RANDWICK EQUINE CENTRE
NEWSLETTER www.randwickequine.com.au

Vaccinating against a deadly virus: Updates on Hendra

Hendra virus is a deadly virus infecting horses in Australia. Over 70 horses have died due to this virus since the disease was first recognised in 1994. The case fatality rate (the numbers of infected horses dying from Hendra virus), is high at 75%. The most worrying concern with Hendra virus however, is its ability to infect people. Seven cases of human infection have been recorded with four people dying. These people were infected by close association with infected horses.

It is known that Hendra virus is found in four species of flying foxes in Australia. 47% of a group of flying foxes that were sampled showed evidence of exposure to the virus. What we don't know however is why the infections in horses were initially confined to Queensland and northern New South Wales, when flying foxes are prevalent further south. Hendra Virus has been found in a bat in South Australia, which shows that the disease can also potentially occur in horses there.

The initial cases of Hendra virus infection presented with mainly respiratory signs and fever. These horses showed respiratory distress, then bloody, frothy nasal discharge and rapidly deteriorated and died. The more recent cases however have shown predominantly neurological signs with ataxia (incoordination), depression, head tilt, circling, loss of vision and muscle twitching. These horses also showed fever and rapid deterioration. It is now considered that any abnormal clinical signs, even signs such as colic and head swelling can also be associated with this disease. We also now know that horses can carry and excrete the virus before they actually show signs of being sick!

Infection in horses is thought to be related to exposure to the birthing fluids and placental material of flying foxes, but have occurred throughout the year. Cases have typically been horses paddocked in areas that are attractive to flying foxes, with spread between horses occurring rarely. In a stable situation, where horses are in close proximity to each other, horse to horse transmission has occurred.

Recommendations for horse owners include stopping potential contact between horses and flying foxes. Horse owners should be discouraged from placing feed and water troughs under trees where bats are known to roost. Horse owners should be aware of the virus and should report any signs of disease in their horses to their local veterinarian.

The most recent innovation in our fight against this disease has been the release of a Hendra Virus Vaccine. As release of this vaccine has

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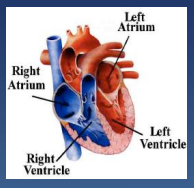

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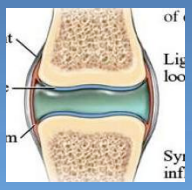
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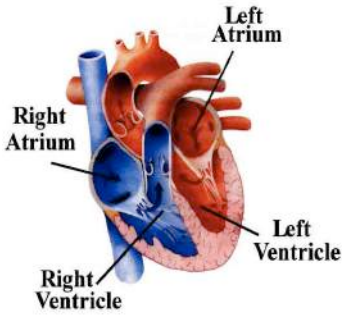
Hendra Virus - continued

occurred as quickly as possible, the vaccine is released on a permit only. This means that it is not fully registered at this point in time, but it has been proven to be safe and effective under experimental conditions. Since the vaccines release in November 2012, over 8000 horses have been vaccinated. There are minimal to no adverse effects reported with the vaccine, and trials are ongoing to confirm the length of time that the vaccine conveys protection. Early work suggests that this is at least 6 months, and it will hopefully protect for a full twelve month period. The vaccine must be given by a Veterinarian trained in the use of the vaccine, and in addition the information regarding the vaccination must be logged on a National Register by your veterinarian within 48 hours of administration. The horse being vaccinated must also be microchipped so that it can be easily and permanently identified.

The vaccine's safety in breeding animals has not been fully investigated, so at the present time, this needs to be considered and weighed up against the risk of disease. Horses that are likely to be exported from Australia are the only other group that should not be vaccinated yet, until the test to differentiate between a vaccinated horse and a naturally infected horse has become available, which should be completed soon. Other than these two groups of horses we are recommending that all horses be vaccinated against Hendra Virus. Until we can answer the question as to why the disease occurs in the areas that it does, when bats are infected almost entirely around the coastal areas of Australia, it is prudent to vaccinate all horses. Also bat populations are not stationary and do move in response to environmental conditions, so it is very hard to define 'safe' areas where the disease will not occur. It is far safer to vaccinate to ensure that your horse will be protected from this fatal disease. By protecting the horses, we are also protecting the people that own, handle, ride and treat these amazing athletes.

