



MUD FEVER

This condition affects many horses. The name of the condition tends to suggest that it might be strongly associated with the presence of mud, therefore many people presume the condition is only encountered during autumn and winter. Mud fever, however, is also known by many different names. Some of the other names tend to suggest that the condition is not as strongly associated with mud, and many causes for the disease have been recognised. Mud fever has also been called scratches, greasy heel, pastern dermatitis, and cracked heels. Treatment and prevention of this condition is individual, and House & Jackson owe a lot to many clients who have, over the years, helped us gain an insight into why some strategies work for some but not for others.

What are the signs of mud fever?

Mud fever is characterised by skin lesions on the lower leg. Often, these lesions will be crusty, oozy, hairless, red and painful. Sometimes these lesions will be producing a lot of pus, and the legs may be thickened. Many horses that suffer from this skin problem may have itchy legs or, indeed, legs that are very sore to touch. It is quite common for more than one leg to be affected. For some unknown reason, the condition is more prevalent in hind legs than in front legs. Usually, mud fever tends to spread from the pastern upwards. Occasionally, the dermatitis may actually spread from another part of the leg. It is very typical for feathered horses to have crusty skin lesions at the back of their knees. Often, this type of mud fever in feathered horses is associated with the presence of leg mites, in which case itchiness and irritation will accompany the other typical signs of mud fever. In advanced cases of mud fever, the lesions may be extremely smelly and cracked skin may be present. Sometimes, scar tissue will be laid down in some of these longstanding cases. The cracks and scar tissue may never heal fully and may, therefore, always predispose the horse to future attacks of the condition.

Why your horse?

Mud fever can be caused by a variety of agents. In broad terms, the agents can be divided into infectious, and non-infectious causes. I would also like to make the distinction between true causes of mud fever and

predisposing factors that could lead to weakened skin, which may in turn lead to dermatitis. Very often, non-infectious causes allow infectious agents to penetrate the skin. Muddy conditions lead to the skin being in contact with excess water for prolonged periods of time. This prolonged contact with water will drain the natural oils from the skin, which leads to skin being more open to harmful agents. If people spend a lot of time with their hands in water a similar effect will be noticed, unless moisturising cream is used very frequently. Once the skin is weakened, bacterial and fungal infections will invade and start harming the horse. Proximity to the ground inflicts several challenges to the skin of the lower leg. The changeable conditions from dry bedding to dirty stables, waterlogged paddocks or dried out clay soil will have an effect on skin health. The typical predisposing factors for mud fever are

- Feathered legs.
- Wet paddocks.
- Unsanitary conditions (contaminated paddocks or deep litter stables).
- Rough, stubbly pastures.
- Abrasive particles from artificial riding surfaces.
- Ill-fitting boots on dirty legs
- Harvest mite infestations.
- Leg mite infestations (chorioptic mange)
- Sunburn
- Allergies

Once these predisposing factors have lowered the defences of the skin, the infectious agents tend to invade. The following infectious agents tend to be involved in mud fever

- Dermatophilosis (the same bacteria that cause rain scald)
- Staphylococcus aureus
- Other less common bacteria
- Fungal infections (ringworm)

Once these infectious agents have managed to invade the skin, there is a rapid progression of inflammation in the leg, and horses can become sore very quickly. The

(Continued on page 2)

degree of inflammation will be dependent on the amount of initial damage, the type of infectious agent and the amount of infectious organisms. The individual sensitivity of the horse's skin will also play a large role in the degree of inflammation present.

It is worth noting that *Dermatophilus Congoliensis*, the bacteria that cause dermatophilosis, is present on many horses. This organism needs weakened skin to be able to invade and cause damage. It is therefore unlikely that the infection is contagious. Apart from mites and ringworm, most causes of mud fever will not spread from one horse to another. Outbreaks of mud fever are rarely seen, but if they are, it is usually because horses on one farm are all kept in similar conditions.

