

STRANGLES SPEAK OUT!

Second edition 2018



Strangles is common.
There are **more than 600** recorded outbreaks in the UK every year on average¹, and probably many more that go unrecorded.

Using this guide

Any horse is at risk of contracting strangles, but owners can significantly reduce that risk by being aware and proactive.

This pack provides all the information you need to understand the disease, spot the signs and prevent or manage an outbreak. You'll find lots more information and 'how to' films on the Redwings website at www.redwings.org.uk/strangles

Practical resources are also included at the back of this information booklet:

- 'Speak Out on Strangles' poster
- Isolation set-up checklist
- Isolation notice
- 'How to use isolation' guidelines
- Protect your horse at events guidelines

Acknowledgements

This guidance has benefitted from the peer review of leading experts in the fields of biosecurity and horse owner education. Redwings would like to thank Dr. Andrew Waller (AHT), Jan Rogers (Horse Trust), Prof. Josh Slater (RVC), Roly Owers (Equine Disease Coalition, World Horse Welfare) as well as to the British Horse Society and British Equine Veterinary Association for their endorsement.



In this guide

i	KNOW STRANGLES	4
Q	SPOT STRANGLES	6
✓	PREPARE FOR STRANGLES	10
✗	PREVENT STRANGLES	11
+	MANAGE STRANGLES	12
♥	AFTER STRANGLES	16

Second edition

The first edition of Redwings strangles pack was published in 2012. As well as drawing on more than 25 years of in-house veterinary experience of strangles prevention and management, this second edition incorporates updated information and understanding of the disease. To compile this guidance for horse owners and yards, we have also incorporated key scientific data from the published veterinary consensus statement on strangles in 2018 (see 'further information' inside the back cover).

Why Redwings wants to Stamp Out Strangles

Redwings rescues, rehabilitates and provides lifelong care for horses, ponies, donkeys and mules throughout the UK. We care for over 1,500 equines in sanctuary sites across the country, and more than 400 horses enjoy life in private homes through the Redwings Guardianship Scheme.

Redwings isolates and tests all horses arriving at the Sanctuary for strangles. On average, 8.5% of intakes test positive for the disease. In 2015, the charity experienced its first strangles outbreak in 25 years of using an infectious disease screening protocol. Prompt action by Redwings' vets and equine care teams meant that just 30 horses (2% of all residents) were infected.



1. Rescue and rehabilitation
2. Sanctuary care
3. Rehoming

In recognition of Redwings' supporters who helped us through our outbreak in 2015, we increased our commitment to improve prevention and management of infectious diseases beyond our paddock fences.



Did you know?

More than 2,000 horse owners completed Redwings' strangles survey in 2016. The survey helped us learn what people know, feel and do in relation to strangles.



PART ONE

KNOW STRANGLES

What is strangles?

Strangles is caused by a bacteria called *Streptococcus equi*. It is a common, highly contagious infection of a horse's upper respiratory tract. It can cause large abscesses to form, make swallowing difficult, restrict breathing and be both painful and distressing for the horse.

Persistent infection can develop that results in horses becoming long-term strangles carriers (see page 9)

How serious is strangles?

Strangles is so contagious that up to 100% of horses with no immunity to the disease will become infected if they come into contact with it.

Most horses will make a complete recovery from strangles, although the disease often causes considerable suffering to affected horses. However, up to 20% of infected horses are also at risk of serious or life-threatening complications.

'Bastard strangles' is the development of abscesses in parts of the body beyond the upper respiratory tract and this condition is usually fatal. Also life-threatening is 'purpura haemorrhagica', which is a rare complication associated with the horse's immune system as it fights strangles bacteria.

How does strangles spread?

Infection can be passed by **direct contact** from horse to horse, even if they only touch briefly. But equally important is **indirect contact**, where bacteria is picked up from stables, field shelters, paddocks, water tanks, yard equipment, transport and people's hands, boots and clothes.

The disease is **not airborne**, but bacteria can be propelled into the environment in huge quantities as a horse coughs and snorts.

