

Administering Midazolam

What is midazolam?

Midazolam belongs to a group of medications called benzodiazepines. It is a short-acting sedative that can be used in the emergency treatment of seizures.

When is it used for seizures?

Midazolam is prescribed for some people who experience severe, cluster or prolonged seizures which may potentially develop into status epilepticus. Outside of the hospital setting, it is given via the nose (intranasal) or into the space between the cheek and teeth (buccal).

Why is midazolam given into the nose or mouth?

This delivery route has several advantages:

- The nose and mouth provide very easy access and are practical for medication delivery outside the hospital setting
- It works relatively quickly. The nose and mouth are covered by mucus membrane and have a very good blood supply for rapid absorption
- No needles or injections are needed
- It's proven to be an effective, fast and safe way to administer midazolam

What is the doctor's role?

The doctor is to provide:

- Written instructions that cover:
 - The person's details including known allergies
 - A clear description of the seizure(s) for which the midazolam has been prescribed
 - The dosage to be given
 - When and how the midazolam is to be given
 - When an ambulance is to be called
- Referral to appropriate training for safe administration.
- An explanation of the effects and potential side-effects of giving midazolam in these circumstances.

What is your role?

Your role is to ensure that you:

- Provide effective first aid to someone having a seizure
- Recognise the person's seizure(s) for which midazolam has been prescribed
- Understand the doctor's written instructions - if unsure ask the doctor to explain
- Are trained to give midazolam and that your training is reviewed every 2 years
- Are competent in performing seizure first aid and CPR should it be required.



What to do:

1. Remain calm.
2. Stay with person.
3. Time the seizure.
4. Protect the person from injury.
5. Identify that the seizure matches the description for which midazolam has been prescribed.
6. Prepare the midazolam for administration.
7. Give the midazolam and/or call an ambulance as stated in the doctor's written instructions.

How is midazolam packaged?

Midazolam for intranasal or buccal administration comes in a plastic ampoule with a twist top that is easily removed labelled with:

- Medication name – brand and generic
- Dose (mg) and volume of solution (ml)
- Expiry date



These ampoules are labelled "For slow IV or IM injection" but are also suitable for intranasal or buccal use

***NOTE** Midazolam is also available in glass ampoules, but it is not recommend using glass ampoules for nasal or buccal administration.

Preparing the midazolam

1. Wash your hands or use hand sanitiser. Apply gloves.
2. Check the doctor's written instructions.
3. Check the ampoule for medication name, dose and expiry date.
4. Twist the top of the plastic ampoule to open and
5. If using a syringe, draw up only the prescribed amount
6. Safely discard any excess midazolam



Giving the midazolam

Intranasal (via ampoule or syringe)

1. Check the seizure is still active
2. Position the person on their back so that their head is tilted back. This may require placing something soft under the shoulders
3. Hold the ampoule or syringe over one nostril, gently squeeze and drip the midazolam, 2-3 drops at a time, into one nostril, and then 2-3 drops into the other nostril
4. Continue alternating nostrils until the entire prescribed dose is given.

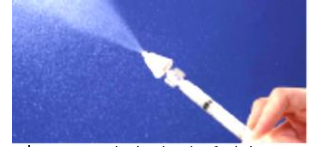


Giving the midazolam continued.....

Intranasal via Mucosal Atomiser Device (MAD)

This is a device designed to allow delivery of nasal medications as an atomised spray. It is helpful in situations where the person cannot be positioned lying down (eg in a wheelchair) and for babies and young children.

1. Draw up the prescribed amount of medication in a syringe
2. Attach the atomiser
3. Gently place the MAD into one nostril so that it is a tight fit, aiming slightly upward and outward toward the ear
4. Depress the syringe plunger to deliver half the medication – it must be depressed quickly to create an atomised mist
5. Remove and place in other nostril in same manner and administer the other half with a quick plunge of the syringe.



Buccal (via ampoule or syringe)

1. Position the person on their side in the recovery position
2. Insert the ampoule or syringe between the inside of the lower cheek and the teeth
3. Gently squeeze the ampoule or syringe until the prescribed amount has been given.



After giving the midazolam

1. Place the person on their side in the recovery position
2. Stay with the person until they have recovered
3. Monitor their breathing
4. Unused midazolam should be safely discarded
5. Document when and how much midazolam has been given.



Call an ambulance

1. If you are in any doubt about what to do
2. If an injury has occurred
3. As stated in the doctor's written instructions, the person's seizure management plan or organisation's policy and procedure document.



What are the possible side effects of midazolam?

- Drowsiness, tiredness, weakness
- Weakness, poor coordination and balance
- Irritability or euphoria
- Stinging in the nostrils (intranasal)
- Confusion and disorientation can occur after a seizure or having midazolam
- Slow shallow breathing.

Any unwanted side-effects are to be mentioned to the prescribing doctor.

Very rarely, the person's breathing may become more shallow and slower (respiratory depression). If this happens, call an ambulance (000) immediately.

How should midazolam be stored?

- In the original box
- In a locked cupboard, out of the reach of children
- In a cool place, below 25°C
- Do not leave medication in a hot location such in a car or handbag. Use an insulated bag when transporting medication.

What about other medications?

Sometimes medications interact with each other. It is important that the prescribing doctor and the pharmacist are aware of any other medications that the person is taking including over the counter, supplements and herbal medicines.

Other important information:

- It is important to ensure that **enough supplies** of midazolam are available.
- Check the **expiry date** of the midazolam regularly. Return expired ampoules when obtaining new stock. Once it has expired, it may not be effective or safe to use.
- A **seizure management plan** needs to be prepared and **training** arranged for anyone who may be required to give the midazolam.

Our services

EAA has an online training courses to learn more about epilepsy, seizure emergencies and administration of emergency medications for seizures.

Go to our [Online Academy](#) or email us at education@epilepsy.org.au for more details.

EAA uses Registered Nurses to provide training and education sessions.



Checklist

Prepare medication – do this BEFORE the 5 minute mark	
Gather the correct equipment	Medication ampoule, syringe, MAD Hand sanitiser, gloves Emergency Medication Order
Clean hands and apply gloves	
Read medication order and medication confirming	Persons identity Medication name and expiry date Dose, when and how to give Ambulance instructions
Set up and open medication	
Draw up required amount in syringe if necessary, OR Use ampoule directly if it contains the required amount	
Administer the medication	
Check the seizure is still active	If seizure has stopped, discard medication
Explain what you are doing to the person having the seizure	
1. Intranasal: Put person on their back Hold the ampoule or syringe over nostril OR Insert MAD device in nostril	- 2-3 drops alternating nostrils until finished dose
2. Buccal: Put the person in the recovery position Insert ampoule or syringe between the lower teeth and cheek	- Rapidly depress plunger, half in each nostril - Gently plunge the full medication dose
After administration	
Place the person in the recovery position	
Call an ambulance if it has not been called and it is necessary or organisational policy	
Monitor breathing and stay with the person until they have fully recovered or the ambulance arrives	
Document what happened	
Tidy up and discard unused medication. Wash hands	