Getting to the heart of atrial fibrillation



What is atrial fibrillation?
The equine heart consists of four compartments which contract and relax in a coordinated way that allows blood to flow through the heart and pump around the body.

Atrial fibrillation is a condition when the electrical currents in the heart that coordinate muscle contraction become abnormal. This leads to the atria beating in an irregular and inefficient way, reducing blood flow out of the heart. Some times the heart will return to a normal hearth rhythm spontaneously, on other occasions treatment is required. Often atrial fibrillation is not associated with underlying heart disease, but blood tests, specialized ultrasound scans and electrocardiograms (ECG) may determine if there are any primary cardiac problems causing the condition.

How do I know if my horse is affected?

The incidence of atrial fibrillation in the horse population is estimated to be 1-2.5%. The most common complaint noticed by trainers and horse owners is a reduction in athletic performance. Auscultation of the heart will reveal a typical type of irregular heart beat which is confirmed by ECG.

How is it treated?
The most common treatment involves the anti-arrhythmic drug quinidine, is administered via stomach tube. If the treatment is successful the heart rhythm and ECG returns to normal. The drug has several potential side effects, so during this time the horses are monitored closely.
Electrocardioconversion involves passing a current through the heart in an attempt to re-set the abnormal electrical current and restore a normal rhythm. This therapy is rarely used.

Are there any long term complications?
Unless associated with another problem atrial fibrillation does not affect the horse's prognosis for survival, but it does limit performance. If diagnosed and treated promptly the prognosis for return to normal rhythm is good.

The war against worms

Most horse owners are aware that a regular worming programme is important, but the large choice of drugs and worming methods available can make the matter confusing.

General signs of worms can include weight loss, diarrhoea, colic or poor performance.

Small red worms (cyathostomes) are the most common type found to cause disease. They lead to direct damage to the gut wall, and the immature worms can lie dormant (encysted) in the wall over winter until wamer weather in spring when they may cause colic and diarrhoea.

Small red worm egg

Small red worm adult

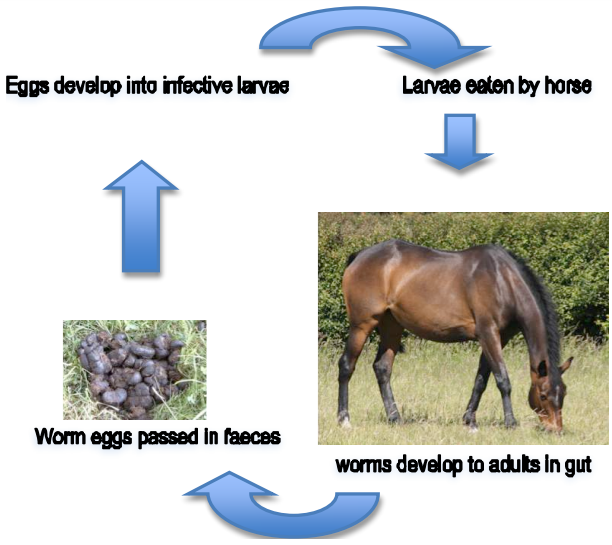
Large red worms (Large strongyles) spend part of their life cycle migrating through the blood vessels, and so can also cause anaemia or even sudden death. **Pinworms** (O. equi) do not cause a major problem, but can cause tail rubbing. They are killed by most wormer types and so their presence may indicate an ineffective worming routine. **Bots** (gasterophilus) are not a true worm, but are the larval stage of the bot fly. Flies lay eggs on the horses coat, which are licked and hatch in the stomach. **Roundworms** (P. Equorum) mainly affect foals, and can cause intestinal obstruction and colic. **Tapeworms** (A. perfoliata) can also damage the gut wall and can cause colic.
Most of these worms have a complex life cycle (see diagram below), so there is more to parasite control than just worm drenches or pastes:

- Removing manure from stables and pastures will decrease the amount of worm larvae ingested by your horse.

