



AN OWNER'S GUIDE TO MUD FEVER

The disease

Equine pastern dermatitis is the veterinary description for the condition more commonly known as mud fever, mud rash or cracked heels. It is a common skin condition of horses exacerbated by muddy, wet conditions, and is therefore frequently diagnosed during the winter months.

It is often stated that the bacterium *dermatophilus congolensis*, the cause of rain scald, plays a role in mud fever although the exact nature of its importance is the subject of some dispute. Other bacteria which naturally inhabit the horse's skin (for example *staphylococcus*) and possibly some fungal species, are also considered to play an important role.



Dermatitis is generally considered to be secondary to a localised disturbance of the skin barrier. Once the skin's natural defences are compromised this allows opportunist bacteria living on the horse's skin or in the environment to infect the deeper tissues. Some of the underlying causes and triggers of mud fever include: moisture due to weather conditions; sweat and friction; bacterial and fungal infections; mites; contact dermatitis (alkaline soils); photosensitisation and disruption to the normal immune system.

It is important for owners to recognise that mud fever is not a single disease but instead is a complex syndrome involving many potential factors and causes. Irrespective of the underlying cause these factors all combine to create a similar clinical picture of dermatitis that we recognise as mud fever. In some long standing cases the underlying cause may no longer be obvious. This will sometimes be referred to as chronic, idiopathic pastern dermatitis.

Clinical signs

Signs of pastern dermatitis are most frequently seen at the back of the heels and pasterns although can extend to the fetlock and up the lower limb. Signs can vary from a few small dry scabs through to multiple painful discharging lesions with swollen oedematous weeping areas. There are often small matted areas of hair and scabs, which when picked off leave ulcerated, moist lesions.

If the condition involves the underlying tissue the inflammation can cause swelling and pain of the affected leg, occasionally resulting in lameness. If the condition is long standing there may be deep fissures in the skin. If left untreated, these areas become very sore, making examination and treatment more difficult.

Itchiness and stamping of the hind feet can be the result of simple bacterial mud fever, however, we see a large number of horses with chronic mud fever that respond partially to treatment but continue to itch or stamp their hind feet. In my opinion a large number of these horse are suffering from some form of mite infestation, with feather mite (chorioptic mange), being the most common. These horses frequently respond well to treatment for mites and this aspect is frequently overlooked particularly with owners who have not alerted the problem to their vet.

Management

Given that most cases are the result of wet muddy field conditions, keeping the skin clean and dry is paramount in the treatment of mud fever. Removing the horse from this environment by keeping it stabled for some time will often help. It is important that the horse is stabled on clean, dry bedding. Sometimes it will be appropriate to move the horse to a drier field or look at the management of the current field to avoid the horse standing in areas of mud (often around the gate) for long periods of time. This may involve improving the fields' drainage, using portable tape and fencing to ensure the horse avoids the muddiest areas or regularly moving outdoor feeding areas and rotating paddocks. Sometimes turning the horse out in a well-drained ménage or indoor school instead of the field will help. Promoting light exercise can help to reduce the degree of leg fill that can develop in more advanced cases.

Excessive exposure to moisture, mud and its consequences are, however, an inevitable part of life in Britain, and in some management systems can be unavoidable. While for practical and financial reasons some of the above management strategies may not always be possible they are still too often overlooked by some owners who prefer to place their faith in a plethora of oral supplements, creams and oils. If caught early enough a change in management may be all that is required to resolve the condition.

Treatment

1. **Clip the affected area** – when possible this makes it much easier for topical treatments to come into contact with the lesions. It facilitates removal of crust or scabs and the ability to monitor the progress of the condition, assessing the response to treatment or identifying new lesions. It also makes drying the area quicker and easier.
2. **Bathing with disinfectant/antiseptic wash** or shampoo with antibacterial (and sometimes anti-fungal) properties. The most commonly used of these would be dilute chlorhexidine (Hibiscrub) or malaseb which can be less drying than hibiscrub. Soaking the areas for 10 minutes allows sufficient contact time for the antiseptic to work and helps to soften the scabs. Removal of scabs can be continued at this stage and some people will scrub with a nail brush at this stage to remove scabs.
3. **Rinse** thoroughly as most disinfectants will cause irritation and further dessication of the skin if left in place.
4. **Dry** the limb carefully — use clean towels or disposable paper towels.
5. **Removal of crusts/scabs** - it has long been considered that the bacteria that cause mud fever live underneath the scab and so effective treatment relies upon removing the scabs to allow contact with any topical treatment agents (see below for alternative treatments). Some

horses will require sedation to achieve this if the scabs are painful to touch. Some of the tougher scabs may need treating with a softening agent prior to removal.

