

## Understanding Equine Cellulitis

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Cellulitis can be a relatively common and frustrating condition affecting the limbs of horses. The condition results from inflammation and infection of the subcutaneous tissues that lie beneath the skin. It commonly affects only one limb at a time and is most likely in the hind end.

### Clinical Signs

The typical presentation of cellulitis is very prominent swelling of a limb that is often associated with lameness. The lameness is normally quite severe, with some horses even refusing to bear weight on the limb, and owners notice that it develops quite rapidly. Either areas of the limb or the entire limb will swell up and can reach 2-3x the normal size. The affected limb often becomes very warm and painful to the touch, and pitting edema may be present. A fever may be present and the horse may exhibit other signs of not feeling well including being lethargic and off feed.



Fig 1. Cellulitis

### Causes

Cellulitis cases can have no known trigger or may follow an insult including surgery, joint injections, wounds or trauma. The most common bacteria to be isolated from these cases are *Staphylococcus* spp. which normally inhabit the skin. These bacteria then can enter the deeper tissues and lead to infection through some break in the skin barrier. Edema in these tissues then forms when the bacteria and the toxins they release create an inflammatory response. This leads to blood vessels and lymph vessels becoming leaky and tissue building up in the subcutaneous tissue.

### Diagnosing Cellulitis

It is very important to get your veterinarian involved when a case of cellulitis is suspected as prompt diagnosis and treatment are crucial to successful recovery. Your veterinarian may suspect cellulitis on physical examination when a horse has a swollen, warm, painful limb and is exhibiting prominent lameness. It is important to rule out other causes of severe lameness and limb swelling including joint infections and fractures as well. Supporting diagnostics are then used to confirm and assess the extent of the condition. Ultrasound can be very useful in looking

at the subcutaneous tissues and highlighting the presence of edema, seen as fluid accumulation within the tissue layers. Bloodwork will often show an elevation in the fibrinogen level, a marker used to assess inflammation, and/or changes to white blood cell counts.

### Treatment

The main stays of cellulitis treatment focus on eliminating the infection from affected tissues and supportive care to decrease the limb swelling. Broad spectrum antibiotics are commonly used to help clear the infection. NSAIDs can also be used to help control any pain and inflammation. Hydrotherapy with cold hosing, bandaging, sweat wraps and hand-walking or lunging are often crucial components of treatment and are used in combination to help reduce the swelling of the limb. Treatment can often be quite frustrating as many of these cases can take a while to resolve and full resolution is not always achieved.

### Complications

Prompt and thorough treatment is very important in these cases as devastating and life threatening complications can follow a case of cellulitis. Some horses undergo very severe and deep infections that cannot be corrected with medical management alone and surgical debridement or drainage is necessary. In other cases, thrombosis of vessels can occur which leads to necrosis of tissue and skin sloughing wounds. These wounds can involve important underlying structures and may require a long and expensive period of intensive wound care and bandaging to resolve. Lastly, laminitis can occur in the affected limb due to damage to the coronary band or can develop in the contralateral limb due to the extra stress placed upon that limb.

### Prognosis

Although survival rates are quite high and treatment is often successful, prognosis for a full recovery is not guaranteed. Some horses may have recurrence of the infection or suffer from lameness when returning to normal work loads after the initial episode. Chronic cases will often lead to a permanently thicker leg due to the presence of scar tissue. This can permanently affect the horses' ability to normally drain the lymphatic system. Client compliance and early detection are crucial in recognizing chronic recurring cases and prompt treatment will help prevent episodes from progressing. Horses that are prone to recurring episodes are often maintained on strict exercise programs and extra care is taken to ensure proper hygiene and prevent exposure to infections.

If you have any other questions regarding cellulitis, please feel free to contact New England Equine Medical & Surgical Center.

### Sources:

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