

CODE OF PRACTICE  
FOR EQUINE COITAL  
EXANTHEMA (EQUINE  
HERPESVIRUS-3  
INFECTION)

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## The Disease

Equine coital exanthema (ECE) is a predominantly sexually-transmitted disease caused by infection with Equid Herpesvirus 3 (EHV-3), a highly contagious but otherwise non-invasive and relatively benign virus. EHV-3 is distinct from the other equine herpesviruses. Typical 'pox-like' skin lesions appear on the penis of stallions and the vulva of mares. The virus is endemic in UK and most horse breeding populations internationally.



## Notification Procedures

There are no legal notification requirements for ECE in the UK although it may be helpful to inform the national breeders' association if infection occurs.

## Clinical Signs

After an incubation period of 5–9 days, small (1–3 mm) raised papules, which are often not noticed, appear on the skin of the penis of stallions and the vulva of mares. Over 24–48 hours these progress to fluid-filled vesicles, which mature and rupture leaving purulent 'pox-like' craterous lesions. These may remain as individuals or may coalesce into a raw or encrusted skin erosion or ulcer, before healing usually by 10–14 days. Secondary infection with bacteria will delay healing and may require local antiseptic or antibiotic treatment. Lesions specifically on the urethral process of the stallion sometimes result in inability/unwillingness to ejaculate.

Signs of systemic illness and genital discomfort are unusual but some stallions become uncomfortable enough to be unwilling to mate until lesions have healed. Some infected stallions take longer to recover and may develop secondary complications. Mares seldom show signs of systemic illness and lesions usually heal within 10–14 days, often leaving white (depigmented) skin scars.

Latent carrier infection occurs in both mares and stallions. These individuals may or may not have shown previously recognisable signs of disease at primary or reinfection and usually do not do so at recrudescence. The anatomical site of virus latency is unproven.

A non-venereal form of EHV-3 infection occurs uncommonly in maiden colts and fillies, causing pyrexia (raised temperature) and very painful coalescing skin lesions around the anus and vulva (in fillies), over the perineum and between the hindlegs and on the scrotum (in colts).

In breeding horses the infection causes no immediate or longer term direct effect on the fertility of stallions or mares, but temporarily disrupts mating schedules while the stallion recovers and becomes no longer infectious. Where infection occurs towards the end of the breeding season, missed mating opportunities may result in reduced pregnancy rates. The virus has not been reported to cause abortion in mares.

## Transmission of Disease

EHV-3 is highly infectious between susceptible horses and may be transmitted by direct or indirect genital contact. The virus may be transmitted from subclinically infected animals that have no recognisable signs of skin lesions.

Horses that have recovered from infection and those that showed no recognisable signs of typical skin lesions may become latent carriers of EHV-3. It is believed that the most common source of infection for ECE is the periodic recrudescence of virus (resumption of viral shedding) from a latently infected carrier mare or stallion that does not have clinical signs.

Nasogenital transmission of EHV-3 between mares at pasture and at teasing, with demonstrable nasal, lip and nostril lesions, has been reported. The role of stable flies for potential vulval to vulval transmission is proposed but unproven.

## Prevention

All stallions and mares should be routinely and carefully inspected for signs of papules, vesicles, pustules or 'pox-like' craterous lesions on the skin of their penis/prepuce and vulva/perineum before mating proceeds. If there is any suspicion of infection, veterinary advice should be sought before mating is allowed to proceed.

Veterinary surgeons or assistants who are handling the genitalia of infected horses should wear disposable gloves that are changed between horses and veterinary surgeons should use disposable vaginoscopes. Utensils such as jugs/buckets and saline solution should not be shared between horses, and disposable paper towels should be used rather than shared sponges.

There is no commercially available vaccine for EHV-3 infection. Although it is unusual for stallions or mares to show signs of infection again after natural infection, it is probable that natural immunity is short-lived as individuals have shown recurrent ECE in sequential breeding seasons.

