

+ EMERGENCY ACTION GUIDELINES

XYLITOL POISONING

SUSPECTED OR WITNESSED INGESTION

ASYMPTOMATIC

>0.05G/KG¹

note: hypoglycaemia has been reported in ingestion of 0.03g/kg so decontamination <0.05g/kg should be considered.³

> 0.5G/KG

monitor for signs of liver toxicity

HOSPITALISATION

INDUCE EMESIS

Emedog @0.1mg/kg SC (unless contraindicated)

CHECK BLOOD GLUCOSE

High carbohydrate diet orally (if 0.05-0.5g/kg of Xylitol exposure)

5% IV Dextrose infusion even if blood glucose normal on presentation (if >0.5g/kg of Xylitol exposure)⁴

CONTINUE TO MONITOR BLOOD GLUCOSE Q 1-2HRS FOR 12HRS¹

BLOOD GLUCOSE STABLE

YES

DISCONTINUE TREATMENT 24 HOURS AFTER INITIAL EXPOSURE

IDEALLY

- Xylitol is a potent stimulator of insulin release in dogs, resulting in hypoglycaemia
- Fast absorption, peak plasma concentration approx. 30 min following ingestion¹
- Hypoglycaemia within 1hr (but may be delayed to 12-48hrs)
- Hepatotoxicity can occur at doses >0.5g/kg and is idiosyncratic
- Hepatic failure typically occurs between 9-72 hrs post-ingestion and can occur in patients that do not develop an initial hypoglycaemia^{2,3,4}

CALCULATING AN EXPOSURE DOSE²:

- **CHEWING GUM:** If xylitol is the first sugar alcohol listed = dose will be the total amount of sugar alcohol per piece of gum; if not - assume 0.3-1g of xylitol/piece²
- **BAKED GOODS/POWDERED XYLITOL:** assume 1 cup of xylitol approx. 190g²
- **XYLITOL MAY BE LISTED AS E-NUMBER E967 OR KNOWN AS BIRCH SUGAR**
- **XYLITOL can also be found in sugar free confectionery, oral care products (e.g., toothpaste) as well as some medications and supplements**

SYMPTOMATIC

Clinical signs related to hypoglycaemia and/or hepatic dysfunction; lethargy, vomiting, ataxia, tremors, collapse and seizure activity; petechiae, ecchymoses and gastrointestinal haemorrhage (if coagulopathy present).

BLOOD GLUCOSE + ELECTROLYTES

- Blood glucose (normal 3.3-6.3mmol/L)
- Ideally CBC (although non-specific)
- Biochemistry (in particular hepatic markers)
- Electrolytes (hypokalaemia, initial hypophosphataemia and subsequent hyperphosphataemia common)
- Coagulation profile (PT, aPTT)

HYPOGLYCAEMIA

PLACE IV CATHETER BOLUS OF GLUCOSE IV

Administer 0.25-5g/kg of 50% dextrose/glucose IV over 10 minutes (i.e., 0.5-1ml/kg of 50% solution).
Dilute 1:4 with 0.9% NaCl, Hartmann's or water for injection

FOLLOWED BY

5% DEXTROSE/GLUCOSE IV INFUSION (CRI)
(EASY CALCULATION: 100ML OF 50% DEXTROSE/GLUCOSE TO 1LITRE OF IV FLUID AFTER REMOVING 100ML FROM IV FLUID BAG)

MONITOR BLOOD GLUCOSE Q 1-2HRS

MONITOR ELECTROLYTES + PHOSPHORUS Q 4-6HRS

CONSIDER LIVER PROTECTANTS

SAME, Silymarin, N-acetylcysteine, Vitamin E (not evidence-based but potential benefit)

SIGNS OF HEPATOPATHY

Increased liver enzymes, hypoalbuminaemia, hypocholesterolaemia, decreased BUN, hyperammonaemia, hyperbilirubinaemia.
Coagulopathy may occur secondary to hepatic failure or disseminated intravascular coagulation (DIC). Monitor for signs: petechiation, ecchymosis, suspected GI bleed, HCT drop, increase in PT & aPTT, decreased fibrinogen

CONTINUE CRI UNTIL SYMPTOMS RESOLVE

Once asymptomatic and glucose stable-continue for 24hrs and reassess.