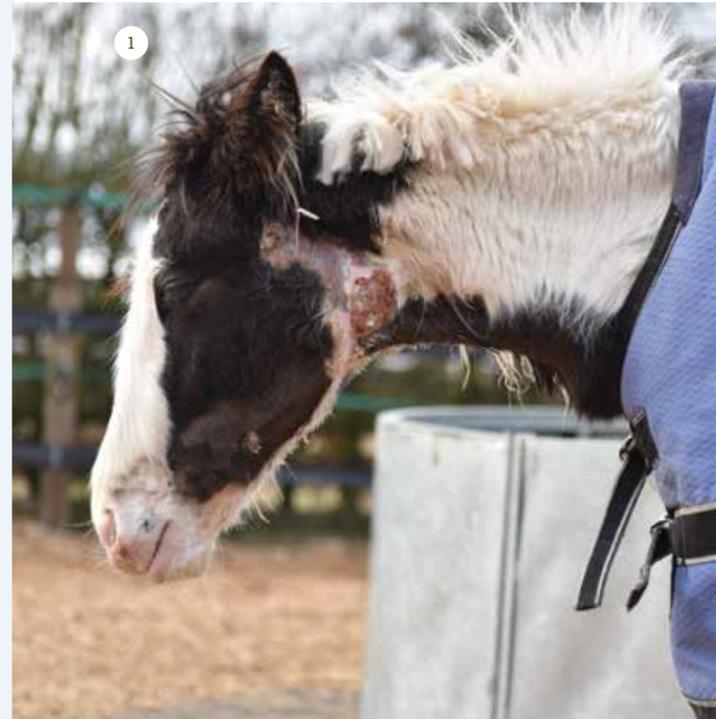
Why do people worry about strangles?

Strangles can seem to appear out of nowhere. It travels with horses as they move around the UK and abroad, and because horses can be infectious without appearing to be ill (particularly if they are a strangles carrier), it is not always straightforward to trace the origin of an outbreak. This is likely to be part of the reason that strangles has an unfortunate stigma associated with it.

As well as being a miserable experience for horses that are infected, an outbreak on a livery yard, riding school or other equestrian business can bring activities to a standstill for several weeks and be financially devastating. But it is important to remember that yards who take a proactive, rational approach and communicate openly about the disease, are demonstrating a high level of professional responsibility as well as contributing to faster resolution of an outbreak, reduced impact on horse welfare and lower costs.

Strangles can affect any horse on any yard – it is not a disease of poor welfare. The risk cannot be eliminated, but it can be significantly reduced and there are simple, practical steps that every owner can take to protect their horse, as well as being ready to act if the disease does strike.

1. Young horses like Dancer are particularly vulnerable to strangles, and are more likely to experience disease complications
2. A fully recovered Dancer photographed later the same year



Should I tell people about strangles?

Yes. Strangles has been associated with an unhelpful, unjustified stigma, which encourages owners to hide the disease when it affects them. In fact, speaking out about possible infection is a vital part of a proactive response that will help to stop the spread and support good practices on yards.

If you have any reason to think your horse may have been exposed to strangles, act immediately by putting isolation measures in place and calling your vet. Maintain isolation and monitor your horse while waiting for test results to ensure the infection is already contained if your horse has contracted the disease. If the horse tests negative for infectious disease, isolation measures can easily be lifted again.

"A local establishment and competition venue had an outbreak last year and immediately locked down and spread the word via social media. They got a huge amount of positive coverage for this."

Redwings strangles survey respondent



Did you know?

An infected horse can shed millions of strangles bacteria into a water tank just by taking a quick sip. The bacteria can survive for up to six weeks in water, with the potential to infect any other horse who drinks it.



PART TWO

SPOT STRANGLES

Signs of strangles could be any of the following:

- Fever (temperature above 38.5°C/101.3°F)
- Being dull/depressed
- Loss of appetite, difficulty eating or trouble extending the head – signs of a sore throat
- Lymph node swelling under the jaw, behind the jaw or below the ears
- Thick discoloured nasal discharge
- Abscesses under the jaw, behind the jaw or below the ears (these produce thick pus as they burst)
- A cough is sometimes present, but is not as common as other signs

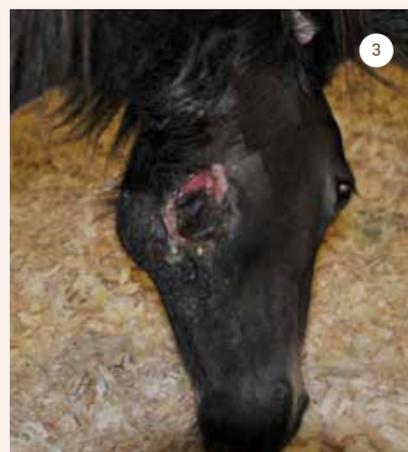
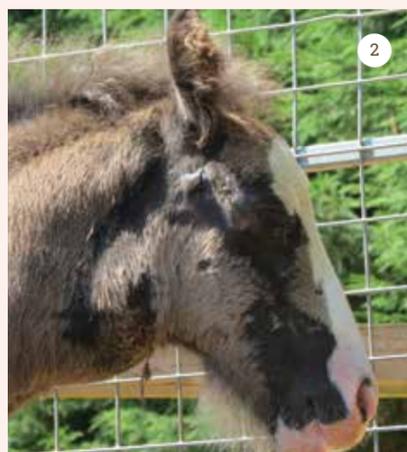
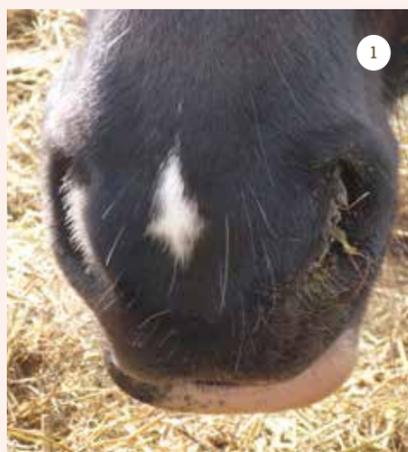
It normally takes **3–4 days for signs to develop** after a horse has been in contact with strangles bacteria, but there have been cases where it has taken up to **21 days**. This is why it is now recommended to keep precautionary isolation in place for **three weeks** if you are worried your horse may have been put at risk. Check your horse's temperature twice a day during this period to identify developing infection at the earliest opportunity.

