



THE BIRD CLINIC VETERINARY CORPORATION

TOXINS IN PET BIRDS

Pet birds, being previously unexposed to the many dangers of our industrial world, are prime candidates for the ingestion of toxins. What follows is a highlight of the most common toxins found in our homes. These will include "acute" fast acting fatal toxins and the "chronic" more long term, but still deadly types of toxins. REMEMBER: WHEN CONSIDERING IF A PRODUCT MIGHT BE TOXIC OR NOT, ENVISION "CLEAN LIVING".

FATTY DIET

Although most people do not think of "fats" as toxins, they can be when consumed in excess over the long term. Numerous studies in humans have shown the relationship between high fat intake and heart disease, liver malfunction, and endocrine problems (i.e. *diabetes, pancreatitis*). It is true birds need more calories than mammals based on body weight, but 30-50% should be high quality carbohydrates. Excess fat the body cannot utilize is either stored in the millions of liver cells or recirculated in the bloodstream (*Lipemia*). Chronic over-ingestion of low-density fats overloads the liver. The liver gradually degenerates and becomes unable to perform its many important body functions. Symptoms of the eventual liver failure can be very acute with the only symptoms being death or severe weakness, paralysis, or seizures. "*Hepatic Lipidosis*", meaning Fatty Liver, is a common presentation in birds as young as three years of age and should be avoided to extend the life of all pet birds. Excess circulating fat can also create *fatty tumors* which carry a high blood volume, taxing the circulatory system and which, if traumatized, can bleed profusely. This condition is common in budgies, cockatiels, amazons, macaws, and some species of cockatoos. *Atherosclerosis* also exists in birds with the associated heart maladies and circulatory problems associated with it. The BIRD Clinic has confirmed this condition in several species upon necropsy.

ALCOHOL

This includes hard liquor, wine, and beer. Alcohol is very destructive to the liver. With a bird's high metabolic rate and the ability to ingest a much higher volume compared to its body weight, liver failure occurs in a VERY short period of time.

TOBACCO PRODUCTS

This includes cigarettes, cigars, chewing tobacco, marijuana, etc. Both the product itself and the smoke can be deadly to birds. Chronic sinusitis, lung, and liver pathologies have been confirmed in birds housed with smokers. The BIRD Clinic has seen cases where this process has occurred in less than one year. Birds are migratory animals with a very efficient respiratory system. In any given breath a bird can extract **70% MORE** air particulate than a human. This added to an increased respiratory rate makes birds very susceptible to airborne toxins.



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AVOCADOS

Rumors about this fruit had been around for many years. In 1989, a research group performed a study to better define avocado's toxic role. Their findings demonstrated that this fruit is INDEED TOXIC to birds. Budgerigars were most susceptible with 6 out of 8 birds dying within 47 hours after the ingestion of one drop from a 1:10 dilution mixture. Avocados had already been shown to be toxic to cattle, goats, horses, rabbits, and mice. The toxic component has not yet been identified, but The BIRD Clinic's recommendation is to NOT feed any part of the fruit or tree to your animals. The toxicity is unpredictable and has no antidote except intravenous fluid dilution and supportive care.

CAFFEINE AND DERIVATIVES

Chocolate, soda pop, cocoa, coffee, and tea containing caffeine and/or its structurally similar compounds tend to affect the body muscles including the heart with signs such as vomiting, restlessness or hyperactivity with more severe signs of a drunken-like appearance, muscle tremors, cyanosis, seizures and possibly death from cardiac or respiratory collapse. This toxic group is dose related, so just because your animal ingested one of these products and did not appear to show any of the above symptoms, does not mean it could not be more serious the next time. Again, the only treatment is supportive with questionable prognosis.

LEAD or "PLUMBISM"

The toxicity of lead is well documented. Sources include lead-based paints, lead shot, solder, birds toys (containing lead weights), linoleum, ceramics, curtain weights, stained glass windows, tiffany lamps, glitter from trendy clothes, Christmas ornaments and foil from the top of wine bottles. Very small amounts are sufficient to create toxicity. Lead adversely affects all body systems. South American species, particularly amazons and macaws, are acutely sensitive to lead poisoning. Signs usually show up several days after ingestion, but proceed rapidly and can lead to death within 48 hours. Symptoms can be vague, but usually have a sudden onset with one day the bird acting fine and the next day demonstrating weakness, anorexia (not eating), or other neurological symptoms. If a bird suddenly regurgitates and looks listless one should seek veterinary attention **immediately** and have radiographs taken. Time is critical once symptoms manifest themselves. Antidotes are available to control the symptoms, then further medical or surgical therapy can be undertaken.

