

BASIC INFORMATION

Description

A carpal or tarsal shearing injury involves the loss of soft tissues (skin, muscle, tendons) over the carpus (wrist) or hock (ankle). Varying amounts of bone, cartilage, and ligaments that surround the joint can be lost as well. The tissues beneath the skin are visible and exposed to the external environment.

Causes

Carpal and tarsal shearing injuries occur when an animal is dragged behind or under a moving vehicle, often over pavement. Dragging of the leg destroys the soft tissues over the carpus (wrist) or hock (ankle), and sometimes the underlying bone as well.

Clinical Signs

Dogs and cats that sustain shearing injuries often have other serious injuries related to the traumatic event, so a variety of clinical signs may be observed. The skin and tissue over the involved joints and varying amounts of bone are usually missing and often grossly contaminated with debris and bacteria. Affected joints are often unstable, making the leg unusable. Non-weight-bearing lameness is common.

Diagnostic Tests

Routine laboratory tests, x-rays of the chest and abdomen, an electrocardiogram (to evaluate the heart rhythm), and an abdominal ultrasound may be recommended to identify and evaluate other injuries. X-rays of the affected joint are taken to identify fractures or dislocations associated with the shearing injury. Swabs and tissue samples of the injured joint may be submitted for bacterial culture.

TREATMENT AND FOLLOW-UP

Treatment Options

Initially, the wound may be splinted and bandaged while other injuries are treated and stabilized. Once the animal is stable, the wound is cleaned, and dead or excessively injured tissue is removed (debrided) under anesthesia. Fractures may be stabilized by various methods, and joint ligaments are reconstructed as needed.

The wound may be managed with multiple bandage changes until it heals on its own, or it may be closed by a number of different reconstructive surgical techniques. If injuries to the leg are severe, amputation of the limb may be the best method for resolving the problem and returning the animal to a pain-free, functional state. (See also the handout on **Limb Amputation**.)

Follow-up Care

Frequent recheck visits are usually needed for weeks following shearing injuries. The wounds are checked and cleaned, bandages are changed, and any orthopedic devices are evaluated. X-rays may be repeated to monitor healing of accompanying fractures and to check for signs of bone infection (osteomyelitis). Additional testing and monitoring may be needed for other accompanying injuries.

Prognosis

Prognosis varies from good to guarded (uncertain), depending on the extent of the injury to the carpus or tarsus, as well as other injuries sustained during the trauma. Owners must be prepared for the diligent therapy and nursing care, including frequent bandage changes and recheck visits, that are needed to resolve these shearing injuries.