

# Thrush in Horses

*Thrush can happen to nearly any horse; it isn't a disease of poorly kept animals*

## Overview

Thrush is a common infection of the horse's hoof characterized by a black, necrotic, foul smelling material. The central or collateral sulci (grooves) of the frog of the hoof are typically affected, but in severe cases, thrush can also invade the white line, sole, and sensitive layers of the foot potentially resulting in permanent lameness.

While the bacterium *Fusobacterium necrophorum* is often isolated from affected horses, other anaerobic (those that grow in environments with little to no oxygen) bacteria and fungi are also potential culprits.<sup>1</sup>

In general, contributing factors are those that disrupt the horse's innate hoof-cleaning mechanism. In the normal foot, as weight is borne on the limb, the third phalanx (coffin bone) descends, causing the sole to flatten. Descent of the coffin joint occurs as the navicular bone gives in a distopalmar direction (from the coffin bone toward the ground), pushing against the navicular bursa and the deep flexor tendon, causing expansion of the frog as it approaches the ground surface. This continuous change in structure prevents the accumulation of material in the bottom of the foot.

Impairment of this hoof cleaning mechanism appears to be the outstanding cause of thrush, as thrush is seen in a large percentage of animals that are kept in immaculate conditions.<sup>2</sup> Since horses are often confined to a stall or paddock, they are often not able to "self clean" their hooves.

Some suspect that particularly breeds, such as Draft horses, are more prone to thrush than other breeds. Other possible reasons that horses' hooves can become infected include:

- Abnormal hoof growth.
- Inappropriate or lack of trimming or shoeing.
- Poor diet.
- Lack of use/insufficient exercise.
- Chronic lameness issues.



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Thrush typically affects the central or collateral sulci (grooves) of the frog of the hoof. The problem is characterized by black, foul-smelling material.

### ■ Poor circulation to the frog.

Horses with deep sulci (clefts in the foot) or narrow or contracted heels also appear to be at-risk for thrush.<sup>1,3</sup> It is an old wives' tale that thrush is a disease of dirty, unhealthy horses or unkempt living conditions.

## Clinical Signs

Classic clinical signs characteristic of thrush include a thick, black, putty-like, foul malodorous degenerative material on and in the frog and the collateral and central sulci.

Most horses with thrush are not lame unless the infection is severe and invades the sensitive layers of the foot. In mild cases, horses are not lame.

If the infection extends into the sensitive layers of the hoof, then cleaning and

manipulating the frog can elicit a painful response.<sup>3</sup>

## Diagnosis

Diagnosing thrush is usually straightforward, often triggered by the offensive smell and black debris. Culturing the foot to determine which disease causing micro-organism is specifically responsible for the infection is not typically rewarding because, oftentimes, the results come back non-specific.

In addition, culture results will only rarely (only in extreme cases) change the treatment.

## Treatment

Successful management of thrush is a multi-step process.<sup>1-3</sup> Key steps involve:

- Trimming away the away the dead,

infected tissue (contract your farrier for assistance if you are not comfortable performing this technique).

- Stimulating the frog through regular exercise.
- Identifying and correcting the underlying cause(s) of the infection. This will necessitate working together with your veterinarian and farrier.
- Picking, cleaning, and medicating the affected foot/feet at least daily.

To clean the foot, place your horse in a clean area of the barn, or place a sheet of plywood on the ground or floor to create a clean working space. After picking the feet, gently scrub the feet with water and a stiff brush. Dry the entire foot with a towel, then let the foot air dry for approximately 10 minutes before medicating.

A large variety of medicated thrush products are readily available for purchase in a variety of formats such as liquids or aerosols. Some horse owners have their own tried-and-true home remedies, such as sugardine, a combination of sugar and Betadine (povidone-iodine) scrub.

Bleach and hydrogen peroxide are also used; however, these products are not

universally endorsed as they can damage healthy tissue and prolong healing time.

Either treat affected feet with the desired medication and keep the foot clean and dry afterward or pack the feet with medicated-soaked gauze squares for one to three days.

Alternately, the feet can be soaked in medicine either in bucket or a special medicine boot (available at local tack shops or online).

For more severe cases and for horses that do not appear to be responding to treatment, work with your veterinarian and farrier. Severe cases could benefit from the administration of systemic antibiotics and, depending on the damage to the hoof and heel, corrective trimming and shoeing could be warranted.<sup>1</sup>

### Prognosis


Uncomplicated cases diagnosed early in the course of disease are anticipated to resolve fully with appropriate treatment and resolution of underlying causes (if only the thrush is treated, recurrent bouts of infection are likely to occur).

Complicated cases in which the infec-

tion has invaded the foot require veterinary attention, take longer to resolve, and could result in permanent lameness.

### Prevention

Thrush can occur in virtually any horse, regardless of the cleanliness of the living conditions.<sup>1,3</sup> Picking, cleaning, and inspecting each foot each day is imperative.

Work with your veterinarian and farrier to ensure your horse's entire foot, including the frog, is healthy. Good daily management and exercise to promote natural "cleaning" of the hoof will help prevent most, if not all, cases of thrush. Avoid over-aggressive use of a hoof pick to avoid trauma to the frog and sulci. 

### REFERENCES

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