ZINC

Zinc poisoning has become more and more common in pet bird medicine and is often underdiagnosed. Because so many products contain zinc as a component, clinical symptoms are quite variable dependent on quantity ingested, concentration of zinc, and species of bird. In 2003 alone The BIRD Clinic diagnosed over 30 cases of zinc poisoning with symptoms ranging from regurgitation, lameness, mental aberrations, marked depression and sometimes death. History of ingestion has ranged from only a few days to chronic low-grade exposure over years. If your bird is a heavy chewer, replace all galvanized hardware with stainless steel as a precaution.



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Common sources of zinc:

- Paint primers on cages, especially cages produced pre-1995
- Bronze coating on metals
- Galvanized products (the brighter the metal, the higher the zinc level)
- Anodized aluminum windows or any anodized surface
- Costume jewelry and sequins
- Many hardware products, metal washers, bolts, etc.
- Post-1982 pennies (96-98% zinc with copper coating)
- "Hot spots" in colored food pellets (The BIRD Clinic recommends natural colored products)
- Many forms of rubber products

OTHER HEAVY METALS

Various other metals are also toxic to birds. TIN: Found in aluminum foil, gum wrappers, and cans. COPPER: Certain toys, old pennies, designer furniture and home electrical cords. IRON: Found in rusted steel products. There are numerous others: just remember to be very careful where a bird roams in your house unattended. Symptoms in these other metal toxins are variable but most commonly present neurologically, gastrointestinally and concurrent with feather picking.

TEFLON® VAPORS

When "non-stick" cookery (Teflon®, Silverstone® etc.) is heated above a critical temperature (530°F) an invisible, odorless vapor is emitted. The irritating vapors accumulate in the lungs causing fluid production and subsequent *anoxia* (lack of oxygen) with the only sign often being acute death, sometimes within 1-5 minutes. Birds seem to be highly sensitive to this toxin compared to other animals or humans. The critical temperature is usually not obtained during the "normal" cooking processes, but may be reached when pans are used for searing meat or when using Teflon®-coated Chinese woks or electric skillets. To be safe, never keep your bird in the kitchen and be aware of which products contain Teflon®.

SIMPLE SUGARS

Foods like sweet rolls, danish, candy, glazed products, and even oversized portions of sweet fruits, have caused acute toxicity or death in some patients presented to The BIRD Clinic. The cause stems from the simple sugars causing a fermenting process in the lower bowel and a change from an aerobic environment to an anaerobic environment. Toxin producing bacteria (*Clostridium perfringens*) already located in the small intestines proliferate under anaerobic conditions with the ensuing signs of shock and/or death if antibiotic and fluid therapy is not rapidly administered. Birds unfortunately have an affinity for these types of foods. BE EXTREMELY CAREFUL!



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ACIDIC FOODS

A newly observed cause of toxicity in bird species is foods with a relative low pH (acidity). Examples are oranges, tomatoes, raspberries or tart apple varieties. Small birds are again more susceptible since this is dose related. The symptoms are similar to sugar toxicity, but by a different mechanism. When ingested, acidic foods lower the pH in the crop and slow or stop the crop's normal function as a passageway to the lower gastrointestinal (GI) tract. This leads to the absorption of "normal" toxic food by-products, causing dehydration, depression, regurgitation, shock, and sometimes death.

PLANTS

Some SAFE plants if dried include: eucalyptus, pine, oak, manzanita, and fir. Plants TOXIC to birds include: Japanese Yew, Philodendron, Oleander, Poinsettia, Dumb Cane, Redwood, Bird of Paradise, Mistletoe, Nightshade, Ground-cherry, and the seeds/pits of apples, apricots, peaches, and cherries. (Please refer to the handout on Poisonous Plants for a more complete list).

HOUSEHOLD CHEMICALS

As mentioned earlier, birds are highly sensitive to airborne products. Many people remember that years ago miners used to take a canary down into the coal mines. The canary (known as a "sentinel bird"), being highly sensitive to toxic gases would expire before any workers could notice the odor and thus would warn the miners of impending danger in time to escape the mine. Today's birds are in danger from many household cleaners, especially those with any phenol derivatives (Pine-Sol[®], Lysol[®], etc.), which are extremely toxic. Also be aware of toxicity from bleach (chlorine), ammonia, perfumes, and ingestion of rubbing alcohol. Construction fumes (for example, the "breathing" of treated wood or new carpet) and especially the fumes from painting (even one room in the other end of the house) have led to many emergencies at The BIRD Clinic. Oil-based paints are worse than water-based paints, with the danger lasting a longer time, but again, toxicity is based on quantity of toxin, species of bird, and duration of exposure. When in doubt, call our clinic for specific recommendations or remove the bird from the premises.

CONCLUSION

This is an overview of toxic compounds possibly available to your bird. If your bird ingests any of these products or suddenly does not seem right, contact your avian veterinarian immediately as only one day delay may make the difference between life and death!

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