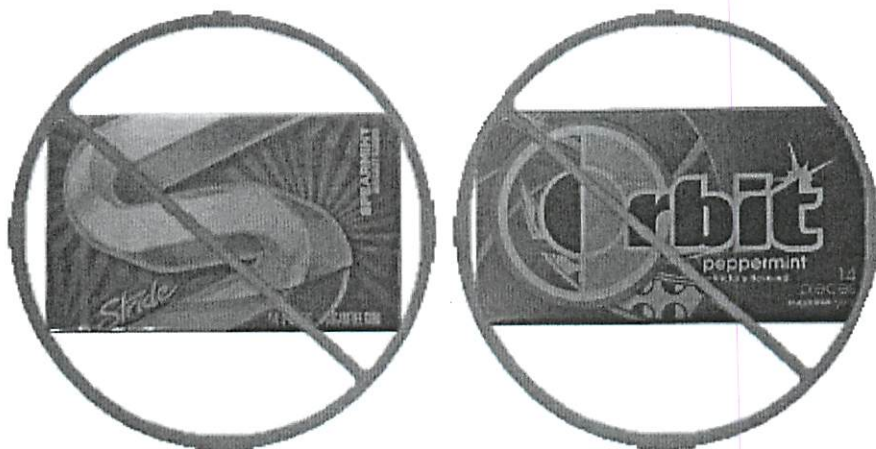


Xylitol Poisoning

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Sugar substitutes are big business. Less sugar can mean weight loss, improved health, diabetic control, and even reduced tooth decay. The quest for products that can sweeten and cook like sugar is ongoing. Xylitol is common sugar substitute, especially when it comes to sugarless gum, toothpaste, and more recently certain brands of peanut butter for body-builders. Not only does xylitol offer sweetness without calories, it also has antibacterial properties in the mouth so as to reduce periodontal disease and has been found to have far reaching health benefits in other areas of the body. Xylitol may help with osteoporosis, preventing ear and throat infections, and may reduce risk of endometriosis, uterine fibroids, even breast cancer.

Sounds wonderful and maybe it is – if you are a human. If you are a dog, xylitol is potentially lethal.

Two Deadly Effects of Xylitol

Hypoglycemia

In the canine body, the pancreas confuses xylitol with real sugar and releases insulin to store the sugar. The problem is that xylitol does not offer the extra calories of sugar and the rush of insulin only serves to remove the real sugar from the circulation. Blood sugar levels plummet resulting in weakness, disorientation, tremors, and potentially seizures.

It does not take many sticks of gum to poison a dog, especially a small dog (see below for toxic doses). Symptoms typically begin within 30 minutes and can last for more than 12 hours but, since xylitol can be absorbed into the body slowly, symptoms may not begin until 12 hours after the xylitol was eaten. Symptoms begin with vomiting and then progress to incoordination, collapse, and seizures.

Hepatic Necrosis

The other reaction associated with xylitol in dogs is destruction of liver tissue. How this happens remains unknown but the doses of xylitol required to produce this effect are much higher than the hypoglycemic doses described above. Signs take longer to show up (typically 8-12 hours) and surprisingly not all dogs who experience hepatic necrosis will have had hypoglycemia first. A lucky dog experiences only temporary illness but alternatively, a complete and acute liver failure can result with death following. Internal hemorrhage and inability of blood to clot is commonly involved.

How Much Xylitol Is Dangerous?

The hypoglycemic dose of xylitol for dogs is considered to be approximately 0.075 - 0.1 grams per kilogram of body weight (about 0.03 - 0.045 gram per pound). Chewing gum pieces have surprisingly variable amounts of xylitol depending on their flavor. (For example, most flavors of Orbit gum have about 0.009 grams of xylitol but their strawberry mint flavor has over 0.3 grams per piece). A small dog can easily be poisoned by a single stick of gum depending on the flavor, how much the dog ate, and the size of the dog.

Treatment

Ideally, the patient can be seen quickly (within 30 minutes) and can be made to vomit the gum or candy. Beyond this, a sugar IV drip is prudent for a good 24 hours. Liver enzyme and blood clotting tests are monitored for two to three days. Blood levels of potassium are ideally monitored as well. Elevated blood phosphorus levels often bode poorly, and patients that develop hepatic necrosis usually do not survive.

What about Cats?

So far the ASPCA Animal Poison Control has no reports of xylitol toxicity in cats. At this time, feline toxicity is unknown.

What about Xylitol-Containing Mouthwashes for Pets?

The oral health benefits of xylitol do seem to hold true for dogs if appropriately low doses of xylitol are used.

Several products have been marketed for canine oral care, specifically for dogs that do not tolerate other methods of dental home care. These product is mixed in drinking water to provide antibacterial benefits. Aquadent® by Virbac comes in a 500cc (half liter) bottle that contains a total of 2.5 grams of xylitol as well as in small packets. Similarly, Breathalyser Plus® from Ceva is similarly packaged. If you follow the dosing instructions on the bottle or packet, there should be no problems.

Trouble could occur if there are animals of different sizes drinking from the same water bowl (one should dose for the smallest animal to use the bowl to be sure overdose is not possible), or if a dog is on medication or has a disease causing excessive water consumption. A dog finding the bottle and chewing it up, drinking a substantial quantity of the undiluted product could easily be poisoned, depending on the dog's size.

Keep this phone number handy:

(888) 426-4435



This is the number for the ASPCA Animal Poison Control Center (<https://www.asPCA.org/pet-care/animal-poison-control>), a 24-hour service whereby you can speak directly to a veterinary toxicology specialist. In addition to advice, you will receive a case number which your veterinarian can use for further consultation at no additional charge.

Consultations are approximately \$65, but if your pet has a HomeAgain microchip and is enrolled in the full service registration program, poison control consultations are free. Simply provide your pet's microchip number to the person on the phone. Any brand of microchip can be registered in the HomeAgain program for a small fee by calling 1-888-HomeAgain.

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