



# Avian Wellness

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The Standard of  
Veterinary Excellence

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## **The Importance of a New Bird Exam**

The most important part of a new bird veterinary visit is the physical exam itself and the bird-care information acquired from your avian veterinarian. The physical is the starting point in determining that your new acquisition is healthy. Eyes, ear canals, oral tissues, upper respiratory tract, skin, feathering, musculature, abdominal palpation, heart and lung auscultation and vent/cloacal exam are all part of the physical examination. Along with the exam, bird owners are educated on the importance of proper nutrition and suggestions regarding avian behavior and environmental enrichment are discussed.



Your pet may appear to be bright and alert during its physical exam, but looks can be deceiving. So, we often get asked what type of lab tests we recommend as part of a new bird exam. The answer really depends on the species of bird and whether your bird is going to be in a single or multi-bird household. Laboratory tests can help determine the true health status of your bird, ruling out various viral, bacterial, fungal and internal organ diseases.

With a new bird evaluation we recommend a fecal exam to check for parasites, abnormal bacteria or yeasts. We also recommend bloodwork which checks red and white blood cells, protein, liver values, kidney values, calcium, phosphorus, glucose, electrolytes and cholesterol. Testing for Chlamydia (also known as Chlamydiosis or Psittacosis), a bacterial disease prevalent in birds, is always a good idea. Testing for Polyoma, a virus that is highly fatal to young birds less than 16 weeks of age is recommended in certain highly susceptible bird species such as Macaws, Conures, Eclectus, Lovebirds and Caiques. Testing for Beak and Feather Disease (BFD), a virus that suppresses the immune system and causes abnormal feather growth, is only recommended in Old World species such as Cockatoos, Eclectus, African Greys and Lovebirds. New World species such as Amazons and Macaws are not susceptible and therefore can forego testing for BFD. Pacheco's, a herpes virus that can cause sudden death as a result of severe liver pathology, really is only seen in aviary set-ups; therefore testing for this disease is only recommended in those birds destined to be breeders.

It must also be kept in mind that the physical exam and thorough laboratory testing is not a 100 % guarantee that your new bird is disease free. As a result, a minimal four-week quarantine period should be followed before introducing your new bird to birds already in the household. The quarantine period is recommended because if your new bird is carrying a disease, it will become obvious during the first month of ownership and not spread to the preexisting birds.

Since all this testing can be expensive, the doctors at Pet Care Veterinary Hospital recommend you consider splitting up your new bird exam into two or more visits. This way expenses can be budgeted out and your avian veterinarian can spend more time going over such important topics as avian nutrition and behavior. It is our goal that you and your bird share a lifetime of love, companionship and health. The best way to achieve this is by doing things right from the start.

## Feeding Your Pet Bird



“You are what you eat” has been an old saying used for decades in alluding to human dietary choices. This expression holds true for our avian friends as well, and is especially fitting as malnutrition is very common in our pet birds and the underlying cause of up to 75% of the illnesses we see.

**Why is this?** Probably this is due to the fact that many bird owners are unaware they are feeding a poor diet and also unaware of the clinical signs associated with malnutrition. As well, long term nutrient deficiencies may take years until they result in health problems. Traditionally, birds have been fed a mixture of seeds and nuts because they are inexpensive, convenient to feed and birds eat them readily.

Unfortunately they are also very poorly balanced when it comes to total nutrition. Seeds are high in fat and play a decisive role in the development of avian obesity (yes, birds can be overweight!). As well, most seeds are deficient in a number of essential nutrients; vitamins, amino acids, and minerals.

**I feed a “fortified” seed diet with added vitamins, isn’t this enough?** Many bird owners feed a ‘fortified’ seed diet that contains added vitamins or pellets in the mixture. However, birds don’t eat the outer shell of the seed; they crack them open and eat the inside, which means they are not getting the ‘fortified’ part of the seeds. Also many birds pick out and eat a few of their favorite seeds within the seed mix and leave the rest behind. Not only is this wasteful, but these poor eating habits increase the malnutrition problem.

