

Basic Pet Bird Care

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Introduction

Pet birds are totally reliant upon us for the proper environment and its maintenance for their well being. If the situation is unsatisfactory they are unable to fly elsewhere-it is our total responsibility, and a great one, as the life of a living creature is in our hands. Poor care can lead to sickness and death. Consideration must be given to the cage, the surroundings and all activities in that area. Birds are social animals and require a rich environment to do well. Birds learn to relate to people, and actually, when living in a cage situation, need people for socialization. Talk to the bird, whistle or sing to it. It cannot live well without socialization and interaction.

In the past birds have been considered to be of low intellect since their brain is tiny and has a poorly developed cerebral cortex (well developed in man). However, birds have demonstrated in test after test that they are capable of highly intelligent behavior, sometimes surpassing the abilities of mammals with greatly superior cortical development. Thus a pet bird should be considered more than merely an ornament. Adequate environmental stimuli should be provided for their intellect as well as interaction/affection for their emotional needs.

The Environment of the Bird

I. The Cage

A. Space/Size- It is the bird's "home" and should be pleasant as possible. The cage should be of the proper size for the variety of bird. Ideally speaking, no cage is large enough; however, gigantic cages are not necessary. The cage is the place to house the bird when the owners are away to keep it safe from harm. The bird should spend large amounts of supervised time outside of the cage so the cage should be of a comfortable size during the periods when it is being caged. There should be adequate space for exercise. Room for multiple perches is important in small birds, as they tend to flit from perch to perch, especially finches and canaries. Large birds benefit from adequate room and more than one perch to enable more activity in the cage. There is the potential for injury if the cage is too small. In addition, a cage of improper size can lead to battered wing tips as well as damage/fraying to wing and tail feathers. It is truly a shame to see the damage done to the beautiful tail of a macaw if it is placed in an inadequately sized cage.

B. Cage Construction- The cage should be constructed of a material suitable for the type of bird. It must be of sturdy construction for the larger birds as they can easily dismantle a cage designed for a smaller bird. Proper bar spacing is very important, particularly when a smaller bird is placed in a large cage. Too wide of bar spacing could lead to escape, or worse yet, trapping of the head between the bars. It is a good idea to check the cage for any sharp edges or projections that may pose a hazard. Larger birds will damage a cage over time so it is recommended to be on the lookout for any loose or bent pieces of metal, which could cause injury.

The material used in the construction of the cage should be non-toxic. If the cage is wood or is 'home-made,' make sure that the wood has not been treated with wood preservatives as they have the potential to be poisonous. Psittacine birds have a great need to chew so that over time there is the potential that they may acquire sub-lethal levels of toxic components. Some toxic preservatives include, creosote, bitumen paint, naphtha compounds and pentachlorophenol to name a few. If a preservative is to be used be sure it is non-toxic. Avoid materials containing lead, such as solder or lead-based paint. That old cage from Grandpa's attic that had been repainted might have been repainted with lead-based paint.

If galvanized metal is present in any of the components of the cage be aware of "new wire disease" which is a frequently encountered heavy metal poisoning caused by the zinc in the wire. Galvanized wire and clips

used to construct cages or galvanized containers and dishes which are not properly treated, are common sources of zinc. The white rust on galvanized metal is also toxic. The brighter or shinier the metal the more zinc is present. Scrubbing the galvanized metal with a brush and a mild acidic solution (vinegar) may be helpful by removing some of the 'loose' zinc, reducing but not totally eliminating the risk. Birds suffering from new wire disease may show GI problems, drink and urinate excessively, lose weight, exhibit weakness, anemia, cyanosis and seizures. Zinc toxicosis has been implicated as a cause of feather picking in some birds. Taking a blood sample and checking for zinc levels can confirm the disease. Most often the diagnosis is made through the clinical signs coupled with exposure to an improperly treated galvanized surface. Clinically and radiographically zinc toxicity is difficult to distinguish from lead poisoning. Fortunately the treatment for both conditions is the same, CaEDTA, an agent that 'chelates' or combines with the metal in the system to prevent further absorption.

C. Height-There should be the availability to climb to a high perch, preferably outside the cage. A bird feels secure in higher positions and likes to assume a dominant position above where it is less threatened. A frightened bird will go as high as possible to reach a position of safety. After taming this is less evident, except for instance, if strangers are around. With birds that are very aggressive and dominant it may ease some of the aggression if the bird is not allowed to achieve the higher 'dominant' position.

D. Privacy-Some birds prefer having a retreat where it cannot be seen. Partial covering of the cage or a box inside the cage may help. This is especially important with new and nervous birds.

E. Freedom-Freedom is of extreme importance for birds. It is recommended that definite periods of time are set aside daily to allow the bird to have freedom outside the cage. Some cages are designed so that they can be opened on top or allow the placement of a 'playground' on top of the cage. A perch or T-stand where the bird is outside the cage and can interact is also recommended. Cages are needed but only to keep the bird safe from dangers. Pet birds should be out of their cage whenever the owner can be sure the bird is safe (wing clipping may be useful if a bird tends to fly and get into mischief). Ideally, this would be when the owner is home and would allow the bird 1-4 hours or more outside of the cage.

