel security in numbers and will calm down quicker if they are left in a herd
- > A cow separated from the herd will try to get back to the herd
- > Cattle have panoramic vision (310°-360°) but their depth perception and ability to focus on items close up is poor

- > A cow's blind spot is directly behind her head
- > Cattle are sensitive to unusual movements
- > They will kick with their back feet – usually one foot, but sometimes with both
- > They will head-butt
- > They will crowd and/or crush you, however, they do not bite
- > The maternal instinct is strong and cows will protect their young

Pigs

- > You cannot chase pigs; they are difficult to drive
- > If you run pigs, you may kill them
- > Pigs are sensitive to heat and cold – they can easily suffocate in heat
- > Pigs can be cooled by misting them with cold water – but do **not** pour cold water on them as the shock may kill them
- > Pigs are sensitive to frostbite
- > Wind chill can kill pigs – they **must** be sheltered from the wind
- > Pigs do not like to step up or down, you must use ramps

Sheep

- > Sheep will instinctively bunch up together in a tight mob and can suffocate
- > Do not lift sheep by their horns or fleece

Alpacas

- > Alpacas are social herd animals
- > They are a prey animal and are cautious and nervous if threatened
- > Alpacas are particularly sensitive to being touched on the head
- > Do not approach an alpaca from behind, he will kick if threatened and, while the kick is not dangerous because of the pads on his feet, his nails can inflict cuts
- > Alpacas are extremely heat sensitive – in summer you must remove them immediately from a stalled or rolled transporter
- > Alpacas will lie down when they are stressed
- > Alpacas sometimes spit (a combination of air, saliva and stomach contents) but rarely spit at humans
- > Alpacas do not like to be patted – they will bite
- > Do not blindfold an alpaca; he will freeze on the spot

Poultry

- > Poultry are frightened by close contact with people
- > If crates or cages have spilled and birds are still inside, stand the cages upright immediately
- > Birds are easily affected by cold and heat and need to be protected from the elements
- > Do not chase birds or cause them to fly
- > Poultry can be herded if handled calmly

Emus

- > Emus have a powerful kick and will peck with their beaks
- > Emus are fragile – they break easily
- > Emus panic easily

Call 000

112 from digital mobile phones

111 in New Zealand

Ask for Police, tell the operator where the accident is located, the type and number of livestock involved, if there are any loose animals or hazards, and that you need a livestock veterinarian. Advise the operator that police and fire should approach with their sirens off, if possible, and ask her to contact the RSPCA. Move any loose livestock from the road. Gather them in one area, as far away from traffic as possible. Light flares and set out warning sign to alert approaching traffic of the accident.

17 Rescue Equipment

– *making your own*

Warning: *This information is for emergency responders who are trained to use this type of equipment. Please do not attempt to use this equipment unless you are appropriately trained.*

All equipment has different strengths and weaknesses. If you are interested in purchasing rescue equipment, please research what equipment would be best suited to your needs. We do not recommend or endorse any of these products.

Using what you have

Rescue Strap

If you do not have a custom-made rescue strap, you can make one from 70 mm fire hose or 75-150 mm nylon webbing, 6-10 metres long. Cut slits at each end of the fire hose or webbing, or make large loops using secure knots. **Important note:** narrow straps can cause tissue damage. Please use the widest hose or webbing available. If possible, pad delicate areas such as horse's shoulders and inner legs.

Vertical Lift Harness

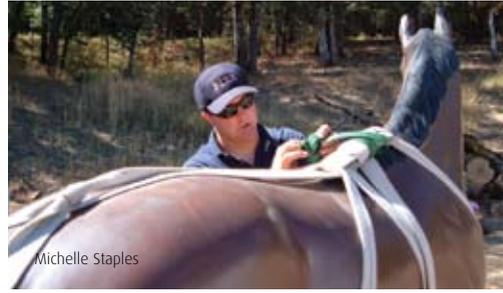
A temporary harness can be used to support a horse when he is unable to stand on his own, to help him back on his feet, or to perform a vertical lift. A simple four-point harness made with a 38mm fire hose, webbing or soft cotton rope is effective for very short lifts. It distributes weight where it usually goes – the four legs – but even with proper weight distribution, severe injury to the horse can result if he hangs in the harness more than ten minutes. The disadvantages of this harness are that it may cause the horse discomfort or pain and he may begin thrashing when you begin to lift him. Pad delicate skin areas because the harness may damage delicate tissues and nerves on the inside of the horse's upper hind legs. This harness is **not** to be used with a helicopter.

