

Fracture of the lateral and/or medial Malleoli

What are the malleoli?

The lateral malleolus is actually the bottom end of the fibula. The medial malleolus is the bottom end of the tibia (shin bone). The collateral ligaments originate (start) on the malleoli; fracture, therefore, leads to pronounced joint instability. Luxation (dislocation) of the tarsal (hock or ankle) joint is often associated with malleolar fractures; this can result in damage to the articular cartilage of the joint surfaces. Occasional with high energy trauma damage may be so severe that fusion of the joint is necessary (arthrodesis).

Surgical repair

Fractures of the malleoli are typically repaired with very small pins (Kirschner wires) in combination with tension-band wires.

Bandages, splints, or casts may be applied after surgery to protect the repair/s. Alternatively, external skeletal fixation frames may be applied. Strict confinement is necessary to minimise the possibility of complications after malleolar fracture repair.

Outcome and potential risks of surgery

Overall success rates with malleolar fracture repairs are typically very good; the majority of cats recover well and are able to return to normal activities with good long-term joint function.

As with any surgery complications may arise and are detailed below:

- The fractured malleoli are very small and sometimes there are additional cracks (fissures) in the malleoli; occasionally malleoli may split during an attempted repair.
- Infection is relatively uncommon assuming the fracture site was uncontaminated before surgery, as strict sterile technique is used during the surgery and antibiotics are administered in the peri-operative period. Contamination of the wound in the early postoperative period may increase this risk e.g. your cat licking the wound in the first few days after surgery may significantly increase the risk of infection. Should infection occur, early detection and treatment generally result in rapid resolution, although very occasionally removal of the implants may be required once the bone has healed. More serious problems may occur if infection progresses untreated or if your cat suffers infection with multiple resistance bacteria e.g. MRSA. If you suspect an infection contact your Vet immediately.
- Excessive activity in the first 8 weeks after surgery will reduce the likelihood of bone healing and will increase the risk of implant failure or loosening. Loose or migrating implants may need to be removed or replaced.
- Excessive activity will substantially increase the likelihood of bandage or splint-associated complications (where present). Overactivity causes excessive movement of the dressings against the skin which can result in "rub" or "pressure" sores. Additionally, if the dressings slip they can become constrictive cutting off blood supply. If you suspect the bandages have slipped you should contact your Vet immediately.
- Excessive activity will also substantially increase the likelihood of external skeletal fixator complications (where present).
- Sometimes additional fractures occur to other bones of the hock joint, and rarely penetrative injuries may also cut through a collateral ligament. Additional fractures increase the complexity of the repair/s and may negatively reduce the prognosis i.e. cats with additional fractures are more likely to have complications and the longer-term outlook may be compromised.
- Even after the fracture/s have healed it is still important to have a controlled, gradual increase in activity, similar to human patients undergoing rehabilitation following surgery. If activity is increased too quickly after surgery straining of joint structures may occur. Rest and anti-inflammatory medications may help.
- Implant removal may be advisable once the fractures have healed, as there is very little soft tissue cover in the area. As activity increases the pins may irritate or even penetrate the overlying skin.

- As malleolar fractures involve the joint the development of osteoarthritis is inevitable and may occasionally become debilitating. Fortunately, most cats recover very good joint function with only mild osteoarthritis.

Postoperative care

Your cat should be kept confined, ideally to a cage large enough to comfortably accommodate bedding, litter tray and food bowls. Confinement should be maintained at all times until your Vet specifically advises otherwise.

A bandage or splint may be applied to protect the repair.

If there is no bandage present **Ice packs** for 10 to 15 minutes several times daily are recommended in the first few days following surgery to reduce swelling and improve comfort. Regular, gentle massage (sweeping motions upwards e.g. from ankle to hip) may help dissipate oedema fluid.

X-rays should be performed approximately three to four weeks following surgery to assess implant position and healing.

Declaration:

I have read the information contained herein and am satisfied I have a sufficient understanding of malleoli injury and repair, including potential complications that may occur and requirements for aftercare following surgery. I hereby consent for my cat to undergo fracture repair.

Owner's name:

Cat's Name:

Owner's signature:

Date: