**Diazepam**

**Diazedor (c,d), Ziapam (c,d), Diazemuls*, Diazepam*, Diazepam Rectubes*, Stesolid Rectal Tubes* POM-V, POM**

- **Client Information Leaflet:** Diazepam
- **Formulations**

Injectable: 5 mg/ml solution or emulsion; 2 mg/5 ml solution. Oral: 2 mg, 5 mg, 10 mg tablets. Rectal: 2 mg/ml (1.25 ml, 2.5 ml tubes), 4 mg/ml (2.5 ml tube) solutions.

- **Action**

Enhances activity of the major inhibitory central nervous system neurotransmitter, gamma-aminobutyric acid (GABA), through binding to the benzodiazepine site of the $GABA_A$receptor.

- **Use**
    - Anticonvulsant: diazepam is the drug of choice for the short-term emergency control of severe epileptic seizures and status epilepticus in dogs and cats.
    - Anxiolytic: used in behavioural medicine for anxiety- and fear-related disorders in dogs and cats, especially where there are signs of panic.
    - Skeletal muscle relaxant (e.g. urethral muscle spasm and tetanus).
    - Used in cats as an appetite stimulant and, due to the longer half-life in cats, can be used as mainenance therapy for epilepsy.

The anti-seizure effect in the dog is only maintained for around 20 minutes and should always be used as part of a balanced emergency seizure protocol; not effective as maintenance anti-seizure medication in the dog due to its short half-life. Diazepam is indicated in dogs with marked spinal pain due to muscle spasm, in combination with conventional analgesics. It may also be used in combination with ketamine to offset muscle hypertonicity associated with ketamine, and with opioids and/or acepromazine for pre-anaesthetic medication in critically ill animals. Provides very poor sedation or even excitation when used alone in healthy animals. Its amnesic properties mean it can be used during or immediately following an aversive experience to minimize the impact of such exposure. Best if used approximately 30 minutes before a fear-inducing event. Higher range doses are required for amnesic activity. Although it has been used for the management of urine spraying in cats, a high relapse rate upon withdrawal should be expected. Diazepam has a high lipid solubility, which facilitates its oral absorption and rapid central effects. Liver disease will prolong duration of action. In the short term, repeated doses of diazepam or a CRI will lead to drug accumulation and prolonged recovery in both species but particularly in cats, in which it may also cause liver injury. Flumazenil (a benzodiazepine antagonist) will reverse the effects of diazepam. The development of dependence to benzodiazepines may occur after regular use, even with therapy of only a few weeks, and the dose should be gradually reduced in these cases if the benzodiazepine is being withdrawn. Chronic dosing leads to a shortened half-life due to activation of the hepatic microsomal enzyme system and tolerance to the drug may develop in dogs.

**More +**

- **DOSES**

**When used for sedation is generally given as part of a combination. See Appendix for sedation protocols in cats and dogs.**

  - **Dogs**
    - Anxiolytic: 0.5–2.0 mg/kg p.o. prn.
    - Sedation and premedication: 0.2–0.5 mg/kg i.v., i.m.
    - Skeletal muscle relaxation: 2–10 mg/dog p.o. q8–12h.
    - Emergency management of seizures, including status epilepticus: bolus dose of 0.5–1 mg/kg i.v., or intrarectally if venous access is not available. Time to onset of clinical effect is 2–3 min for i.v. use; therefore, repeat every 10 min if no clinical effect, up to 3 times. Additional doses may be administered if appropriate supportive care facilities are available (for support of respiration).
    - CRI for control of status epilepticus or cluster seizures: initial rate 0.5–2 mg/kg/h, titrated to effect.
  - **Cats**
    - Anxiolytic: 0.2–0.4 mg/kg p.o. q8h.
    - Appetite stimulant: 0.1–0.2 mg/kg i.v. once.
    - Behavioural modification of urine spraying and muscle relaxation: 1.25–5 mg/cat p.o. q8h. The dose should be gradually increased to achieve the desired effect without concurrent sedation.
    - Emergency management of seizures, including status epilepticus: bolus dose of 0.5–1 mg/kg i.v., or intrarectally if venous access is not available. Time to onset of clinical effect is 2–3 min for i.v. use; therefore, repeat every 10 min if there is no clinical effect, up to maximum of 3 times.
    - CRI for the control of status epilepticus or cluster seizures: initial rate of 0.5 mg/kg/h. Care should be taken to avoid overdosing; discontinue if cats demonstrate excessive sedation. Consider monitoring liver parameters.
    - Maintenance for epilepsy: 0.5–2 mg/kg q8–12h. However, oral diazepam has been associated with an idiosyncratic fatal hepatotoxicosis and therefore other safer anti-convulsants should be considered first.