



# Dynamic Respiratory Endoscopy

Breathing problems are a common cause of abnormal noise and poor performance in racehorses and other performance horses. To diagnose the causes an endoscope (commonly called a scope) is passed up the horse's nasal passage to visualise the larynx and pharynx. In the past it has only been possible to do this in the resting horse, which means that some problems which only occur when the horse is exercising are missed. To overcome this issue, we can now use a Dynamic Respiratory Endoscope (also known as overground exercising endoscopy).

The Dynamic Respiratory Endoscope system is passed up into the horse's upper airway and secured in position to a specially designed head collar then the horse can be exercised as normal with the scope able to videorecord the movements of the larynx and pharynx.



*The scope is passed up the horse's nose and is secured to a head piece and a saddle pad.*

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### REC Partner Practices



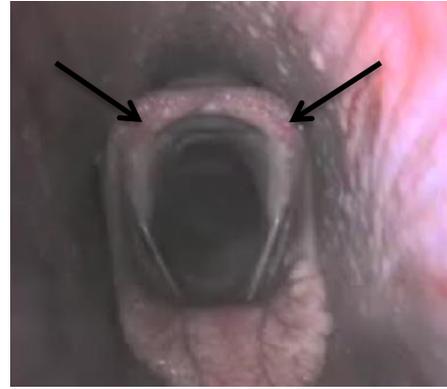
A custom-made head piece and saddle cloth are used to secure the scope and carry the equipment needed to record and transmit the images.

It may look like a cumbersome piece of equipment, but it is extremely well tolerated by the horse. The horse can wear its standard tack and can be exercised as normal, enabling us to see how the upper respiratory tract is functioning when it is most important - during hard work. The video obtained during exercise then undergoes frame-by-frame analysis by one of our vets to formulate a report for the owner.

The system is useful for diagnosing respiratory problems, not only in racehorses, but any discipline which requires concerted respiratory effort. Quite commonly horses that have one condition identified on a resting scope display more than one problem when examined during work using the exercising scope. This assessment allows us to give a much more accurate picture of the horse's problems, and therefore provide the best possible treatment advice. If you think your horse may benefit from a Dynamic Respiratory Endoscopic examination, please contact our clinic.



*When the scope is in place, the horse is exercised in attempt to recreate the conditions where the noise is heard. The scope obtains a video throughout the exercise test.*



*This is an endoscopic image of a normal larynx. Both arytenoid cartilages (arrows) are able to abduct (open) fully, and there is minimal airway obstruction.*



*The image on the left is at rest showing some asymmetry, but overall adequate airway diameter. The image on the right is of the same horse at exercise with very nearly complete obstruction of the airway by collapse of the left side of the larynx (the right as we look at it - black arrow) and the vocal folds (white arrows).*



*In this horse the soft palate has displaced upwards during exercise causing obvious obstruction. This horse appeared completely normal at rest.*

# Standing Surgery

At Randwick Equine Centre we perform over 400 surgeries requiring general anaesthesia every year. However, not all surgeries require the horse to be 'knocked out' – i.e. placed under a general anaesthetic. Many procedures can be done with a combination of sedation and local anaesthesia.

## *Why standing surgery?*

The advantages of standing surgery compared to a surgery under general anaesthesia include:

- Reducing the risk of injury on induction and recovery
- Reducing the volume of haemorrhage during an operation
- Often the recovery from local anaesthesia is more rapid
- Often it is cheaper to perform a standing surgery

However, it must be noted that not all procedures that require a general anaesthetic can be performed as a standing procedure.

For a successful standing surgery, the area that is being operated on has to be easily accessible from a standing position, and the horse has to be amenable (even when sedated!).