Horses will develop fever more quickly than other signs and this usually happens **before** they start shedding bacteria that can be passed to other horses. This is why monitoring your horse's temperature after attending events, for example, is so critical to catch infection early and enable you take precautionary action to prevent it spreading. Once other signs are noticeable, your horse may have already been shedding infectious bacteria for several days.

Some horses show much milder strangles signs. You may only see:

- Mild, short-term fever
- Slight loss of appetite
- Other forms of nasal discharge

These signs are non-specific and you will probably not think of strangles as a possible cause. A horse with mild signs can still pass infection on, however, and needs to be isolated and tested by a vet in the same way as a horse with more debilitating illness. Although these signs may be caused by another health condition, it is always advisable to use isolation as a precaution until you have definitely ruled strangles out.



1. Nasal discharge
2. Swollen and abscessed lymph node
3. Abscess under the jaw

4. A vet can access the guttural pouches using an endoscope
5. Fever is often the first sign of strangles



How is strangles diagnosed?

A vet will examine a horse and take samples for laboratory testing using one of three methods:

- **Guttural pouch endoscopy** – (see above) allows a vet to see and take samples directly from a strangles hotspot at the top of the nasal passages and is the quickest, most reliable way of testing when a strangles patient is no longer infectious or checking if a horse is a strangles carrier (see page 9)
- **Swab** – if a horse has nasal discharge or a ruptured abscess, a swab can be used to take a sample of the draining material. In horses without a source of discharge, swabs are inserted higher up the nasal passages to take a sample close to the opening into the guttural pouch. Swabs are less reliable at identifying strangles carriers, meaning that at least three negative test results from samples taken at weekly intervals are needed before a horse can be considered more likely to be free from infection

- **Blood test** – strangles antibodies can be detected in a horse's blood around two weeks after exposure to the disease and remain detectable for up to eight months. There are a number of reasons why a horse may have a positive blood test, meaning that further investigation and testing is likely to be necessary. Strangles carriers may produce antibodies indefinitely, meaning blood tests play an important role in identifying these hidden sources of infection.



Know your horse's normal temperature at rest to help you identify fever

Take readings at the same time of day (not when elevated after exercise) and remember that stress can affect temperature.

Healthy temperature: 37.2°–38.5°C (100–101.3°F)

NB: donkeys average temperature is lower at 36.2°–37.8°C (97.2°–100°F)



Routine screening

Blood tests are increasingly used to help check for infection in horses whose disease history is unknown (meaning they cannot be ruled out as a possible strangles carrier). Situations where screening is advisable include bringing a new horse onto a yard, a pre-purchase examination and investigating the source of a strangles outbreak.

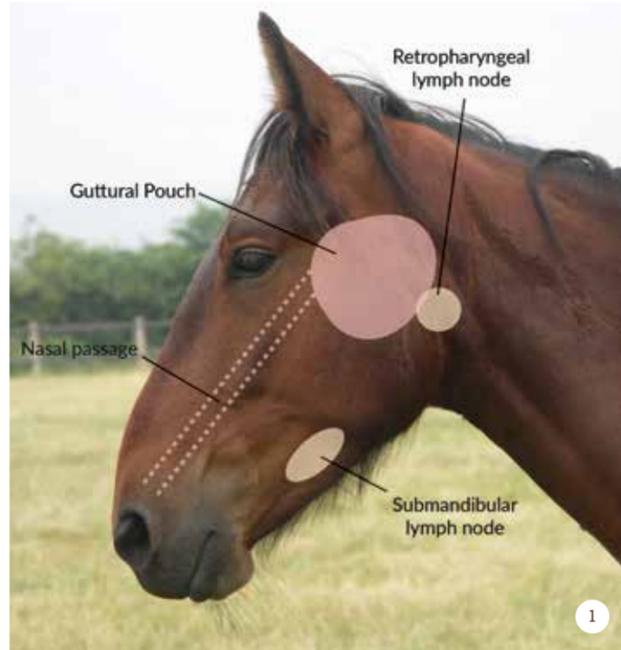
The guttural...what?!

