



THE CENTER FOR

# BIRD & EXOTIC ANIMAL MEDICINE

## PSITTACINE PEDIATRICS

The popularity of parrots as pets has led to a large increase in the number of parrots being bred in this country. As a result many practitioners are faced with providing care for very young psittacines being reared by inexperienced parents (both human and parrot). Most problems in psittacines chicks are management related which may be difficult to determine when presented with an acutely ill chick in the examination room. A thorough history, labwork and often a housecall to the premises is necessary to resolve current and prevent future problems. The high monetary value of many psittacines chicks can be used to justify such an extensive workup. Saving even one chick per year will often cover any veterinary expenses incurred.

Despite extensive education and numerous commercial psittacine diets and handrearing formulas, **nutrition** remains the number one problem in rearing psittacines. Parents are often fed nutritionally incomplete diets (too low in vitamin  $\sim 3$  and calcium, unbalanced protein) or they are able to pick and choose when offered a nutritionally complete diet such that they may consume only a few items. This leads to poor nutrition within the egg which results in dead in shell chicks or weak chicks. A chick that does not beg does not get fed. Chicks being parent reared on these diets often die after the first week or two with an empty crop and few other lesions leading many clients to incorrectly believe the parents "starved" the chick to death. Chicks handfed from day one from these eggs often exhibit slow growth rates despite correct hand feeding formulas and techniques and may become stunted. Clients should be encouraged to limit seed and feed fruit, vegetables and pelleted or kibbled diets to their breeders. Vitamin and mineral supplements should be provided in the food if pellets or kibbled foods are not the predominant food item fed.

There are numerous commercial and homemade hand feeding formulas for chicks. Most formulas are capable of rearing healthy chicks in the right hands. Unfortunately most clients are inexperienced and often have difficulty in raising chicks with simple commercial formulas let alone complex homemade ones. The nutritional requirements of growing psittacine chicks have not been determined however most do well on a diet of 16 .22% protein, 4 .16% fat and 0.5 .1.0% calcium. The percentage solids should be around 25%. In my opinion most commercial diets are too low in fat and too high in calcium. Because most homemade formulas are complex and their true nutritional content unknown, I recommend my clients feed either a commercial formula (often with some added fat) or to use a good quality dog kibble that can be ground in a coffee grinder or blender. The brand I usually recommend is Hill's Science Diet Canine Maintenance or Canine CID. I advise them to grind only a few days at a time and to store the ground food in the refrigerator. The ground food can be mixed fresh for each meal with warm (100 .110 F) tap water in a 1: 2 ratio. Any leftover food must be discarded as it will become contaminated with bacteria and yeast despite good hygiene and refrigeration. Because the food is not cooked there is no chance for crop burns from too hot food. Since the food and water is measured each time there is no chance the client will feed a formula that is too thin or thick. Remember the thickness of the hand feeding

formula is more related to how long it was cooked than to the percentage solids. The term “cake batter” thickness should be discarded because it can describe a diet that is as little as 5% solids or as high as 50% solids neither of which will produce a healthy chick. Chicks being handfed from day one require a more liquid diet for the first two or three days.

Hand feeding syringes and pipettes should be cleaned and disinfected or discarded after every use. Thorough cleaning in hot soapy water followed by immersion in a good disinfectant (Wavicide, Quatricide or Roccal-D etc.) for the recommended period of time and then rinsed and dried works well for most breeders. Each chick or group of chicks should have their own feeding utensil for each meal. Chicks should be fed as soon as their crop is nearly empty throughout the day. It is not necessary to feed during the night except in a weak or stunted chick. Chicks should be weighed regularly (every morning during the first week then once or twice a week thereafter) and their weights compared to growth charts to insure consistent and adequate growth.