How to make a harness – do not support a horse in this harness for longer than ten minutes

1. Mark the half-way point on the webbing strap. Centre this point over the horse's withers.



2. Bring the ends forward and tie a half-hitch knot at the sternum (base of the neck, below the 'soft spot' or thoracic intake area – we'll call this the 'neck loop').
3. Run the ends of the strap between and up behind the horse's front legs.
4. Cross the ends over the horse's back, forming an X behind his withers (for the British version, run the ends back under the neck loop).
5. Bring the ends down the horse's flanks, and run them inside and between his hind legs. **Do not cross the ends between his legs.**

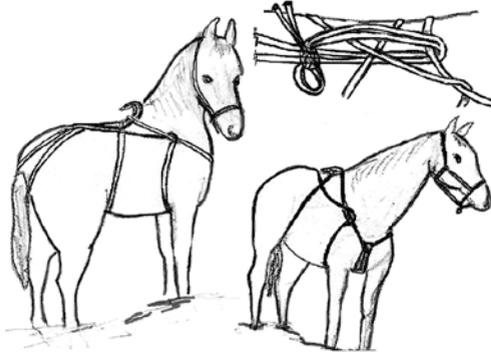


6. Bring the ends up and tie a half-hitch knot above the horse's tail.
7. Feed the ends under the X and under the neck loop. Once the harness is on the horse, go back and tighten the straps.
8. Bring the ends to the horse's rear, back **over** the X, tuck them between the two straps at the back and bring forward to the neck loop again. Wind the ends around the straps several times – each end going in the opposite direction – between the neck and the withers, until a handle is formed that can be used for lifting. Tie off the ends with an overhand knot.



Side view at withers, showing cutaway strap

Tie a 'cutaway strap' between the harness and the lifting device. In the event the lift goes wrong, you can cut the strap and leave the harness in place on the horse.



British version

- 9 British version – run the ends of the rope under the crossed sections and the neck loop. Pull the ends of the rope back toward the tail and run under the crossed sections and the neck loop once more. Pull the ends of the strap back towards the tail and tie securely with a quick-release knot just behind where the ropes cross.
- 10 Pad under the rope where it will put pressure on delicate tissue, such as shoulders and inner legs.

Emergency rope halter

Utility rope can be used to make an emergency rope halter or to tie onto an existing halter. Emergency halters can be severe and damaging when not used properly – please be very gentle.

1. Using a rope about six metres long, put a non-slip loop in one end and tie another non-slip loop about a metre from the first – this distance will be determined by the size of the horse, between small and extra large. The loops can be

up to 5 cm high, depending on the thickness of your rope.



2. Place this section of the rope over the horse's head, behind his ears, making sure the loops are level on his face above his nostrils but below his cheekbones. The end loop should be on the side away from you.
3. Run the rest of the rope under the horse's chin and through the far-side loop. When it is snug, tie a knot in it at the loop – a half-hitch will do.
4. Pass the rope over the horse's nose and through the near-side (the left side, the side you are standing) loop. The remaining rope will be your lead rope.

Another version of an emergency rope halter

Using a long, soft rope, make a loop at one end and put this end over the horse's head, up behind his ears. The loop should hang down far enough that it will end up centred under the horse's face. Taking the standing section of the rope, push it through the loop to form another loop, and put this loop over the horse's nose. Tighten gently so that the first loop is centred under the horse's face and the second loop is below his cheekbones.

18 Commercial Rescue Equipment

Australia & New Zealand

ANCRA International

PO Box 81
250 Governor Road
Braeside, Vic 3195
(03) 95876700
Fax: (03) 95871977
www.ancraaustralia.com

PO Box 12-675
36 O'Rorke Road
Penrose, Auckland 1642
New Zealand
(09) 571 0577
Fax: (09) 571 0572
www.ancranz.com

E-Z-UP Cow Sling

Lightweight, durable sling aids in getting a cow or horse on its feet. The sling can be used to support the animal over extended periods of time, while allowing the repair of muscle and nerve damage. It is constructed of zinc-plated tubing and durable polypropylene strap webbing, padded between rear legs and is adjustable.

Comsew Qld

Richard Coghlan, Director
Unit 6, 48 - 50 Bundall Road
Bundall, Qld 4217
(07) 5539 8110
0408 156 760
Fax: (07) 5539 8110
rcoghlan@comsewq.com www.comsewq.com

Rescue Strap

The Comsew Qld nylon Rescue Strap is 150 mm wide and nine metres long with a mark at the centre point and loops sewn into each end. It is used during a forward, backward or diagonal pull, or to support a horse that can move on his own with assistance or needs to be supported when you stop to rest. The wide strap distributes pressure on the horse, preventing injury to delicate tissues.

