

Preparing the Small Animal Hospital for the Avian Patient

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For the veterinary team interested in developing, growing, and maintaining an avian caseload, the task of equipping a small animal general private practice to accommodate birds can seem daunting. Fortunately, the required working spaces for avian patients can be adapted from those for dogs and cats, with a few modifications. Most companion bird species are prey species in the wild, and therefore keeping them away from hospitalized dogs and cats is preferred. Working spaces should be safe with proper attention given to disinfection and biosecurity. With a bit of knowledge and common sense and a small amount of additional equipment, most general practices can be modified or adapted to provide comprehensive medical and surgical services for avian patients.

Reception and waiting areas

Many clients seem oblivious to the fact that their birds can fly and that curious dogs may also be waiting to be seen and so do not confine their birds to a carrier when they enter the veterinary practice. Some reception areas have vaulted ceilings or ceiling fans, which pose major risks for injury or escape for the bird. Instruct your reception staff to tell clients when they first call to make an appointment that they must have their bird confined in a carrier or other suitable enclosure when they come in. If they still show up without their bird confined, the reception staff should escort them to an exam room if one is available, or provide the client with a temporary kennel or small cage for the bird.

Client and patient forms adapted for the avian patient should be available. Consider providing an avian patient questionnaire to gather basic information about each bird, such as source, caging, diet, and other care and husbandry.

Not everyone agrees on what or how much to sell to clients in the reception area. However, if you recommend a certain diet, such as a specific pelleted food, and the owner cannot go home with it, they are far less likely to go out and purchase it after they return home.

Exam rooms

A standard veterinary examination room equipped for the canine or feline patient will generally work well for the avian patient. The room should be adapted to be free from risks of injury or escape. Exam rooms without windows are preferred, so that the lights can be dimmed to collect smaller birds from their cages and for ocular exams. Avian-oriented reading materials for clients such as magazines, books, and brochures should be made available. The room can be minimally stocked for exams and minor procedures. A digital gram scale that can weigh in 0.1- to 1.0-gram increments is strongly recommended.

Grooming equipment

Grooming procedures are commonly requested by bird-owning clients. The minimum equipment recommended for grooming includes cat and dog toenail clippers, human fingernail clippers, human toenail clippers, styptic powder, light duty and heavy duty suture scissors (for cutting flight feathers), and an electric or battery-powered rotary hobby tool (eg. Dremel; flex shaft and adjustable chuck strongly recommended). At our practice, we often use an Avstraint wrap (www.avstraint.com) to immobilize the wings for exams and procedures such as nail and beak trims.

Treatment and hospitalization areas

The hospitalization ward should be equipped with incubators designed for birds, capable of delivering controlled heat and oxygen. Popular incubators include the Avian Intensive Care Unit and the Lyon Pro-Care Systems (Lyon Technologies, Chula Vista, CA, USA) and the Nursery Hospital Brooder (Freed Enterprise, Wichita, KS, USA). Suitable perches and food bowls should be provided for incubators and stainless steel cages. Incubator humidification should be available for juvenile birds. A nebulizer (air compressor or ultrasonic) is recommended for treatment of certain respiratory diseases. Spinal needles (eg. 22-gauge, 1.5") and hypodermic needles are often used for intraosseous catheterization. Smaller gauge IV catheters, such as 24-gauge and 26-gauge, should be available. Ball-tipped curved stainless steel feeding tubes of varied sizes are helpful for tube feeding. Microchips (eg. Avid Identification Systems, Norco, CA, USA) are often implanted for the permanent identification of companion birds. A set of avian Elizabethan collars (eg. VSP Avian Restraint Collar & Extension, Veterinary Specialty Products, Shawnee, KS, USA) or foam neck collars (eg. cut sections of foam PCV pipe insulation) should be accessible for self-mutilating birds

Isolation

There should be a location in the hospital available for the hospitalization of birds with confirmed or suspected contagious diseases. This could be a room dedicated to the hospitalization of dogs and cats with infectious diseases such as canine parvovirus and feline panleukopenia. Equipment, disposables, and supplies should be separate for birds in isolation. Appropriate personal protective

equipment should be worn when birds in isolated are handled and treated. If at all possible, handling and care should be conducted by staff not involved with the care of other birds seen throughout the day, or delayed until after other birds are seen.

