

A BROKEN FOOT



The fracture of one or more metacarpal or metatarsal bones is quite common in our small animal patients. Dropped, stepped on, hit by car. The degree of trauma to the surrounding periosteum/muscles/tendons/vessels/nerves is variable. The number of bones is variable. The location on the diaphysis/metaphysis is variable. But the take away message is quite similar when it comes to treatment plan—*most patients have a good functional outcome.*

Another commonality to treatment is external coaptation. Regardless of the addition of surgery or not, (the oft times headache of) external coaptation is required. *The benefit of surgery is alignment, not healing.* In fact, healing is likely, technically, delayed by surgery given soft tissue disruption (which due diligence must be given to reducing!) Surgical repair options include dowel/toggle/IM pin, plate/screw, external fixator. (Ok, I am realizing a bit of mis-statement here; external fixator does both the alignment and the stabilizing, so a splint isn't needed. But ex fix on feet are rarely indicated and a hassle to manage, so, let's move on.)

Guidelines for treatment decision-making: (note, *not "black and white!"* you type A, literal veterinary-types out there! 😊 Ok, well technically this IS black ink on a white page...)

- The more bones involved, the less inherent, internal, self-splinting the foot has to maintain gross alignment of hock and toes.
- The more active a patient is, the more all-around stress (for everyone and everything) will be placed on a splint alone.
- The heavier a patient is, the more stress placed on a splint alone (this applies to obesity as well as patient size.)
- The more trauma to the foot, the longer the healing process will be. Counterintuitively, this might mean accurate surgical alignment (tho disruptive, technically, to healing) might speed things up.
- The older a patient is (into his/her geriatric years), the longer the healing process will be. (Ditto to above commentary.)
- Metaphyseal location or extensive comminution of a fracture, usually reduces surgical options for alignment.
- Larger bones are easier to deal with surgically! (FYI, there is no appreciable medullary canal in those 5# chihuahua foot bones!)
- Radiographic union with mature remodeling is not the end-goal. If it were, those foot bandages would be on for 6mo. The end-goal is a clinically stable foot without pain.
- Everyone needs patience in these cases. *Spread the word!*



To minimize the challenge of external coaptation (splinting) for owner and veterinary professionals alike, the following information is offered:

- Most foot splints are too big, in my 20+ years of observation.
- Most off-the-shelf splint products MUST be cut to size; plan for that when you buy supplies.
- The thick, white plastic/blue foam splints are lousy. (Remember, all of this is opinion!)
- Custom splints are great—either tongue depressor-types or casting tape-types. Reduce your inventory instantly!
- The splint is best applied to palmar/plantar surface.
- Rearlimb applications do NOT need to extend the rigid splint above the hock; the soft part of the bandage applied above the hock is helpful for retention.
- Forelimb applications need only go 1/3 up the antebrachium.
- Cast padding thickness should vary through the healing process. Thicker earlier when soft tissue swelling/wounds need compressing. Thinner when just bones need good support.
- For small feet, see commentary here (<https://directvetsurg.com/ortho-tips-tricks-sept-2018/>)
- Frequent re-applications are needed. Get that clear to an owner from the get-go. If there are wounds, q1-2d. If things are limited to fractures only and compliance is 100%, q7d.
- Feet don't like bandages. Plan for that in client prep, foot care during change, frequency of change, and duration of wear.
- Listen to your patient. If they are chewing on the bandage, it's not their fault!!!!!! Don't blame them with a tighter, larger E-collar. Blame the foot, the bandage, the owner first. Then, when all of those variables are evaluated, put on an e-collar. Your patient will suffer fewer extensive bandage complications and more minor bandage complications if you do.

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