

# Equine Viral Arteritis

## Definition

Equine viral arteritis (EVA) is a contagious viral disease of horses worldwide. The disease is frequently confused with other conditions that produce clinically similar conditions. Documented outbreaks have been infrequent, but this may be related to lack of recognition. The portion of the name arteritis comes from the characteristic vascular lesion that is produced.

## Clinical Signs

Variable (similar to any infectious agent that causes vasculitis) but most commonly:

Fever, depression, anorexia

Edema

Limbs, ventrum, periorbital region, scrotum/preputia (male), mammary (female)

[Urticaria - Link to EVA photos](#)

Conjunctivitis

Rhinitis

Abortion—associated with ‘abortion storms’

Leukopenia

Mortality is rare in adult horses.

**Note:** The majority of acute EVA infections are subclinical or inapparent.

## Transmission

Aerosol transmission via respiratory secretions of acutely infected horses predominates.

Venereal transmission

Stallions can become carriers and maintain the virus in the horse population.

Cooled or frozen semen can be infectious.

Indirect transmission (fomites, urine, feces, artificial insemination, and vaginal secretions) has been reported

Congenital infection in foals has been reported.

## Diagnostic Testing

Diagnosis based on clinical signs is difficult due to the wide array of clinical signs and frequency of unapparent/mild signs.

Diagnosis is made by virus isolation and/or paired serology.

Virus isolation sampling can include whole blood (EDTA or heparin), nasopharyngeal swabs, conjunctival swabs, fetal or placental tissues/fluids.

Virus isolation sampling should be initiated promptly once clinical signs manifest. EVA is fragile at room temperatures, but stable when frozen. Samples should be frozen and shipped with freezer packs.

Paired (acute and convalescent) sera should include a time interval of 3-4 weeks. Previous vaccination history should be considered when interpreting titers. Vaccinated individuals may have an active serologic response or a rapid rise in titer in response to exposure.

## Shedding Time of Organism Past Resolution of Clinical Signs

Carrier stallions continue to shed through semen, but not through the respiratory tract.

Only stallions develop into the carrier state.

## **Environmental Persistence**

The virus is heat sensitive but is able to persist at freezing temperatures.

## **Specific Control and Treatment Measures**

### Biosecurity Guidelines

Clinically normal horses housed within the primary perimeter may be permitted segregated exercise periods outside the perimeter. Precautions should be taken, and may include:

- Exercise scheduled *after* general population's exercise period to avoid potential virus transfer to unaffected horses/barns by exercise riders.
- Access to starting gate or similar equipment denied
- Restricted use of ponies/out-riders' horses—horses housed within the primary perimeter may only be escorted by horses housed within the same facility.
- Direct horse-to-horse contact is to be avoided.
- Prompt post-contact use of hand sanitizer by individuals having contact with horses during exercise.

### Vaccination

The vaccine has been used successfully to curtail the spread of EVA in large outbreaks of the disease. In the face of an outbreak, vaccination of exposed but clinically normal horses can be used as a part of a control program.

Primary vaccination provides protection from clinical disease for 1-3 years. Vaccination does not prevent re-infection or potential replication of challenge virus.

Note: Vaccinated horses may become viremic and transmit disease while remaining clinically normal.

Revaccination results in enhanced serologic response.

It is recommended that at-risk stallions be re-vaccinated annually.

Stallions are screened serologically before primary vaccination. Implications regarding breeding shed access and export must be considered when vaccinating at-risk horses.

Currently it is not possible to differentiate vaccine from natural infection via serology.

'Pony' horses/outriders' horses/catch horses (or those with close contact to multiple horses) should be vaccinated or withdrawn from use until vaccinations are administered.

## **Release of Animals from Isolation**

Release of animals from the primary perimeter may be considered 3-4 weeks after the resolution of clinical signs within the primary perimeter. Animals can be released if virus isolation (nasal/pharyngeal swab and blood) are negative. After all animals have been released (3-4 weeks post clinical signs/ negative virus isolation) from the primary perimeter a thorough disinfection of the area should be attempted.

## **Biosecurity Issues for Receiving Animals**

For horses having been housed within the primary perimeter:

Certificate of Veterinary Inspection w/ affidavit indicating that within the previous 21 days the horse has not demonstrated signs of EVA, has not been exposed to nor housed with horses that demonstrated signs of, or were suspected or confirmed as being infected with EVA.

For other horses:

Require health certificate w/disease specific disclaimer and proof of vaccination.

Breeding farms:

Mares or fillies shipping from a premise of exposure should follow the requirements as listed for exposed and unexposed individuals as above.

Colts and stallions should also follow these restrictions (in addition to any State veterinary restrictions) if these animals are to enter the breeding population.

### **Zoonotic Potential**

None known.