The quest for causes of mud fever

Because this disease can be caused by a multitude of organisms, it may not be possible for your vet to treat the condition without collecting further samples. On the other hand, general treatment could be started by a veterinary surgeon without doing a full work up of the condition. If the response to treatment is not as expected, some of these further tests might have to be carried out. Whilst searching for the actual causative organisms for the dermatitis, the quest for the predisposing factors should not be overlooked.

House & Jackson may have to carry out skin scrapings, which will help to determine the organism present in your horse's lesions. Skin scrapings are carried out with a surgical blade, with the debris and top layer of skin being collected and submitted to the laboratory. In the laboratory this debris will be examined under a microscope to see which organisms are present. Some of the collected material may be cultured to assess which bacterial and fungal agents are present. Sometimes, in complicated cases of mud fever, a full skin thickness biopsy may have to be harvested by your vet. This is a minor surgical procedure, which can be carried out under sedation and a local anaesthetic without much discomfort for your horse. This biopsy is submitted to a laboratory, and examined under a microscope. It has been known for cancerous conditions to have been initially mistaken for mud fever, and it is sometimes only by carrying out skin biopsies that it is possible to eliminate cancer as a cause for the skin inflammation.

How can mud fever be tackled?

1. It is advisable to clip all the hairs in the affected regions. Clipping the hair will result in better access to the lesions and will allow less medication to be used.
2. Next, topical treatment will have to be instigated. Topical treatment will consist of soapy antiseptic solutions, lotions and creams or ointments. Thorough cleansing with antiseptic shampoos and water is advised. The treatment of choice will be Benzyl Peroxide, Povidone Iodine or Chlorhexidine shampoos. It is vital in the early stages to remove all crusts and matted areas. In order to achieve this, it may be necessary to soak the lesions with these antiseptic solutions. Sometimes, horses are so painful that they require sedation in order for them to allow you to effectively remove all debris. After using the

shampoo, the legs should be thoroughly rinsed with running water. Because moisture is contra-indicated, thorough drying of the legs is advised after they have been washed, using clean towels, paper towels or even a hairdryer, if your horse will tolerate it.

3. If the mud fever area is particularly oozy, astringent lotions could be applied.
4. Antibiotic creams and ointments are vital tools to combat mud fever efficiently. Often, your vet will choose a topical antibiotic/steroid combination. The antibiotics will deal with any bacteria, while the steroid will reduce the inflammation of the skin. Because fungal infections can also be present, antifungal treatments may well be necessary to get certain tenacious cases of the condition under control. Antibiotics and steroids cannot be obtained without a prescription from your vet, it may, therefore, be necessary for House & Jackson to examine the horse if these are needed.
5. Antibiotics in the feed or by injection are recommended if the infection is considered to be deep-seated, or if there is a lot of secondary swelling in the leg. In severe cases, or if the horses are in pain, painkillers and anti-inflammatory drugs should be considered.
6. The horse should obviously be removed from any contact irritants or allergens. Irritation and itchiness of the leg may lead to self-trauma, and this self-trauma will lead to damaged skin, which will allow infection in.
7. The affected horse should be kept in dry, clean conditions, and should be removed from muddy paddocks and dirty stables. It is preferable for horses to be kept on wood chip or paper bedding, rather than on straw. Straw will often contain irritants and mites, which do the condition no favours.
8. Unfortunately, it is unlikely that cases of severe mud fever will respond to home-made remedies, or to lotions and potions that are readily available in tack shops. On the other hand, some of these products can be extremely useful as preventatives or soothing agents when the condition is mild. The pros and cons of some of these products will be discussed later.
9. Sometimes, application of the ointments under cling film wrapping can be attempted in the most tenacious cases. Care should be taken that the film does not tighten if this strategy is employed

Is it all avoidable?

The prevention of mud fever is a controversial subject.

Many people swear by certain home-made remedies, and customs are often contradictory to one another. Here are my observations based on scientific information, my own experience and countless reports from many clients.

(Continued on page 3)

1. Feathering

Because there is a link between the presence of mud fever and feathered horses, it seems logical to me that it would be best to remove all feathering. On the other hand, feathering may protect the skin from invasion of certain organisms, if it is left naturally greasy. I therefore believe that the best way of preventing mud fever is to either clip the legs, which allows the use of shampoos and antiseptics, or to leave the feathers on and use no shampoos.