D & M Blacksmiths

David Mulligan
3840 New England Highway
Guyra, NSW 2365
(02) 6779 2065

Strop Guide & Shepherd's Crook

Fire Rescue Safety Australia

Western Region

Unit 8, 7 Montgomery Way,
Malaga WA 6090
PO Box 688,
Balcatta, WA 6021
(08) 9270 6777
Fax: (08) 9270 6700
enquire@frsa.com.au

Eastern Region

Unit 1, 2 Knobel Court
Shailer Park Qld 4128
PO Box 7215,
Loganholme, Qld 4129
(07) 3209 7422
Fax: (07) 3209 6322
enquire@frsa.com.au www.frsa.com.au

RP3 Rescue Platform

The RP3 rescue platform is ideal for the recovery of casualties in shallow water, mud and swamps. Where necessary, it can be operated behind a jet ski or fast rescue craft and it is easily paddled or line transferred. A variety of rigid stretchers can be located on top of the platform and subsequently manoeuvred to safety. Lightweight and portable, rapid inflation and deployment, very stable, packs into a light, compact carrying case, easily inflated using bellows or a BA cylinder.

UK

Hampshire Fire and Rescue Service

Down-a-cow Harness

Hampshire Fire and Rescue Service's Down-a-cow harness is comprised of an aluminium container box, spreader bar, Sea Catch quick-release couplings, two wide rescue slings, two quick-release spill straps, Sea Catch lanyards (1 pair green, 1 pair red) and chain slings.

MFC Survival Ltd

Naval Yard
Tonypandy
Rhondda Cynon Taff, CF40 1JS
Phone +44(0)1443 433075
Fax +44(0)1443 420448
www.mfc-survival.net

Animal Rescue Path

The Animal Rescue Path has been developed to provide a compact and lightweight solution for rescuing animals trapped in mud. Manufactured from PVC drop thread, the inflatable Animal Rescue Path creates a stable, cost-effective and robust pathway over mud. It is easily inflated, low pressure, lightweight, compact, portable and slim for easy and stress free sliding of animals. It comes in two lengths—five metres and 10 metres.

Mud Lance

The Mud Lance is a durable and versatile stainless steel lance used to loosen an animal during mud rescue. Using either water or air, it will overcome suction from the mud,

allowing the animal to be rescued quickly and safely. With two different connectors for air and water, the Mud Lance is compatible for use with a standard BA cylinder or fire extinguisher. It is supplied with two different lance lengths (0.5m and 1m).

Water Rescue Stick

The Rescue Stick is robust yet lightweight and is used during mud or water rescue. Fully extendable, it can be adjusted to any length from 190cm to 467cm and is secured in place by a simple clamp lock. The Rescue Stick has a large hook on one end. When packed down to its shortest length the Rescue Stick is compact and easy to transport or stow.

Phil Candy

Blacksmith
10 Drake Road
Bishopstoke, Hampshire
023 8061 6056
mobile 07891 826195

Strop guide

The standard spring steel strop guide was designed and developed by Hampshire Fire and Rescue Services for ease of use and to cause no injury to an animal. It is 2160 mm x 40 mm x 4 mm and has a 'D'-shaped handle at one end with a hook and steel ball at the opposite end for the attachment of a rescue strap (strop). The strop guide should only be used by specialist trained personnel or under the direction of an Animal Rescue Specialist.

ResQuip Limited

Unit 1, Castle Court
Leighton, Welshpool
Powys, SY21 8HH
Phone +44 (0) 1938 558888
info@resquip.com
www.resquip.com.uk
www.resquip.com

Randy, the rescue training mannequin

Big Beasts Limited manufactures and supplies a fully free-standing rescue training mannequin horse. Randy is 15.2hh and weighs around 200 kilos (the weight of an average pony) to give trainees a realistic idea of the

strength required to move a horse. He was developed in conjunction with the UK Fire and Rescue Service to be either fully articulated or, by the use of locking pins inserted in his leg joints, completely free-standing. When using the provided wheeled floor stand, Randy can be moved and stored easily without the need to dismantle him. For 'health and safety' reasons, Randy's hooves have been designed so they can be secured to the floor frame, thus preventing him from toppling sideways when being used in a standing position in a classroom situation for slinging and harnessing demonstrations.

Randy's unique features include a galvanised steel chassis (skeleton) within his torso that provides strength, accurately locates his legs and facilitates assembly and dismantling. He has fully articulated head, neck and legs that have sufficient movement at the joints to provide realistic posing when setting up the widest possible range of rescue training scenarios. A spring steel strip inside his neck allows for a degree of sideways head and neck movement enabling the head to be raised when he is on his side for comfort and head protection, and more realistic positioning prior to the rescue exercise. His fully lockable neck and limbs enable Randy to be placed in free-standing rescue situations such as water and mud or bog extractions. This is essential when demonstrating the use of lances to free trapped hooves. Randy has galvanised lifting and placing eyes welded to his chassis and located on his torso to facilitate the process of installing him prior to a rescue attempt and provide for his rapid recovery after. He has two sets of removable ears — aggressive (laid flat) and alert (normal position) to aid students in recognising the psychological condition of a horse in difficulty.

