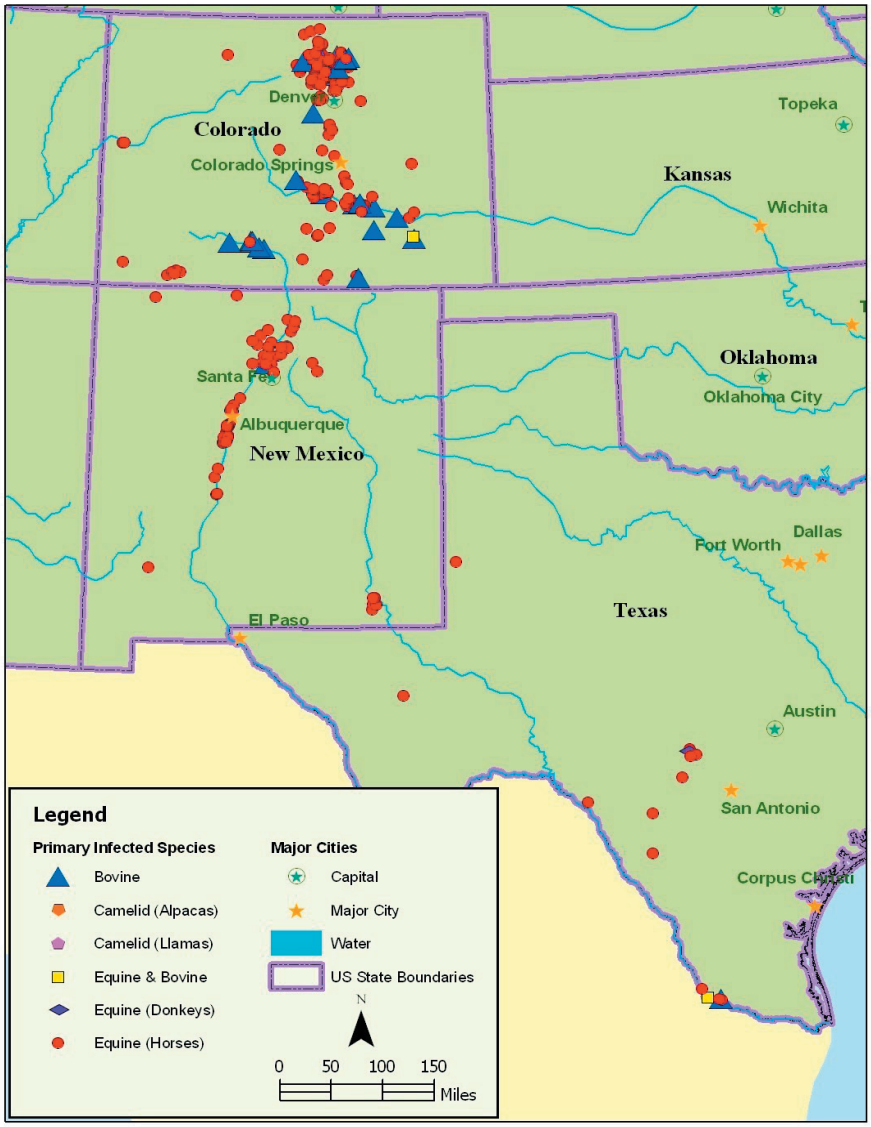
Vesicular Stomatitis: Questions and Answers

Vesicular stomatitis (VS) is a viral disease that primarily affects horses, cattle, and swine and occasionally sheep, goats, llamas, and alpacas. Humans can also become infected with VS when handling affected animals, but this is a rare event. VS has been confirmed only in the Western Hemisphere. It is known to be an endemic disease in the warmer regions of North, Central, and South America, but outbreaks of the disease in temperate geographic parts of the Hemisphere occur sporadically.

Outbreaks in the Southwestern United States usually occur during warm months, often along waterways and in valleys. The Southwest experienced a VS outbreak from May 2004 through January 2005. Animals in Texas, New Mexico, and Colorado were involved. A total of 294 premises in 43 counties were affected in these three States (see map). There could be another outbreak in 2005, and it is essential that veterinarians and livestock owners be on the alert for animals displaying clinical signs characteristic of VS.

