



Vaccination

Vaccination forms an extremely important part of infectious disease control programmes in horses. The aims of vaccination are to reduce the likelihood of outbreaks of infectious disease occurring; to limit the extent of outbreaks when they do occur; and to reduce the severity of disease in individual horses. Vaccines are available for the major equine infectious diseases seen in the UK including equine influenza viruses, equine herpesviruses, equine arteritis virus, equine rotavirus and tetanus (*Clostridium tetani* toxoid) and for more exotic diseases such as West Nile Disease.

In all groups of horses there is variation in the way that individual horses respond to vaccination: in some horses high levels of immunity are produced whilst low levels of immunity are induced in others. The extent and duration of protection that develops following vaccination therefore varies and not all horses are equally protected. Some horses, the 'low responders', may still be susceptible to disease despite vaccination and disease may therefore occur in a proportion of vaccinated horses. Complete protection from disease (i.e. total absence of clinical signs and shedding of pathogen) is rarely achieved even in horses that respond maximally to vaccination. Antigenic differences between different strains of the pathogen create further variation in the protection that can be expected following vaccination. This is a particular problem for vaccination against the equine influenza viruses but is a feature of all equine pathogens.

All commercial vaccines are subject to rigorous regulatory control and safety assessments before licensing, as well as during manufacture and use, to ensure that they are safe for use. Suspected adverse reactions following vaccination are reported to the Veterinary Medicines Directorate, recorded and investigated to ensure the continuing safety of equine vaccines.

In most cases all horses in a group, herd or yard should be vaccinated to reduce the risk of disease outbreaks: vaccination of individual horses within a group greatly reduces the ability of vaccination to control disease. An exception to this is the use of the vaccine to protect against equine viral arteritis, where it is recommended that proven sero-negative stallions are vaccinated but not other stock. Vaccines should be used as part of integrated disease control programmes that include scrupulous

attention to management coupled with hygiene precautions. *Codes of Practice* detailing recommended management practices for control of equine herpesvirus infections and strangles are published by the Horserace Betting Levy Board (www.hblb.or.uk).

Veterinary surgeons have a key role in advising their clients on how best to apply biosecurity measures to suit their particular situation and in deciding whether vaccination should be employed as part of disease control programmes.

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