## *Examples of standing surgical procedures:*

- Dental surgeries
- Sinus surgeries
- Ocular (eye) surgeries
- Sequestrum (infected bone fragment) removal
- Castrations (gelding)
- Laser throat surgery
- Kissing spine surgery

## Case – Standing sequestrum removal

'Bronte', a 4 year old ISH mare was found to have sustained wounds on her left hind limb after getting her leg caught in a stable door. The injuries were located over her pastern and cannon bone. The wounds were initially sutured and the mare began a course of antibiotics (penicillin and gentamicin) and anti-inflammatories (bute).

However, despite being sutured, the wounds were not healing and were continuing to discharge. Radiographs (x-rays) were performed revealing two 'sequestra' – one on the long pastern bone (P1) and the other on the cannon bone (see images below).



*The radiographs above show the two sequestra. The image on the left shows the sequestrum located on the long pastern bone (P1) (white arrow). The image on the right shows the faint line of the sequestrum located on the cannon bone (red circle).*

### *What is a sequestrum?*

A sequestrum is defined as a piece of bone that becomes separated from the main bone, loses its blood supply and undergoes necrosis (i.e. begins to die).

Horses are prone to sequestration as they have little muscle protecting the bones in their limbs. Therefore any direct injury to the leg can cause a small piece of bone to come away from the main bone. Once it has separated (i.e. sequestered), it loses its blood supply and begins to die.

It is important to note that sequestra only form when the bone fragment becomes infected. This is why nearly all sequestra we see are caused by an open wound that comes into contact with the bone, allowing for external bacteria to contaminate the bone fragment. Due to the presence of infection, the wounds have a poor ability to heal and often remain open and draining.

### *How do we treat a sequestrum?*

Since the piece of bone has no blood supply, the body cannot deliver white blood cells to the area. Therefore, it will be a continuous source of infection whilst it remains in the body. Therefore treatment involves surgically removing the bone fragment and debriding the underlying bone to allow new, healthy bone to grow. Often this procedure can be done in the standing, sedated horse.

This is what happened in Bronte's case. She had standing surgery performed by Dr Hayley Lang to remove both sequestra (the image below shows the fragment being removed). After surgery she had a course of antibiotics and regular bandage changes. Six weeks following the surgery, the wounds were healed and she was back to being ridden. Best of luck to both the mare and her owner!



*Dr Hayley Lang removing the cannon bone sequestrum in a standing surgery procedure. The horse was brought into our clinic, sedated and the fragment removed under local anaesthesia.*

## Hendra Virus

You may have heard of Hendra virus in the horse; you may even have vaccinated your horse against it. This article aims to recap the virus, how it is spread and how you can protect your horse against it.

### *What is Hendra virus?*

Hendra virus is a virus carried by flying foxes that inhabit Australia. The flying foxes are natural hosts of Hendra virus and are therefore unaffected by the disease, but on rare occasions the virus can 'spillover' to horses and humans, causing disease.

## *What signs are associated with Hendra virus?*

The signs for Hendra virus are varied and can include:

- Fever
- Increased heart rate/respiratory rate
- Nasal discharge (initially clear but can become frothy)
- Colic
- Difficulty walking
- Head tilt
- Loss of vision
- Sudden death

## *Why should I be concerned about Hendra virus?*

Hendra is a serious illness for many reasons. Firstly the mortality rate (number of deaths associated with the disease) in horses is >70%.

Secondly, a small number of people have become infected with Hendra virus after being in close contact with a horse. Four of the seven people who contracted the disease have died.

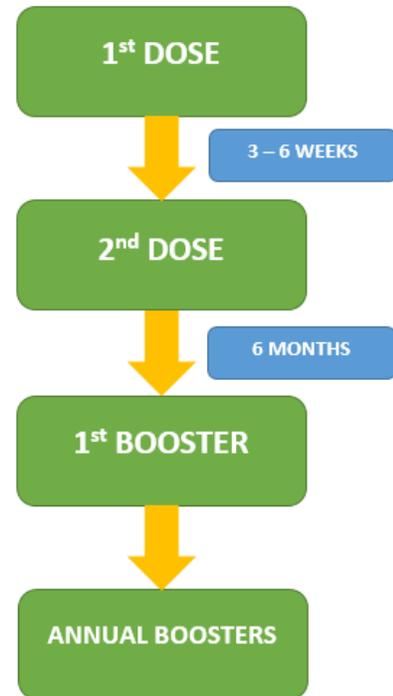
Although many people believe Hendra virus to be a disease of Queensland (the virus is named after a suburb of Brisbane where it was discovered), a recent study has shown flying foxes of NSW (with data collected from Centennial Park in Sydney) can excrete the virus in urine/faeces, which then has the potential to infect both horses and humans.