2. Leg cleaning

Another controversial issue is whether or not mud should be removed from the legs. Some people are convinced that it is best to leave the mud when the horses are brought in from the field. If mud is left to dry on the legs, I suggest that the legs should be brushed clean once they have dried. Other people believe strongly, that all mud should be washed off, as soon as the horses are brought in from the field. Some will remove the mud by hosing, while others may resort to antiseptic shampoos. I believe that washing with soapy solutions should only be carried out sparingly, and only on legs with short feathering or those that have been clipped out. Overall, brushing the legs seems a reasonable strategy, provided no mud fever lesions are present. As soon as any lesions are seen, I prefer to use antiseptic shampoos. To preserve the natural oils of the skin, soaps should be used sparingly and judiciously. Whilst very active mud fever requires twice a day washing, the intervals between washing should be extended as the condition improves.

3. Moisturisers

Very small mud fever lesions, or very longstanding, low-grade mud fever lesions are best treated with emollient creams. Emollient creams are moisturising creams, such as udder cream, aqueous cream or Sudocrem. These creams are unlikely to be sufficient if the horse suffers from severe mud fever, or if the lesions are infected.

4. Boots and suits

Care should be taken when applying

brushing boots, or overreach boots to dirty skin. Particles of sand and debris are very likely to cause irritation under the boots, and that may very well be the entry point for infectious organisms. On the other hand, some people will prefer to turn their horses out with boots to prevent mud from getting to the legs. Recently, boots have come onto the market that are advertised as a barrier to prevent muddy legs. I have no information as to whether these boots are likely to be effective.

5. Turnout

If your horse is particularly prone to mud fever, the only way to prevent new lesions from occurring might well be to prevent your horse being turned out in the typical conditions that precipitate the problem. Therefore, housing the horse in a very clean, dry stable over the winter may be one of the ways to prevent future problems.

6. Leg mites (Chorioptes)

Another extremely important preventative measure is to ensure that your horse has no leg mites. It is much more common for feathered horses to suffer from this, and the condition typically results in foot stamping, rubbing and chewing of the legs. These mites predispose horses to severe leg infections due to self-harming, which often lead to permanent scarring.

Final Thoughts

Mud fever can be a very complicated condition. When it comes to the treatment of mud fever, deciding on the cause and the predisposing circumstances will help greatly to achieve success. While initial home-made treatments can sometimes provide relief, veterinary attention will be inevitable in the more severe cases. Therefore, prevention and alertness to any early lesions becomes absolutely vital. Many owners have developed good strategies that suit themselves and their horses, to prevent the nasty effects of severe mud fever infections. Some of the preventative strategies are controversial, and owners will have to use some trial and error to decide what suits them. Some of the strategies can be very labour-intensive, which may well be unsuitable for some owners.

All in all, one of the best ways to prevent suffering might be for us all to pray to the weather gods!

(Continued on page 4)

Facts and Fiction About Mud Fever

- Fact:** The infectious agents that cause mud fever are often around on healthy horses.
- Fact:** Muddy conditions only play a small role in the development of the disease.
- Fact:** If lesions are present on the legs, clipping of the feathers is beneficial.
- Fact:** If a horse does not have mud fever, the legs should not be washed too frequently.
- Fact:** It is sometimes not possible to cure the disease without prescription drugs.

- Fiction:** All mud fever is caused by one type of bacteria.
- Fiction:** Scabs on the legs are best left in place.
- Fiction:** Turning the horse out with boots will protect against the disease.
- Fiction:** The infection is likely to pass from one horse to another.
- Fiction:** Moisturising creams are likely to cure a horse from mud fever.

Please remember that House & Jackson have the regular presence of Janet Littlewood BVSc, MA, PhD, DVD, DVR, MRCVS. Janet Littlewood is an internationally recognised dermatologist who holds monthly consultancy clinics at the practice