

FRACTURES IN BIRDS

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Our licence permits us to rehabilitate wildlife for release. For this to occur they must have regained their normal function, be 100% fit and have recovered fully from their injuries – otherwise they are dog/cat food. What can be done for a bird with a fracture is dependent on many factors:

1. Availability of veterinary assistance
2. Type of fracture
3. Duration of the fracture
4. Location of the fracture

Availability of veterinary assistance.

This is essential to treat fractures effectively. If you do not have access to this, then find it, travel the bird or don't start. There will be situations where due to a lack of resources, the bird is euthanased – that is better for the animal than 6 weeks of pain and suffering and the same outcome. Not pleasant, but a fact of life.

- Radiographs are required to diagnose a fracture. Often a second x-ray view is required. Where possible, to reduce pain and further damage, x-rays should be done under anaesthesia by a veterinarian.
- It is a surgical procedure to place implants into bones. Ideally, surgery is performed to reduce the need for bandaging and permitting the immediate return to function of the affected limb.
- Antibiotics – such as Clavulox are required for a minimum of two weeks.
- Pain relief should be provided for the first 3 – 5 days. Metacam or carprofen is suitable for birds.
- Follow up is required. Birds with strapped wings should be anaesthetised every 3 days for physiotherapy on the wing and bandage change. Repeat x-rays are taken at 10 days, 21 days and further if required.
- Physiotherapy involves stretching the pytagial tendon and performing supported full range of motion starting at the hand and working back to the broken joint. This is performed under anaesthesia to prevent further damage to fracture site.

The cost of this to a paying client may approach \$300 - \$500 – or more, so if your vet can and will help, please be appreciative!

Types of Fractures

We can describe fractures in different ways

Has it broken the skin?

Open fractures are where the skin has been broken. They carry a poorer prognosis due to contamination of the wound and ascending bacterial infection.

Closed fractures are where the skin has not broken. They carry a better prognosis.

Is one bone or more affected?

If one bone is affected, the prognosis is better.

If two bones are affected – such as the radius and ulna of a wing, then surgical intervention is a necessity, and a poor prognosis results.

If two discreet bones are broken – say humerus and femur, then this may suggest euthanasia is preferred as the bird cannot use its wing to balance its leg or vice versa. Each case needs to be assessed on its individual merits.

Is the bone in one or more pieces?

If the bone has a **simple** fracture, it is in two pieces and the prognosis is good.

If the bone has a **comminuted** fracture, then there are many pieces of bone. With loss of the length of bone, prognosis is poor as it is difficult to put several pieces back together as bird bone is more thin and brittle than mammalian bone.

Duration of the fracture

In the perfect world, fractures that are repaired within 24 hours of their occurrence have the best outcome and prognosis.

This does not always occur – animal is not found, or it is held by a member of the public, or more commonly, the carer does not appreciate the importance of the bird seeing a vet today and having a diagnosis made and surgery if required.

Fractures that are open (and thus infected) for longer than 24 hours have a much poorer prognosis. The longer the fracture spends broken, the more muscle contraction, drying of tissues, and progression of infection that occurs. The ends of the bone have begun to heal over by 48 hours.

We age fractures by looking at the colour of the bruising: red- less than 24 hours, blue-purple older than 24 hours but less than 5 days, green – 5 – 7 days, yellow greater than 8 days, no colour – older than 2 weeks. This is not accurate, but it is a start!

Locations of Fractures

Where the fracture is found has a great bearing on whether the bird will be successfully released and also what method to fix the fracture is used.

Humerus fractures – most common fracture and requires surgery. Prognosis: 1.3% are released (Mason 2004)

Radius – can be bandaged, about 20% are successfully released.

What fractures can be bandaged?

- Shoulder fractures of coracoid, scapula and furcula if less than 400g (Redig 1993) – and not in a high performance flier (raptor, migratory bird)
- Radius – closed fractures from middle of bone to distal end.
- Ulna - closed fractures along length
- Hand – closed fractures (rare occurrence)
- Tibiotarsus – upper two thirds of bone – common in young magpies
- Metatarsus (foot) – simple fractures – ball bandage required.

Bandages are changed on the wing every 3 days, and every 5 – 7 days for leg fractures.

The frequency of bandage changes is dependent on the presence of open wounds – daily changes for first 3 days with saline dressings, reduced to changes every 3 – 5 days dependent on the wound. Check bandages daily for swelling, pain or lack of use on limb.

Use Vetrap (Coplus, etc) or Micropore only as bandage material – NO ELASTOPLAST as it damages the feathers.

Fractures for surgical repair

- Humerus fractures – biceps and triceps muscles will distract ends.
- Both radius and ulna are broken – wing length is reduced.
- Fractures that are near joints.
- Fractures of high performance birds – raptors and migratory species. Get these birds to specialist institutions immediately to improve their prognosis.

If you cannot find a fracture, but the bird cannot fly, consider:

- Shoulder fracture
- Muscle damage
- Nerve damage
- Concussion
- Blindness
- Metabolic disease – psittacosis, beak and feather disease
- Poisoning – oil, heavy metal, organophosphate, etc

Post operative care

Look after feathers! The bird may need euthanasia due to feather damage preventing it from flying.

Give medication as directed, and return to the vet promptly for rechecks.

Feed a balanced diet – consider supplementing with calcium to help the bone to heal.

Implants may be removed around the 14 day mark – depending on the individual and fracture.

Housing requirements for the bird with a fracture.

A solid-walled cage that has enough space to turn around and stretch a wing is suitable for the first two weeks. It prevents further damage and makes it easier to catch the bird to medicate.

A larger cage can be used after the first two weeks – it should be large enough for the bird to extend its wings fully but not to fly.

At 30 days, the bone should have healed completely and the bird can start to regain fitness to fly in a large aviary. Force the bird to fly by (gently) chasing it around the aviary twice daily. Start with 5 minute sessions and build up to 10 minutes. Birds are lazy! If the bird cannot fly, have it re-evaluated by a veterinarian.

References:

Redig P. *Clinical Review of Orthopaedic Techniques Used in the Rehabilitation of Raptors*. In: Fowler ME (ed). *Zoo and Wild Animal Medicine*, 2nd Edn. Pub: Saunders. 1986, p 388 – 401.

Mason P. "Outcomes of Injuries in Wild Birds". Unpublished paper presented at Association of Avian Vets – Australian Association Conference. 2004