**What do birds look like when they are malnourished?** In malnourished birds the skin becomes flaky, dry and may even develop sores and ulcers. Feathers often have insufficient blood supply and as a result birds molt less frequently; consequently their feathers wear out and appear tattered and dull in color. In addition, the feather sheath may be retained; resulting in over-preening and with time, feather picking may ensue. The beak lacks its normal smooth, glossy appearance and may be flaky, rough and overgrown. The scales on the legs and feet may be dry or rough and the underside of the foot may become excessively smooth with possible progression to calluses and ulcers. With regards to behavior most birds respond to nutrient deprivation with aggressive appetites – chewing up their environment (wood, plants, toys, etc.) – in an effort to seek the protein, vitamins and minerals they are missing in their diet. They may also become irritable, inactive and nippy.

**So what can you do as a bird owner to prevent this all-too-common malnutrition scenario?**

For young birds, start off with a healthy diet from the beginning – before a seed addiction starts. For mature birds established on seeds, you need to use persistence and patience in converting your bird to a healthier diet. Just like we feed dogs and cats a kibble diet which contains 100% nutrition, we recommend the same for our avian friends. Some examples of good quality, well-balanced avian pelleted diets that provide 100% nutrition include: [Harrisons](#), [Lafeber](#), [Roudybush](#), [Mazuri](#) and [ZuPreem](#). The companies behind these brands have taken great lengths to research the nutritional needs of pet birds and develop a well-balanced, palatable pellet. In most cases these pellets can be fed free-choice, meaning they can be left in the food dish and offered at all times. We are currently recommending that 80 – 90% of needed calories be met by feeding pelleted diets. Be patient and anticipate that a conversion to pellets may take anywhere from 4-6 weeks. Monitoring your bird’s weight is important during this dietary conversion to ensure that excessive weight loss does not occur. Ask us about tips on converting birds to pellets.

**What foods should I NOT give my bird?**

- Chocolate
- Caffeine
- Avocado
- Alcohol
- Peanuts
- Apple seeds
- Stone fruit pits
- Raw dairy (milk, fresh cheese, ice cream)
- Raw onions
- Rhubarb
- Raw mushrooms
- Salty items
- Junk food
- Beef

**What can I offer my bird as a treat?** Many bird owners want to offer their pet birds a food treat as a way of signaling love or as a training tool while working on behavior modification and communication. For these moments a special treat such as a few seeds, millet or other food reward is just fine. Remember however this is a reward fed in limited quantities. Too many treats may discourage the eating of nutritionally complete pellets.

**What about supplements?** Our recommendation here is to stick with something natural. Some birds need more Vitamin A for healthy oral and upper respiratory tissues. Try high Vitamin A content vegetables such as carrots, sweet potatoes, pumpkin, yellow squash, escarole, collards and parsley, or fruits such as cantaloupe, apricots and papaya. For more protein, important during growth or healing, consider cooked beans (pinto, kidney, navy, etc.), hard-boiled egg whites, or pieces of cooked chicken. For egg-laying females and birds healing from fractured bones the extra calcium needed can be obtained from almonds, ground oyster shell or cuttle bones. Bird supplements such as Sunshine Factor and Bird Booster are available from Pet Care Veterinary Hospital. Just a reminder; Fruits, vegetables, and homemade diets with moist ingredients tend to spoil easily and should be replaced daily.

**Just a word about water:** Birds like to use their water bowls to dunk their food or even to take a bath in. As a result, water bowls need to be changed and cleaned daily and in some cases several times a day. Some bird owners have trained their pets to drink from sipper bottles, which limit soiling of water.

## Avian Behavior and How It Relates To Problem Behaviors



All birds sold into the pet market are now domestically bred and raised. As a result, birds have never been exposed to their wild flock counterparts. These young birds are expected to learn social interactive skills from the human “flock” they have joined. The types of physical contact and interactions that occur during this socialization period are many times based on our companionship and interaction classically associated with man’s best friend, the dog. Young pet birds are frequently cuddled and petted, often for hours at a time without other types of

interactions that ultimately may be essential for balanced social development. As a result young birds are taught only one form of social interactive skill, as opposed to the typical array of social skills that would have been taught by parents of their wild counterparts.

