VACCINATING YOUR EQUID

Why vaccinate?

Just as in humans, the aim of vaccination in the equine population is to:

- reduce the animal's chance of catching a disease
- reduce the severity of that disease if infection does occurs
- reduce transmission of that disease to other animals

What do we vaccinate against?

The routine diseases we vaccinate horses and donkeys against in the UK are **influenza** and **tetanus**. We can also vaccinate against herpes when required.

Which animals should be vaccinated?

- **Every horse** should be vaccinated against **tetanus**, as this is a fatal disease that is contracted from the soil.
- **Horses that frequently meet other horses** should also be vaccinated against **equine influenza (flu)**. This includes horses on livery yards, those who go to competitions or travel for any reason, as well as horses who come in to contact with those who have done so, even if they have not been there themselves.
- **Pregnant mares** and in some settings **competition horses** should be vaccinated against **herpes.**
- **Every donkey** should be vaccinated against **tetanus** and **influenza**, as disease tends to be much worse in donkeys than horses.

What is the vaccination protocol?

Influenza

The primary course consists of 3 vaccinations: the first two are administered **4 weeks** apart, and the third is given **5 months** later. Following this boosters are given every **12 months**.

V1-V2 interval	4 weeks
V2-V3 interval	5 months
V3-booster interval	12 months

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Tetanus

Tetanus and influenza can be given as a combined vaccine, in which case the above protocol is used for influenza and the combined vaccine is given for those doses to which tetanus is applicable. If vaccinating against tetanus as an individual disease, the first two vaccinations are administered **4 weeks** apart and the third is given **17 months** later. Boosters are given every **24 months**.

V1-V2 interval	4 weeks
V2-V3 interval	17 months
V3-booster interval	2 years

How do these schedules apply to competition horses?

Almost all competition bodies require vaccination against equine influenza in order for horses to enter their competitions. However **each organisation can set their own rules** regarding vaccination interval requirements. These usually provide a window during which dates the 2nd, 3rd, and booster vaccinations must be given.

For example, in 2022 the FEI require the 2nd vaccination to be between 21 and 92 days after the first, and the 3rd to be within 7 months of the 2nd. Boosters must be given within one year of the 3rd vaccination. If the vaccination is given even one day outside the required window then the course is invalid and must be restarted.

As each organisation can have different rules it is not possible to advise a one-size-fits-all competition requirement, and **you will need to check with your chosen competition body**. However, if the protocol recommended on page one is followed for 2nd (4 weeks) and 3rd (5 months) vaccinations, and boosters are given within 12 months, this will fit within the windows of ALL organisations. Most authorities state that a horse cannot compete within 7 days of receiving any vaccination, and that a horse is eligible to compete 7 days after their second vaccination.

Many competition bodies also require the booster vaccination to have been given within the 6 months + 21 days prior to the competition. This does not mean boosters must be given every 6 months, only that competition can only occur in the 6 months following booster – if the horse only competes for 6 months of the year then one booster per year will be sufficient to achieve this.

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The Diseases

Tetanus

Tetanus is a fatal disease caused by the bacteria *Clostridium tetanii.* It is found virtually everywhere, especially soil, and can survive in the environment for long periods of time. The bacteria invade the body through cuts and grazes, particularly puncture wounds, for example a penetration of the sole of the foot. The bacteria then multiply in the body and produce a toxin that causes rigid paralysis of the horse's muscles. The horse becomes progressively stiffer, adopting a rigid stance with an elevated tail head and a prolapsed third eyelid. Horses with tetanus also appear anxious and are extremely sensitive to stimuli such as touch or sound. Ultimately the horse has trouble eating, standing and breathing and will die from respiratory failure.

Horses are particularly susceptible to tetanus toxin and therefore disease is usually fatal in unprotected (unvaccinated) horses, even if aggressive treatment is attempted. It is an extremely painful and distressing disease. Thankfully, tetanus is not commonly seen in the UK due to vaccination which is simple, safe, effective and inexpensive.

Young foals can be infected through the umbilicus in the first few days of life and therefore it is important that they receive antibody protection from the milk of their dam. This is achieved by the dam having been fully vaccinated in advance, and the foal sucking colostrum in the first few hours of life. Foals should then be vaccinated at approximately 6 months of age once the maternally derived antibodies have waned.

Unprotected horses (and newborn foals) can be given short term protection of several weeks' duration by administration of tetanus antitoxin; however this is much more expensive than the tetanus vaccine.

Influenza

Equine flu is caused by the equine influenza virus and manifests as fever, depression, lethargy, coughing and a watery or snotty nasal discharge. Disease can spread very quickly between unprotected horses as the virus can travel long distances in the air. People going from infected to non-infected horses can also transmit infection by acting as a fomite and carrying virus particles on their hands, clothes or equipment.

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Vaccinated horses may still become ill if challenged with a new virus strain but disease is usually shorter and much less severe than in the unvaccinated population.

Vaccination is an easy way to ensure that those horses who share airspace with other horses through yard management, travel, or competition, both remain healthy and pose as low a risk as possible to other horses.

Equine Herpes Virus

Equine herpes virus is responsible for 3 different disease syndromes: respiratory disease, abortion of pregnant mares and neurological disease.

Upper respiratory tract infections are the most common form of herpes disease in horses. Any horse can be infected, but outbreaks may occur in settings like racing years with frequent mixing of different groups of horses. Clinical signs of disease include mild fever, coughing and a nasal discharge. Older horses may become infected and pass on the virus without showing any clinical signs. Once a horse is infected, the virus remains latent (not causing any clinical signs) in the horse's nerve endings for many months prior to shedding again. Shedding is believed to be stimulated by stress.

Vaccination is rarely used routinely to prevent against respiratory disease as circulating levels of the virus are low, however it can be used in the face of an outbreak or in certain competition circumstances. In these cases the primary vaccination course is 2 doses **4-6 weeks apart**, followed by booster vaccinations every **6 months**.

Abortion due to equine herpes usually occurs in the second half of pregnancy. Abortion 'storms' can occur due to spread of the virus on studs, and this often follows herpes respiratory disease. For this reason, it is recommended that young stock and pregnant mares are kept separately on stud farms, to prevent virus in the young stock spreading in to the pregnant population.

Vaccinations are routinely given to pregnant mares to prevent abortion. Three doses are given, one each at **5, 7 and 9 months of pregnancy**.

Neurological disease due to herpes virus occurs sporadically, and again often follows herpes respiratory infection. Clinical signs include fever, progressive weakness and paralysis of the hindlimbs. Horses that stabilise quickly often recover, but those that are severely affected often require euthanasia. Unfortunately, no vaccination is currently licensed to protect against herpes neurological disease.

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