

Effective use of Cutimed Sorbact in equine pastern dermatitis

Equine pastern dermatitis, otherwise known as mud fever or 'greasy heels', is a dermatological condition that affects the distal limbs of horses. While *Dermatophilus congolensis* was initially believed to cause the infection, mud fever is currently linked to a mixed microbial aetiology influenced by environmental factors. Clinical signs can range from mild crusting to painful cellulitis, with diagnosis made on clinical presentation and additional testing if indicated. Treatment focusses on keeping the limbs clean and dry, addressing underlying causes and using topical or systemic therapies. This article provides an overview of mud fever in horses as well as case studies outlining the effectiveness of Cutimed Sorbact bandaging in healing lesions.

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Equine pastern dermatitis, also known as mud fever or 'greasy heels', is one of the most common dermatological conditions encountered by the equine practitioner. Equine pastern dermatitis was originally believed to occur following opportunistic infection of macerated skin on the distal limbs by the overgrowth of the facultative anaerobic actinomycete, *Dermatophilus congolensis*. However, it is now understood that the condition is multifactorial in aetiology (Yu, 2003).

Aetiology

Chronic maceration of the distal limbs generally precedes the development of equine pastern dermatitis. Therefore, horses living in wet, muddy conditions are often at greater risk of acquiring the infection. In the author's experience, dew on summer grass may also precipitate an episode in predisposed patients. Wet, unhygienic bedding, over-washing of the distal limbs and bandaging of wet limbs are further risk factors for the development of clinical signs. *D. congolensis* was originally cited as the causal bacterial agent for equine pastern dermatitis. However, sample bacteriology generally indicates the presence of a mixed bacterial population. Colles et al (2010) found that only two out of 12 cases examined were positive for *D. congolensis* on cytology, one of which was also culture positive. This

may be secondary to the chronic nature of the lesions and the use of empirical treatments by owners prior to seeking veterinary advice (Aufox et al, 2018). In addition, culture of *D. congolensis* may be challenging given contamination and the overgrowth of other bacteria (Frank et al, 2016).

Feathered breeds provide a prime environment for the development of equine pastern dermatitis (Geburek et al, 2005). This is often confounded by concurrent Chorioptes equi mite infection (Aufox et al, 2018). Photosensitisation secondary to liver disease may also cause clinical signs of the condition (Pilsworth and Knottenbelt, 2006). This occurs as a result of an aberrant reaction to ultraviolet light following the deposition of photodynamic agents in the skin. Leukocytoclastic vasculitis, an immune-mediated disease, also leads to clinical signs of equine pastern dermatitis, primarily affecting the medial and lateral aspect of the pastern and cannon bone regions of non-pigmented limbs (Risberg et al, 2005).

Signalment

Clinical signs of equine pastern dermatitis can develop in horses of all ages (Oesch et al, 2022). There is no known sex predilection, although it has been reported that male, heavy draft breeds are more susceptible to

severe disease, likely as a result of concurrent chronic progressive lymphoedema (De Keyser et al, 2014). The severity of clinical signs is also reported to increase with age in draft breeds (Wallraf et al, 2004). Unpigmented distal limbs are usually more severely affected compared to pigmented skin (Wallraf et al, 2004). In recurring cases, conformation may be a contributory factor, particularly with steep-sided heels and a deep central sulcus of the frog (Pilsworth and Knottenbelt, 2006).

Clinical signs

The characteristic clinical sign of equine pastern dermatitis involves the development of crusts on the distal limbs. Lesions may be focal to generalised in nature and typically develop on the palmar and plantar pastern regions, but can extend onto the medial, lateral and dorsal aspects of the pastern and fetlock (Gerber et al, 2023). The skin in the cannon bone region may also be involved in more extensive cases. In mild cases, palpation may be required to ascertain the presence of small crusts. In more severe cases, crusts are visually apparent.

