

# Perspectives on the Management of Critically Ill Birds

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Managing emergencies is an essential aspect of veterinary medicine in all species. Laurel Degernes, DVM, MPH, North Carolina State University College of Veterinary Medicine, Raleigh, North Carolina, USA, presented an overview of how to approach the critically ill bird.

## MANAGING THE CRITICALLY ILL BIRD

The most commonly presented avian emergency is the critically ill bird. According to Dr. Degernes, sick birds can hide signs of illness until late in the disease process as a protective mechanism, allowing them to compensate for disease. Consequently, they are often very sick by the time their owners become aware of a problem and therefore present in an advanced state of decompensation. Education about how owners can recognize some of the subtle signs of an illness in their pet birds is therefore especially important (Table 1).

Table 1. Some of the Subtle Physical and Behavioral Signs of Illness in Birds

Quieter demeanor than normal
Sleepiness
Anorexia or selective appetite
Fluffed feathers
Sitting on cage floor
Reduced or abnormal droppings

## Diagnostic and Therapeutic Plan

Dr. Degernes emphasized the importance of initially attempting to stabilize the bird in a comfortable and stress-free environment by placing it in a quiet, warm, and oxygenated setting at the time of presentation. With the exception of identifying and controlling obvious or acute problems such as hemorrhage, a sick bird should not be handled until a thorough history and visual examination have been performed.

Obtaining a thorough history will help to narrow the differential diagnoses. Owners should be questioned carefully to collect as much pertinent information as possible about the time of onset of illness and its progression, as well as other factors such as diet, husbandry practices, and exposure to other birds or potential toxins.

## Diagnostic Tests

At this stage, the clinician should have a working list of differential diagnoses (Table 2) to help develop the initial diagnostic and treatment plan.

Table 2. Some Common Causes of Decompensation in Sick Birds

Gram-negative bacterial infection
Toxin exposure (including lead or zinc)
Infectious disease (including chlamydiosis)
Neglect or poor nutrition
Neoplasia
Female reproductive problems (including egg-binding)

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Table 3. Useful Diagnostic Specimens to Collect From Sick Birds

Specimen	Possible Diagnostic Indication
Blood sample (venipuncture)	Complete blood count
	Biochemical panel
	Determination of packed cell volume, total solids and plasma characteristics, and buffy coat evaluation
	Blood smear to determine estimated WBCC, differential WBCC, response to anemia and to identify toxic cells and parasites
	Polymerase chain reaction testing to detect infectious organisms
	Detection of heavy metals
Radiography	Evaluation for fractures
	Detection of heavy metal particles
	Identification of organ enlargement or displacement
Fecal sample	Relative proportion of gastrointestinal bacteria and yeast by Gram stain
Cloacal culture	Identification of bacteria and antibiotic sensitivity

WBCC=white blood cell count.

A quick physical examination can now be performed on the bird, simultaneously collecting any necessary diagnostic specimens as allowed by the bird's condition (Table 3).

#### Initial Treatment Options

Many critically ill birds are dehydrated and require fluid therapy when presented at the emergency clinic. Fluids (typically lactated Ringer's solution) may be given via oral, subcutaneous (SC; via the ventral groin web or interscapular space), intraosseous (IO; typically via the distal ulna), or intravenous (IV; typically via the jugular, basilic, or medial metatarsal veins) routes. Although birds may not tolerate standard IV continuous rate infusion, IO and IV boluses of fluids can be administered (at a rate of 10 to 20 mL/kg over approximately 1 minute in parrots, for 2 to 3 treatments per day). Daily fluid therapy calculations include maintenance fluid therapy at 50 mL/kg/day plus fluid replacement volume (25 to 50 mL/kg/day during the first 48 hours for birds that are 5% to 10% dehydrated).

Although a definitive diagnosis for the bird's state of decompensation gives the bird the greatest chances for survival, empirical drug therapy should be considered for any critically ill bird. In cases where Gram-negative bacterial infections are suspected, enrofloxacin (administered orally or with SC fluid therapy) is the antibiotic

of choice, whereas oral doxycycline is typically used to treat chlamydiosis, and antifungal agents (such as oral voriconazole, itraconazole, or terbinafine) may be administered when aspergillosis is suspected. In cases of heavy metal intoxication, a chelating agent such calcium ethylenediaminetetraacetic acid, can be administered intramuscularly.

Dr. Degernes noted that corticosteroid use has limited benefit in avian species because of the potential for more serious complications, such as secondary aspergillosis that arises due to immunosuppression. Multiple doses of corticosteroids are particularly contraindicated.

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