Randy is available in a range of colours, however, the preferred colour is white which minimises heat build-up if he is left out in the sun, allows the precise position of slings etc. to be seen clearly (important when training) and looks most impressive when he has just been hauled out of a mud hole.

Steve Payne

HFRS Workshops
02380 644000

Heavy Limb Crooks

Alfred Murray Ltd

Animal Science Division
Bell Lane Cottage
Chilworthy, Somerset, TA20 3BG
01460 61674

Medical Suspension Harness **Lyndhurst Plastic Fabrication Ltd**

Unit A Liners Industrial Estate
Pitt Road, Freemantle
Southampton, Hampshire, SO15 3FQ
023 8021 2170

Rescue Glide Sheets, Pig Boards

USA

Anderson Rescue Equipment

Care for Disabled Animals/CDA Products
PO Box 53
Potter Valley
CA 95469
(707) 743-1300
Fax (707) 743-2530
www.andersonsling.com

Vertical Lift Harness

The Cadillac of rescue equipment is the Anderson Sling, used for horses and other large animals that are too weak to stand, those with injured legs, and for animals coming out of anaesthesia. This harness is a good and secure fit, even for long periods of time. However, fastening straps require training and practice to use. This harness can be used with a helicopter.

Rescue Glide

The Anderson Rescue Glide is a moulded sheet of 8' x 4' high-density plastic. The front end is curved up to facilitate movement over uneven ground. Built-in handles along the sides can be used with ratchet straps to contain a horse on the glide. It comes with two slip sheets—tough, slick plastic sheets made of similar high-density plastic to help the glide flow over even the stickiest surface.

Other Anderson rescue equipment available includes equine lifting hobbles to fit onto the frame of the Anderson Sling (not to be used with a helicopter), small-animal walkers to help keep foals on their feet, a full size fibreglass horse for training, Dura-Pic Tripods, and hydraulic frames for use in rehabilitation settings.

Häst Public Service Corporation

2787 Floyd Hwy South
Floyd, VA 24091-3055
(540) 250-7411 or (888) 924-7685
kab@hast.net www.hast.net

Becker Sling

The Becker Sling is sold as either a total kit or individual replacement parts. The ultimate load on the aluminium spread bar is just under 10,000 kilos at failure and the Becker Sling should easily handle large animals up to 900 kilos with complete safety. This sling is not to be used with a helicopter.

Collins Rescue Equipment

Timothy B Collins with the Santa Barbara
Humane Society
Santa Barbara, CA
(805) 687-1328
Fax (805) 683-0827
timcollins@sbhumaneociety.org

Tim was one of the pioneers of Large Animal Rescue in the USA and he has created and adapted many items of rescue equipment for horses.

Collins Rescue Mat

This 8' x 8' reversible mat has tie-down loops and is made of webbing-reinforced trampoline mat material. The tow bar separates, allowing you to pull a horse through a narrow spot. By reversing the bar placement on the mat you can reverse the direction of the pull. The Collins Rescue Mat can be used for a horizontal drag or on a steep hill. It rolls up to fit in a duffle bag and can be carried by one person.

Collins Back Country Rescue Mat

The Collins Back Country Rescue Mat is 3'6" x 7', has webbing tie-down loops and is not reversible. The steel bar separates and the whole thing fits into a backpack.

Collins LAER Harness

Weighing less than 14 kilos, the Collins LAER Harness fits in a backpack. The loops sewn along the 112 mm-wide tubular webbing allow rescuers to secure animals of various sizes. Using 25 mm webbing, connect the four pieces together—from the front belly band, between the front legs to the chest strap, and from the back belly band, between the back legs to the tail strap.

Collins Rescue Anklets

Two padded, adjustable loops made of 5 cm webbing and attached to a D ring. The set of anklets comes complete with a steel lift bar and is used for rollovers, for lifting a large animal feet first allowing for quick application and removal, and can be used with a rescue mat to restrain the animal. The anklets are not used in conjunction with a sling. Not for use with a helicopter.

Collins Rescue Strap

The Collins Rescue Strap is used for a horizontal forward pull or backward pull, and to assist a standing horse when on steep terrain when you can stop him and hold him in position while he rests. The Collins Rescue Strap has diagonal slots sewn in to prevent wrinkles putting pressure on the horse and it has a Velcro keeper to prevent the loose end from flopping around.

Water Rescue Balloon

The Water Rescue Balloon is attached to a rubber or flexible hose through which air is pumped. At the spot where the balloon and hose join there is a loop for a small-diameter lead line that goes under the horse to connect to a larger rope that does the real load of pulling on a strap, sling, surcingle, etc. Secure a loop of 60-120 mm rope where the balloon and hose join. The red and white rope is melted together to create a loop and athletic tape is used to secure the loop to the hose and balloon. Attach a line to the loop. Use a stroop guide to push the balloon down the side of the animal until you have it beyond the midway point. By pumping air to the other end of the tube the balloon will inflate, bringing the line to the surface and allowing you to attach a larger rope or strap to secure the animal for your rescue. If you need to place several straps

under the animal, connect a couple of lines to the loop to save time. Add the air slowly so as to not explode the balloon or spook the horse.

