

Intranasal and Buccal Midazolam



What is midazolam?

Midazolam (Hypnovel) is a benzodiazepine medication like diazepam (Valium, Antenex, Ducene) and clonazepam (Rivotril, Paxam).

What is midazolam used for?

It is used for:

- emergency treatment of seizures
- sedation during medical procedures.

Medicine may be used in children in different ways or for different reasons than in adults.

This information may be different from the information in the manufacturers Consumer Information. The information reflects the usage of medicine under medical supervision by patients of Mater Children's Hospital.

How is midazolam given for seizures?

Midazolam can be:

- trickled inside the cheek—**buccal**.
- dripped into the nose—**intranasal**.

When giving midazolam in these ways it is absorbed directly into the blood stream. It does not need to be swallowed.

- Ambulance officers and emergency doctors give midazolam by injection into a muscle or vein.

When is intranasal or buccal midazolam used?

Intranasal midazolam can be used instead of rectal and intravenous drugs for the emergency treatment of seizures. It can be used both, in and out of hospital.

Intranasal midazolam may be prescribed for a child with epilepsy who:

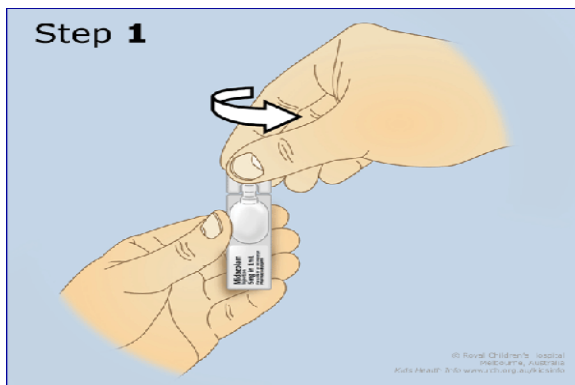
often has seizures lasting longer than five minutes
has a pattern of seizures that recur close together
lives a long way from emergency services.

Intranasal midazolam is not needed for all children with epilepsy. Your doctor will tell you whether your child might benefit from you being able to give intranasal midazolam.

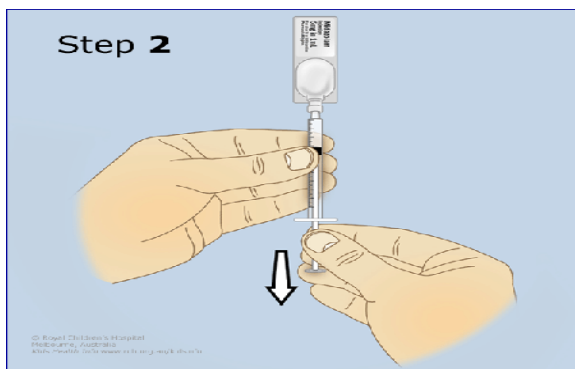
How to give buccal midazolam

- **Do not use medicine in glass ampoules.** Use only 1ml plastic ampoules containing 5mg of midazolam.

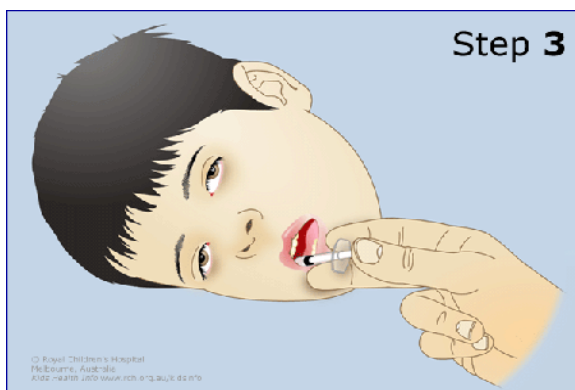
1: Open the plastic ampoule of midazolam by twisting off the top.



2: Hold the ampoule and syringe upright with the ampoule highest. Withdraw the amount of midazolam needed into the syringe. Push out any air bubbles and check the amount of midazolam in the syringe. Pull the ampoule and the syringe apart.



3: Lay your child on their side in the first aid (coma) position. Open their lips and trickle the midazolam from the syringe into the inside of the cheek lowest to the ground, between the lips and side teeth. There is no need to open your child's jaw. The solution does not need to be swallowed, but it does not matter if it is swallowed.



