Sick House Syndrome

Is Your Home Safe for Parrots?

by Carolyn Swicegood Hollywood Beach, FL

o you and your parrots live in a safe environment? Indoor air, according to the Environmental Protection Agency, is our worst pollution problem. Research tells us that whatever the quality of outside air, it nearly always is worse indoors, where we spend ninety percent of our time and where many of our parrots spend all of their time. A Massachusetts Special Legislative Commission has concluded that indoor air pollution accounts for fifty percent of all human illness in the United States. In one study, twentyfour percent of the people complaining of the flu actually were suffering from carbon monoxide poisoning.

Some homes, usually those 20 years or older, were constructed of materials now known to be dangerous. Most homes have a problem with toxins emanating from carpets, cabinets, draperies, and many other sources. Outgassing refers to the fumes that a substance gives off, as it ages or degrades. Outgassing is responsible for the "new home" smell that sometimes causes stinging, watery eyes. Signs of a sick house include a musty, stuffy smell and other unusual and noticeable odors. Feeling noticeably better outside the home also can indicate an indoor pollution problem.

Airtight buildings block out nature's ability to clean the air. Before the energy crisis of the 1970s most houses were not especially energy efficient. Small openings in their structure were left unsealed, so fresh air passed freely through them, diluting and carrying away toxins. The oil crisis spawned the development of airtight houses in an effort to make them more energy efficient

Parrots are exquisitely sensitive to toxins, especially those in the air that they breathe. We all remember the stories of canaries being taken into coal mines as sentinels to warn of the accumulation of deadly gases.

Just as the death of the canaries in

the coal mines warned of dangerous toxins in the air, the respiratory system of birds is so much more sensitive than ours that they are harmed by unsafe indoor air long before we become aware of the danger.

Parrots have been described as "magnificent athletes." They are capable of flying long distances, so their respiratory systems are extremely efficient. While humans breathe at the rate of 12 to 16 breaths per minute, large parrots take 25 to 40 breaths per minute. Therefore it is not surprising that polluted air rapidly takes its toll on their health. Respiratory problems are one of the most common ailments in pet birds and any problem that interferes with breathing must be regarded as potentially life threatening.

Humans breathe in about 50 pounds of air every day. We are as much what we breathe as what we eat. People who live in "sick homes" often suffer from a variety of health problems including allergies, asthma, sinus conditions, respiratory problems, chemical sensitivity, pneumonitis, cancer, chronic fatigue, and aspergillosis. Could sick house syndrome account for the many mysterious cases of aspergillosis in parrots today?

Aspergillosis

Owners of birds kept indoors often are shocked when they hear the aspergillosis diagnosis because they considered it a disease of parrots living in outdoor aviaries or in crowded warehouse conditions. This deadly and all too prevalent infection frequently is found in birds living in clean, air-conditioned homes where damp conditions have allowed the growth and dispersal of invisible fungal spores. Aspergillus mold can be found growing on the surfaces and walls of bathrooms and on the ceilings of homes with roof leaks. Many parrots that self-mutilate and destroy their feathers may silently be fighting off subtle but health-damaging fungal infections caused by contaminated indoor air. Aspergillosis is a most difficult disease to treat. Even with antifungal medicines, months of therapy are required, with no guarantee of survival, so prevention is of paramount importance.

Sinus Problems

Not surprisingly, sinus problems in parrots have become increasingly common, just as they have in humans.

Dust from air conditioning and heat ducts, as well as from moldy basements, often is circulated throughout the house. Until recently, ducts in most buildings were never cleaned. Most homeowners never have their duct system cleaned.

In warm, humid climates where many parrots are kept, sick house problems also can worsen during summer months when the outside air is humid. Most air conditioning units contain mold-contaminated components such as insulation and blowers. Ventilation which brings in humid outside air may increase mildew and other moisture-related problems when the air-conditioner does not sufficiently dehumidify the air. In most cases, the ideal relative





These baby Cockatiels have a poison warning symbol behind them. Do you know where all the poisons are in your house?

humidity range is between 37 and 55 percent. New homes are insulated and sealed so well that moisture builds up and cannot escape, creating a much higher than ideal humidity level and perfect breeding conditions for the growth of a variety of molds.

Top 10 Indoor Hazards

There are many sources of indoor air pollution that are harmful to parrots and people. According to the EPA, the top 10 indoor hazards are moisture; biologicals (like molds, mildew and dust

mites); combustion products (including carbon monoxide); formaldehyde; radon, a radioactive gas from soil and rock beneath and around the foundation; household products and furnishings; asbestos; lead; particulates from fireplaces, woodstoves, kerosene heaters, unvented gas space heaters, tobacco smoke, dust and pollen; remodeling byproducts; and environmental tobacco smoke.

