

Common Conditions of Wildlife Part 1 : Birds

Introduction

Wildlife casualties are commonly presented to veterinary practices, and many general practitioners feel daunted by the huge diversity of species and conditions which they are expected to treat. This webinar is the first in a series of two, which aim to demonstrate how to apply basic principles and commonly used techniques to less familiar species, and some adaptations that may be required for the effective management of wildlife in practice.

A range of birds, mammals, reptiles and amphibians may be presented as injured, sick or orphaned patients. The most common wildlife admissions are birds, including passerines (small garden birds), corvids (members of the crow family), pigeons, seabirds, waterfowl and birds of prey. Whilst most vets feel confident extrapolating much of their domestic mammal knowledge to treat mammals, birds may present more of a challenge. The focus of the first webinar will be on avian diseases and conditions although many of the principles of wildlife medicine apply to all wild animal casualties.

General Principles of Avian Medicine

Many of the sample basic principles that we apply every day with our domestic patients apply to wild avian patients. The initial assessment as to whether a wild bird is viable for treatment, rehabilitation and release, or whether it requires euthanasia or indeed immediate release is key to successful wildlife medicine. Many of the conditions that we will discuss are treatable, but it is important to always conduct complete, systematic clinical examinations to ensure that concurrent diseases, injuries and conditions, which may impact on the decision are not overlooked.

A distance examination is an important part of the clinical exam – not least in determining whether a bird is strong enough to withstand a full physical examination. Abnormalities such as lameness, ataxia, asymmetrical wing carriage and unusual behaviour can best be noted by observing the bird from a distance. It should be remembered that there is a huge degree of variation between normals for different species. For example, some species, especially diving birds, have their acetabulae set very caudally on the pelvis, meaning that they don't walk well on land. Other species may play dead, particularly raptors.

Body condition score is an essential part of the initial examination. This can give the clinician important information about how a wild bird has been coping with any longstanding injury or disease, and also how acute or chronic a condition may be. Body condition of birds is usually primarily assessed using pectoral muscle mass (and keel prominence) although it is important to note species variation, with some species such as herons having naturally very prominent keel bones.

A full clinical examination should include, but is not limited to assessment of:

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Demeanour
 Vision
 Gait
 Perching/Swimming as appropriate for species
 Wing carriage and extension
 Feather condition
 Skin wounds
 Ectoparasites
 Cloacal tone and staining
 Oral cavity
 Ophthalmological examination (especially raptors)
 Aural exam
 Respiratory auscultation (including air sacs)
 Cardiac auscultation
 Palpation of long bones
 Palpation of pelvic and pectoral girdles
 Range of motion of joints
 Temperature if appropriate and indicated
 Flight (final step in examination)

Flight test should be conducted only once a full clinical examination has been carried out, to rule out any injuries that will clearly preclude flight. It should always be assumed that a bird is unable to fly when testing flight. Confirmation of symmetrical use of wings can be a useful precursor to a flight test. Most birds require some lift, and so should be test flown a foot or two off the ground.

After a clinical examination, a decision can be made as to whether any injuries or disease that are observed are treatable. Triage, stabilisation and euthanasia are covered in a previous webinar.

The following are some of the most common conditions with which wild birds may present to veterinary practitioners.

Cat predation	
Introduction:	Predation by domestic pets is a common presenting reason for wild birds. Cat bite puncture wounds may not be clearly evident, and as such, a bird that presents with a history of, or with suspicion of cat predation should be treated with a course of antibiotics.
Species commonly affected:	Passerines

Causative agent:	<i>Pasteurella multocida</i> most common isolated pathogen
Frequency:	Very common
Clinical signs:	Puncture wounds may or may not be evident
Diagnosis:	Presumptive Radiography to rule in/out fractures
Treatment:	Broad spectrum antibiotics, eg Potentiated Amoxicillin 150mg/kg BID for 5 days. Analgesia and supportive care as required. Primary closure of any larger superficial wounds
Prognosis:	Good

Dog predation	
Introduction:	Predation by domestic pets is a common presenting reason for wild birds. Dog bites are often more serious than they initially appear, with examination under general anaesthesia often indicated. Often these cases will be presented with very old wounds, with necrosis.
Species commonly affected:	Waterfowl
Causative agent:	Mixed bacterial infection
Frequency:	Common
Diagnosis:	Thorough examination and probing of wounds to establish true extent Radiography to rule in/out fractures
Treatment:	Broad spectrum antibiotics, eg Potentiated Amoxicillin 150mg/kg BID for 5 days. Analgesia and supportive care as required.
Prognosis:	Good

Collision	
Introduction:	Birds commonly fly into windows, buildings, powerline, roads and vehicles. This may be as a result of underlying conditions such as impaired vision or intoxication eg heavy metal toxicity.

