Clinical Examination

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I find it is useful to adopt a consistent approach to examining all cases. As with all animals, a diagnosis must be based upon more than the clinical pathology tests that are available. Collect a full history, perform a examination of the environment and decide which tests you are most likely to choose. Collect all the equipment you will require before moving onto the physical examination. This allows you to be as efficient as possible with your examination and causes less stress for the bird.

The clinical examination procedure should not begin as the client walks into the consulting room, but with the client's first contact with the Veterinary Hospital - in most cases this will be with a telephone call. A well trained Veterinary Nurse can give this procedure a good foundation by giving clear instructions to the client before they come. This will help make your examination more fruitful.

Client Instructions Prior to Attending

- Remove any swings, toys etc. that may move around and injure the bird during transport.
- If it is cold or windy, cover the cage to protect the bird.
- Bring the bird in the cage it normally lives in or in the cage it is presently living in if that is different
- Do not clean the cage prior to coming in. Leave all food and water dishes as they are. Leave any vomitus, diarrhoea etc.
- Remove the water dish and empty it before coming so that it does not spill and change the character of any droppings.
- Bring any medications etc. that have been used.
- Make sure that the bird is accompanied by someone who knows the current history. If they are unable to attend have a telephone contact available, or provide a detailed written history.

As a general rule of thumb, any caged bird that appears ill to its owner is seriously ill. To emphasise the problems associated with ill birds I usually mention to a client that one day of illness in a small, pet bird is roughly equivalent to one week of illness for a human.

You may find it useful to place the following list near the telephone for you or your nurse to discuss with a client seeking advice about an ill bird. The list includes clinical signs, easily recognisable by the concerned bird owner, which may suggest significant problems for the bird:

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GENERAL SIGNS

- Weight loss
- Reduction in appetite or complete cessation of eating
- Inability to adequately swallow or manipulate food within the mouth
- Vomiting
- Fluffed feathers - huddled appearance
- Inactivity
- Droopy wings
- Decrease in preening activity and maintenance of feathers
- A break in bird's routine - abnormal behaviour
- Cessation of vocalisation
- Change of voice
- Visible lumps or masses - anywhere on the body
- Bleeding - always should be treated as an emergency situation

EYES:

- Unilateral or bilateral discharges
- Changes in clarity or colour
- Closing of one or both eyes -partial (squinting) or complete
- Swelling around one or both eyes

NOSTRILS/NARES

- Soiling of feathers around nostrils or of the head feathers
- Unilateral or bilateral discharges
- Plugged - one or both nostrils

RESPIRATORY

- Open-mouthed breathing when at rest (very serious)
- Tail bobbing (rhythmic back and forth motion of the tail when at rest)
- Sneezing, wheezing, gasping etc.

MUSCULOSKELETAL/NEUROLOGICAL

- Balance problems
- Inability to perch (bird on cage bottom)
- Limping or lack of full weight-bearing on one limb
- Swollen foot/feet and or joint/joints

DROPPINGS

- Change in quality and/or quantity of components of droppings

Preservation Reflex

On of the most frustrating problems in avian medicine is the fact that birds do not display illness in the same manner as dogs, cats or the other mammals we are accustomed to treating. Birds possess the ability to mask most of the symptoms (lethargy, depression, anorexia etc.) that we would normally associate with the early stages of a disease process. Many serious illnesses are kept at a sub-clinical state until the process is quite advanced. This is often referred to as the Preservation Reflex, as the current theory used to explain this phenomenon is that the bird does not show overt or clinical signs of illness in order to preserve itself from attack by predators or to preserve its position in the "Peck Order".

The significance of this reflex is that simply performing a visual examination of an avian patient is insufficient to assess its health status. The approach to an avian patient is different and more attention must be paid to small details and an effort made to detect the very subtle, early signs of disease. The clients must be educated to be more aware of any subtle changes in their bird and they must understand that if a bird displays signs of illness this must be acted upon much more quickly than with other pets such as cats and dogs.

By the time birds display clinical signs of illness it is usually a sign that they have reached a stage of decompensation and can no longer mask their illness. They are commonly in an advanced or serious stage of their disease process.

From a practitioner's point of view this helps to explain why a client will present with a bird in an advanced state believing that he has been ill for only a short period and for the commonly held opinion that birds are "soft" creatures and die very easily from apparently minor illnesses.

History

The time spent collecting the history should allow the bird to settle down from the excitement of transport. A bird that is masking symptoms of disease may look normal initially and then display subtle signs after a few minutes - if it has reached a stage of decompensation.