Detrimental consequences are seen in birds that are continually caged. The solitary confinement of cages blocks opportunity for the types of stimuli needed for mental health. Continuous confinement of cage life encourages abnormal behavior. Life becomes a series of routine activities that become so well established that change is not accepted. Birds in cages seldom have a chance to socialize/interact. Caging narrows the bird mentally and thus has the effect of taking away its friendliness, curiosity, activity and gradually dulls its inclination to socialize, to eat a variety of foods and take proper care of its feathers. As a bird becomes tame, the fear of people gradually diminishes and disappears. The need to escape lessens. Birds out of their cage are more apt to become extroverted. They happily greet people, perform tricks and show off. Feeding is more natural and new foods are accepted more readily. All of the bird's activities, feeding, vocalization, courtship and reproduction, sleep, body care and resistance to disease flourish with freedom. When the bird becomes self-confident and happy, the owner can realize its full potential as a pet.

II. Cage Accessories

A. Perches-The bird spends its entire life on a perch. Some thought should be put forth on providing the quality and type best suited for the particular variety of bird. The goal should be comfort and prevention of foot problems. The perches should be made of an easily washable material and thoroughly cleaned regularly. They may either be scraped or washed.

Diameter-.A bird with all perches of the same diameter is likely to develop foot problems. Birds do not form calluses on the bottom of their feet in response to wear; rather the scales thin, develop pressure sores and eventually ulcerate leading to 'bumblefoot.' A variety of sizes seems advantageous so there is more even wear on the feet. It is recommended to use both large and small diameter perches. Flat perches are advantageous for smaller birds. If a bird has thinning scales in the middle of the feet then the perch diameters are all too small and larger diameter perches should be provided. If the scales are thinning on the underside of the hock (ankle) then the perch diameter is too large and smaller diameter perches should be used.

Types-Many different types of materials can be used for perches. Common perches include plastic perches (usually used for small birds), dowel rods, flat perches, swings, string, clothesline, padded perches, rope perches, rubber tubing, PVC pipe and sticks or branches from outside. Branches from the outside make great perches; however, they should be from non-poisonous plants and well scrubbed. Care must be taken if the branches had been sprayed with insecticides/herbicides, as even tiny amounts could be lethal to a bird. Due to the risk of bugs, the branches can be prepared by heating in the oven at 250 degrees for 10 minutes. Birds like to chew on their perches so bark is eagerly peeled from branch type perches. If a bird is an avid perch chewer, homemade perches can be made from untreated white pine wood from the hardware store or lumberyard. It is a hard enough wood that they cannot chew through it too quickly but not so hard that they cannot chew it at all.

Hard and soft perches-Birds in the wild do not sit on the same diameter hard perch. Be certain a soft perch is available, such as rubber tubing, rope or padding a perch with paper towels or moleskin.

Non-rigid perches- They help absorb the shock/impact of the bird's landing. Swings, branches/twigs, or a hose/tubing composed of soft rubber or soft plastic are good non-rigid perches. This is especially important in small birds that hop from perch to perch in a frantic manner such as finches and canaries.

Perch covers-Sandpaper perch covers do nothing for the bird, as they do not wear down the nails and may actually be irritating to the feet.

Cement/Coarse Perches-These perches are helpful in keeping the beak and toenails from becoming overgrown if the bird uses the perch. It is recommended that only one of these perches be in a cage as its coarse nature could be irritating to the bottom of the feet if the bird spends too much time on these perches. If cement/coarse perches are used it is recommended to check the bottom of the bird's feet for thinning scales or redness.

B. Cage papers- Paper is recommended for use on the bottom of the cage as the droppings are more easily monitored as to their number and appearance. Carefully checking the droppings and watching for any unusual changes is an effective means of early detection of possible disease conditions. If corncob or wood shavings are used as bedding an extra special effort should be made to periodically monitor the droppings as they will become lost in the bedding. Quite often this bedding is not changed frequently enough and could be a source of infection. The bedding must be from a reputable source. Dusty/dirty bedding may be a potential source for fungal (*Aspergillus*) or bacterial (*Klebsiella*) contaminants.

C. Nesting Material- Nesting material composed of fine threads should be avoided as it may wrap around the toes or legs and acting as a tourniquet, cutting off the circulation. This may lead to deterioration (necrosis) and loss of toes. The birds most often affected seem to be finches and canaries. Cedar chips and other aromatic woods in small nesting boxes may be hazardous. The aroma is too overwhelming in a small area and can be toxic, possibly leading to death.

D. Seed and water cups- The cups should be made of an easily washable material and manufactured from material that can withstand cleaning and disinfection. Ideally they should be cleaned daily to minimize bacterial contamination. The cleaning should be thorough; rinsing and merely running your finger around the inside of the cups is not enough. Dirty water cups may be one of the greatest sources of infection for pet birds. A clean and fresh source of water is so very important for the health of pet birds. Water that stands for several days will pick up bacterial contaminants from the surrounding environment. The addition of vitamins (some which contain dextrose as an ingredient) and other supplements to the water make it even more suitable for bacterial growth. The condition will worsen when bits of food or droppings are in the water. Too often cups have droppings in the food or floating in the drinking water. The food and water cups should have a cover or be shielded so that they are protected from fecal contamination. Strategic placement of the cups in relation to the perches can also be accomplished to minimize this risk as well.

E. Food- All foods and seeds made available to birds should be clean, fresh and from a reputable source. Avoid spoiled foods and moldy or dirty grains, which may be a possible fungal source. Food should be stored in an area that is not damp or dusty. *Aspergillus* (a fungus) is a risk in such an environment.