6. **Application of antibacterial and corticosteroid ointments** – a variety of ointments, emollients, lotions and potions are available to use, some of which are marketed for the prevention of mud fever and judicious use of these products is wise in the face of an active infection. Consult your vet as to what is best to use for your own horse. At Equitait Veterinary Practice we find a mixture of an antibiotic, corticosteroid and zinc oxide cream applied twice daily works well.
7. **Repeat** - this whole process may need to be repeated several times before a response is seen. In the first instance once daily treatment may be sufficient. In bad cases a full recovery can take many weeks.

Other treatment considerations

Successful management is made easier if an early diagnosis is made and prompt treatment is instigated. Very often owners will have tried several forms of treatment themselves before seeking veterinary assistance. However, early veterinary assistance is likely to help minimise the severity and reduce the length of the condition.

It is imperative that we keep in mind the desire to treat the underlying cause.

In persistent or severe cases with large amounts of serum or purulent ooze, inflammation of the underlying blood vessels (immune mediated vasculitis), is often thought to part of be the disease process, particularly in draught horses. In this case, systemic corticosteroids may be required, administered either by intravenous injection or a course of oral steroid tablets.

Feather mite treatment is usually reasonably simple. The majority of horses with feather mites will respond favourably following two injections of the off-licence product, Dectomax. There are other alternatives so if you feel your horse may have mites please consult your vet.

Photosensitisation is the results of a chemical reaction within the skin that is activated by sun light causing inflammation. In horses which have mud fever only in the white, unpigmented areas of the distal limbs this may be the underlying cause and management directed to preventing photosensitisation will help reduce the mud fever.

Where infection has spread to the underlying soft tissue resulting in a cellulitis, systemic antimicrobials may be used. Fortunately at present antibiotic resistance appears uncommon in pastern dermatitis when considering both topical and systemic antibiotics.

Even with conscientious therapy, not all treatments will work for every horse. Relapses are common and so owners must be vigilant in monitoring the horse's limbs so re-intervention can be initiated rapidly.

Consider disinfection of the stable, grooming equipment and tack that may have come into contact with the horse.

Alternative ideas

Whilst removing scabs can greatly enhance treatment by exposing the affected skin to topical antibacterial agents, this practice has been questioned by some who believe that there is little value in detaching scabs that are harbouring high bacterial numbers and possibly fungal spores into the environment, particularly as some spores can survive long periods of time in the environment.

Trus-steed*, a local Kelso based company produce Equi-Oxide™ mud fever treatment with a follow up barrier spray. They utilise the properties of chlorine dioxide a powerful disinfectant that they claim has the ability to penetrate the scab thus killing any bacteria, fungi



and spores. The dead, inactive scabs then fall off some time later. This form of therapy is extremely useful for horses that do not tolerate having the scabs picked off.

There is now much interest in the concept of water activity when looking at skin infections. Water activity can essentially be thought of as the biologically available water in a tissue that can support growth of micro-organisms. Lowering the water activity will reduce bacterial and fungal growth. A humectant is a substance that absorbs and retains water, and therefore has antibacterial activity by lowering the amount of water available for bacterial or fungal growth. Honey is a natural humectant which is why you will now find us routinely using manuka honey on some types of wounds.

Equitech topical disinfectant spray called Mud Stop™ is composed of high humectancy materials which they claim will reduce the water activity of the skin thereby inhibiting bacterial growth. Like the Equi-oxide they feel it has relatively high penetrability, meaning it is usually unnecessary to remove the scabs with these typically falling off unaided after treatment.

*Trus-steed products are available through the shopping section of our website – www.equitait.com.

Sweating

'Sweating' the leg is considered controversial because it increases the moisture and heat of the skin, which has the potential to provide optimal conditions for bacterial growth. However, for many people it helps to soften the scabs thus facilitating removal and can be useful for situations where the scabs are extremely thick and well adhered to the limb.

When sweating the limb for mud fever treatment apply your ointment or cream of choice liberally (eg antibiotic/steroid cream, nitrofurazone ointment, zinc oxide, corn oil). Then add a layer of brown paper followed by a gamgee layer approximately 1 inch thick around the lower leg. This is followed by a few layers of clingfilm (some people will place the clingfilm under the gamgee) with self-adhesive vetrap-type bandage or stable bandage used over the top to hold everything in place. Remove the wraps after 12 hours and then follow the steps outlined above. For mud fever it is generally only advisable to do this intermittently at the start of treatment rather than on a regular basis.

Prevention

The key to preventing mud fever is by ensuring your horse's environment is as clean and dry as possible. Then, by considering how to minimise the other possible underlying factors, further targeted therapies can be implemented.

There are a large number of topical barrier creams, oils and disinfectants available on the market to try and help prevent mud fever. There are also a number of nutritional supplements for promoting a healthy skin. However, whilst these products may be of some value they will not prevent mud fever if the management conditions are not suitable.

Be vigilant. The sooner you spot the first signs of mud fever, the quicker you can take action and so prevent a lengthy, and costly, recovery. It is also worth discussing with your own veterinary surgeon before using any proprietary treatments.