There are two general categories of avian behaviors: self maintenance behaviors and social behaviors. Self maintenance behaviors are aimed at accomplishing a task that maintains the physical condition of the bird such as: food gathering, feather care, flight, nest building and territorial protection. Most parrot species are highly social and communicate information through complex signals. Examples include; crest raising and pupil dilation to communicate “this is my space- get out of here”, and mating dances to display sexual receptiveness. In the typical cage-bird setting we suppress self-maintenance behaviors by providing birds with adequate food, shelter and a safe environment free of predators. As a result, an abnormal pair-bond forms where the bird’s owner becomes the bird’s significant other or mate.

Many avian “problem behaviors” including chronic egg laying, territory aggression, and displacement behaviors such as screaming when separated from the human mate and feather picking have all been associated with triggering cues. There are both environmental and mating behavioral cues that can stimulate reproductive activity. Environmental cues include; photoperiod (amount of light and dark time a bird receives), adequate food supply, the presence of nesting material and the presence of a mate– real or imagined. Mating behaviors include regurgitation, nest site inspection, feeding and mutual preening.

To discourage behavior problems you should first remove any environmental triggers to reproductive behavior such as nest boxes, nesting materials such as shredded paper or wood shavings and avoid exposure to long periods of artificial light late into the night (12-14 hours of darkness is preferred for healthy birds). Next discourage all regurgitation and masturbatory behavior. Finally, change bird interaction from cuddling to game playing and training sessions which can be fun and entertaining for both bird and owner alike.



## **Feather Picking ~ Why Is My Bird Pulling Out Its Beautiful Feathers?**

The feather picking or plucking bird can be identified by the presence of healthy head feathers with feather loss and/or mutilated feathers in body areas accessible to the bird's beak. If feather loss on the head is observed, the bird may be rubbing the feathers, another bird may be picking the feathers off, or a disease other than feather picking is the cause. Typical feather picking sites include the propatagium (inner wing web area), inner thighs, and the chest. Diagnosis is based on detailed history provided by the bird owner, a physical exam and recommended laboratory tests that may include an exam of the droppings, blood profiles, radiographs, culture, and biopsy of affected skin areas.

**History** Dietary history is especially important - type of diet, amount, what is actually eaten, and how often. Also your veterinarian will want to know how long the bird has been showing feather picking behavior, time frame of when this behavior first started and progression of lesions, previous treatment and its affect on the feather picking behavior. Any environmental or household changes that one can associate with the onset of the feather picking would also be helpful information. All this information is important to find out if it is behavioral or medical causes.

### **Behavioral Causes of Feather Picking**

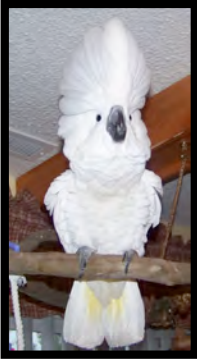
- **Boredom:** As a household pet a bird may have little stimulation, especially during the day. Lack of routine may also contribute to picking. Some feather picking birds will stop picking when given stimulation or when rules or routines are established.
- **Crowding:** Overcrowding in a cage or aviary may stimulate feather picking. Housing with multiple birds or in an environment with too much cage 'furniture' or too many toys may create stress.
- **Dominance:** Dominant birds may pick feathers of subordinate birds that they share the cage with. In this situation feathers are picked from the top of the head of the subordinate cage mate.
- **Environmental change:** It is not uncommon for feather picking to be initiated by a change in the bird's normal routine or environment. Changes may include a move to a new house, moving the cage set up to a new room, taking an object out of, or placing a strange piece of furniture or decoration, in the bird's room, and new people or pets coming into the household.
- **Exaggerated Grooming.** Preening is a normal activity that involves cleaning and rearranging the feathers. Over preening can lead to feather picking.
- **Nesting Bird Ready to Clutch:** It is common in some species for birds to line the nest with feathers. This is normal and is seen only at nesting time.
- **Poor Wing Clip:** Especially if the feather ends are sharp or uneven. These may rub against the body and initiate picking behavior.
- **Reproductive Frustrations.** Especially during breeding season, feather picking may be caused by exaggerated or frustrated courtship rituals.
- **Trauma:** Birds may pick excessively at the site of an injury.

