

Setting Up An Avian Practice - Equipment

Peter S. Sakas MS, DVM
Niles Animal Hospital and Bird Medical Center
7278 N. Milwaukee Ave.
Niles, IL 60714
(847) 647-9325 FAX (847) 647-8498
www.nilesanimalhospital.com

Introduction

Birds are being heralded as the pet of the 1990's. An AVMA study in 1988 had estimated the pet bird population to be at least 12.9 million. This is truly an underestimate. In our practice we have some clients that have hundreds of birds. Nonetheless, this study indicates that pet bird numbers have increased by more than 20% since 1983, deeming birds as the fastest growing segment of the pet population.

Reasons for Increased Popularity of Pet Birds

1) Lifestyle changes - Birds are basically a "low maintenance" pet. High density housing makes it difficult to maintain a dog and many housing units place restrictions on cats and dogs but not usually birds.

2) Increased availability - Nationwide more pet stores are carrying birds, particularly the number of larger birds available is increasing. Pet shops dealing exclusively in birds are more common. Increased success in raising birds domestically and hand-raising them are major reasons for their availability.

3) Hand raising - For years imported birds were the only source of larger birds in the US. These birds were usually young adults or mature birds that were wild/aggressive requiring extreme patience in taming, which did not always occur. Hand raised birds are tamer, calmer, less likely to carry exotic diseases but most importantly are already "bonded" to people making them more affectionate and hence a more desirable pet. They are also much more expensive as the process is labor intensive.

4) The "nature" of birds - Birds have been kept for thousands of years. Their coloration, songs, antics and companionship make them ideal pets. They need to socialize and because of this develop a rewarding relationship with their owners. People who keep birds only as "ornaments" or as "trendy" pets are missing out on the true beauty of a relationship with a pet bird.

For those of you already involved in avian practice you are probably seeing more and more pet birds, however many more of your clients have birds that you are not seeing. Only 7.6% of bird owning households sought veterinary care in 1987, compared to 78% of dog owners and 60% of cat owners (AVMA, 1988). These figures indicate an untapped source for veterinarians due to the tremendous need for veterinary services for birds.

Reasons for Lack of Veterinary Care

1) Lack of client education - Most bird owners do not understand the health care needs of pet birds nor do they realize the services veterinarians can offer to pet birds. They do not realize the importance of yearly physical examinations or the new bird physical, both which should include blood work and fecal examination. The advances that have been achieved in avian medicine are dramatic so we must make clients aware of the services that we can provide for pet birds, demonstrate our sophistication in their care and teach the clients the needs of their birds.

2) Birds conceal illnesses - Part of a bird's natural defense is to conceal illness, so few bird owners realize when their bird is sick. By the time veterinary care is sought it is often too late to be effective.

3) Financial - Many bird owners would rather replace a sick bird than invest in veterinary care, particularly with the smaller birds.

4) Lack of veterinary practitioners - Many veterinarians are reluctant to get involved with pet birds due to lack of familiarity. With commitment and a small financial investment you can develop a bird practice and help meet a growing need.

Beginning in Avian Medicine

The purpose of this series of articles is to give a basic overview of avian medicine so that you can overcome your initial apprehensions and begin to confidently see birds in your practice. I frequently get phone calls from pet bird owners/breeders that are frustrated that there are no veterinarians in their area that see birds or are able to provide basic emergency care. In my lectures to veterinary students I emphasize the importance of developing expertise in avian medicine for when seeking employment they can provide a new facet for practitioners who are not already in the field, hence making them more attractive as an associate.

Avian medicine is undergoing an "information explosion." Long gone are the notions that a "sick bird is a dead bird" or that treatment for a sick bird consists of heat and a little whiskey in the water. Our understanding of bird diseases, nutrition, and husbandry has increased dramatically as veterinary schools are developing avian medicine courses and active avian research is being conducted world-wide.

The starting avian practitioner though interested in birds may be overwhelmed by the wealth of information being generated about pet birds and it can be difficult to keep up. To help you sort through this material there are some helpful reference sources.

Basic References

1) Association of Avian Veterinarians (AAV) - Any veterinarian interested in avian medicine should definitely become a member of the AAV. Members receive a quarterly journal which includes current research and topics related to avian medicine as well as a periodic newsletter. The AAV has a yearly convention which attracts speakers worldwide, including a scientific program, basic avian medicine symposium and practical wet labs. If you are going to become involved in avian medicine I strongly suggest that you attend the AAV convention as it meets the needs of the beginning as well as the experienced avian practitioner. For membership information contact the AAV Central Office, PO Box 811720 Boca Raton, FL 33481-1720 (407)393-8901.