I use a few key questions at the top of my hospital examination sheet to remind me to ask the basic questions (see Fig 1.). This often is filled in at admission by my Veterinary Nurse and passed onto me so that I can consider it before I see the bird.

The basic questions that should be asked are:

- Is the bird a pet or normally kept in an aviary?
  If it is a pet bird, does it always stay in the cage or does it have periods of free flight?

  If it is in an aviary ask for a description noting the size, floor type, design, aspect it faces and any preventative medicine program currently in use?

- Any recent changes to the environment?
  This may indicate sources of stress or toxins.
  Which disinfectants are used? What is the substrate provided?
  What is the normal photoperiod provided? Many birds are exposed to very long light intervals - much longer than the natural interval.

- The age of the bird?
  Determining the age of a fully grown bird can be difficult.
  Immature birds often seem to have large eyes. This is an illusion caused by large amounts of black pigment in the iris. The beak and exposed, featherless skin appear to be smoother in young birds. Young birds are more prone to infectious diseases while older birds are more likely to have age-related problems such as neoplasia.

- How long have they had the bird?
  This is an indirect estimate of the birds minimum age. It is also a lead in to the following question. A bird that has been established in stable environment is more likely to have nutritional, psychological or neoplastic disease, while a newly acquired bird is more likely to have an infectious disease or stress.

- If the bird was acquired recently, from what source?
  Birds that have recently been through a bird dealer's premises will have been exposed to a host of infectious diseases.

- History of recent illnesses?
  Of this patient or of any other birds on the premises.

- Any medications used? (Check dose, frequency etc.)
  Always ask the client to describe how the drug was used to rule out any errors in administration.

- Are any other birds or members of the family ill?
  Consider zoonoses or common toxicities. Beware pet parrots which may mimic a sneeze or cough.

- Any other birds acquired recently?
  Also question about quarantine procedure used.

- Have there been any changes to the bird's behaviour?
  Behavioural changes are often the first subtle signs that are available. These are often overlooked. Has the bird been less active or sitting in an uncommon position? Does the bird allow you to come closer before moving away? Are there periods of huddling, excessive sleeping or hiding?

- Current diet and any recent changes to the diet?
  Nutritional disease is extremely common. The majority of birds are suffering from malnutrition. While a full range of food may be supplied, check that the bird is consuming a wide range. Many parrots will eat sunflower seed to the exclusion of all other foods.
  Note any change in food or water consumption?

Examination of Environment

While the history is being gathered you can also quickly visually assess the cage. Look for signs of vomitus. Note the type of seed in the feed container. Is the seed being eaten - assess the amount of husks present? Are any supplements offered other than seed? Is the water dish clean? Make an assessment of the level of hygiene and sanitation.

Interpretation of Droppings

The cloaca acts as a common receptacle for the contents of the bird's digestive, urinary, and reproductive systems. These are expelled through the "vent" and are correctly called "droppings". A normal dropping should contain excretory products from either the intestine or urinary tract or more commonly both systems.

A bird's droppings will often give valuable information regarding the state of health. Therefore, it is a good idea to pay close attention to them. Look at the droppings on the floor of the cage or any samples brought in by the owner - is there an increased or decreased number? Assess the urinary and faecal components. Expect a temporary polyuria due to the stress and excitement of transport.

In seed-eating birds, the faecal (stool) portion of the dropping should be a shade of green or brown (colour will be influenced by both pigments in the diet and bile pigments from the liver) and should be formed into a

coil. Size of the faeces will vary with the length and diameter of the intestine.

Dark coloured faeces may be melena (check the bird has not been eating dark pigmented food such as blackberries). Bright green faeces may be a sign of hepatic disease or haemolysis and are common with malnutrition, toxins, chlamydia, bacterial septicaemia and some viral diseases. Pale coloured faeces may be seen with malabsorption/maldigestion syndromes. The texture of the faeces may aid diagnosis. Normal faeces is a tight cylinder that has a smooth pasty consistency. A granular stool or presence of undigested food may be associated with malnutrition/maldigestion or decreased passage time due to parasites or inflammation of the pancreas, proventriculus, gizzard or intestines.

Along with the faecal component will be a variable amount of uric acid or urate (solid component) and urine (liquid component). The urates will usually be in a blob or mixed in stringy fashion with the faeces and should be absolutely white or, perhaps beige in colour. The urine should be clear and will wet the papers on the cage bottom for a variable distance beyond the perimeter of the dropping. The ability to determine the amount of urine will vary with the type of substrate on the bottom of the cage. Newspapers or absorbent paper towel is the recommended material as it will give you the ability to regularly monitor the droppings. It is impossible to evaluate each individual dropping as a discrete entity when food, kitty litter or other materials cover the cage bottom. The amount of urine excreted is usually quite small.

