What Do I Do When Someone Brings In A Bird?

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We are all familiar with that sinking feeling when presented with that unfamiliar animal. Inevitably, either a primary school kid or a pensioner is going to make you feel like a first year student again. This fear is normal. You always aspire to the highest professional standards in your practice, yet how can you do that when your knowledge of bird medicine could be written on a postage stamp. Our plan today is to provide a logical and practical approach to the sick bird. We are going to show you how to reach a diagnosis using history, physical examination and simple diagnostic tests. Prognosis and treatment flow as a matter of course.

The Consultation

There are four parts to a bird consultation;

1. **History**
2. **Visual Exam**
3. **Physical Exam**
4. **Diagnostic Tests**

1. Taking A History

The importance of history in bird medicine cannot be overstated. It will provide the bulk of the information gathered at consultation, is non-harmful to the bird and makes the owner think you know stuff. There is no limit to the questions asked and there is an avian history anamnesis industry. Many good examples are published in the major texts. I tend to divide my questions into groups.

1.1 Social History

- How long has the bird been owned?
- How many birds are in contact?
- What is the origin of the bird: pet shop, commercial breeder, backyard breeder?
- Have any new birds been introduced recently?
- Is the bird in or out of the cage?

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1.2 Reproductive History

- Is the sex known?
- How many eggs have been laid?, fertile?, normal conformation?
- When was the last moult?
- Type of breeding facilities and breeding statistics.

1.3 Nutrition

- Dietary components
- Recent changes
- Water source

1.4 Hygiene

- How often is the cage cleaned?
- How often is food and water changed?

1.5 Medical History

- How many birds affected?
- When did it start?
- Any changes in consistency, frequency or appearance of droppings?
- Any Vomiting? (Birds tend to have sticky material on their heads if vomiting.)
- Is vocalisation normal? (Sound may have changed or bird may be increasingly silent)
- Is it able to chew plants, metal, wire, paint or household objects?

2. Visual Examination

Easily as important as the physical exam. A normal bird will be alert, watching you, standing straight on both feet evenly. They have barely visible respiratory efforts at rest, and may be vocalising.

Conversely, a sick bird will have the "Sick Bird Look" (SBL). Fluffed up, depressed, visible respiratory efforts, "tail bobbing", and often appear to be falling asleep. Many of these birds will still move around and eat, which makes the owner think they are not that unwell. I find one of the earliest indicators of illness is cessation of vocalisation. The bird will appear normally active, eating etc, but will stop talking or chirping in the normal way. I find this subtle sign very useful.

This is a good point to mention the **Protective Reflex.** It is well known that birds go to great lengths to hide clinical signs of illness. It is postulated that sick looking birds attract the attention of predators and are shunned by flock mates. Don't forget to remind yourself,

and the owner, that a bird with intermittent clinical signs is definitely unwell, a bird with constant clinical signs, especially during the consultation, is seriously ill and a bird on the floor of the cage is likely to be moribund.

2.1 Feathers

- Appearance; sitting tightly, clean, not damaged or misshapen
- Missing feathers suggests PBFD, Polyomavirus or feather picking
- Constantly fluffed up suggests Sick Bird Look.
- Head feathers clumped and spiky with food indicates vomiting.

2.2 Posture

- Birds should stand symmetrically and grasp perches evenly. Nails should not be misshapen.
- Single leg lameness indicates trauma, foot infections, internal neoplasia
- Wing position should be normal. A simple algorithm of wing injuries follows:

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*Primary flight feathers held **above** the level of the tail feathers = proximal humerus/shoulder injury.*

*Primary flight feathers held **at** the level of the tail feathers = Elbow injury.*

*Primary flight feathers held **below** the level of the tail feathers = radius/ulnar or carpal injury.*

2.3 Respiration

- Normal resting respiration should be barely perceptible.
- Open mouth breathing and/or audible noises indicates URT disease; such as infection, neoplasia, aspergillosis or foreign body obstruction.
- Tail bobbing indicates lower respiratory tract disease, such as Chlamydiosis, Aspergillosis, airsac mites, abdominal masses, ascites.

Stool Examination

On average Budgies produce 25-50 droppings/day, large Cockatoos produce 10-15 droppings/day.
Normal avian faeces consist of 3 parts, which are stored in the cloaca and excreted together:

- Faeces: Should be a solid, formed “sausage”, usually green but depends on the diet. Remember, diarrhoea is *unformed* faeces.
- Urates: This is the white slurry of uric acid, a urinary component. Yellow or green urates can indicate liver disease and Chlamydiosis.

Red /brown urates indicate haematuria, due to urinary tract disease or heavy metal toxicity.

- Urine: Clear watery component. Scant urine and dry urates indicates dehydration Excess urine indicates stress, renal disease, diabetes etc.

Note: It is common during consultation for birds to produce a watery fragmented stool. This is termed stress polyuria. Also, egg laying females or birds with abdominal masses may produce a small number of very large droppings.

