


Avian Module 3: Physical Exam

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Blue fronted Amazon parrot

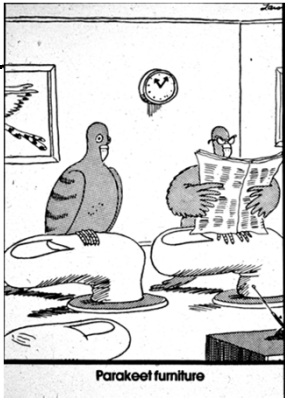
Objectives

1. Explain why observing the bird before capture and handling is a crucial step in the physical examination
2. Name the three components of the avian urofeces
3. Describe the signs of upper and lower respiratory disease in the avian patient
4. List the steps in carrying out a physical exam in the avian patient
5. Describe how to assess hydration in the avian patient
6. List samples commonly collected for diagnostic testing
7. List three grooming procedures frequently carried out on birds

Initial Observation

- ❖ Observe the bird carefully before capture
- ❖ Once you handle a bird many of its physical parameters will change
- ❖ Most birds try to hide their clinical signs and thus avoid the attention of predators
- ❖ Most 'sick' birds are sicker than they look

Observation



Parakeet furniture

- Ideally you want to observe the bird while its relaxed and comfortable. This may not be possible in a veterinary office.

Observation

PHYSICAL EXAMINATION RECORD Date _____ Case # _____

Species _____ Sex _____ Age _____

Observation of Patient		7. Respiration		N/A	
1. Mental awareness	N/A	3. Posture	N/A	5. Wing position	N/A
2. Coordination	N/A	4. Weight bearing	N/A	6. Tail position	N/A

Physical Examination

Weight _____ Cloacal temperature _____ Feces _____ Urates _____

7. Hydration	N/A	10. Eyes	N/A	15. Neck/crop	N/A
8. Body condition	N/A	11. Ears	N/A	16. Pectoral	N/A
9. Feathering	N/A	12. Nostrils	N/A	17. Abdomen	N/A
		13. Beak	N/A	18. Back/uropygial	N/A
		14. Oral cavity	N/A	19. Cloaca	N/A
20. Wing	N/A				
21. Pectoral girdle	N/A	22. Legs	N/A	23. Feet/halls	N/A

Description of Abnormalities

- Using a standardized form like this helps ensure a consistent and thorough examination

Observation

- Know the normal activity and behaviour for a given species and individual - this can be a combination of your basic knowledge and information derived from the owner.

<https://www.youtube.com/watch?v=Vdi8oIPjmNY>




- Healthy birds should be alert, active, and attentive.
- These days owners can bring images or videos

How do we recognize a sick bird?

General Demeanor : Sick Bird

- depression - inactivity
- loss of appetite
- fluffed appearance
- weak - unable to perch
- partly closed eyes, “sleepy”




(sulphur-crested cockatoo)

Posture and Coordination

- abnormal posture or head position
- asymmetry in position or use of wing or limb
- loss of balance
- paresis, paralysis
- seizures


Posture & Coordination

- These abnormalities may disappear or be impossible to evaluate once the bird is disturbed by handling.
- Conversely, some neurological signs become worse when the bird is alarmed.




Neurological signs

- These parrots have *Baylisascaris procyonis* neural larval migrans



yellow-fronted Amazon




green-naped lorikeet (Australasia)

Respiratory Signs

- open-mouthed breathing
- increased respiratory rate and effort
 - tail bobbing, increased abdominal movement
 - tail bobbing looks like this
[\[https://www.youtube.com/watch?v=BcnkdPOysyU\]](https://www.youtube.com/watch?v=BcnkdPOysyU)
- noises associated with respiration
- changes in song or voice


▪ Respiration should be regular and quiet at rest (~ 15-40/min depending on species)

Respiratory Signs



- Birds with upper respiratory disease often sneeze and have nasal and ocular discharges with matting of feathers on the face.
- Long term disease will result in beak abnormalities

Respiratory Signs

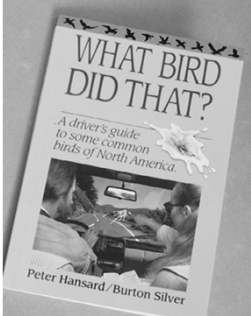


- This golden eagle is in respiratory distress - open mouth breathing and the wings held out from the body.