Cumulative VSV Case Positive Premises 2/1/05



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Q. What are the clinical signs of VS?
A. In affected livestock, VS causes blisterlike lesions to form in the mouth and on the dental pad, tongue, lips, nostrils, hooves, and teats. These blisters swell and break, leaving raw tissue that is so painful that infected animals generally refuse to eat or drink. If the hooves are affected, the animal may show signs of lameness. Severe weight loss usually follows, and in dairy cows, a severe drop in milk production commonly occurs. Some affected dairy cattle can appear to be clinically normal and will continue to eat about half of their normal feed intake. Lesions in horses may also be expressed as crusting scabs on the muzzle, lips, or ventral abdomen.

Q. How is the disease spread?
A. How VS spreads is not fully known; insect vectors, mechanical transmission, and movement of animals are all factors. Once VS is introduced into a herd, the disease may move from animal to animal by contact or exposure to saliva or fluid from ruptured lesions.

Q. Can humans contract VS?
A. Humans rarely contract VS when handling affected animals but can become infected. To avoid exposure to this disease, use protective measures when handling affected animals. In people, VS causes an acute influenzalike illness with symptoms such as fever, muscle aches, headache, and malaise.

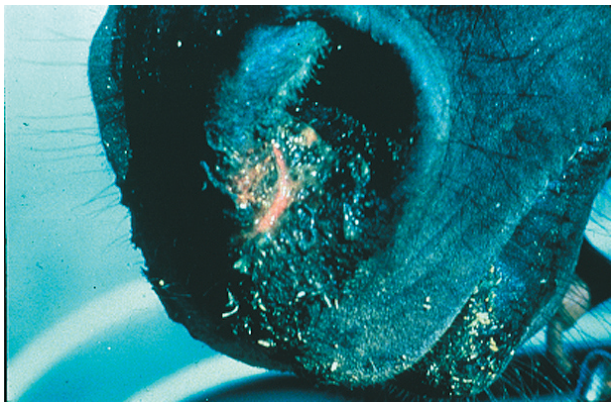
Q. Why is it so important to recognize animals with VS promptly?
A. VS is recognized internationally as a reportable disease. What this means is that there are serious economic and regulatory repercussions associated with the diagnosis, and once the disease is detected in the United States, many countries take action to block international trade of U.S. animals. Interstate movement of animals is also impacted. Premises containing affected animals are quarantined until 21 days after the lesions in the last affected animal have healed. These quarantine periods may be quite long.

While VS can cause economic losses to livestock producers, it is a particularly significant disease because its outward signs are similar to (although generally less severe than) those of foot-and-mouth disease, a foreign animal disease of cloven-hoofed animals that was eradicated from the United States in 1929. The clinical signs of VS are also similar to those of swine vesicular disease, another foreign animal disease. The only way to tell these diseases apart is through laboratory testing.

Q. What are clinical signs of VS? How does the disease progress in affected animals?
A. In affected livestock, the incubation period for VS ranges from 2 to 8 days. Often, excessive salivation is the first sign that an animal is affected. Body temperature may rise immediately before or at the same time lesions first appear. Initially, close examination of the mouth reveals blanched and raised vesicles. If there are no complications such as secondary infections, affected animals recover in about 2 weeks. VS does not generally cause animals to die.

Clinical signs of VS and other vesicular diseases include:

- Excessive salivation
- Swollen lips
- Blanched skin and raised or broken vesicles of various sizes around and in the mouth:
  Horses: Upper surface of the tongue, surface of the lips and around nostrils, corners of the mouth, and the gums.
  Cattle: Tongue, lips, gums, hard palate, and sometimes the muzzle and the area around the nostrils.
  Pigs: Snout.
- Lesions involving feet of horses and cattle are not commonly seen in the Southwestern United States. However, if lesions do occur, lameness may be noted as a clinical sign.
- Foot lesions and lameness are frequent in pigs.
- Teat lesions may occur in dairy herds. Loss of production and mastitis in dairy herds due to secondary infections may be a secondary complication.



Erosions and exudate in the nostrils.



Cow drooling from mouth lesions.



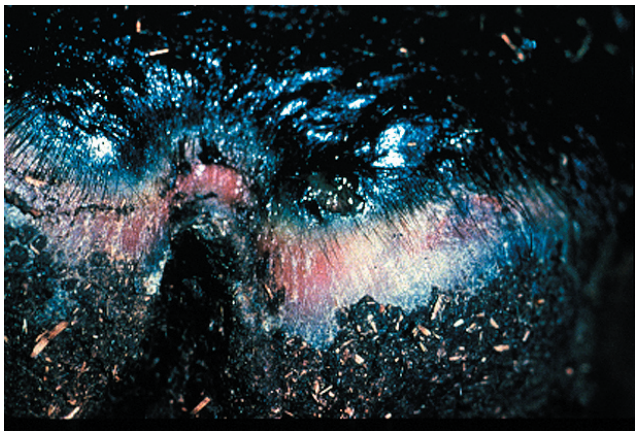
Erosions—ruptured vesicles—of the gums.



