Avian Pediatrics

INTRODUCTION: *Veterinary continuing education is filled with discussions surrounding an infinite variety of illnesses and appropriate medical approaches for such. Less time appears to be spent on basic husbandry and veterinary participation in the care of "normal" animals. Increasing numbers of exotic pets presented to veterinarians have illustrated the tremendous need for information regarding the basic husbandry of exotic animals being kept as pets.*

Pet birds probably comprise the largest group of exotic pets. Years ago most parrots, macaws, cockatoos, etc. were imported as adults or juveniles. With these birds came problems associated with the stress and crowding experienced by the birds during quarantine. Now that importation no longer exists most birds supplied to the pet trade are bred within the U.S. and sold at the consumer level as babies. A large proportion of individuals acquiring these babies is grossly under-educated and inexperienced in caring for them. To add to the complexity, little information has been disseminated to owners or to veterinarians on proper handfeeding and weaning practices.

BASIC HUSBANDRY

The vast majority of avian pediatric cases presented at Avian & Exotic Animal Medical Center are the result of incorrect feeding practices. Many novice owners are told "the crop should be filled each time it empties until the baby becomes self-sufficient". Problems arise from the lack of a definition for "full crop" and a failure to recognize what constitutes reasonably "empty". Sometimes owners are simply directed to feed a certain volume a certain number of times each day. Novice owners will force babies to eat specified volumes at regular intervals regardless of the signals displayed. The weaning process exacerbates this scenario because weaning age babies have completed their log phase of growth and require substantially less nutrition than a younger bird. If babies are over-fed at this age they may not become hungry enough to desire other food. In some cases a baby will attempt to resist a feeding only to have the formula forced upon him. A struggle such as this often ends in tracheal aspiration of the formula with resultant aspiration pneumonia or asphyxiation.

Thirty years of personal experience has resulted in a feeding and weaning protocol which drastically reduces the number of feeding related problems. The maximum volume of formula that should be fed to any baby prior to actual weaning should approximate 10% of his body weight. The feeding interval (the length of time between feedings) is determined by the amount of time that it takes the crop to empty. An empty crop is defined as one in which little or no food can be palpated in the crop, although the crop may remain slightly pendulous. Once a day (preferably at night) the crop is allowed to remain empty for an additional 33-50% of the calculated interval, providing one longer period for complete emptying. For example, if the crop empties every 4 hours, the feeding interval would be 4-5 hours from 6 A.M. until midnight, with at least a six-hour period of time for extended crop emptying. This allows residual food (with increased numbers of bacteria) to be eliminated (and provides the

feeder with often-needed rest.) As the baby grows, the absolute (not relative!) volume will increase while the frequency decreases. Recent experience suggests that in some species it may be better to maintain frequency and decrease volume as babies grow. Most importantly, ***never should the volume per feeding exceed 10% of the baby's weight*.** As the baby matures a time will come where a feeding will be resisted. The baby may initially be responsive, but it will then resist and retreat. At that point, all feedings are permanently reduced in volume to the quantity consumed eagerly. When feedings are being administered three times a day, and the quantity is being reduced, solid food in the form of softened pellets or table food is introduced. Solid food will usually be consumed over the next 2-3 weeks allowing cessation hand feeding.

Failure of a baby to thrive with the above protocol often suggests illness. When a baby refuses food, it is critical to note the manner in which it resists. It is perfectly normal for a juvenile to act eager to eat then refuse food. He may accept some formula then spit it out and refuse any more. He may even run when approached. He simply has reached a plateau of growth where his nutritional demands are drastically reduced. This must be contrasted with the baby who is depressed, inactive, and shows no interest in food. Crop stasis is often accompanies illness in babies and may be the first indicator of a real problem. *A depressed baby bird demonstrating crop stasis is a medical emergency*.

Crop stasis is one of the most common legitimate reasons for the presentation of juvenile psittacines to a veterinary practice. While "sour crop" is the term most often used to describe the condition, rarely is the crop the problematic organ. The vast majority of babies presented for "sour crop" are actually experiencing illness unrelated to the crop. Lower gastrointestinal disturbances, chlamydiosis, bacterial septicemia, or metabolic diseases such as hepatic lipidosis are all examples of conditions that may present with crop slowing or stasis as a part of the clinical picture.

FIRST AID

The presentation of a sick psittacine baby is often featured by the presence of a large pendulous crop full of spoiled hand-feeding formula. The term "sour crop" is descriptive of the condition of the crop contents at presentation but rarely is it a disease in itself. Food that has stagnated in the crop spoils similarly to food which has remained sitting unrefrigerated in a warm environment for several hours. The bacterial density of this formula becomes excessive while bacterial toxins accumulate. Regardless of the reason for the stagnation the spoiled food becomes a significant source of pathogens and the toxins produced by them. In order to stabilize the patient this material must be removed.

In most patients the spoiled formula can be removed through a feeding tube passed orally. Depending on the particle size of the formula, either a standard red rubber or a ball-tipped metal feeding tube can be introduced into the crop. The crop contents can than be aspirated by direct suction. It is sometimes necessary prior to aspiration to thin the spoiled material by introducing warm water or electrolyte solutions into the crop. The contents can then be mixed by palpation and aspirated. It is important to palpate the tube in the crop during aspiration to prevent the crop wall from being suctioned against the end of the feeding tube. Once the crop has been reasonably emptied it should be lavaged by

repeatedly filling it with a warm balanced electrolyte solution, massaging the crop and mixing its contents, and aspirating the fluid until clear.

The vast majority of babies presented for crop stasis will be moderately to severely dehydrated. The lack of fluid intake from the static crop combined with the continued high fluid losses that accompany much pediatric illness results in fluid deficits that can be life threatening. Once the crop contents have been removed it is necessary to tend to the fluid needs of the patient. Handling a baby with a full crop to administer I.V. or I.O. fluids can easily precipitate regurgitation with subsequent tracheal aspiration. Subcutaneous fluids may be beneficial prior to crop washing, but once the crop is empty I.V. or I.O. fluids are preferred.

Psittacine babies that have not fully feathered often require environmental temperatures of 29°-32°C (85°-90°F). Those that are ill are even less able to thermoregulate. Care should be taken to provide hospitalized pediatric patients with adequate environmental heat. High humidity should be maintained to avoid contributing to dehydration.

Pharmaceuticals other than broad-spectrum antibiotics are not usually indicated in the initial care of pediatric illnesses. Regardless of the primary etiology, the bacterial overgrowth in the crop and the remainder of the gastrointestinal system (GI) must be addressed. While antifungals may ultimately be useful, antibacterials are far more urgently needed in acute pediatric illness. Occasionally antifungals may prove to be more appropriate, but rarely is fungal pediatric disease acutely fatal, whereas bacterial illnesses are often rapidly fatal if not quickly addressed.