Every horse has two guttural pouches at the back of their throat, one on each side. The purpose of these air pockets is unclear, but each one is flanked by a lymph node. Abscesses commonly form in these lymph nodes when a horse is infected with strangles.

The membrane between the lymph node and the guttural pouch is thin, which is why abscesses commonly burst internally and into the guttural pouch, rather than externally, through the skin (though an abscess can burst through both).

The nasal discharge seen in horses with strangles is often pus from a burst abscess draining from guttural pouches down the nasal passages. For a horse to be free of infection, all the pus must drain away, but, unfortunately, this doesn't always happen. Residual pus is the most common source of long-term infection in strangles carriers.

Vets can examine and take samples from a horse's guttural pouch using an endoscope, whereby a long, flexible tube with a tiny inbuilt camera is inserted into the guttural pouch via the horse's nasal passage. This procedure allows a vet to visually examine the pouch and take samples to be sent away for testing. If needs be, a vet can flush water or saline straight into the pouch to help wash out infectious pus.



1. Guttural pouches are a perfect hiding place for strangles bacteria
2. Some carriers have one chondroid, others have lots!
3. Chondroids removed from a strangles carrier

Is it true horses can be strangles carriers?

Around 10% of horses that have suffered from strangles will continue to carry live bacteria for months or even years in their guttural pouches. These strangles carriers look healthy, making them difficult to identify, but they have the potential to infect other horses. Carriers are believed to be the most common source of strangles outbreaks and until they are treated, can trigger outbreaks over and over again.

A carrier can shed strangles bacteria at any time. However, the likelihood of shedding increases during periods of stress, such as travelling, moving home, being introduced to another horse or suffering injury or illness.

Strangles carriers can be identified by testing. Once diagnosed and treated by a vet, they can go on to live healthy, normal lives like any other horse.

Most strangles carriers remain infectious because they have chondroids. Chondroids are formed when pus starts to solidify within the guttural pouch, rather than draining out of the nasal passage. Over time, soft lumps can become hardened balls that are often too large to pass out of the small opening of the pouch, meaning they are likely to stay in the pouch indefinitely. Chondroids are usually full of live bacteria that can occasionally make their way down the horse's nasal passages, causing new strangles outbreaks to appear seemingly out of the blue. But once a carrier is identified, a vet can remove any chondroids and flush the guttural pouch, before re-testing to check that the horse is completely infection-free and presents no further risk.

Are horses immune to strangles once they've had it?

No horse is free from the risk of strangles. Although horses who have recovered from the disease are left with a degree of immunity, this is not likely to be complete or permanent and should never be relied on as protection from further infection.

Are there strangles vaccines?

Good hygiene and isolation practices are the best way to protect any horse from strangles. Vaccines are available, but they should be seen as an option to be used in addition to hygiene and isolation, not instead of them. We cannot yet inoculate horses against strangles as effectively or as easily as we can protect them from equine flu. If you are considering vaccination, ask your vet to assess your horse's individual situation and activities in order to advise you on current vaccine options.



Did you know?

Redwings' screening protocol for all new arrivals and rehoming returns identified 37 strangles carriers between 2011 and 2016. Without being found and treated, all these horses would have had the potential to trigger strangles outbreaks once they were integrated into the Sanctuary.



PART THREE

PREPARE FOR STRANGLES

The first step in preparing for a strangles outbreak is to never think it won't happen to you! Every yard should develop its own protocol to reduce the risk of any infectious disease and to deal with an outbreak should it occur. A protocol is an agreement set and reviewed by yard management, the yard's vet(s) and adhered to by livery clients. We refer to a protocol as an 'agreement' throughout this guide to reflect the nature of partnership needed between managers and clients.

Have all the equipment you will need available at all times. Isolation is not just used to protect against the spread of strangles, it is also used in cases of other infectious conditions such as equine flu, herpes, lice and ringworm, as well as exotic diseases such as equine infectious anaemia, that are an increasing threat to horses in the UK.

It is beneficial to have an isolation area used routinely for new arrivals to the yard as part of a screening protocol. There is more information on screening in Part Four.

Will this cost a lot of money?

Routine, preventative isolation practices will cost far less than dealing with an outbreak. The price of an outbreak is huge, especially if it affects a business such as an event yard or a riding school. A significant outbreak will mean the whole yard is 'locked down' for weeks or even months. The loss of income, in addition to the expense of dealing with the outbreak itself, can be financially devastating and some businesses may never recover. Good biosecurity measures on yards can also be reputation enhancing.