Gastrointestinal Signs


- Examination of the cage will help determine what the bird's regular feces and urates look like.
- It is helpful to have the owner bring a sample from the paper or cage bottom at home.
- Many birds become polyuric or even diarrheic when stressed.

Fecal examination



- Avian vets spend a lot of time looking at feces - here is a whole book on the subject!



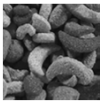
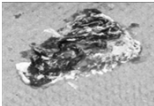
Fecal examination



- Birds pass the solid fecal component, solid or semi-solid white urates (uric acid), and liquid urine from the cloaca at the same time.
- Owners can't always tell polyuria from diarrhea.
- These are both normal parrot feces. The amount of liquid urine will vary.

Gastrointestinal Signs

- diarrhea (vs increased urates vs polyuria)
- change in fecal colour, texture or smell
 - Can be affected by diet
- intact seeds or food in feces
- vomiting or regurgitation

The Actual Examination

PHYSICAL EXAMINATION RECORD Date _____ Case # _____

Species _____ Sex _____ Age _____

Observation of Patient

1. Mental awareness N/A 3. Posture N/A 5. Wing position N/A
 2. Coordination N/A 4. Weight bearing N/A 6. Tail position N/A

Physical Examination


Weight _____ Cloacal temperature _____ Feces _____

PCV	Plasma protein	Urinates
7. Hydration N/A	10. Eyes N/A	15. Neck/loop N/A
8. Body condition N/A	11. Ears N/A	16. Pectoral N/A
9. Feathering N/A	12. Nostrils N/A	17. Scapular N/A
	13. Beak N/A	18. Back/urocaudal N/A
	14. Oral cavity N/A	19. Cloaca N/A
20. Wing N/A	21. Pectoral girdle N/A	22. Legs N/A
		23. Feet/tails N/A

Description of Abnormalities


- Try to always do the physical examination in the same fashion – this will increase speed and decrease the chance of forgetting to look at something
- I start at the head and work backwards, but it really doesn't matter where you start

The Actual Examination



- Examine the head for symmetry, exudates (eyes, nostrils, ear canals) changes in feathering, etc.


The Actual Examination



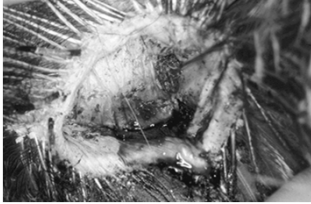
- Even if you don't know much about a species asymmetry is easy to recognize.
- This is a great-horned owl with ocular trauma.

The Actual Examination

- Check the external ear canal by moving the feathers to the side.




The Actual Examination



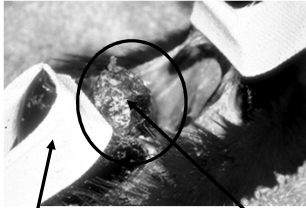
- You can actually visualize the back of the eyeball through the ear of some birds.
- In this owl there was severe head trauma and green bruising is visible.

The Actual Examination



- The mouth must be opened to carefully view the oropharynx, glottis, and choanal slit (the opening from the roof of the mouth to the sinuses)
- Note the choanal slit in this blue-fronted Amazon parrot


The Actual Examination



- This eclectus parrot has a *Candida* infection of the tongue, which wasn't noticed until the mouth was fully opened.


Tape strip over mandible tongue

The Actual Examination



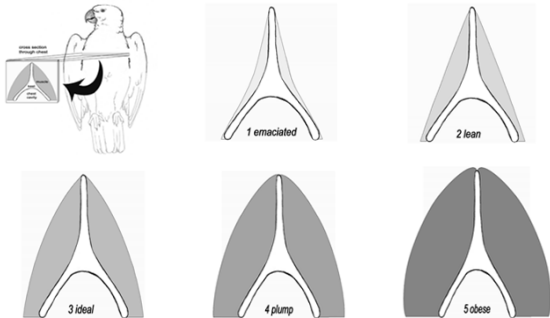
- Assess the degree of hydration by simply moving the skin over the subcutis and feeling the amount of resistance present
- The pectoral area is a good place to use

The Actual Examination



- Palpate the crop for contents and thickness of the wall.
- Body condition is generally estimated based on pectoral muscle mass.


Body Condition Scoring



1 emaciated 2 lean

3 ideal 4 plump 5 obese

The Actual Examination



- Most bones and joints of the wing can be specifically palpated and checked for range of motion, crepitus, etc

The Actual Examination



- Check the feathering, musculoskeletal system (scapulae), and skin as you move over the back.
- Check the uropygial gland, remembering that not all species of birds have them.

