



BAY AREA VET MRI

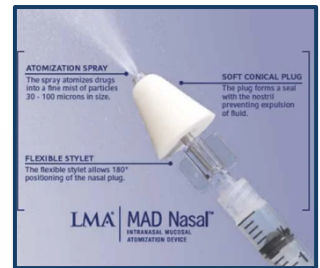
Animal MRI Center

At Home Emergency treatment of Cluster Seizures

Filippo Adamo, DVM, DECVN (Neurology)

1. Midazolam Intranasal (IN) using a dispensed dedicated atomizer (the syringes can also be pre-loaded)

- **Dogs or cats:** 0.2-04 mg/kg IN
 - it can be repeated up to 3 times after a minimum interval of 2 minutes if not effective.
 - Because their half-life is very short, midazolam is not effective at preventing future seizures in cluster events and should only be used with the intent to stop an ongoing, active seizure.



After the IN Midazolam, after patient recovery and when able to swallow, the pulse-therapy protocol for cluster seizures with levetiracetam or clorazepate can be started.

2. Pulse-therapy protocol with Levetiracetam (regular release, because of faster absorption)

- **Dogs or cats:** levetiracetam
 - An initial dose of ~60 mg/kg after a seizure occurred or pre-ictal signs were recognized by the owner,
 - followed by 30 mg/kg every 8 h until seizures does not occur for 2-3 days
 - This dose would be given in addition to their maintenance protocols and can be done even if their maintenance protocols include levetiracetam.



Alternatively

3. Pulse-therapy protocol with Clorazepate

- **Dogs:** clorazepate (Tranxene): 1-2 mg/kg orally every 8 hours for 2-3 days.



4. If the above treatments are not effective the patient need to be taken to a Veterinary Emergency Practice.



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Additional information about Pulse therapy with Levetiracetam:

Pulse therapy with Levetiracetam:

From:

Assessment into the usage of levetiracetam in a canine epilepsy clinic

Packer et al. BMC Veterinary Research (2015) 11:25 DOI 10.1186/s12917-015-0340-x

An initial dose of ~60 mg/kg PO after a seizure occurred or pre-ictal signs were recognized by the owner, followed by ~20 mg/kg PO every 8 h until seizures did not occur for 48 hours.

From:

What can we do for patients with refractory epilepsy?

Rebecca A. Packer, MS, DVM, DACVIM (Neurology/Neurosurgery)

Publication Article, dvm 360, October 2021, Volume 52, Issue 10

Cluster events can be minimized by using pulse therapies given upon recovery from a seizure and continued for 2 to 3 days, in addition to their maintenance multimodal medication protocols. For example, a patient may be prescribed an additional dose of regular-release levetiracetam (30-40 mg/kg orally every 8 hours for 3 days) to commence upon recovery from a seizure. This dose would be given in addition to their maintenance protocols and can be done even if their maintenance protocols include levetiracetam. The pulse dosage is discontinued after 2 to 3 days. Should the cluster of seizures continue despite the use of pulse therapies, then an increase in maintenance therapy may also be warranted. The goal of this pulse therapy is to reduce the severity of the cluster in terms of frequency, duration, or both. As such, the time to steady state must be relatively short so that effective serum concentrations are achieved quickly. Common “cluster buster” medications used in pulse protocols include:

- Dogs or cats: levetiracetam (regular release, 30-40 mg/kg orally every 8 hours for 2-3 days)

Alternatively

- Dogs: clorazepate (Tranxene) (1-2 mg/kg orally every 8 hours for 2-3 days)

In addition, midazolam or diazepam may be administered intranasally at 0.2 to 0.5 mg/kg once or twice to stop an active seizure (or rectally at 1-2 mg/kg), followed by the pulse protocol of levetiracetam or clorazepate upon recovery. Because their half-life is very short, midazolam and diazepam are not effective at preventing future seizures in pulse-therapy protocols for cluster events and should only be used with the intent to stop an ongoing, active seizure. Daily administration limits apply to benzodiazepines.