It will be beneficial to any yard to spend a relatively small amount of time and money on keeping strangles at bay, rather than being faced with the cost, effort and worry of a disease outbreak.

What do I need to set up an isolation area?

In the resources at the back of this pack you will find a checklist of equipment that you will need for an isolation area and a step by step guide to ensure strangles is safely contained. Isolation can be set up in a stable or paddock. Yard managers should share this information with all their staff and horse owners. Running practice sessions on how to set up an isolation area can really help everyone feel confident about using quarantine effectively if the need arises, even if it's just a precaution.

For more information on setting up and working with isolation, go to www.redwings.org.uk/strangles



1. A well set up isolation area
2. If in doubt, get the disinfectant out!
3. Keep an up to date record of horse movements to help identify which horses may need to be isolated if strangles is suspected



PART FOUR

PREVENT STRANGLES

Taking preventative steps both at home and when out and about with your horse can make a huge difference to keeping strangles at bay. On a yard, the best approach is to put a clear agreement in place that everyone is aware of and can work with.

What do I include in an agreement?

Think about where the risks to your own yard are and how you can take steps to minimise them. Have a look at the example on Redwings' website and consider the following factors to help you put together the most effective agreement:

- New horses
- Horses taking part in events off-site
- Other horses coming onto your yard for events
- Horse transport
- When and how to use isolation
- Prompt, open and positive communication

Remember four key strangles facts when deciding on your agreement:

- The incubation period for strangles is up to **three weeks**
- A horse normally develops fever two to three days **before** they become infectious, but other signs may not be noticeable until **after** they are infectious
- Many horses will remain infectious for **several weeks after being ill** - only testing will show whether or not they are still shedding bacteria
- Around 1 in 10 horses will become a long-term **strangles carrier** after having the disease unless they are tested and treated by a vet



Only handle your own horse when away from home



Clydesdale Rosie had been in the same home for more than 10 years before she came to Redwings. She was considered to be very low-risk for strangles, but routine screening on arrival showed she was in fact a strangles carrier. Rosie remained in isolation while she was treated by Redwings vets and retested to make sure she was free from infection, before being safely introduced to other horses.

Away from home

Don't let worry about infectious disease stop you getting out and about with your horse. Take simple steps to reduce the risk of picking up strangles at an event:

- Don't allow direct contact between your own horse and others
- Avoid touching other horses yourself, or wash/sanitise your hands before handling others again, including your own
- Politely discourage contact between your horse and people that have been handling other horses
- Only use your own tack, rugs and equipment
- Provide your own food and forage, and carry a container of your own water
- Avoid using communal water sources where horses immerse their muzzles, such as troughs
- Avoid communal grazing areas; when resting keep horses stabled or with your vehicle

After an event

On returning home, as a minimum, take regular resting temperature readings so you can spot fever and act quickly if needed (see page 7)



PART FIVE

MANAGE STRANGLES

Don't panic, but do take immediate action. Stop all horses moving on or off the yard. Use isolation as a precaution for all horses while you speak to your vet and arrange for testing.

It is always far better to cast the isolation net widely and work backwards as you establish that horses have not been at risk, rather than having to extend isolation to chase the disease as it spreads.

Strangles has an incubation period of 3-21 days. Horses become contagious just before they show visual symptoms, so once a horse has nasal discharge, it may already have passed the disease on to others. Fever normally precedes infectivity by 2-3 days, making it the best way to catch strangles early.

If strangles is confirmed, work with your vet to use the traffic light system – this will enable you to contain the disease effectively, even on a large yard.

- **Red zone(s)** – strict isolation for horses with strangles signs or who have tested positive for bacteria
- **Amber zone(s)** – strict isolation for horses who **may** have had **direct or indirect contact** with the sick horse at any point during the last **three weeks** and may be incubating the disease
- **Green zone(s)** – close monitoring but normal management for horses that are not thought to have been in contact with any sick or at risk horses for at least three weeks

Paddock isolation



Care for horses in Red zones

Horses with strangles usually feel very ill indeed (but remember mild cases can also occur). Stable them if possible to help keep them warm, dry and encourage them to rest. It is also easier to disinfect a stable afterwards. The stable should be sheltered but well-ventilated (remember that strangles is NOT an airborne disease).

The disease will need to run its course once it has taken hold, but work with your vet to keep the horse comfortable, provide nursing care and help reduce the severity of their illness, as well as monitoring for any sign of complications.