### **Medical Causes of Feather Picking**

- Allergies. Current research has determined that many birds suffer from allergies. The same pollens and environmental irritants that affect people may also affect birds. Cigarette smoke may also serve as a skin irritant.
- Feather Mites: This is rare
- Skin yeast infections: Can be ruled out with skin biopsies or tape cytology preps.
- Internal Parasites: Giardia has been associated with itching and feather picking
- Environment: If the air is too dry, the feathers may become brittle and feather growth will be inhibited.
- Hypothyroidism: Rarely seen as a cause of feather picking but should be considered if the bird has thickened skin and feather loss.
- Internal Disease: Especially liver and pancreatic disease. Also Aspergillosis has been associated with feather picking behavior.
- Infectious Dermatitis, Folliculitis: Either bacterial or fungal skin infections may cause feather picking.
- Malnutrition: A predominant medical cause for feather picking. Chronic malnutrition especially fatty acid imbalances and vitamin A deficiency, will lead to scaly skin and dull ragged feathers.
- Neoplasia: Birds often pick over skin tumors.

There are many potential causes for feather picking which is why your veterinarian may recommend a variety of diagnostic tests in order to narrow the origin of the problem. If diagnosed with a specific medical problem treatment can be tailored to alleviate the condition and hopefully stop the picking behavior. If the bird is considered healthy on thorough examination, then the owner must focus on behavioral aspects that may be the cause. The bird owner must also realize that if this bird has been feather picking for an extended period (months to years) then it may be very difficult to reverse, and that as long as the bird is healthy otherwise it can live with the problem. Nutrition, cage environment and activity/play periods all need to be reviewed and modified if necessary.

## Controlling Biting, Screaming and Other Problem Behaviors in Pet Birds



### Methods to address biting or screaming behavior:

1. Keep written notes on the bad behavior to help identify cause(s). Was the bird protecting its territory or possessions? Did play excitement get out of control and result in a bite? Does the bird favor one family member over another and bite the favored persons spouse or family member?
2. Avoid circumstances that elicit aggression. Read and interpret animal body language - signals that say your bird is getting angry and ready to bite (pupils dilating, head feathers puffed up, rocking back and forth on the perch with beak open). Notice what actions encourage aggression or screaming and discontinue doing them if possible.
3. Do not attempt to “work through” the aggression by continuing to do what elicited the aggression and attempting to modify the aggressive behavior via negative punishments.
4. Divert the bird’s attention towards something else in order to get the bird’s mind off of aggressing or screaming. Example: change the bird’s location or environment.
5. Do not accidentally reinforce the loud or aggressive behavior by offering food rewards in order to stop and prevent more biting or screaming. In the case of repeated screaming behavior, walking over to the cage and yelling at the bird can actually be the attention the bird was seeking. Wait until the bird stops screaming or does something else, and then going over to the bird- this will teach the bird that “quiet” or other preferred behaviors can get the desired attention.
6. Ignore bad behavior/reward good behavior. Reinforce any behavior other than the bad behavior. The goal is that repeated positive reinforcement will result in the good behavior becoming second nature.

### Screaming

Parrots scream for a number of different reasons and the key strategy for addressing screaming is to try and determine why the parrot is vocalizing excessively in the first place.

Example: The companion parrot owner leaves the room and the bird starts screaming.

Why does this happen? The bird anticipates the scream will get a response from the companion parrot owner. If the bird does not get a response, eventually the bird will learn screaming does not work. It is very important that the pet bird owner does not do anything that can be interpreted as a response by the bird, even a nonverbal grimace. With patience the bad behavior will stop.

1. Ignore the behavior you do not like.
2. Reward behavior you do like.

While trying to ignore the parrot’s screaming the bird may offer another sound. If it does, and you like that sound, it should be responded to immediately. You can repeat the sound back, say “good”



or give some other positive reinforcement such as visual contact. Silence can also be rewarded; if the bird stops screaming for a few seconds, it is OK to respond to that period of silence but gradually delay responding until more time has passed and periods of silence increase.

### **Biting**

Parrots bite for a reason. Biting can occur when a bird is forced to do something it does not want to do or when it is trying to get a desired response.

Example: The bird is in its cage. The pet bird owner reaches in to have the bird step on to the hand and instead the bird bites the owner's hand. Why? The bird does not like what just happened: it may not want to step up; it may have felt that the hand came in too quickly, etc. The bird learns to bite in order to avoid being picked up.

