

From the Morphettville Equine Clinic

Should your horses be vaccinated?

Vaccinations are an effective and cost efficient way of protecting your horse against life threatening diseases (such as tetanus), and diseases that can severely affect its health and performance, (such as strangles and herpes virus). The following is a brief overview of some of the most common diseases for which vaccines are available.

Tetanus (Lockjaw)

Tetanus is a frequently fatal disease caused by the neurotoxin of the bacteria *Clostridium tetani*. It affects all domestic animals but horses are the most susceptible species. The bacterium is found in soil and enters the horse's bloodstream, usually via an open wound. Even small wounds, including foot punctures, can allow *C. tetani* contamination. The incubation period is 7-21 days, the wound has usually healed by the time the first signs of disease are apparent. Clinical signs of tetanus are progressive muscle stiffness and a hypersensitivity to noise or touch, provoking painful spasms. Muscles of the head and neck are affected in particular causing restriction of jaw movements—hence the name “lockjaw”. Third eyelid prolapse is most notable in horses and a ‘saw horse’ stance is also typical of the disease. Treatment of the disease once clinical signs are noticed is expensive and often unrewarding. The prognosis for survival is very poor. Death may follow the onset of clinical signs in 5-10 days. Every horse is at risk of contracting tetanus. There has been an increase in the number of cases of tetanus seen by the veterinarians at Morphettville Equine Clinic over the last 12 months. Vaccination against tetanus is thus more than ever essential and very effective. It is important that broodmares are given a booster vaccination during pregnancy in order to provide the foal with a degree of protection from birth. The booster is best given 4-6 weeks before foaling.

Vaccination Protocol against Tetanus:

Equine Tetanus	Priming Dose	Secondary Dose	Booster Dose
Foals	From 3 months of age	4-6 weeks later	Annually
Vaccinated Pregnant Mares			4-6 weeks before foaling
Non-Pregnant Mares/ Horses Not Previously Vaccinated	Anytime	4-6 weeks later	Annually

Equine Strangles

Equine Strangles is a highly contagious bacterial respiratory disease of horses, which occurs worldwide. Horses of any age can be affected, but young horses are particularly susceptible. It is transferred by direct contact between horses or from horse handlers, buckets, feed and tack that has been contaminated with nasal discharges from infected horses. In general, the more a horse is in contact with other horses, the greater its risk of contracting strangles. Characteristic clinical signs of strangles include sudden onset of fever, depression, loss of appetite, followed by nasal

discharge. Nasal discharge appears clear in the early stages but rapidly develops into thick mucus. This is usually followed by swelling of the lymph nodes in the throat and lower jaw areas. One or more abscesses can form in the inflamed lymph nodes and these eventually tend to rupture either to the outside or into the back of the throat. The swellings can sometimes interfere with eating and breathing – hence the name strangles. The history, clinical signs and culture results of a nasal swab or fluid from an enlarged gland help in making a diagnosis of the disease. Most horses achieve a full recovery with treatment. However, infected horses must remain in isolation for at least 6-8 weeks before being reintroduced to non-infected horses. For example, horses residing at the track at Morphettville or on agistment farms are in a high-risk situation. These horses are kept in groups, where new horses of unknown origin are regularly added. An outbreak of strangles would have a massive economic impact on the racing industry in South Australia. What can we do to prevent this? Prevention of the disease or its spread primarily depends upon good management practices. Biosecurity is of huge importance. All new horses entering the yard should be monitored closely and their temperatures checked regularly. If the facilities are available, new horses should ideally be kept in strict isolation for 2 weeks. Vaccines should be used as part of a control program. They do not offer complete protection against the disease but do reduce severity and incidence of the disease and the spread of infection within a group of horses. With the help of a correct vaccination program and good management procedures, you should be able to reduce the risk of strangles on your property.

Vaccination Protocol as an aid in the control of Equine Strangles:

Equine Strangles	Priming Dose	Secondary Dose	Tertiary Dose	Booster Dose
Foals	From 3 months of age	2 weeks later	2 weeks later	6-12 monthly depending on risk factor
Vaccinated Pregnant Mares				4-6 weeks before foaling
Non-Pregnant Mares/ Horses Not Previously Vaccinated	Anytime	2 weeks later	2 weeks later	6-12 monthly depending on risk factor

NB: Combination Tetanus and Strangles vaccines are available.

