

# Strangles: Horse Owner Information

## Overview

Strangles is a highly contagious upper respiratory infection of horses caused by the bacteria *Streptococcus equi* subspecies *equi* (*S. equi*). It is transmitted by inhalation or direct contact with contaminated surfaces (for example, horses sharing water buckets). The bacteria colonize the horse's tonsils and throat within hours of infection and then infect the lymph nodes under and behind the jaw, resulting in abscesses that occur days later. Horses initially develop a fever but may not be contagious for the first 48-72 hours.

Rarely, infection spreads to other parts of the body, resulting in abscesses in other organs. This is often called "bastard strangles" or metastatic abscessation. A few horses may develop a hypersensitivity reaction to the bacteria with repeated exposure, either in the form of infection or vaccination, otherwise known as purpura hemorrhagica.

Horses that develop classic clinical signs, recover from the disease naturally, and are not treated with antibiotics have the potential to develop immune protection for up to five years. Horses that have been vaccinated for strangles or horses that have previous partial immunity may develop milder signs of upper respiratory tract infection.

## Clinical Signs

1. Fever (often >103°F or 39.5°C). If you are unsure if the temperature reading is from environmental factors, such as trailering, put the horse in a calm area so the horse can see other horses but not have direct contact with them, and retake the temperature in 30-minute intervals. After 3 readings, if the temperature is not going down, keep the horse in quarantine.
2. 48-27 hours later, the fever is followed by one or more of the following symptoms: depression, thick nasal discharge, and/or lymph node enlargement under the jaw and/or in the throat.
3. Non-productive coughing, respiratory stridor (heavy breathing), and sore throat may cause reluctance to eat or drink.
4. The abscessed lymph nodes may drain externally or into the guttural pouches (blind-end sacs connected to the throat in horses), resulting in nasal discharge.

Bastard strangles cases may develop colic signs, fever, and/or weight loss with or without a history of previous strangles disease or exposure. Horses with purpura hemorrhagica may develop edema of the head, trunk, and/or legs. Furthermore, broken blood vessels or bruising of the mucous membranes of the mouth, eyes, and nose may occur. Additional signs can include fever, severe depression, and muscle tightness. The severity of symptoms in purpura hemorrhagica cases ranges from mild to life-threatening.

### **Reportable Disease Alert**

Equine Strangles (*S. equi*) is a reportable disease in the State of Maine according to Sec 32. 7 M.R.S.A. §1801 and 01-001 Chapter 206: Prevention and Control of Certain Diseases of Domestic Animals and Poultry. Diseases or pathogens must be reported to the Maine Department of Agriculture, Division of Animal Health.

## Diagnosis

Samples obtained from lymph node abscesses, nasopharyngeal (throat) washes, or guttural pouch washes may provide a diagnosis by bacterial culture within 3-7 days. Polymerase chain reaction (PCR, which identifies *S. equi* bacterial DNA) can provide a diagnosis in as little as 48 hours, depending on proximity to a laboratory that provides the service. Horses do not shed the bacteria for up to 72 hours from the onset of fever, so definitive diagnosis often cannot be determined in this initial period. This is why quarantine of new horses is critical in diagnostic timing and disease control.

## Treatment & Aftercare

Treatment goals are to control the spread of contagious disease and to eliminate infection while providing future immunity to the disease. Uncomplicated cases require supportive care, such as soft food, anti-inflammatories, hot packing, and drainage of abscesses. Depending on the severity of the fever and other symptoms, some horses may need treatment with antibiotics. Horses with bastard strangles typically require an extended course of antibiotics. Horses with purpura hemorrhagica usually require antibiotics and corticosteroids to quiet the overactive immune reaction for an extended period.

## Prevention & Management of an Outbreak

Biosecurity practices on the farm are essential to prevent the spread of disease.

- Quarantine new horses for three weeks prior to introducing them to the resident horses of your facility. New horses should be kept in a way that they don't have direct contact with or cannot cough or sneeze on horses that have lived in the facility and are out of quarantine.
- Do not share tack or equipment between horses, especially between resident horses and horses in quarantine for any reason.
- Isolate any horse with a fever and signs of strangles immediately. Contact your veterinarian to confirm disease diagnosis, recommend treatments, and assess your barn's biosecurity measures to control disease spread.
- **Stop all movement of horses to and from the farm when Strangles is identified.**
- Perform twice daily monitoring of rectal or biothermal microchip temperatures of all horses in an outbreak to identify new cases.
- Disinfect water buckets daily. Disinfect any shared equipment e.g., pitchforks, muck tubs, wheelbarrows, etc. in between horses. A 10% bleach solution is effective.
- Use strict hygiene between horses to reduce the spread of the disease, including the use of hand washing or hand sanitizer and careful attention to cleaning.
- **If different people cannot care for sick, exposed, and unexposed horses, then healthy/unexposed horses should be cared for first, followed by exposed horses that aren't showing clinical signs. Sick horses should be cared for last to prevent exposing healthy horses to the disease.**
- Pastures utilized for sick horses should be rested for a minimum of 30 days before healthy horses are turned out in them. Water troughs should be thoroughly cleaned and disinfected in all pastures in use daily until 6 weeks after the last symptom observed.
- Work with your veterinarian to identify carriers of the disease, as these horses may intermittently shed bacteria for weeks, months, or years and serve as a continual source of reinfection for your facility.

## Quarantine Release & Complications

- Nasopharyngeal wash samples are obtained from recovering horses and any horses that were in contact with sick horses after resolution of symptoms and tested for *S. equi* by PCR or culture. *Streptococcus equi* subsp. *equi* -PCR Fluxergy Reagent testing is also available at some practices.
- Negative results from this testing can help release a horse or barn from quarantine sooner than if no testing is performed.
- **Without testing, horses are considered "infective" for 6 weeks after the last clinical signs of disease** (fever, nasal discharge, draining abscess, etc.)
- A small number of horses will recover from strangles and continue to shed bacteria from the guttural pouch, causing recurrent farm outbreaks.
- Identification of strangles bacteria in clinically recovered horses may mean the guttural pouches have retained infection.
- Detection and treatment of these "silent carriers" (*S. equi* bacteria in guttural pouches) via endoscopy and PCR is essential for preventing disease recurrence in a facility.

## Vaccination

Discuss vaccination recommendations with your veterinarian. Vaccination does not provide 100% immunity against *S. equi* infection. Vaccination also doesn't always mean the horse won't have symptoms of strangles if exposed. Vaccination is not recommended during or within two years of a strangles outbreak due to the increased risk of purpura hemorrhagica.

## References

AAEP Infectious Disease Guidelines for *S. equi*

[https://aaep.org/wp-content/uploads/2024/03/Strangles\\_DZ\\_Guidelines\\_FINAL\\_2020.pdf](https://aaep.org/wp-content/uploads/2024/03/Strangles_DZ_Guidelines_FINAL_2020.pdf)

AAEP Strangles Vaccination Guidelines

[https://aaep.org/wp-content/uploads/2024/03/Strangles\\_Vaccine\\_Guidelines\\_2020.pdf](https://aaep.org/wp-content/uploads/2024/03/Strangles_Vaccine_Guidelines_2020.pdf)

Sweeney CR, Timoney JF, Newton JR, Hines MT; *Streptococcus equi* Infections in Horses: Guidelines for Treatment, Control and Prevention of Strangles – Revised Consensus Statement. *J Vet Intern Med* 2018; 32: 633-647.