Mycotoxins are chemical metabolites produced by various species of fungi that grow on grains and foodstuffs. The toxin produced may be present even after the fungus stops reproducing. The amount of toxin present varies due to many factors; quite often it may be concentrated on certain areas of the grain causing 'hot spots'. The effects vary depending upon the type of toxin, species of bird, nutritional and physiologic status of the bird. A stressed bird on a poor diet is more likely to be affected than a healthy one. It is difficult to identify the disease as it mimics so many other conditions and quite often, when the disease develops, the offending food may no longer be present making diagnosis difficult. There is no specific antidote, rather prevent exposure as opposed to treating the condition. Special caution with poor quality corn and peanuts as these are common sources of toxin producing molds.

Many people refrigerate or freeze their seed/pellets. The "cooking" of seeds/pellets is a controversial topic. It is believed that by doing this, contaminating and potentially disease causing gram-negative bacteria will be eliminated or at least reduced in the food material. Opponents feel that the nutritional content of the food may be reduced. The temperatures recommended are 1) conventional oven- 350 degrees for 10 minutes and 2) microwave- 2 1/2 minutes at the low setting. After cooking, the food should be properly stored. Fruits and vegetables should be washed thoroughly to remove any residual insecticide contaminants. Wash these foods better for birds than for human consumption. Birds are very sensitive to any insecticide sprays that may have been used.

Chocolate is not recommended for birds. It can result in hyperactivity, vomiting, diarrhea, heart irregularities, seizures, dark-colored droppings and death. Progression of signs can be rapid if large amounts are ingested. Excess consumption of salt can cause problems. However, taking a nibble or two out of a potato chip or pretzel is not a problem. Avocados have been shown to be toxic for pet birds. At first only the pit was thought to be toxic but some studies suggest that all parts, including the fruit, are toxic. The actual toxin has not been described. There are several varieties of avocados that are commercially available, which appear to vary in their toxic capacity. Signs of toxicity include ruffling, increased respirations, vomiting, weakness, anorexia and death. The progression is rapid; the lungs are especially affected. Treatment is non-specific, mainly supportive care.

F. Grit The use of grit is another area of controversy. It is recommended to use grit only periodically as it is not continually required in the cage. A bird will retain grit in its gizzard and does not need to have it replenished daily. Actually, pet birds do not usually need grit for normal digestion. If grit is to be used, do not sprinkle it on the bottom of the cage (as it will become fouled with droppings) and do not mix it in the food. It should be placed in a separate cup so that its intake can be monitored. The problem is that sick birds (especially with digestive tract disturbances) will tend to overeat grit and this could lead to impaction. A bird that is consuming an excessive amount of grit could indicate a problem. Some people with sick birds have thought that they were still eating, when in actuality they were eating only grit. A constant source of minerals is required and plain grit is not that great of a source. Good mineral supplements include; cuttlebone, mineral block, crushed eggshells, crushed oyster shells, bones and commercial mineral preparations.

G. Cage Toys- Bird toys should be suitable for the particular variety of bird. For some birds having toys available is very important. Large birds can easily dismantle or destroy toys designed for smaller birds. Glass mirrors are hazardous to large birds. Watch for sharp edges and hooks on toys as they may lead to severe injury. Many birds have been impaled on hooks used to secure certain toys. Avoid toys with bells for larger birds as they can easily remove the bell and have it become lodged on the beak. For some reason the most frequent victim of this mishap is the lovebird, perhaps due to their small size (provided with small bird type toys) yet powerful beak. Certain toys contain lead weights. Some toys that are safe for smaller birds have the potential to be dangerous to larger birds as they may crack open the toy to expose the lead weight within (such as the penguin toy). It is important to avoid cluttering the cage with excessive toys and cage furnishings. Some cages are so packed with paraphernalia that it is a wonder that the bird can move about inside at all and with that is a greater risk for injury. Consider the following varieties of toys: commercially available toys, bells (not for larger birds), swings, ladders, bathing tubs, mirrors (not for large birds), dumbbells, bones and balls.

H. Chewing/chew toys-The beak of the bird grows constantly. For example, a parakeet beak grows several inches a year. The beak is worn down by eating, play or chewing activity. A bird that does not chew enough will have an overgrown or excessively flaky beak. Examples of good chew toys include: commercial chew toys, rawhide chews, cuttlebone/mineral block, lava rock, branches from outside, cardboard, paper towel rolls (insert), wooden clothespins, bones, pine cones, white pine wood (perches or scraps) and rope to name a few.

I. Cage covers-These are important for the bird's well being. A bird is a slave to light. Pet birds probably require the same amount of light and dark that occurs in a natural day. Inadequate amounts of rest will have the same effect that it has on humans. The bird should have at least 8-10 hours of darkness every evening. Cage covers have two purposes: they darken the cage in order for the bird to rest and help keep the cage warm if the temperature drops at night.

III. The Environment Around the Cage

A. Location of the cage-Birds are generally happiest and do their best in areas of activity. Place the cage in an active area of the house, such as the family room. If the bird is to be kept in the kitchen, extreme caution must be taken due to the dangers present (described in a later section). Because of the hazards present it is preferable to keep birds out of the kitchen. Direct sunlight is stimulating and enjoyable to birds but care must be taken not to overheat them on a summer day. Outside walls, depending upon the temperature outside and the amount of insulation present may cause undue exposure to cold. Drafts that are tolerated by people will generally not bother a healthy bird. However, a cold steady draft (such as an air-conditioning vent, etc.) could lead to problems.

B. Temperature-Under their covering of contour feathers, birds have a layer of down to keep them warm. A healthy bird can tolerate a change of temperature of 10-15 degrees. Whatever is comfortable for us is fine for the bird, as long as the change in temperature is not so sudden that the bird cannot gradually acclimate. Sick birds chill readily and need to be kept at 80-90 degrees. The normal body temperature of a healthy bird is 105-107 degrees.