1. Do not try to make your bird do anything he/she doesn't want to do. Biting does not have to happen if this simple concept is applied. By learning to recognize aggressive bird body language you can learn to stop doing whatever is causing that behavior.
2. Use positive reinforcement to make stepping up onto the hand something the bird wants to do.

Training a bird to step up onto the hand in order to receive a treat can occur in 1 training session (approximately 20 minutes). If the bird loses interest during the session, the session can be resumed and completed at another time. Getting to the end result is not as important as having the process be as positive as possible. The goal is for the bird to look forward to stepping up and thereby sees no need to bite.

3. During these reinforcement sessions give the bird a limited amount of time to step up as this will increase the likelihood the bird will step up when asked. If on occasion the hand is presented and the bird gives the body language that it does not want to step up (such as putting its head down or not lifting a foot to step up, etc.), then you can walk away and remove any training treats and try again later. The goal is that the bird will step up quickly without demonstrating any signs of aggression.

### **Bonding to One Person**

Problem: The parrot only likes one person and displays aggressive behavior toward other household members. Why? Bonding to one individual is a natural behavior for a parrot. Only the mate will be allowed into the territory and if another parrot approaches, that bird may be aggressively driven away. For the pet bird, family members are driven away from the person (perceived mate) to which the bird is bonded.

1. Modify interactions between the parrot and the person to whom the bird has bonded.

The bonded person usually is the one who typically has many positive interactions with the pet bird. All these interactions help strengthen the bond between bird owner and parrot. This attachment can be detrimental to helping the bird accept another person. While trying to create a better relationship between the bird and other people it is best for the bonded person to refrain from such friendly communications. The bonded person can clean the cage and put in fresh food and water; however, the less interaction the better.

2. Create positive interactions with other members of the household.

One way to help build a positive relationship is to have the new person drop treats in the bird's food bowl and then walk away. If done often enough, the bird will eventually look forward to the new person coming by with the reinforcement treat. This person can then try offering the treat to the bird through the cage bars. Eventually the reinforcement treat can be offered for stepping up on the hand as well as other cooperative behaviors. Many parrots are very territorial around their cage and it may help if the bonded person brings the bird to a place in which it is less likely to exhibit territorial behaviors. A new person can then enter the room and try the process of offering reinforcements in the new environment. This will create occasions in which the bird will receive positive reinforcements and form a constructive relationship with the new person. It is important to realize that it may never be possible for the new person to interact at the same level as the bonded person, but this strategy can help make an unbearable situation livable.

**Note:** The material for this section was taken from material presented by Barbara Heidenreich, BS at the 2005 Association of Avian Veterinarians. More resources on positive reinforcement training and parrots can be found on her website at [www.goodbirdinc.com](http://www.goodbirdinc.com)

## Implementing an Avian Training Program



Since “teaching” is lacking in our domestic pet birds, we must fill in the gaps by implementing a training program in which the bird learns and follows simple commands while owners establish their own dominance within the “flock.” By consistently requiring parrots to obey these commands, owners are firmly establishing the parrots in a subservient role. The owners have thereby assumed the role of flock leader. Once in that position of authority, the owner can enclose the young animal within a framework of clear and consistent rules. In doing so, the parrot’s confusion is resolved—its own rank

within the human flock is clearly defined.

As a general rule training is simple, logical, and easy to remember. The commands are Up, Down, Stay, and OK. Up is defined as “Step onto the human’s hand”. Teaching a bird to step up is not difficult: place your hand or a perch gently from the front against the breast of the bird, just above the legs, and say “step up” in a firm but friendly tone. This pressure typically triggers an instinctive reaction, and the bird usually steps right onto the perch or hand. Follow with lots of praise. Down is the opposite, defined as “Get off the human hand onto an inanimate object (such as a perch or cage)”. The step down request is delivered by placing the beak of the bird to the perch with your hand below the level of the perch, rotating your hand to encourage a transfer of weight to beak and initiating the bird’s step toward the perch with their foot. The pet bird that is willing to stay where it has been placed is more apt to enjoy “flock-type” interactions with their owners such as watching a television show, sharing time in the kitchen, or even enjoying time outside in the garden. The stationary perched bird is also more likely to be able to be trained to sing on command or learn to play with new toys. Ok gives the bird permission to do something that it wants to do, thereby making that decision the human’s decision, not the bird’s. The point of all the commands is control... by the human, not the parrot. These commands should be taught during short, upbeat lessons that are conducted daily in neutral territory—area of the house that the parrot does not consider to be its own. From then on, all household members that handle the bird must always use the same commands in the same manner.