Mud Tubes

The Collins Mud Tubes are 4½ – 5' lengths of rigid plastic piping that have tapered bottoms to allow air to escape even when the ends are against a hard surface. The Tubes have valve stems at the top to allow air or water to be injected and prevent the loss of air when the air tank is removed. Injecting air and water at the same time creates slurry that lessens the suction of mud.

Padded Hood

Tim Collins contacted the manufacturer of the padded rescue hood, Shanks Vet Supply Company (see below), and asked them to include removable blindfolds, which they did.

L.A.R.G.E.

Large Animal Rescue Glide Equipment
Ben McCracken 864-270-1344
benmccracken@rescueglides.com
www.rescueglides.com

Manufacturer of high quality custom rescue glides since 2002. Ben and his associates have been in the plastics fabrication business for a combined total of 50 years, involved with every type of plastic manufactured in the world and with this extensive amount of experience have come up with a combination of the right materials and, more importantly, the right way to fabricate such a glide. It will not only move horses, but also elephants and very large humans.

Large Animal Lift Enterprises

Richard Morgan
P.O. Box 39
Lone Pine, CA 93545
(530) 320-2627
Rbmorgan_2000@yahoo.com
www.largeanimallift.com

The UC Davis Large Animal Lift is for lifting horses by their skeletal system and uses lightweight equipment that

can be applied easily to a downed horse. It is simple to use and affordable and has been field-tested on horses that have been down anywhere from six to twenty-nine days. You must be properly trained to operate it successfully and safely to avoid serious injury or death to the horse and/or rescuers. Not for extended air lifts.

Liftex Inc.

443 Ivyland Road
Warminster, PA 18974
(800) 478-4651 (215) 957-0810
Fax (215) 957-9180
mtercha@liftex.com www.liftex.com

Vertical Lift Harness

The Liftex Vertical Lift Harness is secure and easy to use, provides full abdominal support and secures the animal from escape at front, back and top. The spreader bar is incorporated into the sling and does not need to be supported by rescuers. Comes with hobbles. This harness can be used with a helicopter.

Massachusetts SPCA

Nevins Farm
400 Broadway
Methuen, MA 01844-2052
(978) 687-7453
Roger Lauze, Equine Rescue and Training Coordinator
rlauze@mspca.org www.mspca.org

Original Rescue Glide

This is the original Rescue Glide designed, manufactured and used by professionals for over fourteen years and has been an integral part of the MSPCA at Nevins Farm Equine Ambulance programme since its design. MSPCA has moved downed horses off paddocks, out of bogs and through stable doorways into its equine ambulances using the Original Rescue Glide. The most flexible glide available, it will never lose its original shape. All metal pieces are aluminium to prevent rusting and screws are countersunk for safety.

Rescue Critters

15635 Saticoy St. Unit D
Van Nuys, CA 91406
818-780-7860
Fax 818-780-1078
www.rescuecritters.com

Horse Mannequin

Designed by Deb Fox of California's Large Animal Rescue Company, 'Lucky' is a life-sized horse mannequin specifically designed to safely teach hands-on training of emergency search and rescue techniques to fire and police departments, search and rescue units, the military, government agencies, animal control, humane organisations, veterinarians and equine groups.. Lucky has fully articulated limbs, a tail that features as an attachment point, he is a realistic training weight and stands at 15 hands. He will accept standard horse harnesses, rescue glides and gear, can be used in all weather and in mud and water and is designed for training indoors or out.

Shank's Veterinary Equipment Inc

505 E. Old Mill Street
Milledgeville, IL 61051 USA
(815) 225-7700 or fax: (815) 225-5130
Jennifer@shanksvet.com www.shanksvet.com

Padded Hood

This adjustable foam hood comes in four sizes, has ear and eye holes and removable blindfolds and is designed to fit over a halter to protect the top and sides of the head.

19 Large Animal Rescue training courses

Australia

Anthony Hatch

NSW Fire Brigades / NSW SES
29 Mitchell Drive
Glossodia, NSW 2756
0419 406 220
12@tpg.com.au
Anthony.Hatch@fire.nsw.gov.au

Anthony conducts large animal rescue courses for SES, Fire and Rescue, rural and regional Fire Brigades and RSPCA representatives and if you have an emergency, he is willing to answer any questions and give advice by phone.

Derek Major

Equine veterinarian

Agnes Banks Equine Clinic
5 Price Lane
Agnes Banks, NSW 2753
(02) 4588 5200 0428 249 119
www.agnesbanksequineclinic.com.au

Derek and his partners work with Hawkesbury Fire and Rescue on large animal rescues and he is happy to answer questions and give advice in emergency situations.