C. Humidity-An ideal humidity for a bird seems to be 30-50%.

IV. Dangers in the Household

Exercise caution whenever birds are allowed freedom in the house. Many seemingly innocent common household furnishings can be dangerous. If no one is at home to monitor the bird, it is best to keep it caged.

A. Windows/Mirrors- Windows and mirrors do not appear to be a barrier to flying birds. They may unwittingly proceed headlong into them, possibly causing severe injury or loss of consciousness. If the birds are able to fly free try to keep these surfaces covered. To prevent this type of injury it would be a good idea to keep the wings clipped.

B. Open Doors/Windows- The danger is obvious. The loss of a pet bird is not uncommon due to this and can easily be avoided if proper precautions are taken. Another dangerous situation is when a free-flying bird has perched on top of an open door (such as a closet or pantry) and the owner is unaware the bird is there. Quite frequently when this door is unwittingly closed, with the bird still perched there, serious feet and leg injuries occur. Sometimes it may be an abrasion but more often than not fractures or near amputations are the result. The owner should always have some awareness of where their bird is during free flight.

C. Open Containers of Water-The risk of drowning exists whenever there are open containers of water. Birds have drowned by falling into sinks, commodes, pots of water, etc. An unfortunate accident is when a bird tries to take a drink from a glass, loses their balance, falls in and drowns. If birds are flying freely in the home, such containers should be covered. Caution must be exercised whenever a bird is nearby and someone is in the kitchen cooking or at the sink.

D. Ceiling Fans- These can cause serious injury to flying birds. Surprisingly injuries from this occur much more frequently than anyone would imagine. This type of accident occurs most frequently with cockatiels,

probably due to their soaring nature of flight. The owner should be extremely careful whenever the ceiling fan is in operation and a bird is flying freely.

E. Loud Noises- Birds do have sensitive hearing so that loud noises can cause stress, leading to lowered resistance to infection or emotional problems such as feather picking.

F. Other Pets in the Household- Attacks by other pets in a household are a very frequent cause of injury for pet birds. A cat bite or cat scratch can be lethal to a bird unless properly treated. The bacteria from this type of injury can cause a systemic infection, so even if the bird looks fine there can be severe disease developing. Veterinary care should be promptly administered if it does occur for proper antibiotic therapy. Injuries due to dogs are moreso due to blunt trauma or puncture wounds. Ferrets have been occasionally responsible for causing the death of pet birds, even large birds such as cockatoos. Even though a bird may be large, it may not be able to defend itself adequately against a tenacious attack. Jealous or aggressive birds may cause severe injuries to other birds in the household. Beaks can be traumatized or even ripped off. However, one of the more common injuries is of the toes. Toe lacerations, fractures, and amputations are seen if a bird lands on the cage of an aggressive bird or vice versa. So even if pets seem to live in harmony, always be on guard for potential confrontations. Pets relish the attention of their owners so sometimes jealousy can motivate them to attack one another.

G. Cooking Food- Hot cookware, hot food and hot range tops can be dangerous. Remember, even though a burner is turned off it still remains hot enough to blister the feet of a bird for some time. A good rule is to keep the bird away from the range while there is cooking going on.

H. Potentially Poisonous Compounds for Pet Birds- Birds are particularly sensitive to many chemicals due to their small size and very efficient metabolism. Some compounds that have been shown to be toxic to birds include: agricultural/gardening chemicals, insecticide/herbicide sprays, rodenticides, mothballs (naphthalenes) and denture cleansing solution. Salt in large amounts could be toxic, however eating a potato chip or the grain of salt off a pretzel is not toxic. Drugs in excessive quantities or improper usage of medications can be problematic. Quite often people may use medications provided by their veterinarian in higher than recommended dosages as they feel that it might be more effective. Some people have used their own prescription medications on birds feeling that it had been helpful in their illnesses. Cigarette butts carelessly left about the home in ashtrays are dangerous as, due to curiosity, birds have gotten into ashtrays, ingested cigarette butts and died. Disinfectants can be dangerous when used in amounts more concentrated than recommended by the manufacturer. With disinfectants, people feel that if a little is good then alot is better and at higher concentrations some could be toxic. Disinfectants can lie in pools on the bottom of aviaries and dry on the perches remaining as a potential source of toxicity or irritation. Adequate rinsings are necessary whenever disinfectants are used.

I. Lead Poisoning- Lead poisoning is one of the most common poisonings in avian practice. Due to their curiosity, birds will pick up objects, chew and occasionally swallow small fragments. Lead is absorbed into the bloodstream from the digestive tract. It is then carried to the brain and also incorporated into the bone. It can cause nervous system disorders and eventually lead to death. There are many sources of lead around the household that bird owners should be aware of as, due to their inquisitive nature, a pet bird could accidentally happen upon some. Lead is common in weights such as curtain weights, cuckoo clock weights, fishing sinkers, and some toys (usually within). Shotgun shot and bullets are obvious sources. Solder, putty, linoleum, mirror backing, costume jewelry, and some zippers are less apparent sources of lead. Ceramics not glazed to be food safe could contain lead. Quite often these are ceramics from outside the United States. Wine bottle foil has been the source of lead poisonings on several occasions. The two most common sources of lead poisonings are lead-based paints and leaded glass. As most paints used now are not lead-based why does it still occur? Many times in older homes the birds will chew through the superficial layers of the safe paint to expose the lead-based paints beneath which are toxic. People living in an older home should keep a wary eye out for any evidence of chewing of paint by the birds. Also if any leaded or stained glass is in the home make sure that the birds keep away from the lead surfaces. Even a small chip can cause toxicosis.