*Flying foxes are the natural host of Hendra virus*

## *How can I prevent my horse from becoming infected with Hendra virus?*

The most effective way to prevent your horse from becoming infected with Hendra virus is to vaccinate them. Horses from 4 months of age can be vaccinated and the vaccination course is as follows:



The vaccination protocol ensures your horse's immune system has developed the protective antibodies against the disease.

Other methods of disease prevention include removing feed and water from under trees, cleaning up food that may attract flying foxes (e.g. carrots, apples) and removing horses from paddocks that may have flying foxes in the trees.

It is important to remember that Hendra virus is very uncommon, but the disease can be devastating, so it is worth vaccinating to protect both horses and people.

# First Aid Essentials

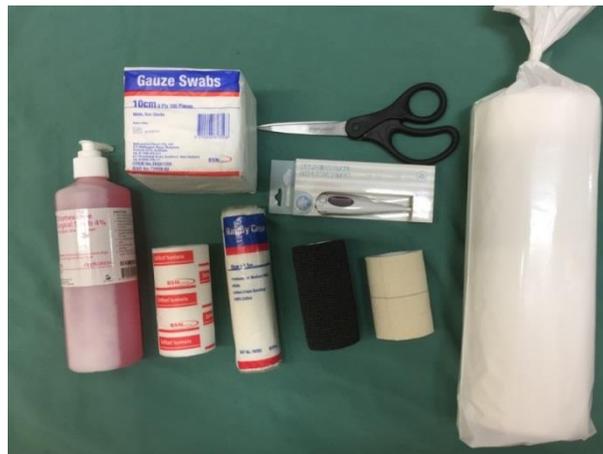
Despite taking the utmost care of your horse, accidents can still happen. Unfortunately they cannot be completely prevented, but it is best to be prepared in case they do occur. Here we will outline some of the things you should have to hand in your horse's first aid kit.

*What should a first aid kit contain?*

Wounds are one of the most likely accidents to occur, so the majority of your first aid kit should contain bandage material.

Our recommendations for a good first aid kit are:

- Disposable latex gloves
- A digital thermometer
- Antiseptic solution such as iodine or chlorhexidine (dilute first!)
- Antiseptic cream such as Betadine®
- Barrier cream such as White Healer®, Derma-gel®, or Sudocrem®
- Clean gauze swabs
- Sterile wound dressings such as Melolin®
- At least one roll of gamgee and/or cotton wool
- Self-adhesive bandages such as Vetrap™
- Elastoplast®
- Scissors
- Your vet's contact details!



We can supply you with a wide range of products for your first aid kit and other routine management requirements including basic bandaging, wound care, thermometers, wormers, as well as joint, hoof and other supplements.

*Please note that it is illegal to supply any prescription only medicines such as antibiotics (including antibiotic creams and eye ointments), pentosan products and anti-inflammatories such as phenylbutazone ("bute") without having first examined your horse.*

## *When should I call the vet?*

Keep calm, move the horse to a safe place, and call the vet straight away if:

- The wound is near a joint or tendon (EVEN IF VERY SMALL!)
- Your horse is lame (EVEN IF VERY SLIGHTLY!)
- Profuse bleeding
- The wound is near the eye

You can see muscle, bone or tendon

- If there is a skin flap or the edges of the wound are gaping
- Contamination of the wound with dirt or foreign bodies
- Your horse is not vaccinated for tetanus