National Centre for Equine Education

Goulburn Ovens Institute of TAFE
P O Box 237
Wangaratta, Vic 3676
1300 006 233

From the end of 2010, NCEE will offer a basic large animal rescue awareness course for horse owners.

UK

Jim Green

Animal Rescue Specialist

Hampshire Fire and Rescue Service
Lyndhurst Fire Station, Southampton Road
Lyndhurst SO43 7BQ, England
Mobile: +44 (0) 7918 887832
jim.green@hantsfire.govuk www.hantsfire.govuk

Jim offers practical courses for vets and fire and rescue services, conducts awareness presentations for the public, he trains final year equine vet students in the UK's veterinary universities and is helping set up a charity to train and equip specialist trauma vets who will be placed strategically to provide an additional level of response to emergency situations. Jim worked in partnership with the British Equine Veterinarian Association to develop Europe's first equine emergency rescue course.

USA

Kathleen Becker DVM

2787 Floyd highway
South Floyd, VA 24091-3055
(540) 250-7411
kab@hast.net www.hast.net

Kathleen Becker is a Large Animal Rescue instructor who works with Drs Rebecca and Tomas Gimenez of TLAER (see Häst, PSC in Training section).

Code 3 Associates, Inc

1530 Skyway Drive
Longmont, CO 80504
(303) 772-7724 fax (303) 485-6210
info@code3associates.org www.code3associates.org

Code 3 Associates is dedicated to the professional response for animals in crisis situations and to providing professional training including water rescues, equine investigations and biosecurity and zoonoses for individuals and agencies involved in animal-related law enforcement and emergency response.

Days End Farm Horse Rescue, Inc.

Brooke Vransy, Assistant Director of Program and Emergency Services
PO Box 309, Lisbon, MD 21765
(301) 854-5037, (410) 442-1564
www.defhr.org

Days End Farm removes horses from situations of abuse and neglect, provides shelter for abused/neglected horses, offers rescue services during disasters and provides Large Animal Rescue Training to interested parties across the US and in Europe. Hands-On Equine Investigator Classes offer experiential, learning-by-doing training for professionals who want to learn about equine handling and cruelty investigation.

Eastern Kentucky University

Larry Collins, Department of Safety, Security and Emergency Management
250 Stratton Building
521 Lancaster Avenue, Richmond, KY 40475-3102
(859) 622-1009 Fax (859) 622-6548
larry.collins@eku.edu

EKU offers two classes each year in the spring semester. The first class is for local responders and students in the fire and safety bachelor's degree program at EKU, the second class is open to the public. Attendees include veterinarians, vet-techs, mounted police and horse owners. Drs Tomas and Rebecca Gimenez are the instructors for the classes (see Technical Large Animal Emergency Rescue below for a description of their programme).

Emergency Equine Response Unit

Eric Thompson, Operations Manager
33445 W. 87th Terrace, DeSoto, KS 66018
(913) 522-3064
mwr604@yahoo.com www.eeru.org

Basic Equine Awareness and Rescue (BEAR) is a ten-hour course designed for horse owners, animal medical personnel and the Level 1 first responder. It serves as a basic awareness of large animal rescue and emphasises horse rescue.

Emergency Training Systems, Inc.

780 Clear Creek Parkway
Clarkrange, TN 38553
(931) 863-7233
www.emergencytrainingsystems.com

ETS Inc. was formed in the mid 1990s by firefighters, to train other firefighters and rescue personnel. Instructors have expert knowledge and experience in the fields of wildland firefighting, vehicle extrication, emergency vehicle driving, barn fire tactics and strategies, incident command, and basic and advanced firefighting. Classes include barn fire safety, barn fire tactics and strategies, firefighter horse handling and horse trailer driving.

Large Animal Rescue Co., Inc.

Deb and John Fox
1930 Buena Vista Rd., Hollister, California 95023
831 635 9021
tlar@got.net www.largeanimalrescue.com

Large Animal Rescue curriculum developers and training specialists, The Large Animal Rescue Company offers an eight-hour course that teaches students rescue concepts, scene management, operations, and equipment. It covers floating, trail and stable incidents. Rescuer safety is emphasised throughout the class which gives rescuers a basic set of tools and knowledge to perform a large animal rescue. The techniques taught are based on the equipment carried on most standard firefighting engines. This class teaches how to improvise straps and lifting harnesses out of fire hose and how to adapt rope systems for use with large, unpredictable animals.