Crusts come away with the overlying fur, resulting in so-called 'paint brush' lesions. Purulent material is generally noted beneath the crust and an alopecic area of skin that is often erythematous remains on removal (Knottenbelt, 2009). Secondary cellulitis indicated by distal limb swelling may be a sequela of equine pastern dermatitis.

Mild cases are generally not overtly painful, but more significant pain often accompanies moderate to severe infection. However, dermatophilosis and lesions in the pastern region caused by *Staphylococcus aureus* infection are characteristically painful (Kane, 2012). Some horses are very resistant to palpation, especially those with concurrent cellulitis or leukocytoclastic vasculitis (Yu, 2013). The degree of lameness varies on a case-by-case basis.

Diagnosis

Diagnosis is largely based on the presence of compatible clinical signs. Additional diagnostic tests include:

- Cytology of swabs (to examine for bacteria, fungi and ectoparasites)
- Microscopic examination of skin brushings (for fungi and ectoparasites)
- Bacterial culture and sensitivity
- Bloodwork (haematology and liver biochemistry)
- Histopathology of biopsy samples (to primarily rule in/out vasculitis).

Treatment

Initial management is focussed on keeping the legs clean and dry, as well as removing the affected patient from wet, unhygienic conditions if applicable. In mild cases, this may be sufficient to resolve clinical signs. In more severely affected cases, the distal limbs should also be clipped to allow for more thorough examination and subsequent treatment of the lesions. Sedation may be required to facilitate this process.

Loose crusts are gently removed by bathing in a chlorhexidine solution left in contact with the skin for 10 minutes before rinsing with warm water. The washed area should subsequently be patted dry using a clean paper towel. This wash should only be conducted once and not regularly repeated, as the aim of treatment is to avoid constant maceration of the skin. This goes against the wishes of many clients who prefer a hands-on approach in terms of washing and need to be briefed as to why a 'less is more' approach is desirable in most cases of equine pastern dermatitis.

Some patients may benefit from the application of a topical cleansing treatment to help with crust debridement. Pilsworth and Knottenbelt (2006) advocated for the use of topical creams with a polythene kitchen film covering, left in place for 12 hours to assist with softening and subsequent removal of the crusts. While judicious use of topical steroids may be advantageous for a short period of time, chronic use is not recommended as it can delay epithelialisation and healing as well as increase skin fragility (Pilsworth and Knottenbelt, 2006).

Moderate to severely affected patients and those with concurrent cellulitis may benefit from the systemic administration of antimicrobials (trimethoprim-sulphadiazine at a dose rate of 30 mg/kg orally twice daily, doxycycline at a dose rate of 10 mg/kg orally twice daily or procaine penicillin at a dose rate of 25 mg/kg intramuscularly twice daily) and non-steroidal anti-inflammatory drugs (phenylbutazone at an initial dose rate of 4.4 mg/kg orally twice daily for 24 hours followed by 2.2 mg/kg orally twice daily thereafter). In some cases, a short course of steroidal anti-inflammatory drugs (prednisolone 1 mg/kg orally once daily) are required to assist with inflammation. Horses should be kept mobile in a clean, dry area to assist with distal limb swelling.

In non-responding cases, a diagnostic workup should be performed if symptomatic treatment was undertaken in the first instance. If concurrent diseases have been identified on the diagnostic workup, a therapeutic plan that takes these conditions into account should be formulated.

For feathered breeds where *C. equi* is a major contributory factor, mite treatment in the form of doramectin (0.3 mg/kg subcutaneously, twice at 14 day intervals) or fipronil (0.25% solution) should be undertaken (Rendle et al, 2007). In cases identified as having equine pastern dermatitis secondary to liver-induced photosensitisation, a liver workup and subsequent treatment is indicated. In addition to the symptomatic treatment outlined above, horses affected by leukocytoclastic vasculitis should not be turned out in sunlight and should be treated with systemic corticosteroids. Knottenbelt (2009) recommended immunosuppressive dose rates of oral corticosteroids daily for 2 weeks followed by weaning gradually over the following 4 weeks.

