

# The Big Point about Puncture Wounds

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Dr. Kirk Heisterkamp, DVM, founded River Basin Equine Veterinarian Services in 1997 with spouse Christine Wilkin, DVM. Both are 1993 graduates of Iowa State University College of Veterinary Medicine. Areas of special interest are equine surgery and lameness.

Ask any equine veterinarian what type of wound is the most concerning to them and you will most likely hear "puncture wounds."

Puncture wounds can have devastating consequences depending on their location.

This type of wound often goes undetected in the early stages. Puncture wounds are small and generally have minimal bleeding as compared to lacerations with big, gapping wounds, skin flaps and generous bleeding. Many times, a puncture injury goes undetected until swelling and / or lameness are observed.

Puncture wounds carry hair, dirt, bacteria, etc. into deeper tissues. Because the wound is small it seals over quickly, trapping the foreign material. An infection and inflammatory process ensues. In some cases the object creating the puncture will remain in the wound; a common example would be wooden objects.

The severity of puncture wounds depends on the location in which they occur. Puncture wounds entering joints, tendon sheaths, abdomen or chest cavities are the most serious. Puncture wounds over any of these areas should be treated as an emergency. Prognosis for infected joints decreases rapidly after 12 hours' duration. Bacteria multiply very rapidly and once an infection progresses past 12 hours it becomes more and more difficult to eliminate.

Deep puncture wounds that extend through multiple tissue planes are less severe but are often difficult wounds to manage. Bone damage and subsequent bone infection can be a result of puncture wounds, a common example of this process is a puncture to the sole of a hoof that leads to coffin bone infection.

The main elements of treating puncture wounds involves antibiotics, anti-inflammatories, and bandaging where applicable.

In cases of joint, tendon sheath, abdominal or chest cavity involvement; flushing / lavage followed by antibiotic

instillation into these cavities is used to treat infection and reduce inflammation. Again, early recognition and treatment of these cases increases the prognosis and decreases the expense of treatment.

Surgical exploration of puncture wounds is often indicated to debride damaged tissues / bone, allow for thorough flushing, remove foreign material and establish wound drainage. Puncture wounds that transverse multiple tissue layers are common candidates for surgical exploration. Wounds over the large muscle groups of the hindlimb, shoulder, neck and chest are common examples.

The take home message here is that a daily examination of your entire horse will facilitate early recognition of a puncture wound. Any abnormal swelling should be examined closely for a puncture wound. Wetting or clipping hair on a swollen area often helps in visualizing puncture wounds. All wounds even remotely close to a joint should be examined by your veterinarian ASAP.



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