- Your vet will normally prescribe a non-steroidal anti-inflammatory medication to help with pain, fever and swelling
- Antibiotics are often ineffective in strangles cases – your vet will know if and when to prescribe them
- Provide a full, deep bed for extra comfort
- Soak food to make it easier to swallow and provide a raised feed bowl for a horse who has abscesses developing, then feed from the floor once abscesses have burst to encourage pus to drain
- Encourage the horse to eat – try adding soaked sugar beet or handfuls of fresh grass as appetisers
- Adding medication to food may mean neither are consumed – give them separately if you need to
- Gently apply a warm compress at least once a day to developing abscesses to encourage them to swell and burst (this should make the horse feel much better straightaway) but never squeeze or pierce an abscess
- Gently bathe a ruptured abscess to keep it clean and encourage it to drain
- Environmental enrichment may help a horse cope with their time in isolation – especially as they start to feel better



Warm poultices can be soothing and help abscesses to drain

Environmental enrichment

Spending time in isolation is likely to impact on our ability to meet a horse's social and behavioural needs, but environmental enrichment has been shown to help encourage natural behaviour and reduce stress. Enrichment can include a wide field of vision (preferably with other horses in sight), feeding methods that prolong the time spent finding and eating food (such as hayballs and food boxes), multiple feeding points to offer change and movement, stable mirrors and periods spent with favourite stable toys.

Supporting a horse's mental wellbeing while they are unwell and confined to a stable not only has a positive effect on both physical and mental health, but can be beneficial to the speed and fullness of their recovery.

Horses are likely to remain infectious for several weeks after they have recovered from strangles and only veterinary testing will tell you when it is safe for isolation to be lifted. Remember that on average around 10% of infected horses become long-term strangles carriers. This is the time to intervene and treat potential carriers to ensure that all horses involved in an outbreak are only given the all-clear when they are completely free from *Streptococcus equi* infection.

Thirty horses were treated for strangles during Redwings' strangles outbreak in 2015. Eight of these (26%) were found to be in the process of becoming carriers during post-infection testing. All were treated and tested negative before being released from isolation.

Care for horses in Amber zones

Monitor horses closely for any strangles symptoms. Take temperatures daily, ideally twice daily, to give you the best chance of catching the disease early and being able to move an infected horse to the red zone before they start shedding large numbers of bacteria.

Isolate these horses as strictly as horses in the red zone. Remember that horses normally shed bacteria for several days before they become obviously ill. If your outbreak has been triggered by a strangles carrier, they are likely to be in the amber zone, not red!

If all the horses in a well-contained amber zone show no sign of disease for three weeks after their last possible contact with an infected horse (or are tested by a vet and the results are negative) your vet may lift isolation so the area becomes a green zone.

Care for horses in Green zones

These horses have been identified as low-risk for exposure to strangles, but they should still be monitored carefully. They need to be protected from the infection present in the red zone and any possible infection in the amber zone.

Ideally, allocate people to care for those horses in the green zone who do not need to enter the red and amber isolation areas at all. Otherwise, if possible always start by caring for the horses in the green zone, then move to amber and finally red to further reduce the risk of transferring infection.

Always be guided by your vet, but it is usually safer and easier to put a whole yard into red and amber isolation as a precaution when strangles is first identified on a yard, then use mapping and monitoring to gradually release horses into green zones when you are confident they have not been at risk.

If your yard does not use a screening protocol for new arrivals, this can be an ideal opportunity to test all horses to check that there are no strangles carriers among your residents and to introduce a screening policy so that you remain carrier-free into the future.

Stamp out the strangles stigma

One of the most unhelpful aspects of coping with a strangles outbreak can be stigma that can still be found in relation to the disease. Many owners worry about raising concerns with their yard manager or other horse owners, but research has shown that the majority of people who have experienced a strangles outbreak on their yard reported that the situation was well-managed and communication was positive and supportive.

Redwings' strangles survey identified that more than 40% of people who had experienced a strangles outbreak ranked management of the situation as 10 out of 10! Only 6.8% said no attempt was made to contain the disease, showing that when it happens, in the vast majority of cases we work well together.

Also encouraging is the fact that owners who have experienced a strangles outbreak are more likely to see the disease as straightforward to manage and to use routine biosecurity measures to reduce the risk of an outbreak in the future.

Reassuringly, the survey also found that many owners are willing to take responsible steps to prevent strangles or to contain the disease if they are affected by an outbreak:

- 80% would be willing to pay for tests to help prevent strangles on their yard
- 93% would turn to their vet for strangles advice
- 96% would stop their horse being moved in the event of an outbreak and 91% would disinfect all tack, rugs and equipment.



Did you know?

Strangles really doesn't discriminate - high profile equestrian names such as British eventer Dani Evans, Newmarket racehorse trainer Marco Botti, and HRH the Princess Royal have all spoken publicly about the disease after experiencing strangles on their own yards.

Horses in amber isolation as part of outbreak control





PART SIX

AFTER STRANGLES

Seeing horses recover from the misery of strangles is a huge relief. But always take the following steps to be sure that your facilities, as well as your horses, really are free from infection.