Massachusetts SPCA at Nevins Farm

Roger Lauzé
400 Broadway, Methuen, MA 01844
(978) 687-7453 ext. 6124
rlauze@mspca.org www.mspca.org
Equine ambulance rescue training specialists teaching LAR classes, including the use of the Rescue Glide, the UC Davis Large Animal Liff and the Anderson Sling, with an emphasis on emergency transportation and how to turn a horse float into an ambulance. Is the distributor of the original Rescue Glide, and operates the oldest equine ambulance service in the USA.

Rescue 3 International

P.O. Box 1050
Wilton, California 95693
(800) 457-3728
info@rescue3.com www.rescue3.com

Rescue 3 International provides flood, water and rope rescue training to individuals and organisations, placing emphasis on ways to keep rescuers from becoming victims. The intensive, hands-on, three-day course focuses on rescuer safety at all times, equipment use, animal safety in rescues, basic first aid for animals, communication techniques during emergencies and how to use ropes to manoeuvre a boat safely to the victim.

Technical Large Animal Emergency Rescue (TLAER)

www.tlaer.org
Dr Tomas Gimenez
2472 Six and Twenty Road
Pendleton, SC 29670
(864) 940-1717
tlaer@bellsouth.net

Dr Rebecca Gimenez
197 Amelia Drive West
Martinez, GA 30907
(864) 367 4222
delphiacres@hotmail.com

Large Animal Rescue curriculum developers and training specialists, TLAER offers two levels of training. The intensive two-day (14-hour) Awareness Level course is

intended for everyone, no previous experience necessary, and features lectures, dynamic PowerPoint visuals and student interaction but students have minimal hands-on. The three-day (26-hour) Operational Level course consists of 4½ hours of lecture (each morning), 3½ hours of hands-on laboratory techniques each day and a two-hour night operation to practice search and rescue techniques and learn how to use a Rescue Glide for recumbent animals. Hands-on experience is provided for all students and the overarching emphasis of the use of the Incident Command System is featured throughout the course. The Operational Level TLAER course is intended for search and rescue team members, large animal and horse owners/groups, operational personnel in the emergency services, veterinary staff, animal control officers, specialty rescue teams and anyone who needs to understand the specifics of TLAER and who desires a more specialised, technical level of training. Hands-on training is conducted with live trained animals including horses and a llama and instruction covers the use of sedatives and tranquilisers, chemical restraint, rescue ropes and knots, rescue from stable fires, mud rescue, helicopter rescue, water rescue and night-time search and rescue. Training covers natural disasters as well as highway mishaps such as overturned horse floats. Techniques can be applied to all large animals.

Timothy Collins

Technical Horse Rescue Specialist
Santa Barbara, CA
(805) 687-1328

Tim has established an Equine Emergency Rescue Group that covers personal emergencies, evacuation, trailer work and community assessments. His First Responder Emergency Rescue Training covers different types of rescues, disaster management, emergency handling of horses and specialised equipment. Self Preparedness for Horse Owners covers emergency handling of horses, types of individual emergencies, facility assessment, how to plan, and trailer work. Each course consists of eight-hour, hands-on classes.

Jennifer Woods

RR #1

Blackie, Alberta

T0L 0J0 Canada

(403) 684-3008

livestockhandling@mac.com

www.livestockhandling.com

Jennifer has trained firefighters from more than 500 fire departments along with numerous brand inspectors, law enforcement and SCPA agents and livestock haulers. Her courses include: Livestock Emergency Response Training that focuses on all livestock and commercial transport; Livestock Behaviour and Handling; Livestock Handling for Youth and Disaster Planning for Livestock.

Glossary

Anaesthetic: a drug that affects the whole body, usually with loss of consciousness and insensitivity to pain, depriving physical or mental sensation

Animal handler: the person who is responsible for handling and directing or restraining the horse (or other large animal) during the rescue

Backward drag: pulling a horse (or other large animal) backwards by way of a rescue strap placed around his hips and back through his rear legs

Bridle: headgear used to control a horse when mounted; consists of buckled leather or plastic straps, a metal bit that goes in the horse's mouth, and reins

Buddy: a person whose only responsibility is to look after the safety of a responder directly involved in a dangerous activity during a rescue

Danger zone: the most dangerous area near a horse is directly in front of him, within range of his thrashing head, and at least 1.3 metres to the rear and to the side of his hind legs (further for a big horse)

Diagonal extrication: placing rescue straps around a horse's girth and flank areas or around the down-side limbs and drawn underneath his body, and pulling him up a slope

Captive bolt: device that has a rod that penetrates the horse's skull and stuns his brain, must be followed by a secondary method of euthanasia

Cold Zone: the outer (safest) cordon of the Incident Control System at a rescue scene where anyone who is not involved in the rescue can safely stand

Colic: pain in the abdomen: the horse must be seen by a vet who will determine the cause of the pain and the treatment required. Colic can be fatal, depending on the cause

Dehydration: deficient in water, loss of body fluid

Ear plugs: you can make ear plugs for a horse by stuffing 6-8 cotton balls into the cut-off feet from a pair of pantyhose. Tie a knot in the end for easy removal from the horse's ear

