



Strangles FAQ's

What is Strangles?

Strangles is a highly contagious infection caused by the bacterium, *Streptococcus equi* (*S. equi*). It is NOT an airborne virus. The bacteria spreads through contact. This could be nose-to-nose between horses or via contaminated surfaces or equipment such as: shared halters, lead shanks, cross ties, feed tubs, stall walls, fencing, clothing, hands, the hair coat from other barn pets, grooming tools, water buckets, communal troughs.

It typically takes 3 - 14 days from the time of infection to the manifestation of clinical signs. While Strangles is rarely fatal, it is a respiratory disease that can make your horse miserable for a few weeks. Recovering horses can shed the bacteria for four weeks or longer. Swift control measures will help minimize transmission, reduce associated medical expenses, and decrease the duration of facility 'lock down'.



Signs of Strangles?

Classic signs of Strangles are severe inflammation of the mucosa of the head and throat, often with extensive swelling and rupture of the lymph nodes below and behind the jaw, which can produce large amounts of thick, creamy pus.

However, not all horses will develop enlarged and abscessed lymph nodes; some will only present with slight nasal discharge. Others may be lethargic, lose their appetite and have difficulty breathing and swallowing due to lymph node enlargement around the throat area. In very rare circumstances 'Bastard Strangles' may develop with abscesses in the abdomen, chest or brain; others may develop immune-mediated diseases of skin or muscle.

Fever is an initial sign of Strangles. There is a brief window (1-2 days) after the fever begins and before the horse starts shedding the bacteria from the nose, contaminating the environment, and infecting other horses. Swift isolation and control measures are important.

How do we prevent Strangles?

Practice good biosecurity:

- 2 to 3-week quarantine for new horses arriving
- Screen horses for *S. equi* before or during quarantine (discuss with your veterinarian first)
- Group travelling horses together in the same paddocks and barn

- Don't share equipment (leads, halters, tack, grooming) between groups
- Use a visitors log as part of your [access management plan](#)
- Implement a clean clothes/footwear policy for people accessing your facility
- [Foot baths](#) are great risk mitigators when used correctly

When travelling off property:

- Use trusted haulers that clean and disinfect their trailers between loads
- When possible, disinfect your stall before use, focusing on high contact areas such as the bars on stall doors and windows
- Don't graze in communal areas or share water troughs
- Refrain from handling horses that are not in your group
- Avoid letting horses have nose to nose contact with other horses
- Take temperatures and monitor health while away and after return
- More resources and an interactive [Biosecurity Risk Calculator](#) are available from Equine Guelph.

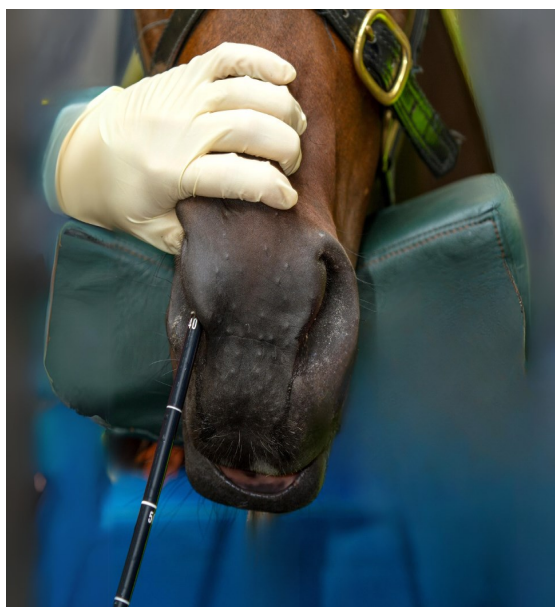


We have a Strangles case on the farm—Now what?