## Diagnosis

A presumptive diagnosis of ECE may be made on the basis of typical clinical signs. Confirmation can be made on the basis of paired serology (rising EHV-3 antibodies in clotted blood samples) with samples collected at the time of first suspicion and 14–21 days later, and tested for EHV-3 neutralising (VN) antibody<sup>1</sup>. A fourfold or greater rise in antibody level between the first (acute) and second (convalescent) samples usually confirms recent EHV-3 activity. ECE cannot be

conclusively ruled out on the basis of less than a four-fold rise in antibody titre as VN antibody production may be lower in some cases.

Confirmation of diagnosis may also be made on the basis of isolation of EHV-3 from active lesions, although care should be taken that failure to isolate virus does not necessarily preclude that infection has occurred recently.

## Treatment

Any necessary treatment for lesions affecting the genitalia or for systemic illness will be determined by the attending veterinary surgeon.

## Control of Infection

In horse populations with endemic EHV-3, where occasional reactivations of latent virus with shedding by latently infected carriers is undetectable and therefore unavoidable, early diagnosis and containment of spread of infection is most important. Staff involved with stallion mating management should be trained in the recognition of genital skin lesions characteristic of ECE and what to do should signs be suspected.

When infection is suspected or diagnosed in a stallion, mating should cease until the stallion is confirmed free of disease (see below). This usually takes 10-14 days but may take longer in individual stallions. Although, in stallions with no systemic signs of illness, it may be tempting for managers of busy commercial stallions, with the encouragement of some mare owners, to continue to mate mares, this is inadvisable. This is because the stallion may become sore and unwilling to mate/ejaculate and the potential for development of systemic signs of illness and secondary complications will be increased. In addition, this is likely to slow the stallion's healing and recovery process, will increase the numbers of mares infected and as such will inevitably increase the numbers of latently infected carriers in the horse population.

When infection is diagnosed in a stallion, all owners with mares mated to that stallion should be informed so that they may ask their attending veterinary surgeon to examine their mares for signs of infection. Mare owners should be warned of the delay that is anticipated before the stallion will be available for mating again.

When infection is diagnosed in a mare that has been mated within 3 weeks, the mating stallion owner/manager should be informed so that he/she may cease mating with the stallion and ask the attending veterinary surgeon to examine the stallion for signs of infection. The stallion owner/manager should then notify owners/managers of other mares mated by that stallion within the previous 3-4 weeks so that their veterinary surgeons may examine for signs of infection. Mating should only recommence when the stallion is free from signs of infection; when reports reveal no signs of infections in other mares that he has mated; and veterinary opinion is that he is not in the stage of incubating the infection.



Whilst ECE should be avoidable by the careful use of artificial insemination (AI) (where allowed by registration authorities) with effective barrier management, the potential for virus spread during AI has not been explored.

EHV-3 is quickly destroyed in the environment by lipid solvents, detergents, heat, drying and commonly-used disinfectants. Hygienic management of mare examination stocks and handling areas, particularly at covering barns, is important in the prevention of ECE and other sexually-transmitted diseases.

## Confirmation of Freedom from Disease

Resumption of mating should be based upon freedom from clinical signs of infective lesions rather than set time periods, as the latter will vary with individual circumstances. However, stallions that are immediately rested and palliatively treated are usually ready for resumption of mating by 10-14 days. Stallions may be considered recovered when any systemic signs of illness have resolved and the penis and prepuce have been thoroughly examined, with the penis erect, and no vesicular or pox-like skin lesions are visible or previously diagnosed lesions have healed over, leaving non-inflamed, smooth scars. The vulvas of mares should be examined thoroughly after washing. No vesicular or pox-like skin lesions should be visible or previously diagnosed lesions should have healed over, leaving non-inflamed, smooth scars.

## Export

ECE is not notifiable by law. However, no horse with clinical signs or recent sexual contact with the disease should be exported.

## Further information

<sup>1</sup>An Equine Herpesvirus-3 neutralisation antibody test is available at the Animal Health Trust, Lanwades Park, Kentford, Newmarket, Suffolk CB8 7UU (01638 552993).