Preventative measures

If clinical signs develop as a result of chronic maceration of the skin and subsequent secondary bacterial infection,



Figure 1. Left hind leg a) medially, b) dorsally and c) laterally before Cutimed Sorbact bandaging.

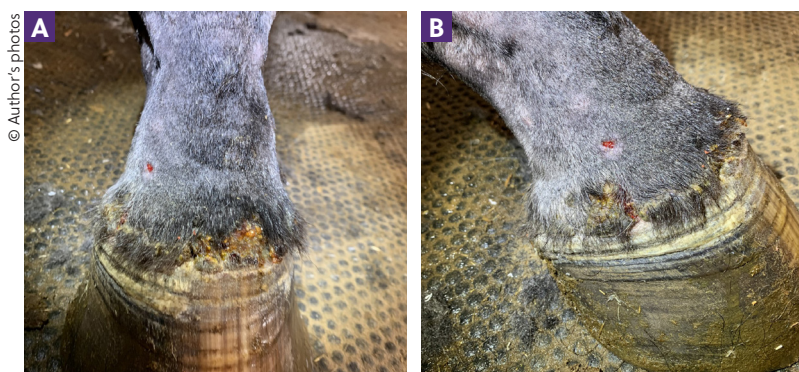


Figure 2. Right hind leg a) dorsally and b) laterally before Cutimed Sorbact.

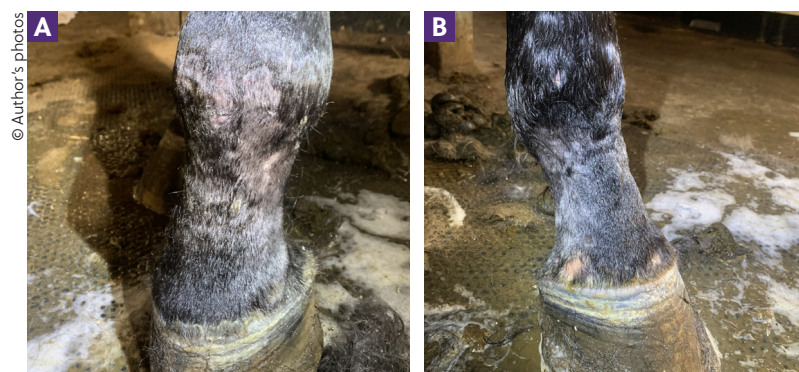


Figure 3. Left hind leg a) laterally and b) medially after Cutimed Sorbact.



Figure 4. Right hind leg a) laterally and b) medially after Cutimed Sorbact.

clients should aim to keep predisposed horses out of wet, muddy conditions if possible. When paddocks start to become poached, horses should be moved to an alternate paddock if available. In the author's experience, commercial leg wraps and barrier creams are used with varying degrees of success.

In horses that are turned out, mud should be washed from the distal limbs and subsequently dried. If mites are a contributory factor in feathered breeds, feather should be clipped out and treatment administered when clinical signs develop. Consideration of the type of bedding used as well as general stable hygiene, if stabled, is also important in these cases. When turnout recommences for horses with previous leukocytoclastic vasculitis, daytime turnout should be avoided and sunblock should be applied to unpigmented distal limb skin (Knottenbelt, 2009).

Other animal species

Dermatitis can occur in other animal species, such as canines, where pododermatitis is akin to pastern dermatitis in equine patients. Similar to equine pastern dermatitis, inciting causes should be identified and symptomatic treatment administered.

Case studies

Case study 1

A 23-year-old Thoroughbred gelding presented with bilateral hindlimb swelling in mid-January 2024. The gelding lived at an animal sanctuary, in a muddy field with a small herd of geriatric horses. The horse had a history of hindlimb cellulitis in 2016 and 2019. There was no known history of hindlimb cellulitis before moving to the animal sanctuary in 2012.