The length of time strangles bacteria can survive in the environment is dependent on exposure to sunlight, temperature and moisture. Research* has shown that bacteria may survive for just one or two days in a hot, dry environment, but up to 34 days in cool, damp conditions. Bacteria can survive for even longer in water, still being detectable in a water trough six weeks after contamination.



Wash and disinfect all surfaces inside an isolation area after a strangles outbreak

Housing and paddocks

All areas that have been used by any horse with strangles need to be thoroughly cleaned and disinfected. Dried discharge can be tough to remove and may need scrubbing or scraping. This is one reason it is advisable to clean the living area of an infected horse routinely throughout their illness.

Remember that a sick horse may also have been shedding bacteria more discretely before they became notably ill, so review locations and movements of infected horses for the three weeks before their diagnosis to ensure these areas can be treated too.

Rubber matting in stables will need to be lifted, and scrubbed and disinfected on both sides. It's a good opportunity for a very thorough spring clean!

It is not practical or effective to disinfect grassland, so rest any paddocks that may be contaminated for at least two weeks. Rest the paddock for at least six weeks if it contains a natural water source like a pond that horses have access to for drinking.

Water

Strangles bacteria survive for longer in water. Empty and disinfect all water tanks and buckets, making sure that water has enough neat disinfectant added to it to kill bacteria before tipping it away and rinsing the tank or bucket thoroughly (remember to check the disposal information related to your disinfectant as some have important environmental restrictions).

Equipment

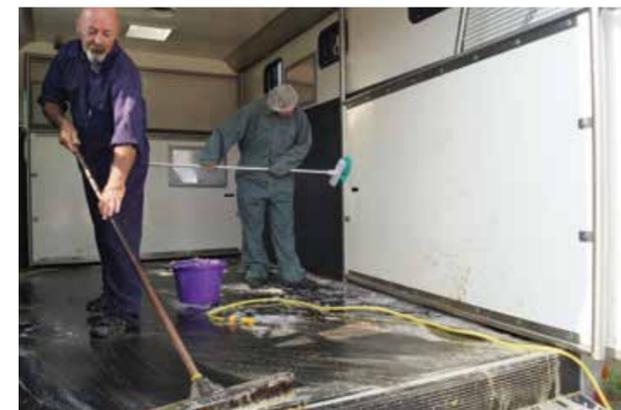
All equipment that has been used in an isolation area must be thoroughly cleaned and disinfected. For peace of mind when disinfecting a red zone leave items such as haynets, head collars, lead ropes, rugs etc to soak in disinfectant for at least three hours (or overnight), before being thoroughly rinsed and dried. Be especially vigilant about rinsing disinfectant from food bowls, haynets and water containers.



Disinfect wheels and feet as you transport muck

Vehicles

Horse transport is an important source of infection and the stress of travel can increase shedding rates. Any horsebox or trailer that has been used by an infected horse (including during the three weeks before they became ill) needs to be completely disinfected, including the driver's cab and living area or towing vehicle.



Disinfect any vehicle used by a horse with strangles in the three weeks before their diagnosis. Even better, disinfect transport routinely after each trip.

Muck

Muck from infected horses should be disposed of with care as it is a high-risk source of contamination. The two main options for safe disposal are:

- Find a suitable field or piece of land that is away from water courses and will not be used by horses or people for at least two months where the muck can be spread to expose any bacteria to the elements. Redwings' dedicated isolation centre has an arrangement with a local farmer who allows us to add our muck to his heap, which is then only spread onto arable fields away from public rights of way (we disinfect the tractor and trailer after every trip)
- Store the muck as a composting heap (the heat generated will kill the bacteria) in an out of the way corner for at least six months then dispose of as usual

*Durham et al (2018) A study of the environmental survival of *Streptococcus equi* subspecies *equi*. *EJV* 03.03.18



The chance to be stronger and wiser

Owners report* that following experience of strangles they have greater confidence in spotting and taking action if they suspect any infectious disease, and are more likely to build common-sense biosecurity precautions into their daily routines.

Yards who have been through a strangles outbreak can draw on the experience to review or put in place good biosecurity practices, and use their confidence in being a disease-free yard to maintain that status into the future. By sharing information and experience, a yard that has been through an outbreak can help other establishments put preventative measures in place and keep the disease at bay.



Even with a strict screening programme already in place, after Redwings' strangles outbreak in 2015 the charity reviewed all its biosecurity protocols and increased the minimum quarantine period from two weeks to three weeks and incorporated a wider range of signs as possible indicators of atypical strangles.

