Hendra Vaccine: your questions answered

by Nathan Anthony BVSc (Hons) MANZCVS.

Despite the widespread media coverage of Hendra virus outbreaks and the release of the Hendra vaccine last November, many horse owners are still uncertain about different aspects surrounding the vaccine and do not know if they should vaccinate their horses.

In this article, Dr Nathan Anthony a member of the AWA HeV Task Force who is involved with the Qld Government interagency review of HeV Infection Prevention Advice answers some of the most frequently asked questions from horse owners.

The risk of HeV in horses has to date been managed through increased hygiene and paddock management. Horse feed and water troughs that are beneath trees should be moved under shelter to avoid possible contamination by flying foxes to horses, and then to human. Equivac® HeV has great benefits for horse welfare and for human health.

The vaccine interrupts the cycle of HeV transmission from the flying fox to the horse and also from the horse to human. Equivac® HeV has great benefits for horse welfare and for human health.

Unfortunately, HeV has still claimed the lives of horses despite these sound management practices being adopted. To date there have been about 80 known HeV horse fatalities with more than 30 of these deaths recorded in 2011 and 2012. Equivac®-HeV vaccination is now recommended in conjunction with hygiene and paddock management to provide a more robust barrier to the fatal consequences of HeV infection.

How effective is the vaccine?

Initial trials have shown complete protection when vaccinated horses were exposed to a lethal dose of HeV. All vaccinated horses were protected from disease and there was no evidence that infection had been established or that virus was shed from these horses. The trials show that the vaccine will be extremely effective in the prevention of HeV disease in horses and in the prevention of HeV transmission from horse to horse and from horse to human.

How does HeV vaccination of horses protect human life?

The only recognised pathway of transmission of HeV to people is from contact with infected horses. Vaccination of horses will therefore provide protection to people by interrupting HeV transmission from flying foxes to horses, and then to human.

How does the vaccine work?

The vaccine stimulates the production of protective antibodies. If the horse is subsequently exposed to HeV, the antibodies will bind the viral particles preventing them from establishing active infection in the horse. The viral particles bound to the antibody are then further eliminated by the immune system.

How does the vaccine work?

Pfizer’s Equivac®-HeV is the new vaccine recommended for use in horses that is effective against the deadly Hendra Virus (HeV). The vaccine was launched at the beginning of November 2012 and it is now available nationwide through accredited Veterinarians.

Equivac® HeV vaccination is the most effective tool that the horse industry has been provided with in the fight against the deadly HeV. The decision to vaccinate requires careful consideration of the risk that HeV poses to your horses and to the people who own and care for them. In order to make an informed decision you also should consider the available information known about Equivac® HeV vaccination. Your Veterinarian is the best person to guide you through the decision making process.

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There have been no safety work done looking at concurrent use of Equivac® HeV and Equivac® Tetanus/Stangles. This will be looked at in the future. The decision to vaccinate pregnant mares at this early stage should be made on the balance of risk of Hendra virus infection against the risk of possible vaccine related side effects on a pregnancy. Pregnant mares are currently being vaccinated in high-risk areas of QLD and any adverse reactions on pregnancy will be notified. This anecdotal information will be provided to Veterinarians. Some owners and Veterinarians may choose to vaccinate brood mares immediately after foaling. Can vaccination adversely affect a horse’s suitability for export?

Yes, foals can be vaccinated from 4 months of age with 2 doses 21 days apart. Thoroughbred foals to be registered with an ASB assigned microchip.

Can I vaccinate my foal?

Yes. Foals can be vaccinated from 4 months of age with 2 doses 21 days apart. Thoroughbred foals to be registered with an ASB assigned microchip.

How is the vaccine administered?

The vaccine may only be administered by an Accredited Veterinarian via intramuscular injection into the side of the neck. Two 1ml doses are given at an interval of three weeks.

How many doses are required in the initial course?

A primary then a secondary dose exactly 21 days later are required to complete a course. It is condition of the APVMA permit that the second dose is given exactly 21 days later, without exception. Periodic boosters will then be required.

Why the strict requirement around 21 intervals between the primary and secondary dose?

This is a requirement of permit, and it is based on the clinical trials to date. As more data comes to hand this precise requirement may become softened. There is no flexibility around the 21 day interval between first and second doses. It is essential that when making an appointment for your primary vaccination that you ensure your availability for the second dose, and make this appointment at the same time.

What is the duration of immunity and when do booster doses need to be administered?

Booster vaccine doses will need to be administered either 6 monthly or yearly depending on the clinical trial work that is being conducted now. This information will come to hand late in February 2013, so before the earliest requirement for a booster dose.

Does a vaccinated horse need to be microchipped?

Yes. It is a requirement that all vaccinated horses are microchipped. If your horse is already microchipped it will not require a second chip.

How do I get my horse vaccinated?

Equivac® HeV is only available from accredited Veterinarians. There are over 1000 accredited Veterinarians in Australia who have completed training. Contact your local Veterinarian if you are interested in vaccination.

Why is this vaccine available from Vets only?

This is a condition of the Government's regulatory body that registers Veterinary medications (APVMA) that has the vaccine to come to market under a special permit. Only accredited Veterinarians can administer the vaccine. This is to ensure that the vaccine is handled and stored correctly, that only healthy horses are vaccinated, and to ensure that the requirements of the central data registry are upheld.

Is the vaccine likely to become an ‘Open Seller’ in the future?

No. Due to the public health benefit of this vaccination and the licence of a national registry it is not likely to become a non-Veterinary vaccine in the future.

What is the cost of the vaccine?

Pricing will vary between Veterinarians and will depend on the number of horses and the location. On average the cost of the vaccine is not more than the cost of a shoing.

Is the vaccine compulsory?

No. At this stage there is no mandatory requirement to vaccinate your horse. It may become compulsory in the future at certain industry levels to ensure the safety of people and the welfare of horses.

All vaccinated horses must be microchipped and will require boosters. The trials are being conducted to ascertain if it will be 6 monthly or annual boosters, and the information is scheduled to be released at the end of February 2013.

A vaccination certificate will be provided to the owner. If there is any confusion about the vaccination status of a horse involved in an outbreak of HeV, blood samples can be taken to differentiate naturally infected from vaccinated horses.

Is my horse guaranteed to be protected against Hendra virus after vaccination?

As with all vaccinations, protection against Hendra virus cannot be guaranteed by vaccination, however the clinical trial work to date has shown complete protection in vaccinated horses. As with all vaccines the animal's ability to respond can vary and it is often reduced when the animal is stressed or unwell.

Do I still need to be vigilant?

Yes. Vaccination is not a replacement for hand hygiene, minimisation of contact with horse's body fluids and extreme caution when handling sick horses.

Will a human vaccine be produced in the future?

This is unlikely. Fortunately, the vaccination of horses provides human protection. However, widespread uptake of Equivac® HeV would be necessary for protection of human life.