2) *Diseases of Cage and Aviary Birds* by M. Petrak (Lea & Febiger)- The classic avian medicine textbook, first published in 1969, the current edition was revised in 1982.

3) *Clinical Avian Medicine and Surgery* by Harrison & Harrison (W.B. Saunders)- It is a complete avian medicine source no practitioner should be without.

4) Popular bird magazines (Bird Talk, Bird World, AFA Watchbird, and Cage Bird Magazine are particularly good sources) - The popular bird magazines discuss the varieties of birds as well as information on training, taming and husbandry. To be a successful avian practitioner you should be able to identify the major varieties of pet birds and aspects of their care. Clients will judge you on this basic knowledge.

5) *Parrots of the World* by Forshaw and Cooper - It is a useful reference for identifying an unfamiliar variety of parrot. It is lavishly illustrated with color drawings of every imaginable type of parrot.

6) *Avian Hematology and Cytology* by TW Campbell (Iowa State University Press)- A valuable reference for your laboratory.

7) *Laboratory Manual of Avian Hematology* by FJ Dein (AAV)- Another essential reference for the laboratory.

Basic Equipment

Certain equipment is essential for the handling, diagnosis and treatment of pet birds. A veterinary hospital should already possess the standards; microscope, centrifuge, radiology equipment, anesthesia machine and means of sterilization. However some more specific pieces of equipment are needed for avian medicine. The important consideration is that the equipment we will be discussing can be incorporated into your small animal practice so you will not be spending money on material for limited usage.

1) Source of clean towels - During the physical examination small birds are examined in bare hands, larger birds such as cockatiels in paper towels and large birds in towels of the appropriate size.

2) Source of direct light - A good source of light is essential, especially during the oral examination.

3) Source of magnification - A binocular head loupe with magnification (Optivisor) is helpful during the exam, especially when dealing with small birds.

4) Ophthalmic forceps - Small forceps (not rat-toothed) are useful during the exam. They are used to clean debris from the nares and open the mouth of a smaller bird for an oral exam.

5) Mouth speculum (Lafeber Co. Odell, IL) - A variety of sizes are available and they are essential, especially with larger birds to complete an oral examination. Some practitioners use scissors, hemostats or gauze strips to open the beak. I feel the speculum is more handy and effective.

6) Gram Scale - Every bird examined should be weighed. We prefer the triple beam balance with the "pot" attachment (Ohaus). The pot is large enough to accommodate Amazon parrots and small cockatoos. Larger birds are weighed on a pediatric scale; either perching or wrapped in a towel if frightened. Scales with built-in perches have not proved to be successful as the birds are usually too excited to remain perched.

7) Grinding tool - A hand-held drill with grinding attachments (such as the Dremel) is useful for the grinding of beak and nails. A variable speed drill will enable the shaping of beaks even on small birds. The cone type of attachment works the best.

8) Laboratory equipment - A well-equipped lab with the ability to perform in-house diagnostic tests is invaluable for providing rapid diagnosis and effective treatment. I cannot emphasize the importance of this capability enough. I feel that the sooner we are able to obtain results we can more effectively institute the proper treatment regimen. More than likely the material is probably already in your practice.

Hematology- Microhematocrit tubes, both heparinized and non-heparinized, coverslips and stain are all that is needed to generate basic hematology.

Serology- In house chemistry systems can be used to perform avian serum chemistries. Dry chemistry systems can provide individual panels on a small amount of sample. We are currently utilizing the IDEXX system and are pleased with the results. We have also used "wet" chemistry systems in the past such as the Gemstar and Vision systems. Most chemistry systems available now allow for ease of usage and provide for improved diagnostic capabilities in all aspects of practice. If you were to only use such a system for avian medicine it might be difficult justifying the initial cost. However, you are provided with the opportunity to perform chemistries on birds, pocket pets but also obtain instantaneous answers for your canine/feline medical cases and presurgery workups.

If you do not possess such a system many commercial labs offer avian diagnostic services including hematology and serology. An excellent laboratory is the California Avian Laboratory in Citrus Heights, Ca. (800)-345-8155. They provide a wide range of diagnostic services.

For the collection of serum samples, the Microtainer Serum Separators (Becton-Dickinson) are invaluable. Blood can be collected for immediate use or for transport if more sophisticated testing is required.

Microbiology - Other essential tests in avian diagnostics are the Gram stain and culture/sensitivity. Fecal samples, cloacal swabs and exudates should be examined and stained. Performing your own microbiological testing is not difficult provided that you test for antibiotics used in avian therapeutics. Once again commercial labs provide this service, however check with other local veterinary or human hospitals for their willingness to work with avian samples. Culturettes are ideal for collecting samples and for transport. Calgiswabs (calcium alginate swabs) are handy because their small size is helpful when obtaining samples from small birds.