The diagnosis of lead poisoning is through the demonstration of lead in the digestive tract. If lead poisoning

is suspected veterinary assistance should be provided immediately. Radiographs will confirm the diagnosis. However, the absence of metal densities in the digestive tract on a x-ray does not rule out heavy metal toxicosis. Some cases of lead poisoning may be from sources that do not show up well on a x-ray such as paint chips or leaded gas fumes. Sometimes by the time clinical signs are noted the lead may have cleared the digestive tract or there may be slow release from the bone months after exposure. Other diagnostic aids include: excess urination, diarrhea and nervous system signs such as ataxia, head tilt, blindness, circling, paresis, paralysis, head tremors, convulsions and death. Some birds die with no clinical signs displayed. Hemoglobinuria (blood in the urine) is a clinical sign especially in Amazons and some other birds but does not occur in all cases. It is secondary to rupture of red blood cells within the blood vessels and may be misinterpreted as bloody diarrhea. Blood lead analysis will confirm the diagnosis but results may take several days.

Lead poisoning can be treated if identified quickly. Calcium EDTA is the drug of choice and is given by injection into the muscle. It combines (chelates) with the lead in the bloodstream so that it cannot enter the brain. It is given until there is no evidence of lead in the GI tract or when clinical signs resolve. Mineral oil or peanut butter can be given to aid in the passage of the lead out of the GI tract. Penicillamine or DMSA can also be used as a treatment for long term therapy, an advantage being that they can be given orally. This is helpful when symptoms subside and the bird owner can continue the treatment at home. If large fragments of lead are present surgical removal may be required.

J. Poisonous Plants- Houseplants can be a problem as birds tend to nibble at vegetation, however actual plant intoxications in pet birds are quite rare. There are few documented cases of plant poisonings in birds and it is believed that the rapid GI transit time is thought to play a role in the low incidence of toxicoses. Determining how much a bird ingests is difficult as they seem to enjoy shredding the leaves more than ingesting them. Much of the data related to poisonous plants in pet birds is extrapolated from that of mammals. The local poison control center can provide information as to the toxicity of certain houseplants in the home. Veterinary care should be sought if there is a suspicion that a bird may have ingested a potentially toxic plant.

K. Toxic Fumes- Birds have the most efficient respiratory tract in the animal world. They are able to efficiently remove oxygen from the atmosphere and into the bloodstream. However, due to this efficiency and their small size, they are more sensitive to toxic elements in the air. Remember that canaries were used in mines to detect gases that would otherwise be undetectable.

There are numerous airborne toxins that are extremely dangerous for pet birds. Many of these appear harmless as they have no effect on man, however, some can cause sudden death in birds so care must be taken whenever they are used around birds. Potential airborne toxins include: aerosol sprays (the propellant in the spray is toxic), burning/overheated cooking oil/butter, polymer fumes in spray starch, fumes from self-cleaning ovens, paint fumes, smoke from burning food, non-stick plastic sprays used to coat cooking utensils, cigarette smoke, carbon monoxide (car exhaust/water heater), cooking gas (natural gas), overheated PTFE (commonly known as Teflon) or any material that emits fumes.

Passive inhalation of cigarette, cigar and pipe smoke can cause chronic ocular, dermatologic and respiratory disease in pet birds. Birds that live in homes with smokers often show clinical signs that include, coughing, sneezing, sinusitis and conjunctivitis due to the constant irritation of the respiratory system. Many times the respiratory tract has been damaged by the smoke. Clinical signs can resolve without treatment if the source of smoke is eliminated and no secondary infections are present.

If a strange smell or fumes are noted, remove any birds to an area free of fumes with good ventilation. As is evidenced from the listing above, many of these hazards are from the kitchen. A rule of thumb is not to keep the bird in the kitchen. Too many unfortunate situations can occur there. Many people keep their birds in the kitchen as it is a place of great activity. If the bird is to be kept in the kitchen, exercise extreme caution whenever any cooking or cleaning is being done. However, it is preferred to keep the birds out of the kitchen.

L. "Teflon Toxicosis"- This has been a problem that I have been addressing for the past several years,

having written many articles and giving numerous lectures on its danger. Dr. Roger Wells had performed the initial research on PTFE toxicoses and his work was essential to avian practitioners and their understanding of the condition. I had written a comprehensive article that had appeared in Bird Talk in 1986. However, it might not be such a bad idea to review some of this information for those of you that are unfamiliar with the problem.

Polytetrafluoroethylene (PTFE) is a synthetic polymer used on non-stick cooking surfaces. The most familiar PTFE coated cookware are those marketed under the trade names Teflon, Silverstone and Supra. However, other PTFE coated products are available under other trade names.

Under normal cooking conditions PTFE coated cookware is stable and safe. When PTFE is heated above 530 degrees F it undergoes breakdown and emits caustic (acid) fumes. Most foods cook at lower temperatures though, water boils at 212 degrees F, eggs fry at 350 degrees F and deep-frying occurs at 410 degrees F. But when empty PTFE coated cookware is left on a burner set on the high setting, it can reach temperatures of 750 degrees F or greater. If a pan is being preheated on a burner and forgotten or if water boils out of a pot then breakdown of the PTFE can occur. Therefore, PTFE coated cookware has to be "abused" to emit toxic fumes. There have been reports of some instances of toxicoses at lower temperatures.

