

Horse Health:

Strangles

What is it?

Strangles is an extremely transmittable upper respiratory tract infection in horses, and other equids, especially affecting weanlings and yearlings. It is a disease with high morbidity but low mortality, so spreads to many but isn't usually fatal. It affects horses globally and is one of the most infectious diseases seen by equine vets.

What causes it?

It is caused by the bacterium, *Streptococcus equi* subspecies *equi*. The bacterium invades the lining of the upper airways and is carried, via the lymphatic system, to the lymph nodes of the body where it causes abscess formation.

Once inside the horse, the strangles bacteria replicates rapidly. It is then excreted from the body via purulent discharge, which goes on to infect others. Infection occurs through direct contact with affected individuals, or indirectly via contaminated equipment, such as water troughs, tack and even the clothes and hands of people who have handled an infected horse. The bacterium is frustratingly resistant in the environment, surviving for many weeks on contaminated surfaces.

What horses are at risk?

All horses are at risk, especially those who are stabled and are in close proximity with other horses. Even though the younger generations and those with weakened immune systems (e.g. those under stress or affected with other health problems) are a higher risk, all horses irrespective of age, sex and breed can be affected. Due to the infectiveness of the

disease, strangles passes *rapidly* between horses, so can quickly infect an entire yard causing an outbreak. Particularly high-risk settings are those where lots of horses are brought together from many different locations, such as eventing or racing.

Another risk of infection are “carriers”. These are horses which physically appear healthy but continue to harbour the strangles bacteria within their body from a previous infection. Carriers occur when the strangles bacteria is not completely eliminated, so essentially hides within the body (often in the guttural pouches), thus being a potential problem for reinfection of the individual, as well as potentially passing it to others.

What are the symptoms?

The first sign of strangles is a raised temperature (pyrexia). Other early symptoms include depression, lethargy and lack of appetite. Then, profuse mucopurulent (milky-green) nasal discharge can be seen from both nostrils. The lymph nodes under the jaw, behind the eyes/under the ears, and behind the jaw will also enlarge. If left untreated, these lymph nodes will become infected and can rupture, leaking purulent discharge. This swelling and infection of the lymph nodes can become so enlarged they obstruct a horse’s airway, making it difficult to breathe, hence the name “strangles”.

Another area of concern with this disease is its capability to cause complications. Occasionally the bacteria can migrate to other areas of the body, such as the abdomen, where it causes colic like symptoms. Additionally, solidified balls of infection termed chondroids can form, which are more difficult to treat and can go on to cause neurological problems. Other complications include anaemia, and in very rare cases, an immune mediated condition called *Purpura Haemorrhagica*, where certain areas of the body swell. Such complications can be fatal.

How is it diagnosed?

Diagnosis of this disease begins with a full examination of your horse and blood tests, assessing levels of inflammation, if any complicating factors are present and if your horse has been exposed to the strangles bacteria before. Then, endoscopy will often be recommended, where a camera is passed through the nose and into the back of the throat, before passing into the guttural pouches – pockets either side of the pharynx where purulent material collects. Samples of this material will be taken to be assessed in a laboratory, to detect if the strangles bacteria is present. Alternatively, a nasopharyngeal swab may be performed to try and isolate the bacteria, either by culture or, more commonly, by PCR test. Radiography/X-rays of the head can be taken to visualise any areas of infection and to detect if chondroids are present.

How can it be treated or managed?

Initial management is focussed on isolating the infected individual from others. They should have their own equipment, including food bowls and water troughs, and be kept far away from the rest of the yard. Disinfection of stables, floors and any shared equipment should occur immediately. People who handle infected horses should wear personal protective equipment, including gloves and gowns, and wash hands, clothes etc between handling.

Nursing care is incredibly important. Warm, comfortable housing with soft, dust free bedding should be utilised to minimise airway irritation. Patients should have access to fresh water and soft feed to encourage eating.

Although looking incredibly dramatic, making your horse feel very ill, the disease is usually successfully treated. Treatment depends on how long the infection has been present. Antibiotics may be opted for if the disease is in the early stages. The latter stages are not affected by antibiotics, as they cannot penetrate the abscesses formed. Affected lymph nodes can be lanced, thus releasing any infection within. The guttural pouches can be washed, to remove any physical purulent material present.

Complete resolution of the disease is achieved when three lots of negative swabs are demonstrated over a three-week period. So, samples are taken three times, over three weeks, and every sample is negative for the bacteria, showing strangles is no longer present.

Complicated cases, involving the symptoms discussed above, require more intensive veterinary care.

Can it be prevented?

Yes, with good yard management, biosecurity and vigilance.

1. **Quarantine new arrivals:** Any horse arriving to the yard should be isolated for 2-3 weeks. During this time, their temperature must be monitored as well as the development of any symptoms.
2. **Good hygiene practices:** Regular disinfection of tack, stables and feed/water equipment should occur to reduce the risk of spread. Such equipment should never be shared between horses. Additionally, handlers of horses should demonstrate excellent personal hygiene, including washing hands between horses.
3. **Identify and manage carriers:** After an outbreak on a yard, all horses should be tested for current or past infection, with a focus on identifying potential carriers of the bacteria.
4. **Vaccination:** A strangles vaccination is available, and although does not guarantee complete protection, does decrease the spread between horses and reduces the risk of individual infections.
5. **Yard biosecurity plans:** Protocols should be created for dealing with suspect or confirmed cases, including immediate isolation and veterinary involvement.