Erosions on a teat.



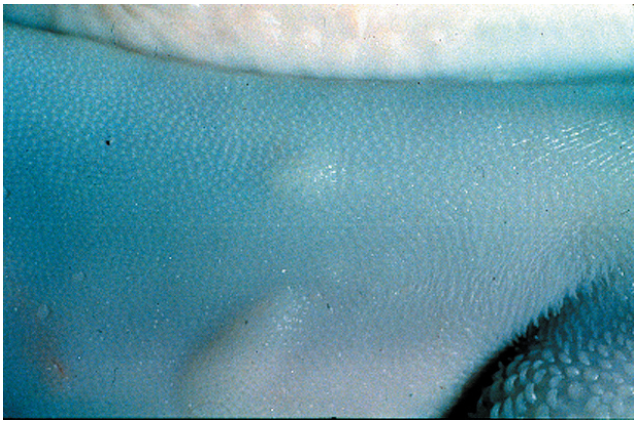
Erosions and dried exudate on the coronary band and heel.



Hyperemia and beginning erosions on the coronary bands.



Erosions—ruptured vesicles—on the tongue.



Vesicles on the tongue.

Photos obtained from:
<http://www.aphis.usda.gov/vs/ep/fad_training/VESVOL7/vesindex.htm>.

Q. What should I do if I think my horse has VS?
A. If you suspect your horse has VS, notify the State or Federal veterinarian in your area. Diagnosis of VS cannot be made based on clinical signs but requires testing of samples at the U.S. Department of Agriculture's National Veterinary Services Laboratories. Diagnosis of VS can be based on antibody tests using serum from the animal and/or by detection of virus from swabs of lesions, blister fluid, and tissue flaps. Diagnosis can be made within a few days for antibody detection in serum or in slightly over a week for virus detection in swabs, fluids, and tissues.

Q. If there is another VS outbreak this year, what do I need to do if I plan to travel with my horse to another State or country?
A. During a VS outbreak, States and countries may put regulations into place restricting the movement of animals and requiring testing of animals prior to movement. Each State and country has different requirements for movement testing. It is important that the animal owner become familiar with the regulations and testing requirements associated with moving an animal.

Not all laboratories run the same antibody tests, so it is important to check with your laboratory to find out if they run the test you need to comply with regulations or movement restrictions. It is also important to contact the laboratory in advance to determine the samples needed, submission procedures, and testing cost.

Not all VS tests are conducted on a daily basis, and during an outbreak of VS, there is an increased demand on laboratories for movement testing of animals. Therefore, it is important that a person submitting a sample to a lab for movement testing plan well in advance and have the sample at the lab at the earliest possible time based on the movement regulations.

For more information on testing, please visit our Web site at <http://www.aphis.usda.gov/vs/nvsl>.

Q. What can we do to protect our animals?
A. There is no specific treatment or cure for VS. Owners can protect their animals from this disease by keeping their animals from congregating in the area where VS has occurred. Mild antiseptic mouthwashes may bring comfort and more rapid recovery to an affected animal. Good sanitation and quarantine practices on affected farms usually contain the infection until it dies out of its own accord. If you suspect that you have a horse with VS, do not allow it to come in contact with your other horses.

When a definite diagnosis of VS is made on a farm, the following procedures are recommended:

- Separate animals with lesions from healthy animals, preferably by stabling. Animals on pastures are at an increased risk of disease.
- As a precautionary measure, do not move animals from premises affected by VS, unless they are going directly to slaughter, for at last 21 days after the last lesion found has healed.
- Implement on-farm insect control programs that include the elimination or reduction of insect breeding areas and the use of approved insecticide sprays or insecticide-treated eartags on animals.

Additional Information

To see more pictures of what lesions might look like, please visit the following Web site: <http://www.aphis.usda.gov/vs/ep/fad_training/VESVOL7/vesindex.htm>.

Additional information can be obtained from the following Web pages:

- http://www.quarterh.com/health3.htm
- http://www.oie.int/eng/maladies/fiches/A_A020.HTM
- http://www.vetmed.wisc.edu/pbs/zoonoses/vsv/vsvindex.html
- http://www.aphis.usda.gov/vs/ep/fad_training/VESVOL7/vesindex.htm

For more information, contact
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