Almost none of these hazards are found in the natural environment of parrots, so it is reasonable to assume that parrots probably are not biologically adapted to process them. Volatile Organic Compounds (VOC) are gases that consist of many chemicals that are released into the air from paints, solvents, adhesives, various finishes, and other building materials. Short-term exposure to VOCs can cause headaches, nausea, and irritated eyes, nose, and throat. Newly introduced VOCs, especially in carpet, can easily be detected by the odor they give off. If you open a cupboard door and detect an odor, formaldehyde which is found in particleboard and plywood, may be present.

Hazards to Bird Health

Here are some of the greatest indoor pollution dangers to parrots. Many of them can easily be prevented.

- Aspergillus mold which can cause the deadly disease, aspergillosis.
 Excessive moisture which promotes the growth of various molds in bathrooms and other areas of high moisture is an all too common problem.
- Polytetrafluorethylene (PTFE) gas released when various non-stick surfaces such as Teflon are overheated is a common respiratory toxin to birds. It can be avoided entirely by not purchasing the many products containing this non-stick treatment. With minimum exposure, the immediate removal of the bird to fresh air can save its life. With greater exposure to PTFE gas, death usually follows quickly.
- Passive inhalation of tobacco smoke can cause chronic disease of the eyes, skin, and respiratory system of parrots. Birds that live in homes where people smoke often are plagued with coughing, sneezing, sinusitis, and conjunctivitis due to continuous irritation from smoke. Many birds with feather destruction problems resume normal preening behavior when removed from exposure to tobacco smoke.
- Disinfecting agents used to clean cages, aviaries, and food dishes should be used carefully and should be thoroughly rinsed before coming in contact with birds. Ammonia and chlorine vapors can irritate parrots' eyes, nares, and respiratory tract, predisposing them to secondary bacterial and fungal infections.

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- Aerosol products such as perfumes, deodorants, and cleaning agents may cause respiratory problems due to irritation of the respiratory tract by the fluorocarbons and particulates in the aerosol.
- Formaldehyde fumes have been associated with death in smaller birds. Frequently used in the seventies and eighties in particleboard, fiberboard, cabinets, countertops, paneling, and some furniture, it no longer is used in most newer building materials, but strong outgassing is thought to be possible for up to five years. Formaldehyde is a suspected carcinogen, so solid wood or steel cabinets should be substituted even though they may be more expensive.
- Carbon monoxide is an odorless, colorless, tasteless gas produced by furnaces and other heaters. Birds in poorly ventilated, heated areas are at high risk of carbon monoxide poisoning. It robs the blood of oxygen and can be particularly harmful to animals and humans with heart ailments when inhaled at levels often found indoors.
- Combustion by-products are released whenever something burns. Indoors, this usually includes wood, natural gas, propane, oil, coal, and kerosene. When the smoke and fumes do not go up the chimney or flue as they should, the hazardous by-products add to indoor pollution.
- Tetrachloroethylene (also known as perchloroethylene or "perc"), which has been shown to cause cancer in laboratory animals is brought into homes on freshly drycleaned clothing.
 - Paradichlorobenzene found in

moth-repellent cakes or crystals, toilet disinfectants, and deodorizers is another chemical that causes cancer in animals. Studies have consistently indicated that almost all exposure to paradichlorobenzene comes from sources inside homes, not from industrial emissions or hazardous waste sites.

Improving Indoor Air quality

By making our homes and aviaries safer for parrots, we also help our families to maintain a higher level of health. Many of the following recommendations for improving indoor air quality can be implemented with minimum effort.

- Change furnace and air conditioner filters often, at least monthly. Make it a point to change all filters at the beginning of each new month.
- Run bathroom vent fans when showering to discourage mold growth.
- Clean humidifier, air conditioning, and refrigerator drain pans at the beginning of each new month, if not more often.
- Fill humidifiers with distilled or demineralized water. Use a few drops of Grapefruit Seed Extract in the water to avoid the growth of mold.
- Do not smoke indoors. Also, do not allow smokers to handle parrots. The residue on the hands of smokers is known to cause plucking and even flesh mutilation in parrots sensitive to the chemicals in cigarette smoke.
- Air out all new rugs, drapes, and furniture before bringing them indoors.
- Keep gutters clean to prevent moisture from penetrating the home.
- Regularly clean and tune all fuel-burning appliances and fireplaces.
- Wash bedding materials frequently in hot water to reduce dust mites.
- Remove the plastic bags from dry cleaned clothing and air the clothing out before hanging in your closet. This will limit exposure to perchloroethylene, the solvent used in dry cleaning. Hand wash if possible. Buy clothing that does not require dry cleaning, such as washable cotton, rayon, and silk.
- Consider installing a house energy recovery ventilator system.
 They provide moisture control,

improve indoor air quality and aid in energy recovery.

