

### 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 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 are very easy access points and 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 covers:
  - the person's details including known allergies
  - a clear description of the seizure(s) for which the midazolam has been prescribed
  - the prescribed dosage to be given
  - when and how the midazolam is to be given
  - at what stage of the seizure or procedure is an ambulance to be called
- referral of the person's carers to appropriate training for safe administration.
- an explanation of the implications and potential side-effects of giving midazolam to a person.

### What is your role?

Your role is to ensure that you:

- can provide effective first aid to someone having a seizure
- can 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 bi-annually
- 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 activity matches the description for which midazolam had 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.



# Fact Sheet: Administering Nasal or Buccal Midazolam

## 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 safely discard any excess midazolam before giving the prescribed amount
5. If using a syringe, draw up only the prescribed amount.



## Giving the midazolam



### INTRANASAL

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 a pillow under the shoulders
3. Lift the tip of the nose and hold the ampoule or syringe over one nostril, gently squeeze and drip the midazolam, 2-3 drops at a time, into one nostril, then the other until the entire prescribed dose is given.

## 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 a atomised mist
5. Remove and place in other nostril in same manner and administer the other half with a quick plunge of the syringe.



<http://www.scancrit.com/2011/11/22/mad-is-good/>



## BUCCAL

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.



# Fact Sheet: Administering Nasal or Buccal Midazolam

## 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 breathing
4. Unused midazolam should be safely discarded
5. Document when and how much midazolam has been given.



## Call an ambulance DIAL 000

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.

## Any adverse 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 as they may need assistance with breathing.

## How should midazolam be stored?

- In aluminium foil or the original box
- In a locked cupboard, out of the reach of children
- In a cool place, below 25°C
- Do not leave ampoules 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 adequate 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 is required to give midazolam.

## Our services

Epilepsy Action has an online training module for administration of emergency medications for seizures. Go to our website [www.epilepsy.org.au](http://www.epilepsy.org.au) or email us for more details.

Epilepsy Action uses Registered Nurses to provide training and education sessions. Contact us for more information.

# Fact Sheet: Administering Nasal or Buccal Midazolam

## Summary

Prepare Medication	
Gather the correct equipment:	<ul style="list-style-type: none"> <li>• Medication ampoule and syringe</li> <li>• Hand sanitiser/water, gloves</li> <li>• Emergency medication order</li> </ul>
Wash hands (with water or hand sanitiser), apply gloves	
Read medication order and medication confirming:	<ul style="list-style-type: none"> <li>• Person's identity</li> <li>• Medication name and expiry date</li> <li>• Dose, when and how to give</li> <li>• Ambulance instructions</li> </ul>
Set up and opens medication	
Draw up required amount of medication in syringe	
Administer the Medication	
Check the seizure is still active	If the seizure has stopped, discard medication
Explain what you are doing to the person having seizure	
Position the person in recovery position	
<ol style="list-style-type: none"> <li>1. Hold ampoule or syringe over nostril OR</li> <li>2. Insert MAD device in nostril OR</li> <li>3. Inserts ampoule/syringe between teeth &amp; cheek</li> </ol>	<ol style="list-style-type: none"> <li>1. 2-3 drops each nostril until finished</li> <li>2. Rapidly depress the plunger half in each nostril</li> <li>3. Gently plunge full medication dose</li> </ol>
Wipe away any excess fluid	
After Administration	
Place person in recovery position	
Monitor breathing and stay with the person until they have recovered or ambulance arrives	
Call an ambulance if it has not been called	
Document what happened	
Tidy up and discard unused medication, wash hands	

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This information is given to provide accurate, general information about epilepsy. Medical information and knowledge changes rapidly and you should consult your doctor for more detailed information. This is not medical advice and you should not make any medication or treatment changes without consulting your doctor.

