

# Xylitol Toxicosis

- Xylitol is a sugar substitute that is safe for people but can cause low blood sugar and liver damage in dogs.
- Toxic effects of xylitol in dogs can occur within 10 to 15 minutes, but may be delayed up to a few days.
- If you suspect that your dog has eaten a product containing xylitol, see your veterinarian immediately.
- Children should be advised to never give candy or gum to pets.

## What Is Xylitol Toxicosis?

Xylitol is a sugar substitute that is commonly used in sugar-free gum and candy, nicotine gum, toothpaste, baked goods, and chewable vitamins. Xylitol has been used safely in these human products for many years, but it is toxic (poisonous) when eaten by dogs. Xylitol toxicosis occurs when a dog eats enough of the product to cause damaging effects in the body. Currently, xylitol is not known to be toxic in cats. Other artificial sweeteners, such as aspartame, are not known to be toxic in pets.

In dogs, xylitol stimulates the pancreas to release insulin. Insulin is a hormone that helps the body's cells take glucose (sugar) from the bloodstream and use it for cellular functioning. When cells take too much sugar from the blood (in response to increased insulin levels), the pet's blood sugar can drop dangerously low—a condition known as *hypoglycemia*. This effect is not seen in people who eat xylitol. Xylitol can also cause liver damage in dogs. In severe cases, liver cells can die in large numbers, and the pet may develop liver failure.

## How Does Xylitol Toxicosis Occur?

Many cases of xylitol toxicosis in dogs are accidental. A pet may find and chew on a package of gum or candy or steal food from a countertop or table. Unfortunately, other cases of xylitol toxicosis occur when dogs are given a product containing xylitol. Children should be advised to never give candy or gum to pets. If you suspect that your dog has eaten a product containing xylitol, see your veterinarian immediately.

## What Are the Clinical Signs of Xylitol Toxicosis?

Signs of xylitol toxicosis can occur within 10 to 15 minutes of a pet eating xylitol but may be delayed for several hours. The most common side effect of xylitol toxicosis is hypoglycemia. Vomiting and seizures can also occur, as well as weakness and collapse. Liver damage can occur within a few hours or may be delayed for up to 3 days. Clinical signs of liver damage can include diarrhea, spontaneous bleeding and bruising, and vomiting.

## How Is Xylitol Toxicosis Diagnosed?

Diagnosis of xylitol toxicosis is commonly based on a history of recently eating xylitol. Your veterinarian may recommend blood testing, such as a chemistry panel and complete blood cell count (CBC), to assess the extent of the damage. If severe liver damage is suspected, additional diagnostic testing is warranted.

## What Are the Treatment and Outcome for Xylitol Toxicosis?

If it is recognized within a few hours that a pet has eaten xylitol, vomiting can be induced to remove the material from the stomach and limit further absorption. If the patient is very weak or minimally alert, vomiting is not recommended.

There is no specific antidote for xylitol toxicosis. Treatment may include intravenous fluid therapy (with a sterile sugar solution added to correct hypoglycemia), medications to help control vomiting, and additional medications and supplements to help support liver functioning. Blood sugar levels should be monitored closely during hospitalization.

Xylitol toxicosis can be fatal. However, pets can survive if the condition is recognized, diagnosed, and treated quickly. If complications are limited to hypoglycemia, the pet may recover fully. However, if severe liver damage has occurred, the outcome is less likely to be favorable.