Green discolouration of the urates or urine staining may be found with hepatic disease or haemolysis from similar causes stated above for the faeces.

A bird is considered to have diarrhoea when the faecal portion of the dropping is not well formed . Diarrhoea is actually not a very common clinical entity. A dropping containing a normally formed faecal portion but possessing a large amount of urine around it represents a watery dropping and is actually polyuria not diarrhoea!

It is important to examine the droppings closely and make distinctions between the components. In all cases of diarrhoea the droppings will appear loose, but not all loose or watery droppings constitute diarrhoea. This is an extremely important distinction to make.

Polyuric droppings may or may not indicate disease. Diabetes and renal disease are the most commonly encountered pathologic causes of polyuria. However polyuria can result from psychogenic (excitement, stress) physiologic (increased water consumption on the part of the bird e.g. feeding young) or dietary (increased amounts of fruits and greens/vegetables). Use information gleaned during the history to help differentiate these.

It is important to note that qualitative (colour, consistency, etc.) and quantitative (amount of each component) aspects of the droppings of normal caged birds frequently change, depending on the foods consumed, the amount of water consumed, the amount of stress experienced, mood changes, etc. Abnormal droppings will typically remain abnormal in appearance during the entire course of a bird's illness.

Distant Examination

Spend a little time assessing the birds demeanour (alert and responsive). Note the bird's posture (erect stance with weight evenly spread on both feet). Is it normally active? Are there any obvious physical abnormalities? Assess respiratory rate and depth. Make a subjective assessment of the bird's weight.

Physical Examination

The bird should be given a complete physical examination. I prefer to start
at the head and move distally. You should develop this as a habit and carry out the examination the same way each time so that nothing is overlooked. Pay particular emphasis on any suggestive signs detected during the history and distant examination.

- Begin by examining the head, eyes, ears and nares/cere (pay particular attention to the feathers

immediately adjacent to the nares as even a mild discharge will make dust adhere to them and give them a stained appearance - this is the equivalent of a "runny" nose). The head should be symmetrical. Examine the beak for erosions or malformation. Sublaminar bruising of the beak may be associated with liver disease or trauma.

- Open the mouth and examine the tongue, choana and pharynx - note any sour or abnormal odours. Is there excessive mucous or cheesy plaques present. Examine the papillae lining the choana - in chronic respiratory disease the papillae will be reduced or absent.

- Carefully palpate the entire bird beginning at the crop and working down the keel to the abdomen. The crop may contain food but rarely fluid. In aviary birds the crop will be empty in the middle of the day as they eat early in the day and late in the evening similar to birds in the wild. Pet birds will often eat all day. In a young bird delayed crop emptying is often the first sign of disease. The oesophagus passes down the right side of the neck and is usually thin unless the parents are feeding young. The pectoral muscle mass should be convex and the keel bone should not be prominent. The abdomen should be concave not convex. The lower abdominal contents are often easily palpable. The gizzard is found in the lower left quadrant. Usually if the liver edge (most easily found on the right) can be palpated it is enlarged. If the abdomen is enlarged palpation must be extremely gentle. The bird should not demonstrate pain with normal, gentle abdominal palpation. In finches and Canaries, wetting the abdominal wall with alcohol can allow visualisation of the lower abdominal contents. A darkening of the intestinal area is usually indicative of inflammation.

- Examine the vent for swellings, encrustations or soiling (indicative of loose droppings). If the tail is flexed dorsally, the vent will open and allow inspection of the cloacal mucosa or insertion of a swab.

- Examine the feathers and skin. Look for any missing or chewed feathers. Are any feathers dystrophic - particularly the primary flight and tail feathers or the powder down feathers? Does the bird have a powder covering?

- Pull out each wing individually. Palpate the bones from shoulder to wing tip. Examine each joint for full range of motion or any swelling. Hold each wing up to a bright light to transilluminate the feathers. Spray alcohol on the skin if closer inspection is required. This may reveal bruising of a swollen area.

- Examine each leg individually. Palpate from hip to distal end of each digit, paying particular attention to the joints. Assess the gripping ability of each toe. A weak grip may be indicative of abdominal tumours, fractures or neurological disease. Unilateral lameness is more common than bilateral. Assess the length of the claws. Overgrown claws may be associated with hepatopathy. Sublaminar haemorrhage in the claws (similar to the beak) may be a sign of hepatopathy or trauma. Inspect the plantar aspect of each foot- the papillae should be visible. Lack of papillae may be the first sign of incorrect perching material, or the beginning of bumblefoot.