Nutrition

A small amount of various diets for birds should be available for hospitalized birds, such as common pelleted diets, seed and nut mixes, and treats. Diets useful for tube feedings should also be stocked, such as enteral formulas like Emeraid (The Lafeber Co., Cornell, IL, USA) or hand feeding diets for juvenile birds such as exact Hand Feeding Formula (Kaytee Products, Chilton, WI, USA).

Radiology and ultrasound

The small size of most companion birds dictates the need for high-detailed film-screen combinations or the highest detailed digital system available with the shortest exposure times possible. An exposure time of 1/60 (0.017) second or less is ideal. Tabletop techniques are preferred. Most practices are now equipped with digital radiography equipment. One significant benefit of digital radiography is that the image can be manipulated with post processing, avoiding the need for additional radiographic views for assessment of different anatomical regions. For ultrasound, transducers with a frequency between 7 MHz and 12 MHz and transducers with a small coupling surface (ideally microconvex transducers) are strongly preferred. Linear probes are occasionally useful for avian ultrasonography.

Laboratory

The avian laboratory should be equipped to perform fecal flotations, fecal wet mounts, cytology, and Gram stain. Lithium heparin and EDTA microtubes (eg. BD Microtainers, BD Diagnostics, Franklin Lakes, NJ, USA) should be stocked. Microhematocrit tubes and a microcentrifuge should be used for avian hematology to help minimize required blood sampling volumes. A modified Wright-Giemsa stain is most commonly used for avian hematology. In-house chemistry analyzers are useful for rapid diagnostic results. Analyzers that require a very low sample volume are strongly preferred, such as the VetScan VS2 (Abaxis, Union City, CA, USA).

Pharmacy

The pharmacy should be equipped with supplies useful for the extemporaneous compounding of medications, including a mortar and pestle, compounding solutions, and leak-proof and child-proof containers for holding and dispensing liquids. 0.50-cc oral dosing syringes should be available. Some examples of medications not yet available in a safe, commercially available formulations and commonly compounded in avian practice include enrofloxacin, metronidazole, fluconazole, tramadol, and enalapril.

Anesthesia and monitoring

By far, isoflurane is the most popular anesthetic gas in avian practice, although sevoflurane is also used. A variety of uncuffed endotracheal tubes ranging from 2.0 to 5.0 mm should be available. Pediatric uncuffed endotracheal tubes (eg. Cole-pattern, tapered tip) are popular in avian medicine. For very small birds, red rubber or clear polyurethane feeding tubes or intravenous catheters (with the stylet removed) can be fitted to an anesthesia adapter tip. Birds can be manually ventilated under anesthesia, although a small animal ventilator (eg. Vetronics, Bioanalytical Systems, West Lafayette, IN, USA) can also be helpful. Birds should be provided supplemental heat through a forced air warmer, circulating hot water blanket, or an infrared light while under prolonged anesthesia. Birds can be monitored by auscultation, Doppler blood flow and non-invasive blood pressure monitoring, pulse oximetry, capnography, and electrocardiography.

A crash kit should be readily available for emergency use. At a minimum, the kit should provide a variety of hypodermic needles, syringes, and IV catheters, 22-gauge 1.5" spinal needles, a small quantities of atropine, dexamethasone, epinephrine, and doxapram (if available). A species specific table of emergency drugs should be readily visible in the kit. All staff should know where the kit is located and the kit should be readily available when a bird is anesthetized.

Surgery and endoscopy

Magnification and optimal lighting are essential in avian surgery. Ocular loupes and operating microscope systems are suggested as magnification for performing surgery on smaller birds. Head lamps can be used to provide additional focused light. Clear surgical drapes allow visualization of the smaller avian patient in order to monitor respiration and patient positioning. The Lonestar Retractor System (CooperSurgical, Trumbull, CT, USA) allows delicate tissue retraction and surgical site visualization and is an excellent addition to the avian surgery toolbox. Ophthalmic and microsurgical instruments are popular in avian surgery. Radiosurgical equipment allows both tissue cutting and coagulation, therefore minimizing blood loss (eg. Surgitron, Ellman International, Hicksville, NY, USA). Laser surgery (CO₂ and diode) is popular with some avian practitioners. Tracheal endoscopy and laparoscopy are common diagnostic procedures in birds. A popular endoscope system is the Multi-Purpose Rigid Telescope (KARL STORZ GmbH & Co. KG, Tuttlingen, Germany).

Suggested reading

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