	Certain species that fly at great speed such as Sparrowhawks may fly into windows, without any underlying disease. The resulting injury may range from a temporary concussion with no lasting effects, to severe head trauma and pectoral girdle fractures.
Species commonly affected:	All
Causative agent:	Underlying disease common
Frequency:	Common
Diagnosis:	Ophthalmological examination Radiography to rule in/out fractures
Clinical signs:	Variable
Treatment:	Analgesia, NSAIDs and supportive care as required.
Prognosis:	Varied

Fractures	
Introduction:	Birds commonly present with fractures of the long bones and pelvic and pectoral girdle. The treatment, viability and prognosis varies dramatically depending on the type of fracture. Compound, comminuted, multiple, old, displaced and joint fractures all carry a poor prognosis in wild birds. Simple, transverse, mid shaft fractures can be managed surgically or in some cases with external coaptation.
Species commonly affected:	All
Causative agent:	Trauma
Frequency:	Common
Clinical signs:	Dropped wing may indicate distal wing fracture. Raised wing may indicate proximal wing/pectoral girdle fracture. Lameness may indicate leg fracture.
Diagnosis:	Radiography to rule in/out and fully characterise fractures
Treatment:	Analgesia and supportive care as required. Support bandage as first aid measure.
Prognosis:	Varied

Orphans	
Introduction:	Birds are commonly presented as true or perceived orphans. This is most common during the Spring and Summer months.
Species commonly affected:	All – especially Passerines, Columbiformes, Corvids
Causative agent:	Varied
Frequency:	Very Common
Clinical signs:	N/A
Diagnosis:	Thorough history, identification of species
Treatment:	Examination to check for injuries or disease. Regular feeding of species appropriate feed. Passerines often require hourly feeds from dawn until dusk. Transfer to an experienced rehabilitator as soon as possible.
Prognosis:	Good

Trichomoniasis	
Introduction:	This is a common finding, particularly as an opportunist in debilitated raptors and columbiformes.
Species commonly affected:	Columbiformes, Passerines (esp Finches) – Canker Raptors (esp avivores eg Sparrowhawk Tawny Owl) - Frounce
Causative agent:	<i>Trichomonas gallinae</i> & <i>T. columbae</i>
Frequency:	Common
Clinical signs:	Fluffed up, characteristic smell, poor body condition, Oral plaques
Diagnosis:	White/Yellow plaques in oral cavity, pharynx, thickened crop Immediate microscopy of crop wash/swab of lesions reveals motile flagellated protozoa.
Treatment:	Euthanasia in moderate to severe cases. Mild forms can be treated with Carnidazole, Ronidazole and Metronidazole

Prognosis:	Guarded
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Feather Damage	
Introduction:	Feather damage is a common finding. Knowledge of bird biology and in particular moult patterns is important to be able to establish predicted time in rehabilitation and significance of damage. It is common to find stress bars/fret lines as a result of previous poor nutrition or disease as the time of feather growth. Feathers can also be damaged by trauma as well as iatrogenically through inappropriate handling, housing or transport.
Species commonly affected:	All especially Corvids
Causative agent:	Varied
Frequency:	Common
Clinical signs:	Abnormal colour feathering, broken feathers, horizontal stress bars on feathers, inability to fly, poor body condition
Diagnosis:	Thorough examination and assessment of feathers. Often requires input from rehabilitator.
Treatment:	Individual case assessment. Euthanasia often required as longer term rehabilitation not justified.
Prognosis:	Varied

Ectoparasites	
Introduction:	Ectoparasites are a common finding, particularly in debilitated birds. Lice, mites, ticks and hippoboscids are all common findings.
Species commonly affected:	All
Causative agent:	Varied
Frequency:	Common
Clinical signs:	Often appear debilitated. Lice, ticks, hippoboscids and some mites can be identified with the naked eye.

Diagnosis:	Thorough examination and consideration of underlying conditions/preening defects
Treatment:	Fipronil 0.25% spray Ivermectin 0.2mg/kg IM, orally, topically Permethrin powder
Prognosis:	Varied

Endoparasites	
Introduction:	Endoparasites are a common finding, particularly in debilitated birds.
Species commonly affected:	All
Causative agent:	Many nematodes, cestodes and protozoa can be responsible for clinical disease in birds, especially when in high numbers. <i>Capillaria spp</i> are the most common endoparasites in raptors, Gizzards worms such as <i>Amidostomum spp.</i> and <i>Echinuria spp</i> are common in waterfowl.
Frequency:	Common
Clinical signs:	Poor body condition score, may identify adult nematodes in the orooahrynx or in the trachea (<i>Syngamus trachea</i>)
Diagnosis:	Faecal analysis including flotation
Treatment:	Varies – Ivermectin 0.2mg/kg PO Fenbendazole 20-50mg/kg Probiotics can be useful adjunctives Pyrantel/Febantel/Praziquantel (Drontal plus effective in waterfowl)
Prognosis:	Varied

Avian Pox	
Introduction:	Infectious avipox virus, usually self limiting
Species commonly affected:	Common in Columbiformes in the South of England Also seen in Passerines, with a particularly severe strain seen in Great Tits (<i>Parus major</i>).
Causative agent:	Poxviruses – various
Frequency:	Occasional
Clinical signs:	Yellow/pale wart like lesions at mucocutaneous junctions

Diagnosis:	Histology for definitive diagnosis. Characteristic lesions lead to presumptive diagnosis
Treatment:	Infection control, dilute antiseptic Barrier nursing
Prognosis:	Good (Poor with tumour like lesions associated with disease in Great Tits)

