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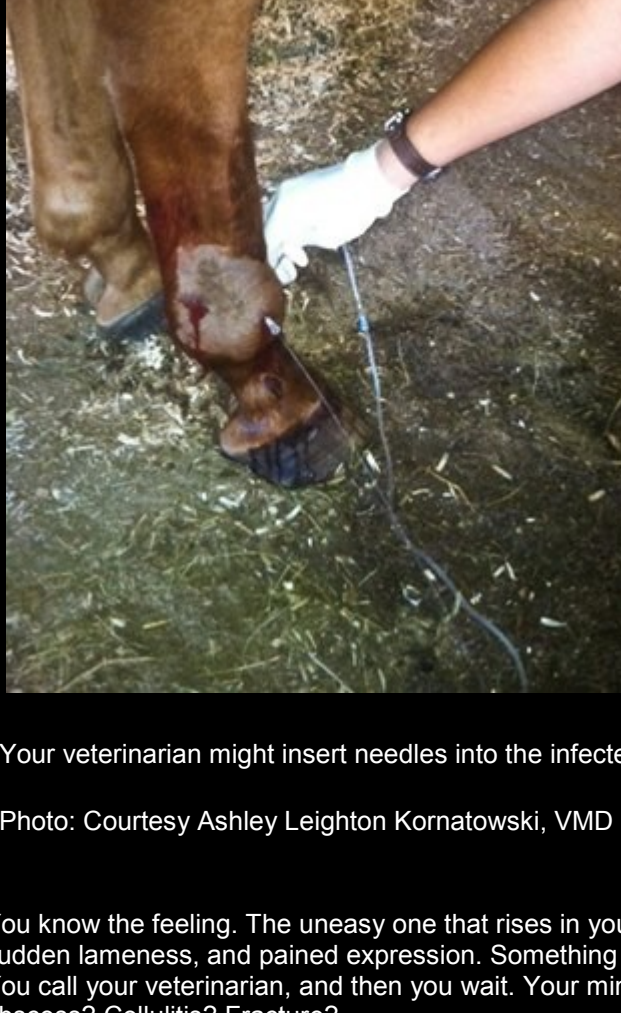
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Getting a Jumpstart on Joint Infections



Your veterinarian might insert needles into the infected joint and flush it with sterile saline.

Photo: Courtesy Ashley Leighton Kornatowski, VMD

You know the feeling. The uneasy one that rises in your chest as you see your horse's swollen limb, sudden lameness, and pained expression. Something is definitely wrong, but it's unclear exactly what. You call your veterinarian, and then you wait. Your mind races with possible diagnoses: Hoof abscess? Cellulitis? Fracture?

An infected synovial structure will be on your veterinarian's list of possibilities, especially if there is a wound near one of them. These sensitive structures include joints, tendon sheaths, and bursae—fluid-filled structures encased by synovial membranes that produce lubricating fluid to facilitate movement. Unfortunately, this fluid is an excellent breeding ground for bacteria, as well, so infections can become quite serious. Many of these structures are near the skin surface, so even a superficial wound can introduce enough bacteria into the joint or tendon sheath to cause a severe infection days later. Once set up, these infections can be difficult to treat.

To diagnose an infected joint, the veterinarian should collect and analyze a fluid sample. He or she will clip and scrub the area of skin, then with gloved hands insert a sterile needle to collect synovial fluid. Before sending the sample off to the lab for culture, cell counts, and microscopic evaluation, which are all important tests to run, your veterinarian can get an immediate idea of what's going on by the sample's appearance. Normal synovial fluid is light yellow but clear and fairly thick. Darker, whitish, cloudy, or thin fluid can indicate infection or inflammation.

Once tentatively diagnosed, aggressive, multimodal treatment must begin immediately—there's no time to wait on the lab results. The best treatment for moderate to severe cases, if financially feasible, is arthroscopic debridement and lavage. This is a surgical procedure performed under general anesthesia at a referral hospital. The surgeon creates portals in either side of the joint for inserting instruments to remove inflammatory debris. He or she will also flush sterile fluids (usually saline) through these portals to clean up the infection during surgery. Once flushed thoroughly, the veterinarian will often chase the sterile saline with a dilute solution of a powerful broad-spectrum antibiotic directly into the joint. The veterinarian will perform joint lavages daily for at least the first three to five days of treatment.

If referral for arthroscopic surgery is not possible, then our option on the farm is to aggressively flush the joint however we can, using sterile needles on opposite sides of the structure, for "through and through" lavage. We'll attach a pressurized bag of sterile saline to one of the needles so the fluid distends the synovial structure and flows through the "out" needle fairly quickly. Depending on the case, we can sometimes make small portal incisions directly into the joint and introduce small metal tubes (cannulas) to improve the flush. This can be done in the sedated standing horse in some cases, or in the recumbent horse with short-term general anesthesia. Follow-up joint therapy will continue for three to five days, just as in the hospitalized patient.

Flushing and treating the joint directly is a good start, but we can't stop there. We also have to provide systemic antibiotics to help the body clear the infection. Generally that means a powerful intravenous antibiotic given daily or several times daily (depending on your veterinarian's preference and what the bacterial culture shows is effective). We can also perform a regional limb perfusion of antibiotics. This is a method to get high tissue concentrations of drug locally to the affected area, with lower (and safer) concentrations to the rest of the body. We apply a short-term tourniquet to the limb above the infected joint and inject an antibiotic solution into a vessel below the tourniquet. We then keep the tourniquet in place for about 20 minutes, allowing the antibiotic to fully penetrate the tissue. The veterinarian can perform the regional limb perfusion daily for the first three to five days of treatment. Additional treatments include pain medications, sterile bandaging of the limb, and stall rest.

Infected joints can be scary and cause stress, but early aggressive treatment offers the best chance for a full recovery. As with all emergencies, prevention is the best medicine. Avoid infected joints with early detection and treatment of wounds near synovial structures. Keep in mind that joint structures may extend further than where the "joint" appears to be. With wounds around hooves, fetlocks, knees, hocks, and at the back of the lower limb, err on the side of caution. Have a veterinarian evaluate the wound immediately—if the insult has contaminated a synovial structure, prompt treatment will prevent many serious infections and the headache that can come with them.