

Joint infections: Recognition and treatment

Introduction

Joint infections are a common and potentially career-ending problem in horses. Infection usually develops from a wound which communicates directly with the joint cavity. In cases where there is an obvious skin defect this can be easy to detect but often a small puncture, for example by a thorn, leaves little indication of the initial injury. In foals, infection can spread into one or more joint(s) via the blood stream following infection of the navel, respiratory tract or abdominal cavity.

Recognition

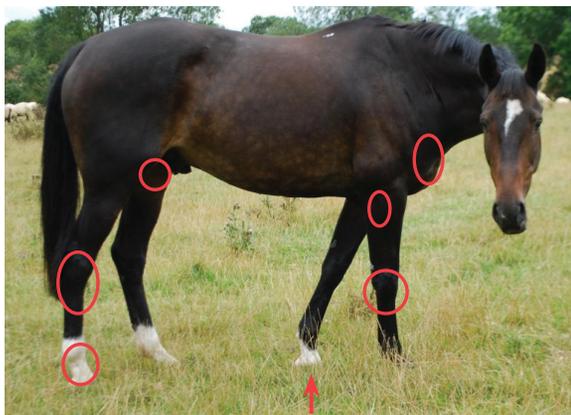


Figure 1. Anatomical sites at risk of infection. The circles indicate the principle joints, tendon sheaths and bursa of the front and back legs. The arrow serves as a reminder that penetrations of the sole can extend into the navicular bursa within the hoof.

Recognition of a potential problem relies on a good appreciation of horse anatomy. Frequently joints have more than one out-pouching. For example the knee (carpus) joint has large pouches over the front but less obvious pouches to the sides and back of the leg. The exact position of the joint capsule may also be further than expected from the bony landmarks. For example the elbow joint is several centimetres below and to the side of the point of the elbow. Throughout the horse's musculoskeletal system there are numerous additional sterile sacs (sheaths and bursae) which

are also vulnerable to infection. For example the hock (tarsus) is a common site for injury and three bursae lie under the skin at the point of the hock which may become infected with serious consequences even if the hock joints themselves are not involved. The risk sites for infection are summarised in *figure 1*. Prompt veterinary investigation should be sort when there is injury to any of these sites to maximise the chance of successful treatment.

Clinical Signs

A list of common clinical signs associated with joint/sheath/ bursae infection is shown in *table 1*. Confirmation of infection involves further veterinary procedures. Following general examination of the horse, any obvious wound is explored using a sterile gloved hand. Often the position of the skin wound is some distance from initial impact, for example if the horse was

Table 1: Clinical signs which may be associated with joint infection

- 1) Severe lameness (*NB. may be mild if very recent injury or joint capsule is open and draining*)
- 2) Yellow tinged fluid oozing from wound in vulnerable location
- 3) Increased heat and/or swelling of joint/sheath/bursa
- 4) Raised body temperature (+ 38.5°C)
- 5) Sweating
- 6) Reduced appetite
- 7) Distressed/anxious behaviour

Joint infections: Recognition and treatment article continues overleaf

Practice News



Massive congratulations to **Alice Sheldon**, who has just passed the Equine Surgery (orthopaedics) Certificate examination, in addition

to the certificate in Equine Practice she gained in 2007. She will now be **Alice Sheldon BVM&S BSc MSc CertEP CertES(orth) MRCVS** (a bit of a mouth full, AI for short). This is no mean achievement involving huge personal sacrifice and commitment. In fact, very few people have actually passed this examination outside a university environment! This will benefit our equine practice greatly enabling us to draw on her expertise and huge knowledge base.

We are pleased to welcome back **Hannah Hughes** to our nursing team.

Visit our new look website www.towcester-vets.co.uk with great new features including lots of case books and videos. We are also now on **Facebook** and **Twitter**.



Opening Hours

Mon to Fri: 8.30am – 6.00pm
Saturday: 9.00am – 12.00pm

All other hours an equine vet will be available to answer any incoming calls or equine emergencies.



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Joint infections: Recognition and treatment *continued*:

stretching to jump a fence or has sustained a glancing kick. More detailed investigation of potential damage to underlying structures requires radiography (to identify bone damage or metallic foreign bodies, *figure 2*) and ultrasonography (to identify tendon and ligament damage, a breach in the lining of the joint or non-metallic foreign bodies, *figure 3*).