Equine Herpesviruses 1 and 4 (EHV1, 4)

Equine Herpesvirus is associated with respiratory disease, abortions, and occasionally, neurological disorders. It is a highly infectious disease, which occurs worldwide. Foals and yearlings with respiratory disease caused by EHV show variable clinical signs, which include elevated temperature, watery nasal discharge, enlarged glands under the jaw and coughing. EHV infected broodmares abort in mid to late pregnancy or give birth to weak foals, which usually die within 3 days. Disastrous epidemics (“abortion storms”) can occur in susceptible pregnant mare populations. Following abortion, the placenta, its fluids and foetus or dead foal are

heavily contaminated with virus and are a potent source of infection. The virus can also cause paralysis, in horses of all ages and types, often first involving the hindlimbs and bladder and sometimes progressing to involve all four limbs and resulting in death or a requirement for euthanasia. There is no specific treatment for EHV. Affected horses should be isolated and strict disinfection implemented. Effective control against EHV involves the application of carefully executed management practices, including vaccination. Pregnant mares should be kept in small fixed groups according to their stages of pregnancy and no young animals or horses out of performance training should be introduced to their groups. Vaccines do not completely prevent individual horses from infection but they reduce the severity of clinical signs if infection occurs. Regular and frequent vaccination is necessary as the duration of protective immunity is short-lived. An outbreak of EHV-1 would have a huge impact on the thoroughbred breeding industry in South Australia. Costs to be considered in an outbreak would include the loss of foals, loss of mares, closure of premises and of course veterinary bills. All pregnant mares should be vaccinated. Some studs will no longer accept broodmares that are not vaccinated for equine herpesvirus.

Vaccination Protocol against Equine Herpes Respiratory Disease:

	Primary Dose	Secondary Dose	Booster Dose
Foals	From 5 months of age (from 3 months if receive inadequate colostrums)	4-6 weeks later	Every 6 months
Other Horses	Anytime	4-6 weeks later	Every 6 months

Vaccination Protocol as an aid in the control of EHV-1 Abortion:

Months of Gestation	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th
Pregnant Mares					X		X		X		

Other available vaccines that are now becoming a requirement on some studs include those for the control of Equine Rotavirus and Equine Salmonellosis. Both these diseases can have a major economic impact on the breeding industry as a result of loss of foals and veterinary costs.

Equine Rotavirus Infection

Equine Rotavirus is one of the most common causes of diarrhoea in foals worldwide. Rotavirus is resistant to many of the commonly used disinfectants and can survive in the environment for up to nine months. It is transmitted via the faecal-oral route. Rotavirus can cause clinical disease in foals between 2 days and 6 months of age. Affected foals will stop nursing, become depressed and develop diarrhoea 12-24 hours post infection. Dehydration can develop rapidly, especially in younger foals. Like EHV, effective control of Equine Rotavirus involves carefully executed management practices, including vaccination. Sick foals should be kept in separate barns and paddocks; contaminated stables should be disinfected with effective disinfectants. Vaccination protocol involves the vaccination of pregnant mares that

subsequently transfer antibodies to the newborn foal via colostrum.

Vaccination Protocol as an aid in the control of Equine Rotavirus:

Months of Gestation	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th
Pregnant Mares not previously vaccinated (Year 1)								X	X	X	
Vaccinated Pregnant Mares										X	(Month before foaling)

Equine Salmonella

Salmonellosis is a bacterial infection that most commonly causes diarrhoea in all species. There are a number of different strains of *Salmonellae*, *Salmonella typhimurium* is the predominate strain causing infection in horses. *Salmonella* organisms are common contaminants of the environment and thrive in faecal material. It is transmitted via the faecal-oral route. Horses of all ages can become infected but foals are at highest risk. Some horses can act as latent carriers of the disease. These horses do not show clinical signs but can be carriers of the disease. The disease is closely related to stress e.g. high worm burden, change of environment, transportation, excessive training, hospitalisation, early weaning, etc. Clinical signs in foals include diarrhoea, dehydration and septicaemia associated with joint infection and polyarthritis. Treatment can be very expensive and not always successful. Once again, control of salmonella involves strict hygiene practices. Vaccines can also be used as part of the control program.

Vaccination Protocol as an aid in the control of Equine Salmonellosis:

Equine Salmonellosis	Priming Dose	Secondary Dose	Booster Dose
Foals	From 4 months of age	4 weeks later	6 months after 2nd dose, then Annually
Vaccinated Pregnant Mares			6 weeks before foaling
Pregnant Mares not Previously Vaccinated	Not later than 10 weeks before foaling	Not later than 6 weeks before foaling	Annually
Non-Pregnant Mares Not Previously Vaccinated	Anytime	4 weeks later	Annually

In summary, a horse's vaccination program should be based on the risk of disease for the horse and also the economic consequences of an outbreak. It assists in the prevention of the spread of contagious diseases should an outbreak occur. For more information on vaccinations and the most suitable vaccination program for your horses, please contact us on 82948900.

– Dr. Annemarie Cullimore, MVB
Morphettville Equine Clinic