



**Disease Name:** Equine Viral Arteritis (EVA), Equine Arteritis Virus (EAV)

**Disease definition:** Equine Viral Arteritis (EVA) is a contagious disease of equids caused by equine arteritis virus (EAV), an RNA virus that is found in horse populations in many countries. While typically not life-threatening to otherwise healthy adult horses, EAV can cause abortion in pregnant mares, death in young foals, and establish a long-term carrier state in breeding stallions.

**Disease Type:** Viral

**Transmission:** Respiratory transmission is most common and spreads via droplets of respiratory secretions from acutely infected horses or foals born already infected. Sexual transmission occurs through infected reproductive fluids (semen, uterine fluids, transferred embryos, aborted materials). Indirect transmission occurs via objects (for example: twitches, halters, hands of animal care personnel) contaminated with respiratory or reproductive secretions. Congenital infection can occur when foals are infected prior to birth when their dam is infected in late pregnancy.

**Frequency:** low (especially in areas with adequate biosecurity)

**Incubation period:**

- Respiratory – 2-4 days, but can be as long as 14 days
- Reproductive – usually 6-8 days, but can be as long as 14 days

**Carrier status:** Carrier stallions shed EAV constantly in semen, but not via the respiratory tract, urine, or blood. Only stallions and sexually mature colts can be carriers of EAV.

**Shedding period:** Stallions without clinical signs can shed the virus constantly in their semen. Newly infected animals (mares, geldings, foals) can shed the virus for up to 16 days.

**Latency:** It is unknown how soon infected horses become infectious.

**Severity:** Low. The majority of EAV infections show no clinical signs and mortality is rare. Young foals, immunocompromised and debilitated horses are at greater risk for severe disease.

**Clinical signs and symptoms:**

- Not all infected animals show clinical signs
- Clinical signs are not specific for EAV infection and may be worse in young, old, or immunocompromised animals
  - Fever (up to 106° F or 41.1° C) for 2 – 9 days
  - Depression
  - Not eating
  - Swelling of the limbs, abdomen, abdomen, sheath (male), udder (female)
  - Stiffness when moving
  - Redness and tearing of the eyes
  - Runny nose
  - Hives
  - Abortion any time after 2 months of pregnancy – individually or a proportion of a herd
  - Temporary (up to weeks) subfertility in stallions



- Death in foals due to respiratory or gastrointestinal disease

**Diagnoses:** Diagnosis is made by a veterinarian by measuring paired titers (two blood samples taken at a specific interval) in serum (a component of whole blood), using an ELISA (enzyme-linked immunosorbent assay) test (on blood) or with PCR (polymerase chain reaction) or VI (viral isolation) of infected tissues or fluid. It is important to note that titers cannot be used to differentiate animals that were vaccinated from those that were infected naturally. Stallions with positive serum titers should be evaluated for persistent shedding status by ELISA, PCR, or VI.

**Treatment:** There is no specific treatment for Equine Viral Arteritis. Supportive care is administered in moderate to severe cases of disease, although most non-stallions clear the disease with no long term side effects. There is no effective treatment for intact breeding stallions.

**Prognosis:** Good. Adult horses who are exposed to the virus can have an infection rate of up to a 100%, but most animals recover completely with supportive care. Exposed stallions become carriers in 10-70% of cases. Death of infected neonatal foals can be up to 23%. Abortion rates can reach up to 70% in herds.

**Prevention:** Keep breeding horses that are at high risk for EVA up to date on vaccination. The most current vaccination guidelines for horses can be found on the AAEP website at [\\*\\*ALL VACCINATION PROGRAMS SHOULD BE DEVELOPED IN CONSULTATION WITH A LICENSED VETERINARIAN\\*\\* \(aaep.org\)](http://www.aaep.org).

It should be noted that after vaccination horses can shed low levels of virus in their respiratory secretions for one week and should be kept quarantined for a total of three weeks post-vaccination. Negative certification is of importance PRIOR to vaccination in all stallions and certain categories of mares. Testing should be performed shortly prior to, or preferably at, the time of vaccination.

The vaccine is not recommended for use in pregnant mares.

#### **Biosecurity:**

On breeding farms, specific control measures include

- Identification and separation of any carrier stallions
- Vaccination of non-carrier stallions
- Restricted breeding between vaccinated and non-vaccinated animals including equipment and location
- Isolation of new animals bred to carrier stallions for three weeks after breeding
- Use vaccination as needed for the management and protection of animals

For performance animals no specific guidelines have been developed due to the infrequency of EVA outbreaks. General biosecurity guidelines [Infectious Disease Control | AAEP](http://www.aaep.org) should be followed.