

Metacarpal and Metatarsal Fractures

Surgery Service



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- Ophthalmology
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- Radiology & Fluoroscopy
- Soft Tissue Surgery
- Ultrasound

Locations

Auburn Hills

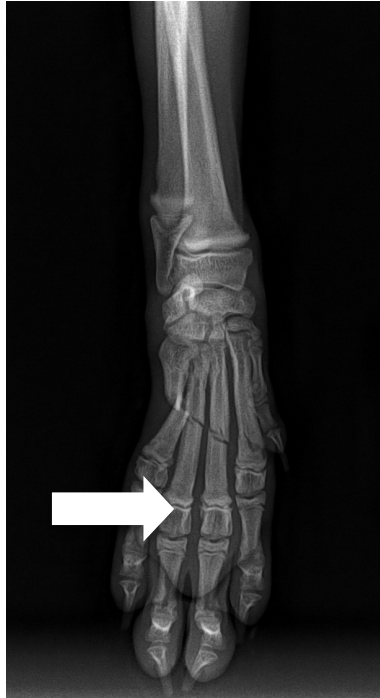
3412 E. Walton Blvd.
(West of Squirrel Rd.)
(248) 371-3713

Grand Rapids

1425 Michigan St. NE
(East of Fuller Rd.)
(616) 284-5300

MVS Southfield

29080 Inkster Rd.
(North of 12 Mile Rd.)
(248) 354-6660



Signs and diagnosis

The clinical signs of a metacarpal or metatarsal fracture include nonweight-bearing lameness, swelling, and abnormal movement of the paw (instability). In order to diagnose a fracture, x-rays of the affected area are needed. Prior to anesthesia and surgery, blood work is done in order to evaluate the health of the internal organs.

Surgery

There are two treatment options for metacarpal and metatarsal fractures. Traditionally, surgery has been recommended to stabilize these fractures, however, based on one research study, surgery is not always needed. Surgery may be elected in select cases in which the bones are very displaced, the pet is older as healing may be slower, and if the pet is a show dog and the final cosmetic and functional outcome is very important. Surgery involves realigning the fractured bones and securing them in place with plates and screws. Older techniques of placing pins into the marrow cavity to repair fractured bones in the paw can have a negative effect on healing and really should not be used. Your companion's surgeon will make a recommendation for the best treatment option for your companion, whether the fracture is supported with a cast or with surgical intervention.

Home care

After surgery, you can continue to give your pet a prescribed pain

Anatomy

The paws have many small bones that are held in place by strong ligaments. There are four larger bones of the hind and forelimb paws called the metatarsals and metacarpals, respectively.

Cause of fractures

The most common cause of metacarpal and metatarsal fractures include being stepped by a human, being hit by a car, getting the paw caught in a chain-linked fence or getting the paw caught in a hole in the ground when running. Sometimes the injury will result in an open wound over the fractures in which dirt and hair usually are driven into the tissues. This could potentially result in infection and delayed healing.



Metacarpal and Metatarsal Fractures Continued...

reliever to minimize discomfort. A cast or splint is commonly placed on the limb for 5 to 8 weeks, until the healing is complete. The cast/splint will need to be changed every one to two weeks at our hospital until no external support is necessary. It's also extremely important to limit your companion's activity and exercise level during the post-operative period. Detailed instructions will be given to you after the surgery. The surgeon will monitor the healing process every 1 to 2 weeks, during each cast/splint change. During the final exam, at three to eight weeks after the surgery (depending on the age of the pet), x-rays will be made to evaluate the healing process.

Results

Surgical repair of a fracture metacarpals or metatarsal with plates and screws allows for successful healing of the fractures bones. Casting is another good option that can be used in many cases. Occasionally, the fracture will fail to heal, resulting in a painful paw that prevents full use of the limb (see photo right). Uncommon complications following surgery include infection, failure of healing to take place, breakage of the metal plate or screws, and cold sensitivity.



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Metacarpal and Metatarsal Fractures Continued...

Assessment and recommendations

Patient: _____ Date: _____

Treatment

- Surgery is recommended by an MVS surgeon
- Casting of the fractured paw is recommended instead of surgery

The following has been prescribed

- No medications or special diet are necessary at this time
- Pain controlling medication: _____
- Nonsteroidal anti-inflammatory medication: _____
- Antibiotics: _____

Exercise

- Confine your pet to the house other than very short leash walks necessary for bowel movements and urination
- Restrict exercise to leash walks 10 minutes twice daily
- A splint/bandage has been applied. Twice daily, please check for:
 - Swelling of toes (if there is no swelling the middle two toe nails will touch each other)
 - Cold toes – this may indicate poor circulation
 - Foul odor
 - Discharge seeping through the bandage
 - Increased lameness
 - Excessive licking or chewing at the bandage
 - Please note that a new bandage/cast will feel strange to your pet initially, but he/she will typically get used to it within 12 hours. If your pet continues to be uncomfortable or more lame after the bandage has been changed, please call us.

Preparation for surgery

- Start fasting your companion at midnight before the surgery; water should not be withheld
- Pepcid AC 10 mg tablets: give _____ tablet(s) with water (use a syringe if needed) at 6 AM on the day of surgery

*Composed by Daniel A. Degner, DVM, DACVS
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