- [Isolate](#): Immediately isolate horses with signs of Strangles. Infected horses should remain in isolation until your veterinarians determines they are no longer infected. Testing should not occur until 30 days after the abscesses have healed, or other clinical signs have resolved.
- Stop all horse movement on and off the premises and limit human traffic.
- Set up red, yellow and green zones and co-ordinate taping halters/stalls/equipment with the same colour tape or markers to avoid cross contamination. Red is isolated/infected, yellow: exposed/monitor, green: not exposed. Limit traffic and keep all but essential personnel out of red zones. Put up signs and clearly communicate the infection control measures you are implementing with your staff, service providers, customers, and community. More on access management in [Section 7 of the National Biosecurity Standard for the Equine Sector](#).
- Monitor: Take temperatures of all horses in the yellow zone twice a day and monitor for signs of infection. Fevers can be cyclical. Some horses may develop fevers in the morning while others may present with a fever in the afternoon.
- [Cleaning and disinfecting protocols](#): Stalls, trailers, and other areas that have contained horses with Strangles should be cleaned of organic debris (manure, discharges etc.) before being disinfected as organic debris can deactivate disinfectants, particularly bleach. Preval or Virkon are the most common products used. It is important to make sure the disinfectant remains on the surface for the appropriate contact time as described on the label.

- Practice good hygiene: Pay particular attention to hand hygiene. It is best practice to have staff dedicated to the different zones/horses (one for green another for yellow and one more for red) but if that is not possible green horses are handled first, then yellow then red (changing clothes/boots or using foot baths before switching). If foot baths are used, boots should be cleaned first with a scrub brush and detergent. Boots should be in contact with the disinfectant for the appropriate contact time listed on the product label. Boot baths should be changed as soon as they appear dirty and at least daily. Common disinfectants include Prevail, Virkon and diluted bleach (1:10 with water). Bleach is particularly deactivated by organic debris so boots etc. must be clean prior to contact. An alternative to a foot bath is to use dedicated rubber boots which should remain in the zone in which they are used. Use dedicated equipment such as pitch/shavings forks, wheelbarrows etc. for each zone when possible. Coloured electrical tape on the handles can be used to indicate the appropriate zone. If this is not possible, clean and disinfect (using the appropriate contact time) between zones (going from clean to dirty or green to red). *S. equi* can survive in cold water for weeks and is easily transmitted in water so don't use shared water sources. Avoid submerging the end of a water hose in water buckets as you fill them to avoid cross contamination.
- Environmental survival: *S. equi* can survive well in certain conditions such as wet and cold conditions. [One study](#) found the bacteria can linger in the webbing of polyester halters unless exposed to washing at a scorching 60 degrees Celsius! It is recommended to rest paddocks/pastures that have housed infected horses for up to 4 weeks (depending on if it's a grazing paddock or exercise paddock) to allow sunlight and dry weather to destroy the bacteria.
- Your veterinarian is an excellent resource! Your veterinarian can help you with infection control measures and guide you with respect to testing so you can get your life back to normal as quickly as possible. Do not administer any medication without consulting with your veterinarian.

How and when do you test for Strangles, and how do you detect carriers?



Endoscopy is used to check guttural pouches for chondroids.

When a veterinarian examines a horse that is suspected of having Strangles, they will usually test the horse in one of the following ways. If there is pus draining from the nose or abscessed lymph nodes, they may take a direct swab for *S. equi* polymerase chain reaction (PCR) (DNA) testing and/or bacterial culture. If the lymph node is large but hasn't ruptured, the veterinarian may use a needle to aspirate the pus from the lymph node for testing. If there is no nasal discharge or the abscesses haven't started draining, they may take a sample from the back of the throat using a very long swab or inserting tubing to the back of the throat and infusing fluid to wash the area and catch it as it comes out the nose. Some horses will have to be sedated for these latter procedures. The sample from the back of the throat is generally sent for PCR testing with or without bacterial culture.

Once Strangles is confirmed, the horse should be isolated for at least 4 weeks AFTER the resolution of clinical signs. If the horse is tested too soon after clinical signs have resolved, it is more likely to be positive and increase the costs associated with repeated testing. After this time, it is recommended to test the horse to determine that it has cleared the infection.

The 2018 ACVIM Consensus Statement on *S. equi* infection provides the following science informed recommendations for determining that a horse is negative for *S. equi* infection; 3 negative PCR-tested nasopharyngeal swab/lavages one week apart OR a single negative PCR-tested, pooled guttural pouch lavage. Some veterinarians are using a combined guttural pouch/nasopharyngeal lavage which is also appropriate.

Carrier horses are those horses that have had Strangles at one point in time and never cleared the infection from their guttural pouches. These horses show no clinical signs of infection. They are thought to be significant contributors to the spread of Strangles. They generally shed low numbers of bacteria from the nose, and they may do this intermittently. It is likely that some factors, such as environmental stress, cause these horses to shed more bacteria at certain times leading to an infected horse appearing in the herd. The dynamics of *S. equi* shedding in these carrier horses is still unclear. It is possible for these carrier horses to live in herds for months to years without a Strangles outbreak occurring. The only way to detect these carrier horses is through testing. PCR testing of guttural pouch lavages is the most sensitive way to detect carrier horses but PCR testing of nasopharyngeal swabs/lavages can also be used, but may miss horses as it is not as sensitive a technique. Carrier horses should have their guttural pouches evaluated by endoscopy to determine if there are chondroids present (pebbles of pus) and/or pus which would need to be removed. Most often the guttural pouches need to be treated directly with antibiotics to clear the infection.

Testing horses for *S. equi* should only occur after a comprehensive discussion with the veterinarian about what a positive test will mean for the horse and the facility, such as:

- The availability of isolation areas for positive horses
- Cost of testing and the possibility for repeated tests and treatment
- The risk assessment - is there a significant risk of exposure to *S. equi* to require testing?
- What is the risk generally for *S. equi* infection for the horses on the premises? Do they compete? Are they vaccinated? If you test all horses on the property and clean up any *S. equi* positives, are you prepared to then test every new horse coming on the property? and what about competition horses that come and go?



Should we vaccinate for Strangles?

It is not advisable to vaccinate horses for Strangles during an outbreak due to the risk of purpura hemorrhagica and confounding signs secondary to vaccination. An exception might be to do “ring vaccination” on large facilities where some barns are very far away from the affected barn with no possibility of contact. Your veterinarian will help you determine if this is an appropriate decision or not.

Generally, vaccinating for Strangles will reduce the severity of clinical signs if your horse becomes infected with *S. equi*. It may also limit shedding of the bacterium. There are two forms of vaccine available; an injectable (killed vaccine) and intranasal (modified live vaccine).

Very rarely horses, which have been exposed to *S. equi* previously and vaccinated with either vaccine, may develop a condition called *purpura hemorrhagica* which is an immune-mediated inflammation of the blood vessels in the skin. Performing an SeM titre before vaccination can identify horses at risk of developing this complication. As well, some horses vaccinated with the intranasal vaccine may, in rare circumstances, show mild lymph node swelling after vaccination. The intranasal Strangles vaccine should not be administered at the same time as other injections as there is a potential for contamination of those injection sites and subsequent abscessation. After intranasal vaccination, horses may test positive for *S. equi* by PCR testing for up to 60 days post vaccination.

Learn more about protecting your horse from becoming ill with our Horse Portal short course, [Sickness Prevention in Horses](#), or our 12-week course [Equine Health & Disease Prevention](#)!

This information sheet has kindly been reviewed by Dr. Alison Moore, DVM DVSc DACVIM DACVSMR, Lead Veterinarian, Animal Health and Welfare at the Ontario Ministry of Agriculture, Food, and Rural Affairs

More Resources:

- [Ontario Animal Health Network—Equine Strangles Resources](#)
[Veterinary Podcast with Dr. Alison Moore on Strangles](#)
- [Testing 1-2-3 - Strangles 2023 research study](#) - Dr. Scott Weese, Ontario Veterinary College and collaborators from OMAFRA and the University of Prince Edward Island. [Relationship between quantitative real-time PCR cycle threshold and culture for detection of Streptococcus equi subspecies equi](#) (full study)