

+ EMERGENCY ACTION GUIDELINES

IBUPROFEN
POISONING

SUSPECTED/CONFIRMED INGESTION

25-100 MG/KG (DOG)

GASTROINTESTINAL EFFECTS^{1,4}

Clinical signs → can be seen within 2-24 hours of ingestion:

- Lethargy and anorexia
- Nausea and vomiting
- Diarrhoea
- Abdominal pain
- GIT ulceration/perforation

100-200 MG/KG (DOG)

ACUTE KIDNEY INJURY (AKI)^{1,4}

Renal impairment occurs from 12 hours onwards. In addition to GIT symptoms clinical findings may include:

- Elevated urea, creatinine*, SDMA, phosphorus
- Polyuria, oliguria or anuria depending on stage of renal injury
- Tubular casts on urinalysis
- Renomegaly with pain on palpation
- Hypo or hyperkalaemia (depending on stage)

Older patients or those with pre-existing renal disease, hypovolaemia or hypotension may show signs at lower ingested doses

Patients developing AKI may not be azotaemic initially

*Rising creatinine levels within the normal range and/or reduction in UOP (urine output) may be recognised first in early cases (refer to IRIS AKI guidelines)

> 400MG/KG (DOG)

CNS SIGNS^{1,4}

Clinical signs → may occur within 30 mins of ingestion:

- Ataxia
- Depression
- Seizures
- Coma

Minimum lethal dose in dog is 600mg/kg

INDUCE EMESIS

- **Dogs: Emedog** @0.1mg/kg SC (if not already vomiting and neurologically stable)
- **Cats:** Alpha 2 agonist³
- Likely not useful > 3 hours following ingestion (peak plasma concentrations in dogs from 30 minutes to 3 hours, depending on the formulation – liquid formulations absorbed faster than tablets, presence of food decreases and slows absorption)
- Consider gastric lavage followed by Carbodote administration via stomach tube if contraindications exist such as CNS depression (see Emedog SPC for list of contraindications to inducing emesis)

ADMINISTER ACTIVATED CHARCOAL (AC)

Carbodote Prime: (AC + sodium sulphate), single administration. Due to enterohepatic recirculation, this should be followed by:
Carbodote Repeat: (AC only), every 4-6 hours for 24-48 hours (Refer to packaging for instructions on how much to administer)

TREAT GIT DISTURBANCES

1. Maintain hydration and blood pressure
 - Replace fluid losses and provide ongoing fluid maintenance
2. Protection of gastrointestinal mucosa
 - Required for at least 7-14 days
 - Omeprazole q12-24 hours (+/- ranitidine q12 hours)
 - Misoprostol (synthetic prostaglandin) – 2-5µg/kg PO q8-12 hours (dog), 5µg/kg PO q8 hours (cat)
 - Sucralfate q8-12 hours
3. Analgesia for abdominal discomfort (e.g., buprenorphine)
4. Antiemetics as necessary (e.g., maropitant, metoclopramide)
5. Dietary support
6. Monitor haematology, biochemistry and electrolytes – frequency dependent on severity of clinical signs

FACTS

- Severity of clinical signs is dose dependent but not exclusive (i.e. clinical signs may develop at lower/higher doses than stated – doses as low as 5mg/kg can be toxic and require treatment)
- **Cats** (and ferrets) are thought to be at least twice as sensitive as dogs
- Common formulations: 200 or 400mg strength tablets, 5% or 10% gel, 40mg/ml liquid
- Ibuprofen is sometimes combined with other potential toxins (e.g., paracetamol or xylitol in cold/flu medication)

NO

SEIZURES

YES

TREAT WITH ZIAPAM (DIAZEPAM)

@ 0.5mg/kg IV (up to 3 doses at least 10 min apart)

OTHER CONSIDERATIONS

- Provide oxygenation and assisted ventilation where necessary
- Monitor temperature and treat aberrations appropriately
- Maintenance of blood pressure
- Monitor cardiac function
- Acid base status

RECOVERY

TREAT AKI

1. Ensure any concurrent nephrotoxic drugs have been discontinued
2. Place IV catheter (consider jugular catheter as facilitates measurement of CVP (central venous pressure) and repeated blood sampling)
3. Place urinary catheter and monitor UOP via closed collection system (normal UOP = 1-2 ml/kg/h). This will help with early identification of olig/anuria and tailoring of IVFT requirements (matching 'ins & outs')
4. Replace fluid losses with isotonic crystalloid (e.g., Hartmanns) to correct existing dehydration or hypovolaemia
5. Continue maintenance rate appropriate to maintain hydration, support renal blood flow and GFR (forced diuresis will not potentiate elimination of ibuprofen)
6. Serial monitoring of haematology, biochemistry, electrolytes, acid base status, BP - treat disturbances as required

Where oliguria (UOP <1-2ml/kg/h in a well hydrated patient) or anuria (no urine production) present, fluid overload is a common complication.

Clinical signs of fluid overload:

- Chemosis, exophthalmos, serous nasal discharge
- Peripheral oedema (easier to detect around Achilles tendon)
- Tachypnoea/dyspnoea with pulmonary crackles
- Weight gain (ensure patients are weighed frequently)
- Elevated systolic BP or CVP (normal CVP: 0-5 cm H2O; >10 cm H2O suggestive of fluid overload)

If olig/anuria is refractory to fluid therapy consider attempting diuretic therapy (e.g., furosemide) or referral for renal replacement therapy.

+ 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

ZIAPAM

- The first veterinary licensed injectable diazepam for dogs and cats
- Packs contain 6 x 2ml vials of 5mg/ml



+ DON'T FORGET ACTIVATED CHARCOAL!

- Activated charcoal helps in the adsorption of multiple undesirable substances⁶
- Available as liquid or gel
- Repeated administrations will be required for substances that are enterohepatically recycled
- Take a look at our range of activated charcoals

THE
CARBODOTE
RANGE

Carbodote is a complementary feed.

THE
ANTI-TOX
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BE PREPARED FOR POISONING

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

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PHARMA

Emedog, 1 mg/ml, solution for injection for dogs contains Apomorphine. Legal category **POM-V**. For the induction of emesis in dogs. Ziapam 5mg/ml solution for injection for cats and dogs contains Diazepam. Legal category **POM-V**. In cats and dogs for the short-term management for convulsive disorders and skeletal muscle spasms of central and peripheral origin. As part of a pre-anaesthetic or sedation guidelines. 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. Dunayer, E. (2004). Ibuprofen toxicosis in dogs, cats, and ferrets. Veterinary Medicine; July; 580-585. 2. TVM329CarbAd. 3. Harvey, A, Tasker, S (eds.) (2013) BSAVA Manual of Feline Practice. Gloucester: British Small Animal Veterinary Association Pp. 139. Little, S. (ed) (2012). 4. Butty EM et al. (2022) Outcomes of nonsteroidal anti-inflammatory drug toxicosis treated with therapeutic plasma exchange in 62 dogs. J Vet Intern Med.

AT-008-A3.