TEST LIVER VALUES 24HRS AND 72HRS AFTER THE EXPOSURE

CONTINUE GLUCOSE CRI AND RULE OUT OTHER CAUSES OF ACUTE LIVER FAILURE

Including other hepatotoxic agents (acetaminophen, aflatoxins, Amanita mushrooms, blue-green algae, sago palms, heavy metals such as iron, copper, and zinc)

TREAT ACUTE LIVER FAILURE ACCORDINGLY

(including plasma transfusion/replacement of coagulation factors & Vitamin K1)
Prognosis is poor to guarded in cases of acute hepatic failure, requiring early aggressive treatment⁵. Hyperphosphosphataemia is a negative prognostic indicator⁵.

THIS DOCUMENT IS INTENDED FOR USE AS A GUIDELINE ONLY. DOSES ARE REFERENCED AS AT THE PUBLICATION DATE. INDIVIDUAL CASES AND TOXIC DOSES MAY VARY.

+ USEFUL CONTACTS

DÔMES PHARMA

Your partner in poisoning.

www.domespharma.co.uk

T 0800 0385868 | E help@domespharma.com

VETERINARY PATHOLOGY GROUP

Toxicology testing.

www.thevpg.co.uk | T 0113 2870175

VETERINARY POISONS INFORMATION SERVICE (VPIS)

Dedicated poisoning information service.

www.vpisglobal.com | T 0207 30 55 055

TOX BOX/ELIXIR SERVICE

Immediate access to emergency poisoning products

www.vpisglobal.com | T 0207 30 55 055

+ PRODUCTS

EMEDOG

- Veterinary licensed apomorphine for dogs
- Packs of 5 or 20x 1ml vials, with a 4-year, unopened shelf life



TO FIND OUT MORE ABOUT THE ANTI-TOX RANGE FROM DÔMES PHARMA, VISIT WWW.DOMESPHARMA.CO.UK



EMEDOG, 1 mg/ml, solution for injection for dogs contains Apomorphine. Legal category [POM-V]. For the induction of emesis in dogs.

Use medicines responsibly. www.noah.co.uk/responsible For further information and to view the full Summary of Product Characteristics, please contact TVM-UK Animal Health Ltd, Kirtlington Business Centre, Slade Farm, Kirtlington, Oxfordshire, UK. OX5 3JA. Tel. 0800 0385868. Email help@domespharma.co.uk. Dômes Pharma is the trading name of TVM UK Animal Health Ltd. Prescription decisions are for the person issuing the prescription alone.

Reference: 1. Murphy, L. A., & Coleman, A. E. (2012). Xylitol toxicosis in dogs. The Veterinary clinics of North America. Small animal practice, 42(2), 307-vii. 2. Dunayer, E.K. (2006). New findings on the effects of xylitol ingestion in dogs. Vet Med; 12:791-796 3. DuHadway, M. R., Sharp, C. R., Meyers, K. E., & Koenigshof, A. M. (2015). Retrospective evaluation of xylitol ingestion in dogs: 192 cases (2007-2012). Journal of veterinary emergency and critical care (San Antonio, Tex. : 2001), 25(5), 646-654. 4. Dunayer, E. K., & Gwaltney-Brant, S. M. (2006). Acute hepatic failure and coagulopathy associated with xylitol ingestion in eight dogs. Journal of the American Veterinary Medical Association, 229(7), 1113-1117. 5. Murphy, L. A., & Dunayer, E. K. (2018). Xylitol Toxicosis in Dogs: An Update. The Veterinary clinics of North America. Small animal practice, 48(6), 985-990.