The signs of PTFE toxicosis are non-specific. Birds are usually found dead in the cage or gasping for air and then dying. The lung tissue is severely damaged by the caustic effects of the toxic fumes. On post mortem examination changes are seen in the lungs only, with congestion and hemorrhage in the airways. The diagnosis is through the signs of respiratory difficulties and death coupled with the association of a non-stick surface that was possibly overheated. Other sources of toxic fumes must be ruled out. The changes in the lungs are non-specific for PTFE toxicosis so there is no SPECIFIC way it can be positively identified.

PTFE coated drip pans (burner pans) are extremely dangerous for use around birds. The pans are exposed to the direct heat of the burners so that under a burner set on high after 5 minutes the pan can reach over 650 degrees F and after 10 minutes over 1000 degrees F. PTFE coated cookware is dangerous when abused, PTFE coated drip pans are dangerous under normal usage and should be avoided if birds are present in the household.

A real threat exists as drip pans coated with PTFE are still being marketed and distributed through mail order houses. From what I gathered speaking with a representative of one of the companies several years ago, he stated that "hundreds of thousands" have been sold. The fact that these can cause death in pet birds under normal usage (with unknown effects on humans) and the fact that there are no warning labels on these products or no composition label (so the consumer knows if PTFE is present or not) is totally unacceptable. Deaths are still occurring and we must as concerned consumers address this problem. Warning labels and composition of the non-stick surface are two things that are definitely needed in the future.

Danger in the household lurks in many seemingly innocent places. Many of these dangers can be averted if proper husbandry practices and caution are exercised. One death or injury from any of these circumstances is too many. It is also the duty of veterinarians and informed aviculturists to share this information with other bird owners so that any further accidental death and injury of these truly wonderful pets can be avoided.

V. Basic Health Care for Pet Birds

A. Care of the Beak-The beak grows constantly and with normal activity should wear down. If not it overgrows and must be trimmed. Do not be fooled into thinking that an overgrown beak is merely due to 'not using the cuttlebone.' Quite often it is the indication of a disease condition. One of the most frequent causes of beak overgrowth and abnormality is fatty liver disease. In fatty liver disease of parakeets, a rapidly overgrowing upper beak with areas of hemorrhage (seen as black spots) may be diagnostic. Deterioration and beak overgrowth may indicate Beak and Feather Disease in a cockatoo. Therefore it is very important to be a good observer as many such changes seen may help aid in the early diagnosis with

better success in treatment if identified properly. Practitioners should exercise caution whenever a bird comes in for a beak trim. Is it truly a grooming problem or a symptom of disease?

B. Care of the Nails-Keep the nails trimmed short due to the risk of breakage and then bleeding. Activity on a variety of surfaces (not just a round perch) will contribute to better care. Cement perches have been shown to be helpful in preventing overgrowth. Check the toenails and beak regularly and be aware of overgrowth or unusually rapid growth. Nonetheless, the usual problem caused by overgrown beak and toenails are impairment to eating and movement. If they are too long there is the potential for cracking leading to severe injury or hemorrhage.

C. Care of the Feathers-When a feather has grown in completely it will remain until it is plucked out of the follicle or a new one grows in at the time of molting. The follicle cannot distinguish between a complete feather or a broken/damaged one as long as the base in the follicle is intact. During the molting period the old feathers are replaced with new ones. However, once feathers have become dirty, damaged or oily they will remain so until the next molt. This could occur due to smoke, dust, poor cage conditions and greasy cooking. Dirty or oily feathers should be cleaned. Routine bathing with plain water can be helpful, but in more extreme cases a mild dishwashing detergent can be used.

Preening-Preening cleans the new feather and helps to restore feather integrity. A normal, healthy bird will spend a large part of the day preening, while a bird that is ill quite often ignores feather condition. With new feather growth the bird must preen constantly to remove the protective sheaths from the developing feathers. Bathing, spraying or misting will encourage preening.

Bathing-It is a very important part of the preening process, so it should be encouraged. Some birds enjoy bathing in a dish or birdbath, others roll in wet greens and some prefer to be showered or misted/sprayed. Plain water is all that is required to maintain good feather quality. Birds can bathe several times a week if they enjoy it.

Molting-Molting is the period of time when a bird is regenerating new feathers and shedding the old ones. Within two weeks of the loss of any feather, a new one should be replacing it. A bird should not be bald in any area. If baldness is occurring, veterinary evaluation is recommended. Ragged looking birds are sick and are probably affected with some deeper underlying problem, which should be corrected.

Some birds follow a definite seasonal pattern to their molting period that usually lasts for one to two months. This can occur once to twice a year. More typically birds seem to shed their feathers on a small scale throughout the year with heavier episodes of molting once or twice a year. Perhaps this is due to the abnormal photoperiod and temperature fluctuations they face in captivity. Molting is a time of stress, which may cause the bird to be susceptible to infection. Quite often the bird is quieter than normal or may seem to have an attitudinal change. Male canaries usually stop singing during the molt and will resume when it is completed. Nutritional needs increase during the molt. Prolonged periods of molting may also be indicative of disease or a nutritional problem. Special measures should be employed to minimize stress and prevent disease.

1.Heat-Guard against chilling by increasing the ambient temperature. If the bird is ruffled and definitely chilled, construct a homemade incubator with a heating pad on the side of the cage perpendicular in relation to the perches with the whole cage wrapped in saran wrap. This positioning will enable the bird to sit closer to the pad for more heat but be able to move away if less warmth is desired. Punch holes in the saran wrap for ventilation. Sometimes an additional cage cover can be added. An infrared light or a 150-watt light bulb could be used as alternative heat sources. The temperature should be maintained at 80-85 degrees. If the bird is still ruffled and close to the heat source then more heat may be required. Should the cage temperature become too hot, the bird will start rapid, open-mouthed breathing, hold its wings out from the sides of the body and the feathers will be held so close or tight to the body that the bird will appear unusually "skinny."