The clinical examination revealed diffuse bilateral lower hindlimb swelling up to mid cannon bone. The gelding showed stiffness when walking, but he was suspected to also have arthritis. Pastern dermatitis was visible bilaterally on the hindlimb pasterns caudally. The skin had dry crusty scabs with no exudate and was scaly around the lesions. Blood samples were taken for adrenocorticotrophic hormone, haematology and biochemistry profile to assess

for pituitary pars intermedia dysfunction, infection and liver enzymes. The results showed mild elevation in gamma-glutamyl transferase. Treatment using topical silver sulfadiazine cream under stable bandages, oral trimethoprim sulfadiazine 30 mg/kg twice daily for 7 days and phenylbutazone 4.4 mg/kg daily was started. The gelding was taken into a sandy indoor paddock to keep the legs dry.

Improvement was initially seen with a reduction in diffuse swelling and softening of the crusty scabs. The oral antibiotic treatment was stopped as planned. After 2 weeks, the lesions spread dorsally, and the coronet band became irritated bilaterally on the hindlimbs. It was suspected that the sand was irritating the coronet band in the indoor paddock, as the gelding's hooves sunk into the sand all the way to the coronet band, pushing the stable bandages up and leaving the skin exposed. The horse was put on box rest and the silver sulfadiazine cream was continued. At this stage, further improvement was seen and some of the scabs had come off. The horse was allowed into a dry outdoor paddock in February. However, more lesions appeared within 2 weeks. Swabs were taken for culture and sensitivity, and a course of doxycycline 10 mg/kg twice daily for 10 days was started, in conjunction with ongoing oral phenylbutazone. The results from the swabs indicated profuse growth in *S. aureus* and *Corynebacterium* species, and moderate growth of *Beta-haemolytic streptococci*, which were resistant to multiple antibiotics, including trimethoprim sulfadiazine.

At the end of February, the skin was erythematous with erosions and serous crusting lesions around both hindlimb pasterns, with patches of alopecia where previous lesions had healed (Figures 1 and 2). At this stage, bandaging with Cutimed Sorbact was initiated using the protocol. Multiple Cutimed Sorbact gel swabs were used around the pastern to allow better adhesion to the dry skin. The horse was on box rest throughout bandaging and continued oral phenylbutazone 2.2 mg/kg daily. The bandages were changed once a week, and the skin was cleansed in between changes. After two bandage changes, most of the crusty scabs were easily removed when cleansing the skin, and the skin under the lesions appeared healthy. Repeat blood samples were taken in mid-March to assess for any changes. The gamma-glutamyl transferase levels were within normal limits.

Following two Cutimed Sorbact bandage changes, the gelding experienced an injury and treatment had to be modified. The gelding was found distressed with a swollen and painful right hind leg. The swelling extended from mid-tibia down to below the hock, and the skin surrounding the hock had superficial cuts and grazes with hairless areas. There was concern of a possible bone fracture. The gelding was given an intravenous injection of dexamethasone 0.06 mg/kg, flunixin 1.1 mg/kg and oral doxycycline 10 mg/kg to reduce the swelling and act as pain relief. The oral antibiotics were continued twice daily

and oral prednisolone 1 mg/kg daily was commenced the next day in addition to the ongoing oral phenylbutazone 2.2 mg/kg daily. The dressing was removed and the skin remained healthy under the lesions (Figures 3 and 4). Minimal swelling was noted around the cannon bone and fetlock; however, treatment using Cutimed Sorbact was stopped prematurely to prevent bandage sores given the possibility of further swelling.

Case study 2

An 11-year-old bay heavy hunter gelding presented with erosive lesions on the right forelimb on the palmar aspect of the fetlock. The gelding had a history of chronic pastern dermatitis, involving severe erosive lesions with associated cellulitis and lameness. The gelding responded to systemic antibiotics, non-steroidal anti-inflammatory drugs and washes with antibacterial and antifungal shampoo. However, the lesions on the right forelimb on the palmar aspect of the fetlock never completely healed, primarily because of the horse's exercise commitments and ongoing exposure to mud and water.