9) Radiology - Avian positioning boards constructed of plexiglass are available and provide ideal positioning for radiographs (Schein and other sources). For small birds we use Kodak dental films because the entire chest and abdomen can be radiographed. In larger birds these films can be used to evaluate a fracture site without a waste of film.

10) Equipment for hospitalized birds

Incubators - If birds are to be hospitalized a temperature controlled environment is essential. Incubators designed for pet birds are available but expensive. We use infant incubators (Armstrong) which are modified for use with birds. Sometimes local hospitals and medical suppliers sell used incubators, but you must be persistent. If an incubator is not available a kennel can be used, as long as a perch and source of heat are provided. A plexiglass front can be added but is not essential. Kennels work well for larger birds such as macaws; we have a specially designed perch set up for use in the kennel. Some practitioners prefer to use an aquarium and heating pad for their hospitalized birds.

Feeding tubes/Feeding solution - Sick birds often need supplemental feeding so gavage feeding may be required. We use Sovereign urethral catheters - size dependent upon the size of the bird. For example, an "eight French" is the size used for a parakeet. Some practitioners prefer metal gavage tubes which are widely available as well.

An appropriate feeding solution to provide nutritional support to hospitalized birds is of utmost importance. Various formulations can be concocted or you can buy commercial products. We utilize the line provided by Lafeber Products, Emerald I/Emerald, a quick source of energy which is easily absorbed; Emerald II, more of a maintenance formulation; and Nutristart, used for hand feeding baby birds.

Syringes - For most normal injections we use U-100 insulin syringes (50 and 100 unit sizes). Tuberculin syringes can also be used, needles of 26-30 gauge are preferable. A Hamilton microliter syringe can be helpful when delivering minute amounts of medication.

Nebulizer - For birds with severe respiratory tract disease/air sac disease, a nebulizer is invaluable. Oral and injectable antibiotics alone cannot reach therapeutic levels in the air sacs. Once again check with human hospitals/suppliers for used equipment. It is an important piece of equipment for an avian practice and not inordinately expensive, so do not hesitate to purchase a new one. The equipment can also be used to treat severe respiratory disease in other small animals so it can have multiple uses.

11) Surgical Equipment - Avian surgery can be performed using standard small animal instruments but some pieces of equipment can ease surgical procedures. A source of magnification is imperative during avian surgery so use your binocular loupe. Ophthalmic or microsurgical instruments, although not absolutely required, help ease the procedures.

Special avian drapes are available which are see-through to aid in monitoring the bird as well as being adhesive in strategic areas. Although these drapes are useful, we have used sterilized "Saran Wrap" drapes with great success. Another essential addition to the avian surgical pack are wooden cotton-tipped applicators. They are very useful for the absorption of blood and hemostasis. Suture used is a matter of preference but the size most frequently used is 3-0 to 4-0 and smaller with a swaged on needle.

Anesthesia - We use isoflurane (Anaquest) anesthesia exclusively for avian surgery. It has been well worth the investment. The birds can be anesthetized quickly and safely using a face mask. Recovery is usually rapid. For small birds we use syringe cases (3cc size for example) as face masks. Halothane and methoxyflurane can be used in avian surgery but once you use isoflurane you will never use anything else.

Electrosurgical unit - One piece of equipment that I have found to be essential is an electrosurgical unit (Surgitron - Ellman). The ability to make incisions with minimal hemorrhage and the hemostasis provided have revolutionized avian surgery. The more you use it, the more you grow to depend upon it and develop further applications. Another advantage is that it can also be used in small animal surgery so its purchase can be further justified.

Laparoscope - In avian practice you will be called upon to surgically sex birds. Although an otoscope can be used there is really no comparison to an endoscope. There are commercially available adapters that utilize the otoscope base (Focuscope) to create a reasonable endoscope with the advantage that it is not as costly as an entire endoscopic set up. I prefer a Wolf endoscope but whatever you are comfortable with is what is important. The advantage to an endoscope is that it can be used as a diagnostic tool, such as a laparoscope, to evaluate internal organs and as an aid during biopsy procedures.

Conclusion

Hopefully this information can provide a starting point for you in the pursuit of avian medicine, a fascinating and dynamic aspect of veterinary medicine. In future articles we will continue our discussions of avian medicine and enable you to further develop your practice.

Adapted from *Avian Medicine: A Practitioner's Guide 2nd Edition*. Peter S. Sakas DVM. AAHA Press 2001.