- Harrowing paddocks during hot, dry weather will spread out, dry out and kill the larvae in the droppings. Alternatively pastures can be grazed with other species such as cattle or sheep.

- Worming your horse at regular intervals is essential. There are several different classes of drug to kill worm, which act in different ways and for varying periods of time. Worm pastes are convenient, but must be delivered at the back of the mouth to avoid it being spat out. Tube drenches are done by your vet – this delivers the wormer directly into the stomach so ensures an accurate dose and no unpleasant odour or taste.

Monitoring your horse's worm burden with faecal egg counts (FECs) can help to assess how effective your worming management is. Discuss FECs and your worming control programme with your veterinarian to ensure optimal control.



Life cycle of red worms. The infective larvae on the pasture can survive for some time on the pasture in warm, wet conditions.

Healthy Joints, Happy Horse

Studies show 60% of lameness problems in the horse are related to osteoarthritis (OA), otherwise known as degenerative joint disease (DJD). OA is a progressive disorder of the joints involving degeneration of joint cartilage and the underlying bone, and development of bony spurs at the edges of the joint. It predisposes to bone fragmentation (bone chips) within the joint.

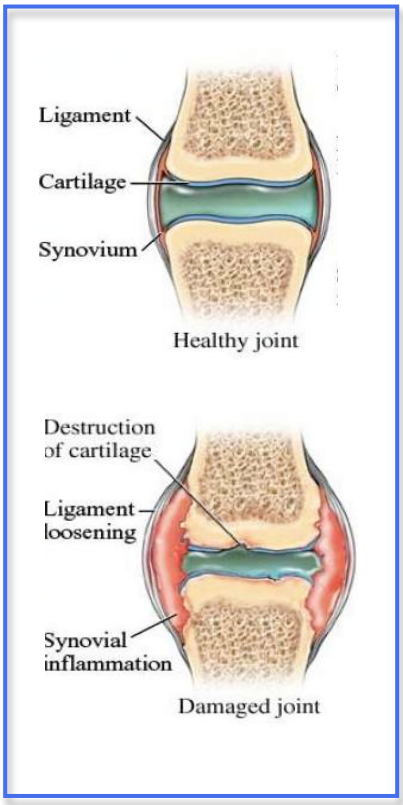
What does this mean? OA can cause joint pain, inflammation, lameness, loss of joint motility, decreased quality of synovial (joint) fluid, decreased stabilisation of the joint and cartilage wearing. These changes can lead to poor performance or even mean early retirement for a horse, due to lameness.

Recently there has been a large increase in the use of OA preventive medications such as pentosan polysuphate but **what do they actually do?**

This drug is a disease modifying osteoarthritis drug (DMOAD) which acts in several ways:

- Stimulates production of synovial fluid
- Aids cartilage repair and protection
- Increases blood supply to the joint
- Inhibits destructive enzymes that break down cartilage
- Stimulates growth factors that promote cartilage production and reduce inflammation.

Studies show that the use of Pentosan polysulfate has decreased articular cartilage breakdown, improved lameness, improved pain on joint flexion and the quality of synovial fluid. There are various products available which contain pentosan polysulphate. Speak to your vet regarding this and other ways to treat, minimize and prevent OA for your horse .



REC NEWS

Ruth Returns!

REC welcomes back Dr Ruth Franklin, who returns after an 11 month maternity spell. She is now working part time from Warwick Farm, giving her time to look after her daughter, Liliana George.

Some Farewells

Sadly it's the time of year where we say goodbye to our two senior interns. Dr Emily Glasson is going to take some time to perfect her snowboarding skills in America before returning to work in the Sydney area. Dr Sarah Woods is still considering whether she can tear herself from Australia to return to the chilly UK, but all of us at REC are hoping she won't go too far afield.

Some welcomes

Luckily to take over Sarah and Emily's roles we have Dr Carly Le Mesurier, a Sydney local who enjoys eventing, and Dr Jack O'Brien who comes all the way from New Zealand bringing new fashion styles to REC with him. Dr Ed Annand is also joining our team.

Editor: Dr Ilona Bayliss