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Polymer Fume Fever in Birds (Teflon Toxicity)

Exposure to inhalant toxins is one of the three most common toxicities seen in birds. This is due to their unique respiratory system, which is much more efficient than mammal respiratory systems. The other two common toxicities are metallic and pharmacologic. Most reported inhalant toxicoses are from Polytetrafluoroethylene (PTFE) exposure, commonly called Polymer fume fever.

PTFE is a gas released when nonstick cookware, such as **silverstone** or **Teflon** is exposed to temperatures of 536 degrees Fahrenheit or greater. When this occurs, fumes that are extremely acidic are emitted, causing direct damage to the lung tissues. The air sacs of birds create a large surface area for absorption of this harmful gas. Properly used cookware usually does not exceed 420 degrees, even when frying. However, many drip pans in ovens are made from Teflon and become overheated with just normal oven use.

Clinical signs of toxicity occur within 5 – 10 minutes of exposure. Heavy exposures can result in acute death, and milder exposures can result in rapid eye blinking, panting, biting at the cage, flapping and excessive wing stretching, progressing to incoordination, and dyspnea. Exposures greater than 9 minutes will result in death of the bird. Humans are also susceptible, and experience flu like symptoms.

Treatment is supportive and dyspneic birds benefit from oxygen therapy, heat, and humidity.

Gross lesions found at necropsy include air sacculitis, pulmonary congestion, and hemorrhagic and necrotizing pneumonitis.

Any strong odor is potentially toxic. If suspected, open all doors and windows and ventilate the area quickly. The following is a list of other inhalant toxins.

- Most non-stick cooking surfaces
- Hair dryer fumes (primarily new hair dryers)
- Smoke from tobacco or any other source
- Auto exhaust
- Leaded gas fumes
- Bug bombs, pest strips, and sprays
- Teflon irons and ironing board covers
- Hair perms and hair sprays
- Disinfectant, deodorizing, and furniture polish sprays



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- Ammonia and strong bleach
- Moth balls (naphthalene, paradichlorobenzene)
- Fluoropolymers (spray starch)
- Burning foods and cooking oils