Emergency responders: trained members of all emergency agencies – Fire and Rescue, SES, regional and

rural fire brigades (may also include law enforcement and animal control)

Equine: animals of the genus Equus – horses, donkeys, mules, zebras

Euthanasia: humanely killing an animal without causing pain or suffering

Field of vision: how far around him a horse can see using his monocular or binocular vision

Flight or fight: an instinctual reaction of prey animals to a threat (a horse will normally flee before fighting)

Flight distance: the distance to which a horse or other prey animal will move in order to feel safe when he is presented with a frightening object or predator

Foal: a baby horse

Forward assist: assisting a horse from an entrapment or up an incline by using a rescue strap in a variety of configurations over and behind his withers and threaded between his front legs

Halter: a piece of equipment that is placed on the head of the horse to lead and give control of him, it is comprised of a head strap, noseband and throat strap and is made of leather, webbing, plastic or rope and is different to a bridle in that there is no 'bit' or metal mouthpiece

Herd animals: prey animals that live in groups for protection from predators

Hot Zone: the inner cordon of the Incident Control System at a rescue scene that, for safety reasons, is restricted to the horse handler, plus other emergency responders and the veterinarian as and when directed by the Incident Controller

Helicopter lift: only ever used as a last resort when easier, cheaper and safer means of rescuing a trapped horse are ruled out, it uses a harness that is specifically designed for this purpose (for example, the Anderson Sling) that supports the head as well as the body

IC: the Incident Controller, the controller of the rescue operation who manages the overall incident, assessing, planning and approving actions to be taken to control

the rescue operation, ensuring the safety of all personnel, allocating tasks, reporting the situation, and appropriately liaising with any supporting personnel, the public and the media

ICS: the Incident Control System, a standardised on-scene management system designed to provide efficient and seamless structure to a rescue

LAR: Large Animal Rescue – the technical removal of horses and other large animals from entrapment by trained personnel

Lead: a rope made from cotton or synthetic material that attaches to a halter and enables a person to lead a horse

Ligaments: tissue connecting bone to bone

Line of fire: the area in the immediate vicinity of a horse within which a person could be kicked or bitten (see Danger Zone)

Mare: a mature female horse

Pastern: the area of a horse's lower leg between his 'ankle' and foot

Predator: an animal that hunts, kills and eats a prey animal

Prey animal: an animal, including a horse, that is hunted and eaten by carnivorous animals (predators)

Tailgate: the usually spring-loaded ramp at the back of a horse float that lowers to the ground to enable the horse to walk out backwards

Recumbent: lying down

Rescue: the safe removal of people or animals from actual or threatened danger of physical harm

Rescue glide: a horse-size equivalent of a human backboard, used to transport a recumbent horse over obstructions or from one place to another

Rescue strap: a 150mm-wide, nine-metre-long length of webbing with loops at each end

Respiration: breathing

Responders: trained people who are responsible in the early stages of a rescue for the protection and preservation of life, property, the environment and evidence

Rope halter: a halter made from rope, it has knots that act on pressure point on the horse's head

Scruff reflex: the reflex that causes a kitten to relax and go limp when her mother carries her by the scruff of the neck

also causes a horse to relax and become passive when his feet are raised off the ground

Sedation: a state of rest or sleep produced by a sedative drug that calms or soothes

SES: State Emergency Service, a volunteer-based organisation that responds to emergencies and works to ensure the safety of communities

Stallion: a mature entire (uncastrated) male horse

Sternum: breastbone: a horse resting on his sternum (in the sternal position) is resting on his breastbone with his legs under him

Tendons: tissue connecting bone to muscle

TLAER: Technical Large Animal Emergency Rescue, specialty rescue techniques for large animals

Tranquiliser: a drug used to diminish anxiety

Triage: prioritising injuries and prioritising who is treated first if there is more than one victim

Unstable ground: mud, gravel, sludge, peat bog, sand, ice, quicksand

Vertical lift: when a horizontal pull is not possible, a vertical lift is used to remove horses from holes, mud, deep gullies, swimming pools or septic tanks using a sling or harness

Vertical lifting harness: a harness designed to safely lift a horse or other large animal vertically

Veterinarian: a person qualified to administer chemical restraint, treat injuries and diseases who is an essential member of a Large Animal Rescue team

Warm Zone: the middle cordon Of the Incident Control System at a rescue scene where the Incident Controller, safety officer, emergency services personnel who are not actively engaged in the rescue but who are waiting to be tasked, veterinarian and owner can safely be and from where the Incident Controller directs and controls the rescue. The equipment dump is also located in the Warm Zone

Withers: the top of the horse's shoulders between the neck and the back

Zoonoses: diseases of animals that can be transmitted to humans

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