The two remaining erosive lesions on the palmar aspect of the right fore fetlock (Figure 5) were treated using the application of Cutimed Sorbact bandaging in February 2025. The bandage slipped after 48 hours so the protocol was repeated (Figure 6), but the lesions had already significantly improved by this point.

The dressing was changed again on day 5 of the treatment protocol (Figure 7). The support bandage was changed to avoid dressing slippage, and the lesions were almost completely healed. Dressings were changed again on day 10, by which time the lesions were completely healed (Figure 8). However, the dressing continued to be changed on days 12 and 19 as a precautionary measure, given the horse's exercise commitments. The horse remained sound and coped with exercise commitments without flareups.

Case study 3

A 22-year-old Czech warmblood mare was evaluated for a recurrent case of mud fever. The horse was diagnosed with autoimmune coronitis 3 years ago and periodically

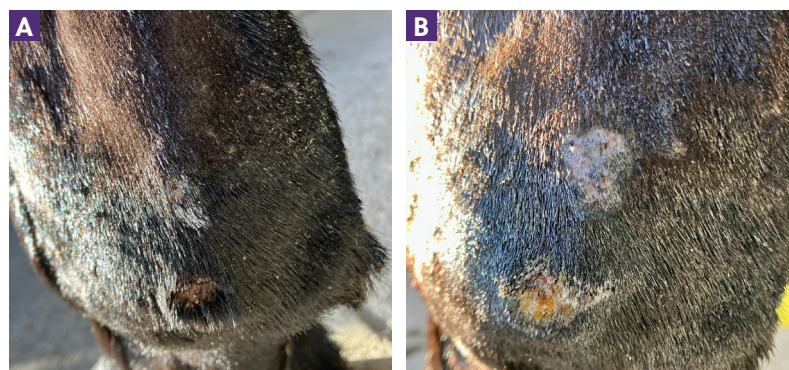


Figure 5. Lesion on right forelimb on the palmar aspect of the fetlock a) and b) before Cutimed Sorbact bandaging.

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Figure 6. Cutimed Sorbact bandage reapplied after 48 hours following slippage.



Figure 7. Right forelimb on day 5 of Cutimed Sorbact treatment protocol.



Figure 8. Right forelimb on day 10 after Cutimed Sorbact bandaging.

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Figure 9. Left hind leg a) plantar-medial view and b) plantar view before Cutimed Sorbact bandaging.

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Figure 10. Left hind leg a) plantar-medial view and b) plantar view after Cutimed Sorbact bandaging.

presented with oedema of the lower left hind limb, and scaly and crusty dermatitis of the pastern. The mare was housed in a paddock, with free access to a box without bedding. The mare was fed hay ad libitum and a small amount of concentrate once a week. The mare was retired and not used for any sport.

In February 2025, the mare showed a recurrence of mild fever (39.2°C) and mild oedema of the lower left limb from the hock to the fetlock. A small crust was visible on the plantar-medial aspect of the fetlock, surrounded by an area of alopecia (Figure 9). A small pustule was present on

the coronary band above the frog, and purulent exudate could be seen along its medial sulcus. The horse was mildly lame on the same leg. Treatment was initiated with broad spectrum antibiotics (association of penicillin procaine and streptomycin at 9000 IU/kg and 1125 mg/kg intramuscularly respectively, daily for 5 days) and non-steroidal anti-inflammatory drugs (oral suxibuzone 6.25 mg/kg twice daily for 2 days, followed by 3.1 mg/kg twice daily for 3 days). The left fetlock and pastern were shaved and cleaned with water, and treatment with Cutimed Sorbact was initiated according to protocol.

