

Wildlife Presentation for the General Practitioner

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Profile

- Wildlife species are often presented to general practitioners after being found orphaned, sick, or injured.
- The degree of care depends on the individual veterinarian or practice and may include:
 - Initial assessment and stabilization (see **First Steps**, next page)
 - Medical or surgical protocols addressed before transfer to a licensed wildlife rehabilitator
 - Full rehabilitation up to release
- General practitioners should be aware of federal and state laws that govern what can or cannot be done in these circumstances.
 - Veterinarians may provide stabilization on an emergency basis, but permits may be required for further rehabilitation.
 - Federal permits are required to rehabilitate species listed on the Migratory Bird Act and the U.S. Endangered Species Act.
 - Veterinarians working with threatened or endangered species without a permit must immediately notify the U.S. Fish and Wildlife Service, as they can be held legally responsible for holding threatened or endangered bird species longer than 24 hours without notifying federal agencies.
 - All federally protected birds must be transferred to a federally permitted rehabilitator within 24 hours of admission.
 - Permit requirements for wildlife rehabilitation vary by state but typically mandate the length of time that wildlife can be held in captivity and the minimum standards for facilities housing wildlife plus require an annual report of admitted animals.
 - Licensed veterinarians who rehabilitate wildlife on an emergency basis (ie, fewer than 6 per calendar year) are exempt from rehabilitation permit requirements unless they intend to work with wildlife on a regular basis or advertise and promote these services.
 - Other necessities include:
 - A working relationship with local wildlife rehabilitators
 - Knowledge of the natural history, anatomy, and physiology of some common species in the area
 - Ability to properly handle and restrain wildlife with access to appropriate hospital caging
 - Ability to provide species-appropriate nutrition while the patients are in captivity



Most young animals are not abandoned by their parents and should be left where they are found.

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Common Presentations

Orphans

- Most young animals are not abandoned by their parents and should be left where they are found.
 - Exceptions include if a young animal's parents are known to be dead, the young animal is injured, or the young animal is in an unsafe environment.
- If a newly hatched bird falls out of the nest, an artificial nest can be built and placed in the same area as the original nest.
- If transportation of young animals to the rehabilitator or practice is necessary, the finder should keep the animals in a warm, dry, and quiet environment before transport.
 - The finder should not provide food or water.
- As most young animals brought into captivity are dehydrated and hypothermic, SC fluids and external heat should be provided on presentation.
 - Food should not be given until dehydration and hypothermia have been corrected.
- Newborn mammals should be weaned from an oral electrolyte solution to a full-strength formula over 24–48 hours (Figure 1).
 - Feeding formulas vary by species.¹
- Baby birds should be fed according to species.
 - Young raptor species are generally fed chopped whole prey.
 - Many passerine species (eg, sparrows, robins, cardinals) can be fed Mazuri Handfeeding Formula (mazuri.com).



A litter of orphaned baby squirrels. Once any dehydration or hypothermia issues have been resolved, the litter should be weaned to full-strength formula over 24–48 hours.

- Columbiforme species (ie, pigeons, doves) should be gavage-fed a formula such as Roudybush Squab Diet (roudybush.com).

Trauma

- Except for orphaned infant animals, most wildlife presented are suffering from trauma.
- Veterinarians must consider the potential for eventual release before providing medical care and rehabilitation.

Head & Ocular Trauma in Birds

- Eyes must be examined in birds that have sustained head trauma.
 - Most birds with visual impairment are not releasable.
- For dehydration, lactated Ringer's solution at 50 mL/kg or 0.9% saline IV, IO, or SC is optimal.

First Steps

- If possible, provide advice (ie, over the telephone) about safely transporting the animal to a hospital or local wildlife rehabilitator.
- At presentation, obtain the most thorough history possible from the finder.
- Initial questions for the front team to ask include:
 - Where was the animal found?
 - How long have you had the animal?
 - Is there evidence of trauma?
 - What sort of contact have you had with the animal?
 - Did you see the animal's parents, mate, or siblings nearby?
- Determine whether the animal is suffering from a nonsurvivable illness or injury (eg, ocular trauma that causes blindness, severe head trauma, chronic open fracture, soft tissue wound that penetrates a body cavity).
 - Humane euthanasia may be necessary.
 - Ensure that the carcass is properly disposed.
 - There may be restrictions for disposal of certain wildlife species.
- Determine whether the animal is a rabies vector species or may have a possible reportable, notifiable, or zoonotic disease.
 - Consultation with state public health and wildlife agencies may be beneficial.
 - If the practice is not equipped to handle the animal, it should be transferred to a facility that can.

- For pain:
 - Butorphanol at 0.5–2 mg/kg IM q4–6h²
 - Buprenorphine at 0.25 mg/kg SC or IM q7h²
- Oxygen via facemask or caging should be provided.
- Monitor for progression of neurologic signs.

Fractures in Birds

- Treatment requires knowledge of avian skeletal anatomy and function.
- Fractures may heal with external coaptation, but ankylosis of the joint is more common in birds with prolonged bandaging than it is in mammals.
- Lightweight repair using intramedullary pin tie-in to external skeletal fixator (Figure 2) is common.

Shell Fractures in Turtles

- The fracture site should be cleaned and a temporary bandage placed over the area.
- If the animal is in shock, stabilization with IV or IO fluids should be pursued.³
- If the turtle is only moderately dehydrated and not in shock, SC fluids can be administered (eg, Plasma-Lyte [abbottanimalhealth.com]).
- For pain:
 - Buprenorphine at 0.1–1 mg/kg SC or IM²
 - Butorphanol at 0.4–1 mg/kg SC or IM q12h²
 - Hydromorphone at 0.5 mg/kg SC⁴
- Antibiotic therapies:
 - Ceftazidime at 20 mg/kg SC q72h²
 - Enrofloxacin at 5–10 mg/kg SC q24h²
- Shell repairs:
 - Cerclage wire (Figure 3)
 - Hook and wire across fracture lines

Antibiotic therapy should be based on the nature of the wound, results of culture, and species of the animal.