Psittacine chicks are altricial and require an external heat source until they are three to six weeks old. Very young chicks should be kept in a thermostatically controlled brooder where the air temperature remains at 90 . 95 F. Older chicks can be kept in aquariums overlying heating pads on low provided adequate bedding is provided between the chick and the hot glass. Inadequate or variable heat results in weak chicks, slow growth rates and poor digestion. Sick or stunted chicks require higher temperatures for their age than do healthy chicks. Groups of chicks kept together require less heat than chicks kept separately. Overheating may be a problem in older chicks or groups of chicks. Humidity should be provided for all young chicks and older chicks in dry climates. Young chicks should be kept on paper towels or tissues. Older chicks can be kept on shavings, shredded paper, diapers or towels. Stunted, thin or sick chicks should not be kept on wood shavings as they have a tendency to eat them. Single chicks should be kept in small containers with upright sides to prevent spraddle legs. The client should be instructed to wash their hands with a disinfectant soap (Dial works well) prior to handling any chick and between groups of chicks. Incubators, brooders and containers should also be disinfected between groups of chicks. Each chick should be examined by the client at least once a day to check for potential problems. The legs should be straight and properly positioned. The mouth and tongue should be clean and moderately dry. The crop should be soft not doughy, lumpy or pendulous. The skin should be light pink to yellow. The feces should be well formed with a small amount of white urates and a small, slightly yellow urine ring. The chick should sleep soundly between feedings and not beg incessantly. The feet and beak should feel warm.

There are numerous congenital, acquired, infectious and nutritional problems that can affect chicks. It is beyond the scope of this paper to cover them all. The most commonly encountered problems are presented below.

- Sour crop . A slow or static crop usually indicates some type of gastrointestinal disturbance. Vomiting, especially in a young chick not close to weaning, may occur if serious intestinal or liver disease results or if the crop becomes obstructed. Causes include too cool of an environment, too thick (concentrated) or fatty food, dehydration, chronic malnutrition, gram negative bacteria, candida (fungal), Chlamydia (psittacosis) and polyomavirus infection, foreign body (wood shavings, seed hulls) ingestion, a pendulous crop and crop bums.

*Treatment* . Increase temperature, proper diet, increase carbohydrates, add enzymes to diet, appropriate antibiotics or anti-fungals and fluids or supportive care.

- **Spraddle leg** . One or both legs splay to the side or rear. Causes include inadequate nesting material, a single or first chick, **too** smooth a brooding surface (slippery newspaper and paper towels) and containers that are too large for the chick or have sloping sides.

*Treatment* . Tape both feet to a solid brace so that the legs are properly positioned and house in a small, straight sided container. Change tape frequently. Best if treated the moment a deviation is first noted.

- **Stunting** . A chick that is not keeping up with known growth rates for that species. Eventually the head enlarges and the legs and wings grow spindly. The crop may be pendulous and there is little body fat resulting in a red, wrinkled dehydrated looking chick. Causes include too cool of an environment, too little or too much solids in the diet, unbalanced diet, too little food or
- infrequent/ irregular feeding, bacterial and fungal infections (not a major cause usually
- secondary).

*Treatment* . Increase temperature, proper diet with enzymes and increased carbohydrates, increase frequency of feedings, crop bra, treat secondary infections and provide supportive care and fluids as necessary.

- **Pharyngitis** . Ulcers and white, gray or yellow plaques in the mouth. Food and debris may accumulate inside the beak and thick mucus may occur on the tongue. Causes include gram negative bacteria and candida (yeast) from stored or reheated food, inadequate disinfection of feeding utensils, brooders and hands, damage to the oral mucosa from feeding utensils, food that is too hot resulting in burns, contaminated water and malnutrition.

*Treatment* . Appropriate anti-microbial therapy.

- **Crop burns** . Slow crop, reluctance to eat, discoloration and/or swelling of the neck and crop. Eventually a hard scab develops over the burned area which may rupture allowing food to escape to the outside of the body or rarely to accumulate between the skin and the crop. The latter nearly always results in death.
- *Treatment* . Surgical removal of the burned tissue and suturing the remaining crop and esophagus closed. Anti-microbials therapy may be necessary and surgery may need to be repeated.