In nature birds spend a significant amount of time searching for, harvesting and eating food. When we provide the pet bird with all its nutritional needs on an around-the-clock basis we remove one of nature’s key survival stimuli. Diet can be used as both a training tool and as a form of environmental enrichment. Studies have shown that toys that involve a food reward continue to be explored and played with for much longer periods of time than toys alone. Make birds search for their food by hiding pieces of your bird’s favorite food inside various toys or hiding food items in grass hay through which the birds forage. Reserve good tasting food items such as pasta, peanuts, shelled sunflower seeds or other table foods for training sessions as most parrots will be willing to work for them. The parrot that has these types of desirable items available daily in their food bowl is significantly less motivated to work for them. As a result, we recommend that birds be maintained on pelleted diets and that treat foods be reserved for training sessions.

Example of a training program session you can design for your bird:

**Birdie's Favorite Things**

1. Cheese
2. Pasta Noodles
3. Apple
4. Peanut Butter

**Ways These Are Earned**

1. Sings a tune
2. Fetches a small plastic ball
3. Learns a new trick
4. Plays with a new toy

**Rules of the Game:**

1. These food items are never offered in the cage or food bowl
2. They are always earned
3. No one in the family is allowed to bend these rules
4. Favorite things can change with time
5. Desired behaviors that earn rewards can be changed and modified

Other “tricks” you can teach your bird includes: doing pull-ups on a finger or perch, rolling over and “playing dead”, dancing, talking or singing.

In addition to training sessions it is important to realize that parrots that are left alone for long periods of time need a wide variety of interesting and challenging toys. Four basic categories of toys exist: climbing toys, chewing toys, foot toys, and puzzle toys. Climbing toys include plastic chains, ladders, swings and the cage itself. Chewing toys include wood and rawhide, raw pasta, and non-toxic twigs (herbicide and insecticide-free) with the bark left on, and empty paper towel and toilet paper rolls (no perfume). Paper towels tucked around the cage are also of great interest for shredding. Foot toys encourage manual dexterity. Puzzle toys are an important group, including parrot- style music boxes, boxes that hold food treats and even the C- clamps used to suspend other toys. To maintain high interest levels, the owner should move these toys around the cage, and rotate them in and out frequently.

Finally, it is important to keep in mind that environmental change can prove to be stressful for birds that have no experience with it. Parrot owners should introduce change into the lives of their parrots as early as possible. Considering that parrots are capable of extremely long lives—anywhere from a maximum of 18 years for budgerigars and 80 years for Amazons—change is inevitable in these long life spans. Therefore it behooves a parrot owner to teach their birds that change is interesting and non-threatening. In that way when change happens and it always does, it will be no problem for the parrot to adapt.

## Common Exotic Bird Toxins

**Pesticides** – these are a common source of intoxication for domestic pets and exotic pets alike. If your pet spends time outside, it is at risk for exposure to pesticides placed not only in your yard, but from run-off from adjacent yards or farmland. Herbivorous grazers and reptiles that eat insects from outdoors can ingest the toxins, but sometimes animals may become intoxicated from skin exposure alone. Always be aware of what your house and yard are treated with, as well as that of your neighbors. **DO NOT** allow your pet to graze or hunt if the safety of the food source is in question. If you are treating your pet for any external parasites (such as snake mites) with any of these products, **DO NOT** use them in conjunction with each other, especially products within the same class of chemical. Organophosphates, pyrethrins, and metaldehydes are all examples of pesticides.

**Avocado** – all above ground parts of this plant (*Persea americana*) have been shown to be toxic to mice, rabbits, and especially caged birds. Intoxicated mammals usually exhibit cardiac arrhythmias and sudden death. Birds may also show respiratory distress. We recommend avoiding avocados in the diets of all exotic animals.