- Fiberglass or epoxy that may interfere with normal shell scute shedding and healing across fracture lines should be avoided.
- Repairs should not be attempted by an inexperienced first responder.

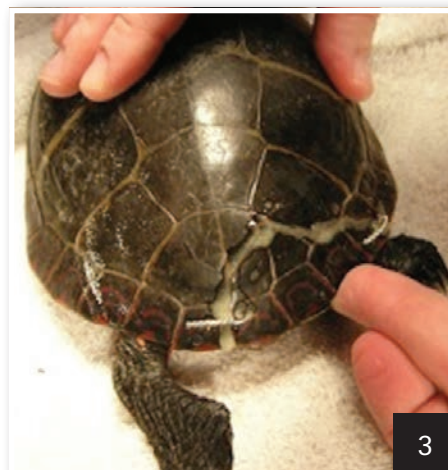
Predator Attack

- Puncture wounds, lacerations, and abscesses are common.
- Air sac rupture can occur in birds.
- Proper wound care should be observed.
- Antibiotic therapy should be based on wound type, results of culture, and animal species.
 - In birds, amoxicillin–clavulanic acid at 125–150 mg/kg PO q12h for 5–10 days²
 - In small mammals, trimethoprim–sulfamethoxazole at 30 mg/kg PO q12h for 7–10 days²
- For moderate-to-severe pain or in animals that are dehydrated:
 - Birds
 - Butorphanol at 0.5–2 mg/kg IM q4–6h²
 - Buprenorphine at 0.25 mg/kg SC or IM q7h²
 - Small mammals
 - Butorphanol at 0.2–2 mg/kg SC²
 - Buprenorphine at 0.02–0.1 mg/kg SC²
- For mild-to-moderate pain in animals that are not dehydrated:
 - Meloxicam
 - In birds, 0.5–1 mg/kg PO q12h or q24h²
 - In small mammals, 0.1–0.2 mg/kg PO q24h²



Radiograph of a fracture in a red-tailed hawk repaired with intramedullary pin in the radius and intramedullary pin tie-in to external skeletal fixator in the ulna

2



Shell fracture in a painted turtle repaired with cerclage wire

3

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Infectious Disease

Sarcoptic Mange in Wild Mammals

- Patients with sarcoptic mange (**Figure 4**) may present with malnutrition, dehydration, and skin abnormalities.
 - Topical selamectin at 6 mg/kg can be administered q1–2wk for 3–4 treatments until signs resolve.
 - Meloxicam at 0.1–0.2 mg/kg PO q24h can be administered until inflammation resolves.
- Secondary bacterial skin infections are common and should be treated with appropriate antibiotics.

Mycoplasmal Conjunctivitis in Finches

- Finches with mycoplasmal conjunctivitis present with swollen and crusted eyes.
 - Some present after being unable to escape predators because of visual impairment.
 - These birds are often malnourished.
- Tetracycline ophthalmic ointment should be applied q12h for 5 days.
- Tylosin can be added to the drinking water for 21 days.
- Birds can be carriers after treatment.

Trichomonas spp Infection in Pigeons, Doves, & Raptors that Eat Birds

- Granulomatous lesions can impair the bird's ability to eat.
- Lesions can extend to the oropharynx.
- Carnidazole at 10 mg PO (one tablet) should be administered only once.²

Toxicities

Lead

- Common in birds that ingest fishing equipment and in animals that feed on carcasses of animals shot with lead ammunition
- Clinical signs (eg, weakness, ataxia, emaciation) are usually seen when blood lead concentration is >20 mg/dL
- Treatment with CaEDTA at 20–40 mg/kg IM or SC q12h should be administered for 5 days.²
 - Retest can be performed 5 days after treatment completion to determine whether another round is needed.
 - Dimercaptosuccinic acid (DMSA; Succimer) at 30 mg/kg PO q12h for 7 days minimum can be supplemented.

Rodenticide

- Usually seen in raptors via secondary ingestion of brodifacoum in prey species
- Clinical signs include weakness, pallor, SC bleeding, and anemia.



Sarcoptic mange in a red fox

- Treatment includes vitamin K₁ at 0.2–2.2 mg/kg IM or SC q4–8h until stable, then q24h PO for 4–6 wk.²

Release Considerations

- Whether the animal can survive in the wild should be based on:
 - Physical fitness
 - Appropriate behavior
 - Suitable release habitat
 - Time of year
 - Appropriate weather conditions
- Release techniques:
 - *Hard release* involves releasing the animal into an appropriate habitat in appropriate conditions.
 - *Soft release* involves releasing the animal into a familiar outdoor environment where food, water, and other support can be offered until the animal is able to fend for itself.
 - *Hacking* involves providing food and water at a remote site that is regularly monitored.

Conclusion

- Working with wildlife can be rewarding for the entire team, but it is important to recognize the special needs of wildlife patients.
 - Handling and restraint should be minimal.
 - Some specialized equipment and supplies may be necessary.
 - Knowledge of species' natural history and captive husbandry is essential.
- Veterinarians can work closely with licensed wildlife rehabilitators to provide optimal care for wildlife patients. ■ **cb**

See **Aids & Resources**, back page, for references & suggested reading.