2.Rest-Longer periods of rest are needed-12 to 16 hours of darkness. A quiet area free from disturbance is helpful to enable rest. A cage cover is helpful.

3. Security-Feather picking and other vices are more apt to begin during the molting. Try to keep the bird as stress free as possible during the molting period.

4. Quality diet and supplementation-Excellent nutrition is important during the molt. An advantage feeding a bird a balanced diet such as pellets is that molting will be less stressful due to the quality nutrition that is being provided. If the bird is on a poor diet, supplementation is required during the molt. Double doses of vitamins are recommended during molting as they play a role in proper development of the feathers as well as being useful during any stressful period. Mineral supplementation is required in the growth of feathers. Increased protein intake during feather development is important as protein is the key element in the feather. In certain instances of molting even a bird that is on pellets may need some additional nutritional supplementation.

Blood Feathers-Blood feathers or pin feathers, as they may also be termed, are new feathers that are growing in during the molt, but can also develop after a feather was plucked entirely out of the follicle. New feathers have a blood supply that is delivered through a small hole in the tip of the quill. The shaft of a blood feather will appear either bluish or pink due to the presence of blood and if the shaft is damaged hemorrhage will occur. Broken blood feathers are one of the most common emergency situations that an avian veterinarian has to deal with in practice.

When a bird is bleeding the source of hemorrhage should quickly be identified. If it is a broken blood feather then the shaft of the feather should be grasped firmly with fingers or tweezers and pulled out. Merely applying some form of hemostasis at the broken end of the feather and not removing the entire feather may result in the clot loosening with resultant resumption of bleeding. Pressure and clotting powder should then be applied to the feather follicle. Using a cotton tipped applicator dipped in the clotting powder will aid in applying it in the follicle and also expedites placing direct pressure to the follicle, assisting in hemorrhage control. Most bleeding episodes can be controlled with powder to aid in clotting combined with steady pressure. Frequent dabbing or rubbing may interfere with clot formation. After the bleeding has been controlled the bird should be placed in a covered cage or darkened room and periodically checked for bleeding. A follow-up visit to a veterinarian is extremely important. Agents that can be used to stop bleeding include, styptic powder, styptic pencil, silver nitrate sticks, commercial products such as quickstop, monsel's powder (ferric subsulfate), or cornstarch, baking soda and flour.

D. Care of the Feet-Infections of the feet can occur despite taking precautions such as providing the proper variety of perches. Be certain that the perches are clean, have at least one soft perch available and vary the sizes of the perches. Any weight shifting, redness, swellings, crustiness or sores on the feet/legs or lameness are abnormal and should receive veterinary care. Unless specifically indicated for treatment by an avian veterinarian, no ointments or oils should be applied to the feet and legs. As the bird preens, these ointments or oils will tend to spread onto the feathers, causing them to become greasy or oily. This in turn interferes with the insulative properties of the feathers and in some cases may lead to feather loss.

E. Care of the Legs-The sole purpose of the leg band is for identification. It should be removed to prevent problems, such as irritation or becoming caught on something, leading to a leg injury. If the leg band is necessary then there must be regular evaluation of the banded leg. The leg band should be freely moveable and there should be no signs of irritation, redness or thickening on the leg. Chronic irritation of the leg from the band can lead to swelling which would then trap the band and cause it to interfere with the normal blood supply to the foot. Eventually the foot would undergo necrosis with amputation required. This scenario occurs most frequently in canaries due to the nature of their bands. Bird owners may initially notice that the bird is limping or that the foot is turning deep red or in severe cases black. Unfortunately they often believe that removal of the band will resolve the problem. In less severe cases success can be achieved in this fashion. However, more commonly the band is so tightly adhered to the leg that band removal is very difficult. In these situations the leg may be accidentally broken in the removal process or that once the band is removed all that remains of the tissue under the band is bone, due to the necrosis of the normal tissue architecture. In a severe case of necrosis or tight adherence of the band, damage such as fracture, may occur in the removal process. There is the possibility that toes or the foot may be lost, a certainty with blackening of the toes or feet. Following removal where there has been significant trauma,

antibiotic therapy and bandaging is usually indicated.

F. Care of the Skin-Since the skin is protected by feathers, no special care is needed. As mentioned before when discussing the feet never apply any oil or grease to the skin/feathers for reasons discussed in the earlier section.

G. Care of the Eyes, Ears and Nose-A discharge from any of these areas indicates trouble. The area should be kept clean. Wipe the area with warm water or a mild antiseptic solution. Nothing oily should ever be applied to these areas unless recommended for treatment by a veterinarian. Discharges from these sites should receive veterinary attention.

H. Care of the Uropygial (Tail/Oil) Gland-Not all birds possess this gland which secretes an oily material that is used during preening. However, birds that do not possess the gland preen just fine and if a bird had the gland removed surgically they seem to still preen normally. This gland should be checked annually during the physical examination. If the bird is pecking excessively at the top of the tail there may be a problem with the gland. Problems include impaction, infection or tumor.

I. Weight-Once a bird becomes an adult, the weight should remain relatively constant. The weight should be checked occasionally, especially at the yearly physical examination, which will provide valuable information as to the state of health. Merely looking at a bird will give no indication as to its weight due to the feathering. Feeling the breastbone may give some idea, but weighing on a scale is ideal.