Injection of sterile saline into the neighbouring joint/sheath/bursa will often result in flow of this fluid from an adjacent wound, confirming communication. Collection of fluid directly from joint/sheath/bursa under sterile conditions is also extremely useful. Normal synovial fluid is a clear pale yellow colour and should form a long string when dripped from a syringe or held between two fingers. Dark, opaque, watery fluid is abnormal and indicates a severe inflammatory process within the joint. Laboratory analysis of the number of white blood cells and the total protein levels of this fluid will confirm any abnormal changes that are not obvious to the naked eye.

If infection is confirmed prompt, aggressive flushing of the

affected region using high volumes of sterile saline is required. The most effective way to achieve this is via an endoscopic lavage system under general anaesthesia (*figure 4*). This allows rapid inflow and outflow of fluid, detailed inspection of the cartilage, joint/bursa/sheath lining and removal of any foreign material (*figure 5*).

Without surgical intervention the ongoing inflammation within the infected site would result in chronic lameness.

Following surgery a prolonged course of antibiotics is often required, initially via the jugular vein then either intramuscularly or orally. Further levels of antibiotic are often provided by injecting the affected region directly and/or the vein which supplies the region to supplement this. In some cases repeat surgeries are required for further flushing of the affected joint. Where possible a sterile bandage is placed over the wound to prevent further contamination and minimise swelling.

The prognosis following joint infection depends on a large number of factors including time since injury, involvement of additional bone or soft tissue structures and health status of the affected animal. The best chance of complete recovery is achieved by rapid, surgical treatment and strict adherence to post-operative management.

If there is ever any doubt whether a joint, tendon sheath or bursa has become infected please do not hesitate to seek veterinary advice.

Figure 2. Radiograph of a hock. A small piece of bone had been chipped off (arrow) in addition to the skin wound.



Figure 3. Ultrasound image of a damaged tendon within the digital flexor tendon sheath as a result of a traumatic wound.

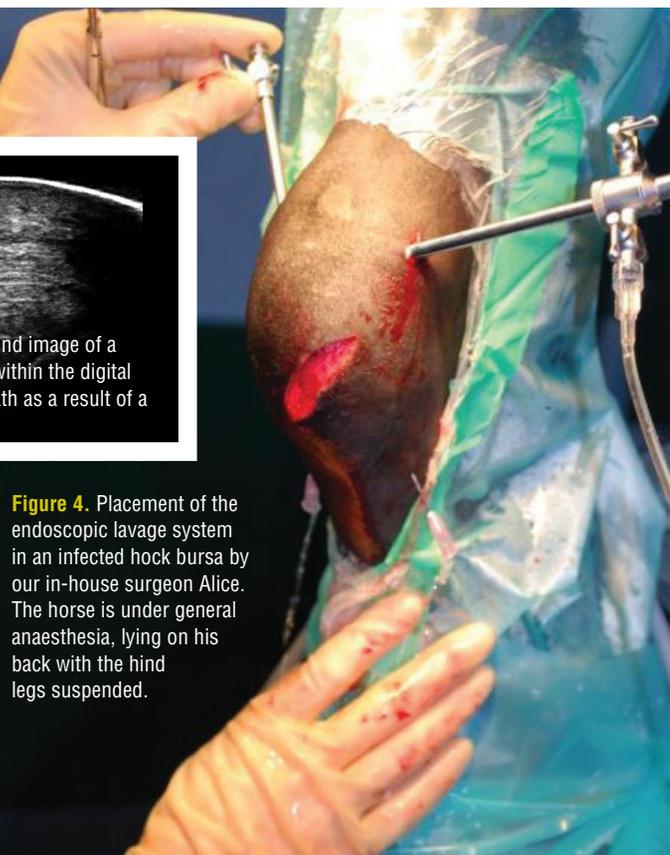
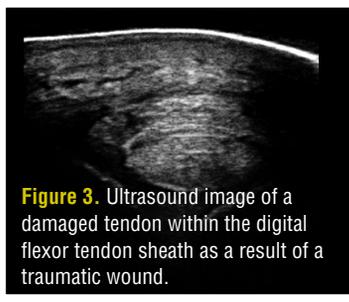


Figure 4. Placement of the endoscopic lavage system in an infected hock bursa by our in-house surgeon Alice. The horse is under general anaesthesia, lying on his back with the hind legs suspended.

Figure 5. Appearance of the inside of an infected fetlock joint as captured by the endoscopic camera in the clinic theatre.



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