Psittacosis	
Introduction:	This zoonotic disease is common, but frequently is subclinical or birds present with non specific signs of disease.
Species commonly affected:	Most commonly diagnosed in Columbiformes, but is also seen in Passerines, Psittacines and Waterfowl.
Causative agent:	<i>Chlamydia (prev. Chlamyophila) psittaci</i>
Frequency:	Common
Clinical Signs:	General malaise, sinusitis, nasal or ocular discharge, weight loss, diarrhoea
Diagnosis:	Respiratory signs in Columbiformes should lead to suspicion. Pooled faecal PCR.
Treatment:	Consider euthanasia 6 week course of Doxycycline PO
Prognosis:	Guarded

Air Sacculitis - Fungal	
Introduction:	Commonly seen in immune compromised and/or stressed wild birds in captivity/rehabilitation. Often secondary to underlying disease
Species commonly affected:	Most commonly seen in pelagic sea birds which have no natural exposure to fungal spores. Also commonly seen in waterfowl
Causative agent:	<i>Aspergillus spp</i>
Frequency:	Common
Clinical Signs:	Subclinical, weight loss, ataxia, respiratory signs rare
Diagnosis:	Radiography Air sac endoscopy +/- biopsy
Treatment:	Prophylactic treatment indicated in

	pelagic sea birds Itraconazole 5-10mg/kg PO SID Treatment of clinical cases not justified in wild birds
Prognosis:	Poor

Heavy Metal Toxicity	
Introduction:	Common disease. Clinical signs may not correlate to blood levels of heavy metals. Waterfowl and raptors most at risk from fishing weights and shot prey respectively
Species commonly affected:	Waterfowl (especially swans) Scavenging raptors
Causative agent:	Lead, Zinc
Frequency:	Common
Clinical Signs:	Subclinical, weight loss, ataxia, incoordination, kinked neck, anaemia, GI impaction, green diarrhoea
Diagnosis:	Blood lead assay Radiography (Note not all metallic gizzard contents are lead, and Raptors may cast toxic metals before radiography but still suffer clinical signs of intoxication)
Treatment:	Chelation therapy Calcium EDTA 35-50mg/kg BID 5 days
Prognosis:	Variable

Crop Dysfunction	
Introduction:	Crop distension is a relatively common finding in juvenile Columbiformes.
Species commonly affected:	Most commonly diagnosed in Columbiformes
Causative agent:	Iatrogenic (from over feeding or inappropriate feeding) Primary or secondary infection with <i>Trichomonas spp</i> , <i>Candida spp</i> or bacteria.
Frequency:	Occasional
Clinical Signs:	Regurgitation, distended crop, prolonged crop emptying times, weight loss

Diagnosis:	Crop swab/wash to identify any secondary infection
Treatment:	Pathogen specific treatment Pro-motility agents eg Metoclopramide Proventricular feeding
Prognosis:	Varies

Crop Rupture	
Introduction:	Common sequel to trauma, predation and chronic crop dysfunction
Species commonly affected:	Most commonly diagnosed in Columbiformes
Causative agent:	Iatrogenic (from over feeding or inappropriate feeding) Predation
Frequency:	Occasional
Clinical Signs:	Weight loss Leakage of crop feeding formula
Diagnosis:	Leakage of crop feeding formula Identification of fistula or wound over crop on examination
Treatment:	Broad spectrum antibiotics, eg Potentiated Amoxicillin 150mg/kg BID for 5 days. Analgesia and supportive care as required including proventricular feeding. Debride and suture wound after 72 hours to ensure viability of tissues
Prognosis:	Good

Nutritional Secondary Hyperparathyroidism	
Introduction:	Often seen as a result of inadequate exposure to UV-B spectrum and/or inadequate Ca:P ratio in the diet. In free living Columbiformes this may be as a result of nesting in densely forested areas.
Species commonly affected:	Most commonly diagnosed in Columbiformes
Causative agent:	Often seen as a result of inadequate exposure to UV-B spectrum and/or inadequate Ca:P ratio in the diet. In free

	living Columbiformes this may be as a result of nesting in densely forested areas.
Frequency:	Common
Clinical Signs:	Multiple pathological fractures, shuffling gait, soft keel, beak, curling digits
Diagnosis:	Clinical signs Radiography reveals poor bone cortical density
Treatment:	Oral Vitamin D/Ca supplementation Exposure to UV-B Spectrum Euthanasia sometimes warranted if multiple pathological fractures
Prognosis:	Good

Angel Wing	
Introduction:	
Species commonly affected:	Waterfowl (juveniles)
Causative agent:	Excess energy/protein during growth
Frequency:	Occasional
Clinical Signs:	Lateral valgus, feather deformities/damage. Unilateral or bilateral
Diagnosis:	Wing positioning characteristic Radiography to rule out fractures if unsure
Treatment:	Irreversible without surgery which is rarely appropriate in wild waterfowl. Euthanasia is indicated in individuals/species which can not cope being flightless. Some sedentary geese may tolerate the condition well.
Prognosis:	Variable