



What is strangles?

By Dr. Valentina Ragno, DVM, MSc

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Strangles is a common upper respiratory disease caused by the bacterium *Streptococcus equi* subspecies *equi* (*S. equi*). While it's typically known for causing painful swellings behind the horse's jaw or throatlatch, other clinical signs include fever, a thick, white nasal discharge and lethargy. Strangles is very contagious, and it can be costly and time consuming to eradicate.

How serious is this disease?

"Classic" strangles — fever, nasal discharge and abscesses in the lymph nodes behind the jaw — has a good to excellent prognosis. It's no fun to go through, but with supportive treatment, horses will usually recover. There is, however, a one-in-five chance of an equine patient developing complications. One of them is "bastard strangles" — a sneaky form of the disease that requires prolonged treatment. It occurs when other lymph nodes in the body become infected. Abscesses may occur in the chest, abdomen and areas which are not accessible or easy to drain. In rare cases, veterinarians have reported abscesses forming in the brain.

Another rare but severe complication of strangles is purpura hemorrhagica. Horses that carry strangles antibodies in their blood can have an exaggerated immune response when re-exposed to *S. equi*. This immune reaction affects their blood vessels and can cause severe edema (swelling) of the head and legs, weeping of the tissues and even sloughing of the skin, resulting in lengthy treatment and hospitalization. The exaggerated immune response can also damage the muscles, causing a third complication called myositis.

How is strangles treated?

Treatment varies based on the severity of the disease. With classic strangles, the best approach is to isolate the horse and provide supportive treatment — a dry stall, access to water and soft food as the swollen lymph nodes will make it painful to swallow. They might benefit from anti-inflammatory drugs to control the fever. We monitor the horse to ensure that it's comfortable enough to eat, drink and breathe well since the swellings can obstruct the airways (hence the name "strangles"). We also wait for the lymph node abscesses to drain. Hot packs can accelerate the draining process. In some cases, the abscess can be surgically drained by a veterinarian.

We usually don't treat classic strangles with antibiotic drugs. Administering antibiotics will slow the maturation of the abscesses, and if the abscesses don't drain, it can be hard for the horse to recover. We do use antibiotics if the horse has prolonged fever, stops eating or drinking, or develops complications such as bastard strangles. Purpura hemorrhagica is treated with antibiotics and steroids to control the excessive immune reaction.

How is strangles transmitted?

S. equi is shed by horses harbouring the bacteria, whether they have the active form of the disease or they are carriers. Strangles is, however, relatively hardy in the environment. It's easily transmitted by *fomites* – anything that comes in contact with an infected horse such as brushes, water troughs, buckets, shovels and people. In moist areas with little sunlight, the bacteria can live for a few weeks up to a couple of months.

When is it safe to assume my horse has recovered from strangles and is no longer contagious?

Strangles is tricky because healthy and otherwise fully-recovered horses can become carriers for the disease. If a horse's retropharyngeal lymph nodes drain backwards into the guttural pouches, it can create lumps called *chondroids* that intermittently sheds bacteria for a long time after the horse has recovered and can potentially infect other horses.

For this reason, treatment should include scoping and flushing the guttural pouches before testing for the presence of bacteria. Three negative tests taken a week apart are required before a horse is considered clear of the disease. The tests are done with a nasopharyngeal wash — the horse is sedated, a soft tube is passed up the nose and a small amount of liquid is squirted into the nasal cavity. The liquid is collected as it drains and tested for the presence of bacteria. Other methods are a nasopharyngeal swab or a guttural pouch wash.

After an outbreak, it's ideal to test *all* horses on the farm — including those that did not appear to be sick. It's the only way to be sure you've caught all potential carriers. Otherwise, they can just keep re-infecting your herd.

Are some horses more commonly affected by strangles than others?

Horses of any age can get strangles, but statistically, horses are more commonly affected between two and seven years of age. Immunity in 75 per cent of horses will last for up to five years after an infection.

What vaccines are available for strangles? What are the pros and cons of vaccinating?

Two types of strangles vaccines exist: an intramuscular injection, which uses part of the bacteria, and a modified live intranasal vaccine. In Canada, only the intranasal form of the vaccine is available.

There are definite pros and cons to vaccinating for strangles. Like any vaccine, protection is not 100 per cent — vaccinated horses can still contract strangles, but they may get a milder form of the disease. Horses can also get a mild form of the disease from the intranasal vaccine itself. It's best to administer the intranasal vaccine on a different day than the injectable vaccines for other diseases (or as the final vaccine if all are given on the same day) since the strangles vaccine can contaminate those injection sites and cause an abscess.

If the horse has been exposed to strangles within the past year, vaccination can stimulate a purpura hemorrhagica reaction, so it's important to have some history of the animal before vaccinating. Alternatively, veterinarians can use a serologic test to determine the level of antibodies in the blood.

Vaccinations must be done in advance of infection. In the face of an active strangles outbreak in your herd, it's too late to vaccinate. The vaccine takes about two weeks to produce immunity, and there's also the risk of stimulating purpura hemorrhagica.

It's advisable to vaccinate for strangles if your horse travels. Pregnant mares vaccinated a month before their due date will pass their immunity on to their foal. To help make your decision, it's best to consult with your veterinarian.

What else can owners do to prevent strangles?

In general, it's a good practice to isolate any new horses at your farm for three weeks — this also covers the incubation period for a lot of other diseases. Ideally, animals that go off premises and return home should be isolated for three

weeks as well. Other good practices include not sharing brushes, buckets, or tack, not immersing hoses when filling water buckets, and avoiding nose-to-nose and nose-to-hand contact with other horses when possible.

What are some tips for managing a strangles outbreak?

Strangles is not a reportable disease in Canada, but any farm with a strangles outbreak should undergo a voluntary quarantine.

- Separate any horse with strangles and any horse that was in contact with sick animals from the rest of the herd. Divide the farm into “sick” and “healthy” areas.
- Horses in the healthy area should have their temperature taken twice a day. A fever spike is the first sign of sickness, so any horse showing a fever should be moved to the sick area.
- Use biosecurity measures such as gloves, coveralls and foot covers to handle horses in the sick area. Use a disinfectant such as accelerated hydrogen peroxide for foot baths and to disinfect objects such as water troughs and buckets once a day.
- Ideally, have different people assigned to handle the two groups of horses. If not, work with horses in the healthy area before moving to the sick area. Be sure to change your clothes immediately and wash your hands regularly even if you’re using gloves. Do not share stable equipment between sick and healthy horses.
- Stalls should be thoroughly disinfected after an outbreak, but owners should be aware that wood can be very difficult to decontaminate. Before disinfecting a stall, remove all organic material.
- Pastures where contaminated horses have been kept shouldn’t be used for at least four weeks.

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