Improvement of the lesions was seen at the first bandage change. Oedema was no longer present, the dermatitis had reduced in size and crusts were less visible. Fever was no longer present, and the horse was able to walk more comfortably. After the third bandage change, the lesions were completely healed (Figures 10), with only dried scales and crusts above the frog. The owner and the veterinarian were satisfied with the results and treatment was concluded.

Case study 4

An 8-year-old Arabian gelding was evaluated for recurrent mud fever. The horse presented with crusts and scales on the lateral aspect of the fetlock and pastern of the right hind leg. The lesion was humid, oozing a small amount of serum. A smaller area of alopecia and mild reddening of the skin was visible on the plantar region of the pastern (Figure 11). The leg was also slightly swollen, but the horse was comfortable and not lame. The horse was stabled in a box with shavings as bedding, and not in active training at the time of examination. The horse was fed hay three times daily and concentrate twice daily.

The clinical examination only revealed dermatitis on the lower leg, and treatment with antibiotics was not considered necessary. After shaving the area and thoroughly cleaning with water, Cutimed Sorbact bandaging was applied according to the protocol. After 3 days, the lesion improved (Figure 12); the area appeared less irritated, and the smaller lesion was completely healed. The bandage was reapplied

and changed three more times every 3 days, at which point the lesions appeared to be completely healed (*Figure 13*).

Conclusions

Mud fever is a multifactorial disease, where treatment must consider aetiology and individual client circumstances. While many cases will resolve with management modifications alone, more severe cases require veterinary intervention, with further diagnostics undertaken when indicated. Veterinarians must consider the use of appropriate dressings and protocol when treating these chronic lesions. **EQ**

Conflicts of interest

The authors received Cutimed Sorbact equipment for the purposes of conducting the case studies in this product focus. Publication of this article was supported by Essity.

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KEY POINTS

- Equine pastern dermatitis is a multifactorial skin condition linked to moisture, infection and systemic disease.
- Treatment focuses on cleanliness, addressing underlying causes and targeted medications.
- Cutimed Sorbact bandaging has been shown to be effective in treating lesions caused by equine pastern dermatitis.

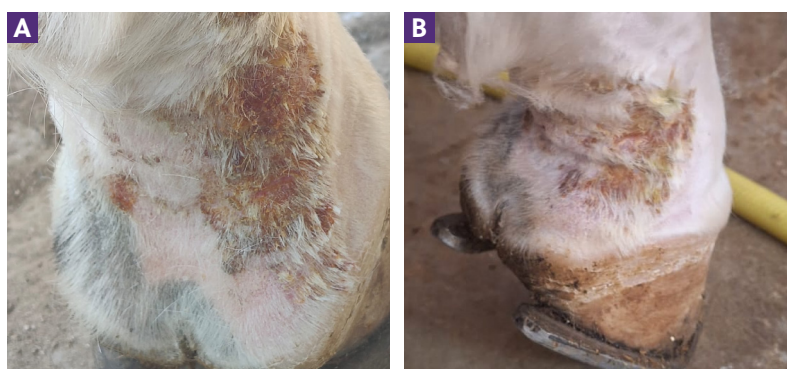


Figure 11. Right hind leg fetlock and pastern a) latero-plantar and b) lateral view before Cutimed Sorbact bandaging.

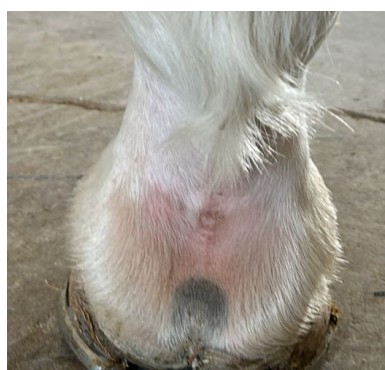


Figure 12. Right hind leg fetlock plantar view on day 3 after Cutimed Sorbact bandaging.



Figure 13. Right hind leg fetlock a) plantar and b) lateral view after Cutimed Sorbact bandaging.