- Auscultate the chest (dorsal and ventral) and the abdomen. Heart rate is extremely variable and may be impossible to count. The sounds of inspiration are louder and shorter in duration than expiration. Abnormal respiratory wheezes or whistling are signs of severe pathology.

- This whole procedure should take less time to perform than it takes to read.

Once the examination is finished immediately place the bird back into its cage and assess its tolerance of the procedure. Most birds will look normal and many will preen themselves to reposition any feathers ruffled by your hand. If the bird looks obviously stressed or is breathing heavily, it is safe to assume it is ill.

Body Weight

This is an extremely useful tool in health assessment. The bird should be placed upon a set of scales (either triple beam balance or small electronic scales) and an accurate measurement taken. I find it useful to place

them in a large paper bag during this procedure. This minimises struggling and panic. Objective weight measurement can be used as a regular monitor to assess the bird and should be recorded on the bird's card. As an in-hospital tool, objective measurement is an excellent prognostic indicator for a bird receiving treatment. Weight loss is always a sign of a poor prognosis.

As well it is useful to make a subjective assessment of the birds general condition after palpating the pectoral muscles. The keel bone should not be prominent. With time and experience this can be used determine the optimum weight for an individual bird. This is a useful skill for clients to develop as a general health assessment tool.

Basic laboratory Tests

If the bird is coping with the restraint, some laboratory tests may be collected, depending upon the history and physical examination. Use the history as a guide to have any possible diagnostic equipment prepared before the bird is restrained so that the procedure is not prolonged and flows on from the physical examination.

This aspect will be covered in more detail in the emergency techniques lecture.

The common basic tests that may be indicated are:

- Cloacal & Choanal swabs
  For Gram stain and possibly Culture & Sensitivity

- Faecal Flotation & Faecal Smear (both should be performed)

- Blood collection
  For PCV, TPP
  Blood smear for WBC Estimation & Differential Count RBC morphology and haemoparasite examination
  Biochemical tests as indicated or available.

Blood Collection

(for a more complete discussion see Dein, 1984)

The commonly used sites for routine blood collection are:

1. Clip a toenail. This is a simple and effective method. If a sharp pair of nail clippers (the pair you normally use for dogs and cats is fine) is used the birds don't seem to experience much discomfort. Be sure to clean the nail with an alcohol swab, to remove any faecal or urate contamination, before collecting the sample - particularly if you wish to measure uric acid blood levels. Hold the leg extended and relax the toes or you will not be able to sustain a good blood flow. The blood can be collected directly into a microhaematocrit tube from the tip of the toenail.

2. Use a needle to prick the skin directly over the medial metatarsal vein. A small drop of blood will form and this can be collected into a microhaematocrit tube.

3. Insert a needle into the either one of the jugular veins or the cutaneous ulnar veins. Collect into a microhaematocrit tube directly from the hub of the needle.

References and Further Reading:

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4. Axelson RD (1983). Good Examination & Diagnostic Procedures and Its Importance in Pet Birds. *Proceedings Veterinarian Seminar, American Federation of Aviculture*. pp. 1-8.

5. Harrison GJ, Harrison LR & Fudge AM (1986). Preliminary Evaluation of a Case. In Harrison GJ & Harrison LR (eds). *Clinical Avian Medicine and Surgery*. WB Saunders, Philadelphia. pp. 101-114.

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7. Wise RD (1989). Clinical Examination. In Burr EW (ed), *Diseases of Cage Birds*. TFH Publications, Neptune, NJ. pp.20-27.

8. Filippich L (1987). Examining your Birds and Giving First Aid. In *Everybird, A Guide to Bird Health*. Macwhirter P (ed). Inkata Press. pp.1-17.

Avian Physical Examination

Name: Street:
Phone: Suburb: Postcode:

Presenting complaint:

Pet/Aviary; New/Old; Behaviour changes:

Medications:

Diet:

History:

	N	A		N	A	Describe:
1. Position in cage			6. Legs			
2. Respiration			7. Keel			
3. Head/Eyes			8. Abdomen			
4. Feathers/Beak			9. Vent			
5. Wings			10. Auscultation			

Faeces Gross:
Faecal Float:
Crop Wash:
Other Tests:
Diagnosis Def. Tent.

Treatment:

Fee	Credit	Bal

Figure 1: Examination Form