2.4 Cage Examination

The ethics of caging birds is a conference on its' own. On the positive side cages can provide
A safe haven from other pets and a security zone the bird can feel safe in, when stressed. A confinement zone when unsupervised. Increasingly, birds are allowed to roam the house. Whilst this has many benefits for the bird in the form of exercise and mental stimulation, most households have many hazards; hot liquids, heaters, fans, windows, toxic substances and plants, other pets etc. Think of the unconfined bird as you would a toddler, a masochist on a mission from God.

- Cage Size; Should be large enough for the bird to spread its' wings and not damage its' tail when perching. Horizontal space is often more important than vertical as most birds will just inhabit the highest perches instinctively.
- Construction; Galvanised wire, and all wire is galvanised, except stainless steel, is a major cause of heavy metal poisoning (often called "New Wire Disease"). The galvanised coat is a soft zinc and lead mixture and new wire has a lot of little tags, which readily flake off and are highly toxic. Other sources of heavy metals are lead solder used in cage construction and joints of food and water dishes. Repairs done with tie wire or new bits of mesh can make a previously safe cage toxic.
- Making Cages Safe:

  1. Weathering for months to years. Decreases toxicity but not 100% effective.
  2. Paints such as Tremco Metal Armour Gal Primer followed by TMA enamel has been useful. Prepare the wire with a power drill driven wire brush and remove as much of the Gal as possible.
  3. BHP produces a type of wire called "Waratah Evencoat"; it is safer but again not 100% effective.
  4. Provide as much chewing material as possible, fresh branches, logs, fruit and vegetables etc.

Perches

- Dowel or dowel and sandpaper are the worst choice. They are too uniform and too abrasive and commonly cause pododermatitis, which is often very difficult to treat.
- Natural perches, eg. gum tree branches of variable diameter, are the best. In general the bird should only be able to get ¾ of its' foot around the perch.

- Perches should not be placed to allow faeces to soil food and water.

Cage Hygiene

Cage floors, walls and perches are often badly soiled. Wire floors, newspaper and common sense will keep the environment clean and healthy. With the exception of PBFD virus, most common pathogens will be eliminated with good cleaning and household disinfectants. Avisafe, made by Vetafarm is effective in killing PBFD.

3. Physical Examination

Examining the Critically Ill Bird.

Capturing and restraining birds that are weak and dyspnoeic is risky. Inform the owners about the risks. The best course of action is to place the bird in a warm, oxygen rich environment, no perches and offer food and water. Then institute supportive treatment such as fluids and vitamins, and start some initial diagnostics. Try to stage things to allow the bird to rest between periods of brief handling. Remember, the prognosis for birds with the "Sick Bird Look", on the floor of the cage, is poor.

General Restraint and Capture

- Ensure the room is secure and have a net available
- *Before capturing the bird*, make sure all sample taking apparatus and any treatments are prepared.
- Try not to grab birds off owners body, they may get bitten or scratched.
- For Psittacines, use towels. Small paper towels work well for budgies and cockatiels and cloth ones for larger species.
- Gloves are suitable for raptors and owls only, as the talons present the major danger.
- For complex examinations, with multiple samples, radiology, catheter placement etc, Isoflurane anaesthesia can be used.

3.1 Assess Body Mass

- A bird in good body condition has a rounded, firm pectoral muscle and minimal subcutaneous fat.
- A thin bird has a prominent keel and wasted pectorals.
- Fat birds often have large fat pads over pectorals and protruding abdomens
- All birds should be weighed. This is good for assessing current condition and very useful in monitoring response to treatment.

Good to Fat Condition Moderate Wt Loss Thin/Cachectic

This diagram shows cross sections of the keel and Pectoral muscles

2.2 Vital Signs

- Dehydration is assessed by tenting skin over feet and abdomen, or lifting upper eyelid.
- Vascular perfusion can be tested by compressing the medial ulnar vv
- Mucous membrane colour assessed by using the conjunctiva or oral mucosa
- Heart rates; Budgies 300+, King parrots 250, Cockatoos 200+
- Respiratory efforts; open mouth breathing, tail bobbing, large chest movements and noises are not normal.

2.3 Head and Neck

- There should be no discharges from the eyes, nares or choana. Swellings and feather loss around the eye are indicative of sinusitis.
- Beak abnormalities are common, usually asymmetry or abnormal length are seen
- Brown hypertrophy of the cere is a common incidental finding in female budgies
- The crop should have soft fluctuant contents.
- A sticky, matted head is indicative of vomiting.

2.4 Abdomen

- Should be flat, forming part of a continuous curve with the keel bone.
- Palpate from the side, especially if egg bound, to avoid life threatening compression of the caudal vena Cava.
- Eggs, neoplastic masses and fluid can be palpated.
- Ascitic fluid can generally be safely aspirated using small (22g or less) needles for fluid examination.

2.5 Limbs

- Extend wings to check for normal range of movement, masses and feather picking. Tumours are common in budgies and feather cysts are common in canaries.
- Extend legs and check grasp.
- Check skin of legs. Excessive scaliness is associated with nutritional deficiency, Honeycomb lesions and tassle-foot are indicative of Knemidocoptes (Scaly leg and face mite).