J. Sex Determination-This can be difficult and mistakes are made. The reproductive organs of the bird are internal so means are needed other than external examination. The cere (contains the nostrils) of the parakeet is blue in most males and may be pale blue to dark brown in the female. In most other birds there are no easy guidelines. Unless necessary for breeding purposes, there is no real need to know the sex of a bird. Experienced breeders do an excellent job and can sex certain varieties of birds with reasonable accuracy before selling. When needed, a veterinarian could verify the sex by a simple surgical procedure where the internal organs are visualized with an endoscope. Surgical sexing is usually performed for breeders who would like verification of the sex of a bird and also an evaluation of the condition of the gonads. Other organs can be visualized during the laparoscopic procedure as well. Determining the sex of a bird through DNA analysis of a blood sample has proven to be a safe and effective technique. It is performed by commercial laboratories and is being used widely.

K. Annual Physical Examination by a Veterinarian-Birds hide their problems so effectively that they need annual examinations by a veterinarian. This should include a 'hands on' physical examination, weight check and laboratory tests of the droppings and the blood. Yearly reminders should be sent to avian clients to encourage them to come in for the annual physical examination.

VI. Signs of Sickness in Pet Birds

Birds hide their problems very effectively so that when they begin to obviously manifest their illness, they are already seriously to critically ill. The bird that dies "suddenly" had probably been sick for some time and was not recognized as being abnormal. Birds are actually very hardy and tolerate problems as well as any other animal. If given a chance, birds can live a long life. Because of this difficulty in detecting illnesses early, it is of utmost importance to the owner to be familiar with the signs of illness. If they recognize any of the signs of illness they should be encouraged to bring the bird in for an examination. Quite often when a bird is brought in for an annual check-up subtle disease changes may be discovered before they cause serious illness.

General signs of illness include:

1. Change in the character of the droppings or a decrease in the number or volume.
2. Change in food or water consumption
3. Change in attitude-generally observed as decreased activity or talking less, singing less or no response to stimuli.
4. Change in the bird's appearance or posture-a sick bird will generally ruffle their feathers, begin closing their eyes in a sleepy fashion and will be sitting low on the perch (droopy).

5. Any noticeable breathing while resting, heavy breathing after exertion, change in character of the voice and any respiratory sounds-sneeze, wheeze or click.
6. Any enlargement-even fat is abnormal in a bird.
7. Unusual crustiness on the face/beak or feet/legs

VII. Emergency Care for Pet Birds (temporary care until the bird is seen by a veterinarian)

If ever a bird sits with its feathers ruffled, eyes partially closed, displaying a droopy appearance or if there are signs of diarrhea or respiratory problems, the bird should be treated immediately. Also, any bird which has been injured, sustained a broken leg or wing, bitten by a cat, dog or other animal, burned or chilled, should likewise be started on emergency care.

A. Heat/Incubator – As mentioned in an earlier section, a temporary incubator can be made by placing a heating pad alongside the cage and then the entire cage is wrapped with plastic (saran wrap) and holes made for ventilation. Sometimes an additional cage cover can be added. An infrared light or a 150-watt light bulb could be used as alternative heat sources. The temperature should be maintained at 80-85 degrees. Should the cage temperature become too hot, the bird will start breathing rapidly, hold its wings out from the sides of the body and the feathers will be held so close or tight to the body that the bird will appear unusually “skinny.”

B. Droppings- Start counting droppings. The number, volume and appearance are of great importance to the veterinarian, so save the cage papers and bring them in with the bird for evaluation.

C. Nutrition/Fluids-A bird that stops eating dies. Therefore, every effort must be made to encourage the bird to eat. Cups of food are placed adjacent to where the bird is perched, food can be scattered on the bottom of the cage if the bird is off the perch. The veterinarian will immediately force-feed a bird that is not eating by passing a feeding tube into the crop.

To give the bird an extra boost of energy, sugar can be added to the water if the bird is still drinking. Care must be taken with some antibiotics administered in the drinking water as they may cause the water to have an unpleasant taste and the bird may avoid the water and further dehydrate. If possible giving watered down sugar solution by eyedropper to a weakened bird may be lifesaving if the stress of handling is not too great.

D. Rest-Sick birds need rest, and thus, should be in a darkened room or covered to insure 12-16 hours of sleep. A two-hour nap in the morning and afternoon is advisable.

E. Bleeding-The source of bleeding should be identified. If it is a broken blood feather then the shaft of the feather should be grasped firmly with your fingers or tweezers and pulled out. Pressure and clotting powder should then be applied to the feather follicle. Most bleeding episodes can be controlled with powder to aid in clotting and steady pressure. Frequent dabbing or rubbing may interfere with clot formation. After the bleeding has been controlled the bird should be placed in a covered cage or darkened room and periodically checked for bleeding. A follow-up visit to a veterinarian is extremely important.

Agents that can be used to stop bleeding include, styptic powder, styptic pencil, silver nitrate sticks, commercial products such as quickstop, monsel's powder (ferric sub sulfate), cornstarch, baking soda and flour.

6. Don'ts

- *don't give whiskey
- *don't give laxatives
- *don't use oils
- *don't stop food or water

7. Telephone your veterinarian for assistance.

VIII. Conclusion

Hopefully these tips on bird care will enable you to provide the best quality care for your pet birds, insuring a long, healthy and happy relationship.

Adapted from *Essentials of Avian Medicine: A Guide for Practitioners, Second Edition* by Peter S. Sakas, DVM, MS. Published by the American Animal Hospital Association Press. (2002)