- Build or buy a detached storage shed for hazardous items such as pesticides, paints, and sealants rather than storing them in a garage attached to the house. Otherwise, store them in a sealed metal container.
- If the garage is attached to the house, never start a car with the garage door closed or let the car idle inside the garage. Detached garages are preferable to those attached to the home.
- Lead can be found in paint and in the water supply. Ninety percent of houses built before 1940 contain lead paint. It was not banned completely until 1978, so it is only safe to assume that the newest homes are lead-free. Owners of older homes can purchase test kits for lead detection.
- To avoid the problem of mold growing in the damp soil of house-plants, choose cactus and other succulent plants that require less water.
- High quality room air cleaners clean only the room where they are used, but can make a positive difference in the air quality of a bird room.

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Considering that we spend one third of our lives sleeping, a good room air cleaner for the bedroom is useful for people too. HEPA filters are recommended by researchers as necessary to do an acceptable job of cleaning the air.

• Some of the things that do not clean the air to any appreciable degree are ozone generators, negative-ion generators, and houseplants. These are simplistic approaches that can create as many problems as they solve.

EPA Headquarters Problem

In October, 1987, the offices of the Environmental Protection Agency headquarters in Washington, DC were remodeled. Immediately, complaints of eye and nasal irritations, nausea, headaches and skin rashes began. Eventually they had to remove 27,000 square yards of carpeting. Some of those employees are now so chemically hypersensitive that they cannot return to work. Many of the workers were Ph.D. scientists who originally were skeptical that people could

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If truckloads of dust with the same concentration of toxic chemicals found in most carpets were deposited outside, these locations would be considered hazardous waste dumps.

become hypersensitive to chemicals. The problem was believed to be a chemical called 4-phenyl-cyclohexene that was given off by the new carpeting. Nearly a hundred other chemicals were found in the air, some of which also could be at fault. People can tolerate much higher levels of exposure to toxins than parrots can, so exposure to new carpet is a serious concern of parrot owners.

Carpet Worst Indoor Source of Pollution

If truckloads of dust with the same concentration of toxic chemicals found in most carpets were deposited outside, these locations would be considered hazardous waste dumps. Carpets act as deep reservoirs for toxic compounds, dangerous bacteria, and allergens even if the rugs are vacuumed regularly. Plush and shag carpets are more of a problem than short pile carpet. The tens of millions of mold spores, dust mites, and other microorganisms that thrive in carpet can only be combated by keeping the carpet dry and clean.

Whenever possible, homeowners who keep parrots indoors should install ceramic tile, wood, or any flooring other than carpet. Cotton area rugs that can be cleaned in a washing machine are a good alternative. Carpets outgas many volatile organic chemicals, such as 4-PC, a byproduct of latex used in the backing of many new carpets and that causes the "new carpet" odor. Other VOCs in carpeting are acetone, tuluene, xylene, formaldehyde and benzenes. Carpet dyes, coatings for fire, stain, and mildew resistance, fungicides, and pesticides in carpet also contain VOCs. Carpets accumulate other chemical contaminants, dust and dust mites, bacteria, and fungi, as well as absorbing up to twenty percent of their weight in moisture. Pesticides that break down within days outdoors may last for years in carpets, where they are protected from the degradation caused by sunlight and bacteria. Here are a few suggestions to implement if it is necessary to use carpeting in your home.

- If you must install new carpet in your home, remove all parrots and other pets to an area that does not share the same air system, preferably to a different location altogether, during the installation.
- Ask the installer to air out new carpet before installation, or it can be rolled out (perhaps in a warehouse) and allowed to outgas before being brought indoors. Ideally, it should not be installed until the new carpet smell can no longer be detected, but that may be impractical as it can take as long as several months, depending on the chemicals in the carpet. Even a few days of airing out helps.
- If the carpet can be tacked down rather than glued, the problem of toxins from adhesives is avoided.
- After it is installed, keep windows open and fans running for two or three days.
- Make sure that the installer uses safe adhesives to seal the seams.
- Vacuum carpet frequently and deep clean annually.
- Use a HEPA vacuum cleaner, which has an ultrafine filter that traps tiny dust particles or a vacuum cleaner with special water filters. The cleanest system is a central vacuum with an outdoor exhaust.

Although carpet removal is the single most effective means of improving indoor air quality, parrot owners who are concerned about reducing the exposure to toxic substances of their family and birds can make many other less expensive changes. Modest alterations in one's daily choices and routines can significantly reduce indoor pollution. Armed with a better understanding of the toxic substances found in common products and structures, we can provide an indoor safe haven for our parrots as well as our families.



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