**Toxic Fumes** – birds have the most efficient lungs in the animal kingdom, to support their high metabolisms. Unfortunately, this means that they are better at absorbing inhaled toxins, too. Several toxins that have little to no effect on humans will easily reach toxic levels for birds. These include, but are not limited to: polymer fumes in spray starch, aerosol spray propellant, paint fumes, cooking gas, carbon monoxide (car exhaust, water heater), burned or overheated cooking oil, butter, or food, self-cleaning oven fumes, cigarette or marijuana smoke, gas leaks, or any other material that emits fumes. Affected birds can get irritated lungs, coughing, sneezing, conjunctivitis and sinusitis, and become prone to secondary respiratory infections. Prognosis depends upon severity of intoxication, and may require intense supportive care, elimination of the fume source, and ventilation of the house.

**Teflon** – otherwise known as polytetrafluoroethylene, this is a synthetic substance used to coat non-stick cookware. Normally stable, Teflon can breakdown and emit acidic fumes at temperatures greater than 530 °F. This should not occur with normal cooking, but can occur if a pan is pre-heated, or if water boils out of a pot. Other types of Teflon coated cookware, called drip pans or burner pans, will normally reach temperatures greater than 650 °F within five minutes, and should not be used in households with birds. Again, since bird lungs are so efficient, this toxin will cause damage to them much very quickly. The gas causes hemorrhage and congestion of the airways, leading to difficulty breathing and sudden death. These signs are not unique to this disease process. Prevention is achieved by housing birds far from the kitchen, by not dry heating regular cookware, and by not using Teflon-coated drip pans.

**Heavy Metals** – both of these metals are present in many household settings, unbeknownst to the owner. Signs of heavy metal toxicity may include lethargy, depression, anemia, weakness, anorexia, weight loss, limb rigidity, diarrhea, vomiting, partial or complete blindness, seizures, and/or death. Birds, turtles, and mammals that chew or lick their environment are the most likely candidates for toxin ingestion. If heavy metal toxicity is suspected, a complete blood count and a serum chemistry should be performed in house. Radiographs (x-rays) should be taken, but not all heavy metal sources will show up on a radiograph (paint, for example). Blood samples can be sent off for analysis of lead and zinc if the diagnosis is still in question, but therapy should be instituted in the meantime if toxicity of either metal is suspected.

- A. **Lead** is absorbed in the gastrointestinal tract and stored in bone and soft tissues. Lead is absorbed more efficiently if the patient is young, or deficient in calcium, zinc, or iron. Common sources include, but are not limited to: weights (curtain, fishing, diving, aquarium plant), some aquarium thermometers, bells with lead clappers, shotgun pellets, batteries, computer USB cables, solder, stained glass, paints, (even some “lead-free” paints have lead drying agents), galvanized wire or mesh, glazed ceramics, linoleum, costume jewelry, mirror backing, and seeds for planting (coated with lead arsenate).
- B. **Zinc** is absorbed in the gastrointestinal tract and stored in various soft tissues, but not in bone. Common sources include, but are not limited to: hardware cloth, board game pieces, staples, galvanized mesh or wire, galvanized nails, twisty ties, some paints, some shampoos, zinc oxide ointments, Desenex cream, and pennies minted from 1983 on.

**Toxic Plants** – many household and garden plants can be toxic to animals if eaten in large quantities. While a complete list would be too large for this handout, look up or ask about plants that you purchase for your yard or house, limit pet exposure to unknown plants, and monitor pets while in the back yard. Please note that the seeds of several fruits (apples, apricots, cherries, peaches, plums, and jetberries) contain cyanide, and may be toxic. These should be removed before offering the safe parts of the fruits to your pet. Other toxic plants in the wild may include (but are not limited to) azaleas, rhododendrons, laurel, yew, castor bean plants, sago palms, holly, mistletoe, poinsettia, oleander, foxglove, lily of the valley, any calcium oxalate plant, ivy, tobacco, oak, and marijuana.

**Medications** – as Paracelsus stated long ago, “Dosage differentiates the poison from the remedy.” Many commonly used medications, including antibiotic, anti-fungal, and anti-parasitic drugs, can be toxic to your pets if given at improper dosage ranges. In addition, individual animals may have allergic reactions to specific classes of medication (these reactions are impossible to predict). Always store medications where all of your pets (and children) cannot reach them. Always give the amount of medication directed by your veterinarian, and call your veterinarian if you have any questions or concerns about a medication, a pet’s reaction to a medication, or a dosing regimen.