The Hidden Dangers of HOME REPAIR

Whether it is repainting the powder room or adding a second floor, home repair and remodeling projects can expose pets to potentially hazardous substances. Pet owners may become so involved with the tasks at hand that they forget to consider the risk to their pets. Veterinary technicians should be aware of these potential hazards so they can educate pet owners. Ideally, pets should be removed from areas being repaired or remodeled. Because this is not always possible, veterinary technicians should be able to recognize when a presenting complaint may be the result of exposure to construction materials. Therefore, when taking a history, it is important to ask whether any home-improvement projects are under way.

LEAD

Lead exposure can be a significant threat to pets. Lead paint may be a hazard in some older homes. Although legislation passed in 1978 banned the use of lead-based paints in residences, homes built before this time are likely to have surfaces painted with lead-based paint. Exposure to lead can occur through the ingestion of paint chips or inhalation of the dust produced when surfaces are scraped or sanded. The Environmental Protection Agency offers advice to help determine whether a remodeling project will pose a risk. Linoleum, plumbing supplies, putty, solder lubricants, rug pads, and drapery weights are all potential sources of lead that could be present during remodeling projects.

Cats and dogs that have been exposed to lead may exhibit gastrointestinal (GI) signs, behavior changes, signs of anemia, and/or neurologic effects. A blood lead test is helpful in making a diagnosis, but blood lead levels may not indicate the total body burden of lead. Nucleated erythrocytes may be found. Basophilic stippling, anisocytosis, poikilocytosis, polychromasia, echinocytosis, target cells, and leukocytosis are sometimes observed on a differential smear. Elevated liver enzymes may also be present.

In cases of recent ingestion of lead-based paint chips, emesis is indicated. Hydrogen peroxide or apomorphine may be used as directed by the attending veterinarian. Other methods of decontamination may include cathartics, enemas, whole bowel irrigation, or surgical removal from the GI tract. Magnesium sulfate, used as a cathartic, may precipitate lead in the GI tract and decrease absorption. When animals present with a history of acute lead poisoning and signs indicative of lead poisoning (e.g., central nervous system and GI problems), symptomatic and supportive treatment should be initiated as needed. Radiographs can be obtained to look for lead in the GI tract. Chelation therapy (i.e., administration of a drug that will form a soluble complex with the lead, thereby making it excretable in urine) may be indicated. Chelation therapy should not be performed if lead is present in the GI tract, as chelators can increase the absorption of lead from the GI tract.

MOLD

Mold can be found in some unexpected places, such as behind walls or under carpeting, during remodeling or...
repair projects. Some molds have been shown to produce mycotoxins. The EPA has reported that several species of molds are potentially hazardous (e.g., Stachybotrys chartarum, Aspergillus versicolor, toxigenic species of Penicillium). However, the discovery of mold in a residence does not necessarily mean that people or pets in the home have been exposed. If mold is discovered, it is important for pet owners to contact the EPA for more information regarding appropriate cleanup.

Although anecdotal accounts of presumed mold-induced illness in humans exist, the scientific community has not confirmed that inhalant exposure to molds can cause building-related illness. Pets may be exposed to residential molds in the home. Because pets, primarily dogs, can be indiscriminate eaters, there is potential for mycotoxin ingestion when an animal licks, chews, or otherwise ingests a mold-covered object.

Mycotoxins ingested from moldy food have been known to cause GI, cardiac, and neurologic effects in pets. The most serious risk in these cases arises from prolonged tremors or seizures. Whether similar signs occur through the ingestion of residential mold is unknown, but it is prudent to prevent this type of exposure in pets.

Decontamination, including gastric lavage and administration of activated charcoal, may be indicated for animals exposed to mold. Other symptomatic and supportive care should be initiated as needed. Stomach contents, vomitus, or a sample of the original mold may be chilled or frozen until it can be sent to a laboratory for evaluation.

PAINTS

Paints have a wide range of safety levels in terms of being ingested by pets. When ingested in relatively small quantities, most latex paints are considered nontoxic; however, GI upset may still occur. Specialty paints and artists’ paints may contain heavy metals and should be regarded as potentially hazardous; oil-based paints are potentially toxic as well. Oral exposure may occur when the animal directly licks wet paint or when it rubs against or walks in wet paint and later grooms the paint from its coat or paws. Dried paint may be shaved or clipped from the pet’s coat. Paint thinner and similar substances should never be used to remove paint from a pet’s coat or skin because of the risk of chemical burns.


**Glossary**

Anisocytosis — Considerable variation in the size of cells that are normally uniform, especially red blood cells

Basophilic stippling — Granular pattern in red blood cells that occurs when they are exposed to basic staining due to the presence of free basophil granules in the cell protoplasm

Echinocytosis — Presence of spiculated cells with numerous short evenly spaced blunt to sharp surface projections of uniform size and shape

Leukocytosis — Increased numbers of leukocytes in the peripheral blood

Nucleated erythrocytes — Immature red blood cells that still contain the nucleus

Poikilocytosis — Presence of red blood cells with irregular shapes

Polychromasia — Presence of many red blood cells that have an affinity for acid, basic, or neutral stains

Target cells — Red blood cells with a dark center surrounded by a light band that again is encircled by a darker ring
When animals have been exposed to paint, it is important for veterinary technicians to obtain an accurate history, including the type of paint as well as its ingredients and their concentrations. This information can often be found on the product label.

**CONSTRUCTION GLUE**

A large variation of signs may occur following exposure to glues and adhesives. Some construction glues are nontoxic and may cause only mild GI upset. Others can be significantly irritating, and some expanding wood glues can cause a serious foreign body obstruction in the GI tract. Each incidence of exposure should be evaluated based on the type of glue and clinical observations.

**PHYSICAL HAZARDS**

Any number of physical hazards may be present in a home that is being repaired or remodeled. Indiscriminate eaters have been known to consume items ranging from insulata-

**PREVENTION IS KEY**

Veterinary technicians should advise pet owners to keep pets completely out of areas being repaired or remodeled in their homes. In some cases, placing animals in pet day care or a boarding facility may be advisable to prevent detrimental exposure to potentially dangerous substances.

When exposure does occur, owners should be instructed to bring the original product container with them to the veterinary facility. The label may contain important information on how to treat accidental ingestion or otherwise harmful exposure to the product. Further assistance and evaluation may be provided on a case-by-case basis by calling the ASPCA Animal Poison Control Center.

**REFERENCES**


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