



## Vesicular Stomatitis (VS)

**Disease Name:** Vesicular Stomatitis (VS).

**Disease Type:** Vesicular stomatitis is a viral disease of horses, donkeys, mules, cattle, swine and New World camelids that occurs in the Western Hemisphere. The disease is named for the characteristic vesicular lesions it causes in the form of blisters, crusts and ulceration of the lips, muzzle, nose, tongue, ears, sheath, teats, and/or coronary band.

**Transmission:** Vesicular stomatitis virus (VSV) is an insect-borne arbovirus predominantly transmitted by black flies, sand flies, and biting midges (*Culicoides* species). Other insect species may also be competent vectors of VSV. Infective virus is present within active vesicular lesions, and animals with active lesions are capable of transmitting the virus by direct contact, shared feed/water sources, and other fomites contaminated by infective lesions, vesicular fluid, and/or saliva.

Vesicular stomatitis is a zoonotic disease transmissible to humans by direct contact with the virus from lesions of infected animals. Symptoms resemble flu-like illness with fever, fatigue, and severe body aches as the most common presentation. People handling animals with lesions should protect themselves by wearing disposable gloves, being careful to avoid contact with saliva and secretions being dripped or snorted from the animal's nose and mouth, and thoroughly washing hands after handling lesioned animals.

**Frequency:** The disease is endemic in southern Mexico with sporadic outbreaks occurring in the United States during the summer months when certain climate factors favor the insect vectors migrating north.

**Incubation period:** 2 to 8 days.

**Carrier status:** Horses are not asymptomatic carriers of VSV.

**Severity:** VSV is rarely fatal, and most lesions resolve within 14 days. Painful oral lesions can make affected horses reluctant to eat or drink and result in systemic complications in some cases.

### Clinical signs:

- Vesicle formation leading to ulcerative lesions on the lips, muzzle, nostrils and tongue. The tongue is often the most severely affected area.
- Ulceration of the inner surface of the lips.
- Crusting of the muzzle, nostrils, and/or inside the ears.
- Excessive salivation secondary to the oral lesions.
- Difficulty picking up and chewing feed.
- Lameness due to painful erosions on the coronary band.
- Lesions can occur on the udder, sheath and inside of the ear.
- Lesions can develop secondary infections resulting in slow to heal wounds.
- Animals on pastures are at increased risk of VS.

**Diagnosis:** Initial diagnosis is based on recognition of characteristic vesicular lesions. Infection is confirmed via laboratory testing for serum antibodies and/or virus identification in fluid samples from active lesions. Veterinarians are required to report suspected VS cases to state/federal animal health officials who will direct sample submission to an approved regulatory laboratory for diagnostic testing.

**Treatment:** There is no specific treatment for VS. Practicing good biosecurity and treating affected horses with pain relievers, anti-inflammatories, and supportive care as recommended by a veterinarian.

**Prognosis:** The prognosis for survival of horse with VS is good.

**Prevention: Isolating all affected animals and placing the premise on immediate quarantine is required until all horses have fully recovered and no active lesions are present.** The State Veterinarian will work with your local veterinarian to determine and implement necessary quarantine procedures.

The following biosecurity procedures are also recommended to prevent virus spread:

- Isolate animals with lesions from healthy animals, preferably by stabling.
- Restrict movement of affected horses and their herd mates.
- Do not move affected animals on or off premises before quarantine has been released.
- Insect control programs that can reduce viral transmission on farms:
  - Eliminate insect breeding areas
  - Manure management and removal
  - House horses indoors or give access to shade during the daylight and dusk hours when insect vectors are most active.
  - Promote air circulation in stables with open breezeways and fans
  - Apply insect repellants to the horse including the inner surface of the ears (location where black flies feed)

#### **Requirements for new arrivals to a facility or event**

- During VS outbreaks, horses from affected regions should be considered high risk for transmitting VSV to unaffected facilities.
- Require a recent Certificate of Veterinary Inspection (CVI) with a statement related to potential exposure to VSV and veterinary examination of the animal confirming absence of VS lesions.
- Inspect newly arriving horses (including an oral examination) for vesicles or ulcerative lesions.
- Wear disposable examination gloves and personal protective clothing during examination of horses. Change gloves between examinations.