Redwings' survey found that almost 80% of owners who keep their horses on livery yards would be likely or very likely to want to use a yard that had a policy of screening new arrivals. The same proportion expressed willingness to pay for tests as part of a yard agreement to help protect all the horses on the premises from the threat that strangles presents.

- 1. Waffle & Paprika
- 2. Dalva and Lucy
- 3. Betty and Cola with Laura and Hannah

Demonstrating that horses (and people!) who have been through strangles can go on to lead happy, normal lives again!

*Redwings (2017) Strangles Survey Results: Exploring horse-owner knowledge, attitudes and practices around the prevention of strangles. www.redwings.org.uk/strangles

Efforts to reduce risk of infectious disease
can build the reputation of both yard
managers and horse owners.

"I was at a yard where
strangles was present and the
staff were exemplary... It's an awful
disease and I wish others were
as stringent as the yard I was
in at the time."

"I feel the horse community
needs to be much more supportive
of sharing information when an
outbreak occurs. It is such a
virulent disease. Judgements
won't help, good practice and
information sharing will."

"Biosecurity and isolating
new horses to a yard should be
day to day horse management,
not just when there's a
strangles outbreak."

Quotes from respondents to Redwings'
Strangles Survey (2017).

**If you need more information, our
welfare team would be happy to help.
Please call us on 01508 481008 or email
us at welfare@redwings.co.uk**





ISOLATION – WHAT DO I DO?

Only enter isolation with the permission of the yard manager

To enter isolation:

- Do not enter unless you are wearing clean overalls. Make sure they cover your cuffs, collar and trouser bottoms and are not ripped anywhere
- Tie long hair up or use a disposable cap
- Use the designated entry point
- Only take in things you really need. Anything that comes back out will need disinfecting if it has been exposed or handled while in isolation. This includes hats, jewellery, water bottles and mobile phones

When in isolation:

- Only use allocated equipment
- Give horses the care they need, but avoid unnecessary interaction, especially around the head
- Change drinking water daily as it quickly becomes heavily contaminated. Used water must be treated with neat disinfectant to the right dilution rate before being discarded
- Feed bowls should be washed, disinfected and rinsed thoroughly between uses
- Nasal discharge or pus found on the floor and walls can be wiped up with cotton wool and the area underneath disinfected. Dispose of the cotton wool carefully in the isolation waste
- Follow the procedures arranged by the manager for disposing of muck
- ANYTHING that is removed from isolation needs to be completely disinfected. Items such as headcollars, haynets, rugs and grooming kit should be left in disinfectant to soak for several hours before being rinsed thoroughly

To leave isolation:

- Use the designated exit point
- Remove your overalls at the exit point. Peel the overalls off so they turn inside out to avoid the outside of the overalls coming into contact with clothes underneath. Put them straight into the disinfectant soak and ensure they are fully submerged
- Peel off disposable gloves so they are also turned inside out and place in isolation rubbish then disinfect hands
- Thoroughly disinfect all parts of foot wear that have been exposed. Floors, bedding and muck are especially prone to contamination from an infected horse
- Disinfectant does not work if it is contaminated with a lot of dirt or muck so scrape dirt off boots (and sweep up!) before using disinfectant foot dips

Maintaining isolation:

- Disinfectant dips will need to be changed regularly in line with the manufacturer's instructions, and a record kept of when this has been done. Disinfected overalls need to be dried (and washed if necessary) ready for re-use. A supply of clean overalls needs to be available at all times
- Everyone has a role to play in making an isolation area work, even people whose own horses are not directly affected. We all benefit from making sure our isolation procedures are as effective as possible, so if you have any questions or concerns, please just ask!





ISOLATION SET-UP CHECKLIST

Don't wait for confirmation of disease

Use isolation as a precaution if you suspect a horse might have been exposed, as well as to contain a confirmed outbreak. Make sure you have the following to hand:

- An allocated area where a horse can be managed separately with no risk of contact with other horses, facilities or equipment
- Barriers and signs to clearly mark the area (ideally with a margin of at least 10 feet between the horse and the boundary)
- Disinfectant that is active against *Streptococcus equi* (strangles)
- Bucket, measuring jug, sprayer and suitable containers to be used as foot dips and overall soaks (as described)
Some people like to wear wellies in isolation as they can be easily disinfected, then left at the entry point as part of designated isolation kit
- Full length overalls that will cover sleeves, collars and trouser bottoms (re-useable or disposable) and a plastic bin with a lid for storage
- Disposable caps (the sort used in food preparation)
- Disposable gloves and/or veterinary grade hand sanitiser
- Tools and horse care equipment (including thermometer) that can be stored and used in the isolation area only
- Large, thick bin bags or old plastic feed bags for storing muck and rubbish





ISOLATION AREA

**No unauthorised entry
Quarantine procedures in place!**

Any questions or concerns ring

Thank you!