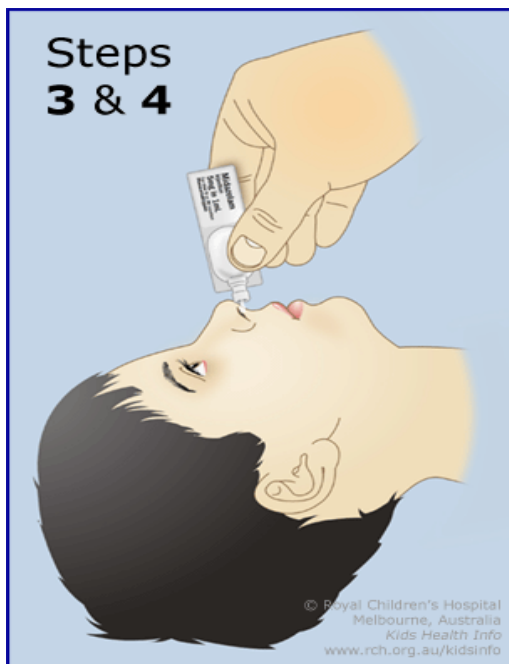
4: Watch your child's breathing and seizure activity while they remain lying on their side in the first aid (coma) position.

How to give intranasal midazolam

Do not use medicine in glass ampoules. Use only plastic ampoules containing 5 mg of midazolam in 1ml. Each ml is approximately 16 drops.

1: Open the midazolam plastic ampoule by twisting off the top.

2: Position your child so that their face is up and their head is tilted back slightly. This may mean rolling your child onto their back or side, away from the normal first aid (coma) position.



3: Drip two to three drops of the prescribed dose of midazolam into one nostril then two to three drops into the other nostril, alternating until all is given.



If using an atomiser:

1. Draw up Midazolam into the syringe as per buccal administration steps one and two

2. Connect atomizer to the syringe, insert tip into nostril as in the picture.

3. Apply reasonable pressure on syringe to administer the medication. This will deliver Midazolam as a fine mist-like spray into the nostril.

4: Put your child back on their side in the first aid (coma) position, watching their breathing and seizure activity.

First aid

First aid measures are very important. They include:

- preventing injury
- keeping your child's airway open and clear by putting them in the coma position on their side
- timing how long the seizure lasts.

Unless your doctor gives you different instructions, call an ambulance before administering midazolam.

Effects of midazolam

Midazolam has a sedative effect and your child may be sleepy for some time afterwards. Headache, nausea (feeling sick), vomiting and hiccups may also happen. In rare cases, your child may become agitated, hostile or aggressive after having midazolam.

Your child may have shallow or slow breathing after having Midazolam. If this happens, your child may need mouth-to-mouth resuscitation and you will need an ambulance.

Key points to remember

Use the plastic ampoules containing 5mg in 1ml (NOT glass ampoules or plastic ampoules of other sizes or strengths).

Midazolam needs to travel where your child goes, in case of a seizure when away from home.

It is very important to follow your doctor's advice on when and how to give midazolam, when to phone an ambulance and when to take your child to hospital.

It is helpful for families and people who care for your child to do a first aid course to improve their ability and confidence in emergency situations. First aid courses are provided by the Queensland Ambulance 1300 369 003 and some local community health services.

Midazolam needs to be stored at normal room temperature (below 25° C), protected from light (in a box or wrapped in foil) and locked away out of the reach of children.

Keep a record of your child's seizures and use of midazolam.

The plastic ampoules are labelled "for slow or IV or IM injection" but can be used for buccal use.

Individual instructions

Your doctor will discuss with you:

How much to give: mg = drops =.....ml

When to give midazolam:.....
.....

Contact details of prescribing doctor:

Name:

Phone number:

The above has been explained and demonstrated to me.

Name of Parent/Guardian.....

Signature.....Date.....

Name of educator.....

Signature.....Date.....

For more information

Mediline Line
Tel **1300 888 763**
Epilepsy Unit, Mater Children's Hospital
Tel **07 3163 1864** (business hours)
Emergency Department, Mater Children's Hospital
Tel **07 3163 8318** (for emergencies only)

References:

- Harbord, M., Kyrkou, N., Kyrkou, M., Kay, D. & Coulthard, K. (2004). Use of Intranasal midazolam to treat acute seizures in paediatric community setting. *Journal of Paediatric Child Health*, 40, 556-558
- Kyrkou, M., Harbord, M., Kyrkou, N., Kay, D. & Coulthard, K. (2006). Community use of intranasal midazolam for managing prolonged seizures. *Journal of Intellectual & Developmental Disability*, 31 (3): 131-138.
- Wilson, M., Macleod, S. & O'Regan, M. (2006). Nasal / buccal midazolam use In the community. Downloaded March 7th from www.archdischid.com

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