The Actual Examination



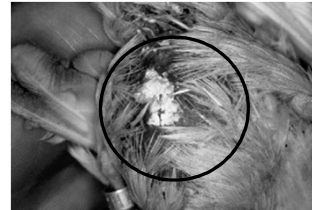
- The “abdominal window” for palpation between the sternum and the pelvis is very small in birds
- Birds have a flat or convex abdominal profile
- The gizzard may be palpable, but feeling any other masses or structures is abnormal

The Actual Examination



- The cloaca should be checked for tone and cleanliness. Birds will not normally soil the feathers around the vent with urates or feces.
- In parrots the cloacal mucosa should be checked for papillary growths. An otoscope or endoscope may be necessary for detailed examination.

The Actual Examination



- This canary was dehydrated and could not expel the dry urates properly, hence the cloaca became crusted and plugged with material.

The Actual Examination



- Examine the feet and legs - the bones and joints can be palpated.
- Toenail trimming is a routine grooming procedure in birds.

The Actual Examination



- Although the avian heart rate is very rapid (several hundred beats per minute) cardiac irregularities and abnormal respiratory sounds can be auscultated.
- This is a green-winged macaw.

The Actual Examination

TABLE 8.1 Normal Heart and Respiratory Rates of Birds (per min)*

Weight	Heart Rate (Rest)	Heart Rate (Restraint)	Resp. Rate (Rest)	Resp. Rate (Restraint)
25 g	274	400-600	60-70	80-120
100 g	206	500-600	40-52	60-80
200 g	178	300-500	35-50	55-65
300 g	163	250-400	30-45	50-60
400 g	154	200-350	25-30	40-60
500 g	147	160-300	20-30	30-50
1000 g	127	150-350	15-20	25-40
1500 g	117	120-200	20-32	25-30
2000 g	110	110-175	19-28	20-30
5000 g	91	105-160	18-25	20-30
10 kg	79	100-150	17-25	20-30
100 kg	49	90-120	15-20	15-30
150 kg	45	60-80	6-10	15-35

*The resting or flying heart rate of any sized bird can be estimated with the formulas: Resting HR in beats/sec = 12 x (4 x Wgt)^{0.79}. Flying HR beats/sec = 25 x (1 x Wgt)^{0.81}. Multiply results of either by 60 for beats per minute. From King AS, McAllister J. Form and Function in Birds Vol. 2. London, Academic Press, 1981 (see Chapter 27).

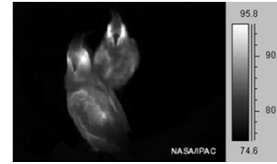
- Both respiratory and heart rate vary with species, and are tremendously affected by the status of the bird at the time of evaluation.
- Nervousness & excitement elevate both rates!

The Actual Examination

- Body temperature is normally > 40° C
- Not generally assessed as the temperature increases immediately on handling



<http://cardiagnostictools.us/multimeter-s/digital-thermometer-with-probe.html>



http://coolcosmos.ipac.caltech.edu/image_galleries/ir_zoo/images/birds_warm.jpg

The Actual Examination



- Accurate body weight is an essential way of monitoring condition in a bird.
- Ill birds should be weighed at least once daily.
- Many birds, like this umbrella cockatoo, will perch on a t-stand

The Actual Examination

- Small basket scales can be used to weigh small birds.



The Actual Examination



- Less cooperative patients can be burrito wrapped and placed on a scale.
- Don't forget to subtract the weight of the towel – it's often more than the bird.

Collect Samples for Lab Dx

- A variety of samples can be collected as part of the standard health check.
- Practices vary in the amount of laboratory work they consider routine.

Routine Dx Samples

- blood for CBC and biochemical profile
- whole body radiographs
- cloacal or choanal swabs (cyto & micro)
- blood for DNA sexing
- screening for specific infectious diseases
 - e.g., psittacine beak & feather disease, polyomavirus, *Chlamydia psittaci*, herpesvirus, avian bornavirus
- fecal cytology, flotation for parasites, culture & sensitivity

Common Grooming Procedures

- Clients may bring their birds to the veterinary clinic for grooming - these procedures can also be carried out at home by the owner.
 - nail trim
 - feather trim (to prevent flight)
 - beak trim and shaping