2.6 Feathers and Skin

- Feathers should be smooth, shiny and clean with normal coloration.
- Hold wings extended, up to light to check for mites and eggs within the feather vanes.
- Powder down should be present, large amounts will be produced by the cockatoos.
- Broken or fluffy looking feathers indicate feather picking.
- Missing groups of feathers or misshapen feathers indicates PBFD or Polyomavirus

2.7 Cloacal Examination

- The cloaca should be clean. Pasting of the vent is due to diarrhoea or may be associated with leg weakness, obesity or abdominal masses.
- Checking for cloacal papillomas is most important when examining the South American spp such as Macaws and Amazons. Evert the mucosa with a lubricated cotton bud, apply white vinegar to any suspect lesion. Abnormal tissue will blanch markedly. This is a dangerous (currently) exotic disease.

Recovery From Physical Examination

Normal birds will recover rapidly. Some normal canaries may lie on their sides for 30-60 seconds after being handled.

3. Diagnostic Testing

The purpose of this section is to give an overview of the tests most commonly used in bird medicine. Detailed descriptions of techniques and interpretation are available in a number of the major texts, which are listed below.

Complete Blood Count

This is widely regarded as an extremely sensitive indicator of health or disease in birds. The first problem for the practitioner is obtaining the blood without injuring the patient and getting a suitable sample to keep the pathologists happy. Most labs can do a CBC and Biochem panel with samples of less than 0.5ml. In general, ***birds should not have more than 1ml blood/100gm of body weight taken***. Sick birds should only have the absolute minimum taken.

My preference for bleeding Psittacines is the Right Jugular vein. The left is usually absent. It is a mobile vein, lies laterally and in most birds and has a wide featherless area overlying it, once the contour feathers are parted and wetted down. Compared to the Ulnar vein, I find it rarely haematomas and is much easier to access. Most labs recommend making a smear from fresh blood straight away, before it is put in anticoagulant.

Blood Biochemistry

Most of the tests used are the same as those in mammals. Some differences occur. Liver disease testing is even more vague than in mammals as most of the common enzymes are non-specific to the avian liver, Total Bile Acids are regarded as being more specific indicators of disease. Uric acid is the indicator for renal disease as urea is almost non existent in birds. Many texts are available to help with interpretation if the laboratory is unsure.

Faecal Analysis

This is a common and useful test performed, as it is cheap and non-invasive. Several tests are done.
Faecal wet preps are very useful in parasite identification, particularly looking for protozoa such as giardia and Cochlosoma. Ultra fresh wet preps allow the motility to be identified.
Faecal floats are useful for identifying worms and coccidia
Faecal gram stains are used to identify bacteria, yeasts, fungi and Megabacteria. Current thinking is that Gram positive bacteria should make up approximately 90% of the flora.

Crop Fluid Analysis

Wet preps will identify motile protozoa such as Trichomonads
Gram stains will identify bacteria, yeasts and Megabacteria

Urinalysis

Collection is the most challenging part, generally a plastic lining on the bottom of a cage is used. Then separating the separate components can be done. Dipstick and specific gravity analysis can be done as for mammals. Sediment examination can also be performed.

Culture and Sensitivity Testing

Widely discussed and recommended, especially in terms of crop, choanal and cloacal samples. In reality whilst a practice growth initiative, little useful information is obtained unless a specific type of infection is being investigated eg. Salmonella or Mycobacteria.

Radiology

Many applications, orthopaedic, respiratory and GI disease conditions can be identified. It is also a quick and easy way to diagnose many cases of heavy metal poisoning, as the metal particles or bits of wire can easily be seen in the gizzard. Special restraint boards and/or GA are usually required.

Post Mortem and Histopathology

I regard this as one of the most consistently useful diagnostic tools in avian medicine. This is often the only way a definitive diagnosis can be reached. When dealing with collections of birds it should always be recommended for any death. Aviculturists are often prepared to sacrifice a moribund bird in a serious outbreak situation. Remember, birds must be refrigerated and not frozen and preferably dead no longer than 24 hours. When submitting specimens for histopathology, make sure you send a piece of ***EVERYTHING.*** You will find pathologists love this and good, hard diagnoses will be found.

Recommended Reading

Avian Medicine and Surgery, Altman, Clubb et Al, WB Saunders, 1997

Avian Medicine: Principles and Applications, Richie, Harrison and Harrison, Wingers, 1994

Diseases of Cage and Aviary Birds 3rd ed, Rosskopf and Woerpel, Williams and Wilkins, 1996

Manual of Avian Practice, Rupley, AE, WB Saunders 1997

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Proceedings of Association of Avian Veterinarians 1989-Present

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Journal of Avian Medicine and Surgery, Published by AAV, Boca Raton, Florida, USA

Seminars in Avian and Exotic Pet Medicine, Fudge, A, ed., WB Saunders.