

## Memorial-610 Hospital for Animals

910 Antoine Drive • Houston, Texas 77024

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<http://www.mem610.com>

# Xylitol Toxicosis

## Information for Pet Owners

by Carlye Rose, DVM, DABVP (Canine/Feline)

### WHAT IS XYLITOL?

Xylitol is a white, crystalline sugar alcohol that is used as a sugar substitute sweetener in many products. In the United States, xylitol's use has grown rapidly over the last few years. It is increasingly found in sugar-free gum, candy, and foods. It is also available in granulated form for baking. It is popular among diabetics and those on low-carbohydrate diets. It also is increasingly being included in toothpastes and other oral hygiene products due to its anti-cavity properties.

### HOW IT IS XYLITOL DIFFERENT IN HUMANS VS DOGS?

In humans, xylitol is absorbed slowly and has little to no effect on blood sugar or insulin levels. However, in dogs, xylitol is quickly absorbed into the bloodstream. It then acts as a strong promoter of insulin release which causes profound hypoglycemia (low blood sugar). In dogs, xylitol can also cause liver failure, bleeding, and death.

Xylitol's effect on insulin and blood glucose in the cat is not clear at this time.

### HOW MUCH XYLITOL IS TOXIC TO MY PET?

**It takes very little xylitol to cause signs of toxicity in the dog.** The ASPCA Animal Poison Control Center (APCC) has reported that dogs ingesting >0.1 g/kg of xylitol should be considered at risk for hypoglycemia. At doses exceeding 0.5 g/kg, there is risk of liver failure and other more serious effects.

It is often difficult to determine exactly how many grams of xylitol were ingested. Although the xylitol content is more commonly listed on food products, this is not the case with many chewing gums. In general, we estimate that one or two pieces of gum could cause hypoglycemia in a 20 lb dog. For granulated (baking) xylitol, one cup weighs about 190g.

### WHAT ARE THE SYMPTOMS? WHAT TESTS CAN BE DONE TO DIAGNOSE XYLITOL TOXICITY?

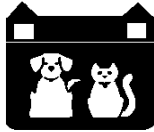
Diagnosis is made on history of ingestion, symptoms, and blood work. Because of the rapid progression of the toxic effect, testing for xylitol in the blood is not realistic.

- **Vomiting** is often the first symptom
- Signs of **hypoglycemia** (lethargy, weakness) occur rapidly
- **Diarrhea, collapse** and **seizures** may be seen.

*Dogs that develop acute liver failure may not show signs of hypoglycemia immediately after ingestion of xylitol.*

### WHAT OTHER TOXINS SHOULD BE RULED OUT?

Other causes of low blood sugar should be ruled out (overdose of insulin, young or toy breed – related hypoglycemia, etc). In addition, many other toxins can cause liver disease (sago palms,



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hepatotoxic mushrooms, Tylenol ®, aflatoxins, other drugs). Infectious liver diseases, shunts, and cancer must be considered as well.

### IS XYLITOL POISONING TREATABLE?

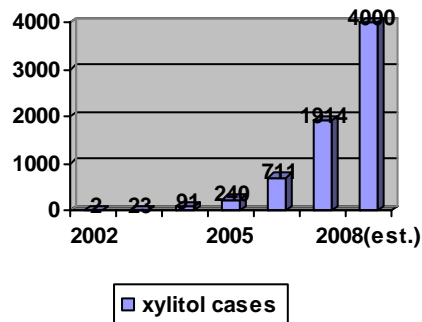
- **All xylitol exposures should be evaluated by a veterinarian immediately.** This is because of xylitol's rapid absorption, with risk of severe hypoglycemia, liver failure, and even death.
- There is no antidote for xylitol toxicity.
- *Remember that even tiny doses—1 to 2 pieces of xylitol-containing gum-- can be toxic to a dog.*
- Do not induce vomiting or give anything orally unless directed by your veterinarian.

### WHAT IS THE PROGNOSIS?

The prognosis is good for uncomplicated hypoglycemia when treatment can be instituted promptly. Liver failure and bleeding disorders generally carry a poor prognosis. Dogs that develop stupor or coma have a grave prognosis.

### SUMMARY: XYLITOL- IS IT AN EPIDEMIC?

*"In the last few years, xylitol has grown from being a rare (or non-existent) problem to being a very common one. The dictionary defines epidemic as 'affecting or tending to affect a disproportionately large number of individuals within a population, community, or region at the same time'...so... technically you can call xylitol an epidemic."* (Eric Dunayer, MS, VMD, DABT, DABVT; ASPCA APCC; VIN, 8/16/2008)



The number of products containing xylitol has been steadily rising over the last few years, with a resultant surge in xylitol cases reported to the ASPCA APCC.

**Xylitol poisoning is preventable. Xylitol-containing foods or gums should not be consumed in pet-owning households.**