



Queensland
Government

Young Person's Seizure Emergency (and Midazolam) Instruction

Facility: Royal Children's Hospital

(Affix patient identification label here)

URN:

Name:

Address:

Date of Birth:

Sex: M F I

Responsible Consultant:

Date document created:

This instruction document should be reviewed at annual intervals as a minimum

Current weight:

kg

SECTION A: Administer seizure first aid

Has Parent/Carer had seizure first aid training? Yes No

★ Seizure first aid training is recommended – provide suitable resources to parent/carer.

Step 1	Note time when seizure starts and ends, note detail of what occurs during the seizure
Step 2	Protect the person from injury
Step 3	If unsteady on feet and/or confused, encourage away from danger
Step 4	Call for assistance (see Section B)
Step 5	If unconscious, as soon as possible place in the recovery position to maintain an open and clear airway
Step 6	Do not place anything in the mouth or give food or drink
Step 7	Do not leave unattended until fully recovered. When the seizure ends allow the person to sleep. As they recover, reorientate them to their surroundings.



Recovery position

SECTION B: Call for assistance

Step 1	Call ambulance (dial 000)	
	<input type="checkbox"/> At onset of seizure (usually newly diagnosed patients whose family are not familiar with their seizures)	
	For patients without midazolam <input type="checkbox"/> If the seizure fails to stop within ____ minutes (usually 5 minutes) <input type="checkbox"/> If ____ (insert number) or more seizures occur in ____ minutes (usually 3 or more seizures in 60 minutes)	For patients with midazolam <input type="checkbox"/> When midazolam is administered by parent/carer (usually newly diagnosed patients) <input type="checkbox"/> If midazolam is given and the seizure/s do not resolve after ____ minutes <input type="checkbox"/> If seizures requiring midazolam occur but midazolam has already been given in the preceding 6-8 hours
<input type="checkbox"/> If the seizure ends but the person fails to follow usual recovery <input type="checkbox"/> In specific situations e.g. seizure in water, seizure with injury <input type="checkbox"/> If you become alarmed for the person's safety <input type="checkbox"/> Other:		
Step 2	Other emergency contact (parent/carer to complete)	
	Name:	Relationship: Contact:
	Name:	Relationship: Contact:

SECTION C: Seizure/s for which emergency care is given

1. Description of seizure/s for which emergency care is given. Please complete separate entries if there are more than one seizure type. Please avoid medical terminology such as 'absence'. Provide a **detailed lay description** of the features, and the order they occur in, that allow family members or teachers to recognise a seizure is in progress.

2. Description of seizure/s for which emergency care is not to be given.
(for example emergency care is not usually required for typical absences or for epileptic spasms)

DO NOT WRITE IN THIS BINDING MARGIN

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SW537

YOUNG PERSON'S SEIZURE EMERGENCY (AND MIDAZOLAM) INSTRUCTION

Name..... DOB..... UR No.....

SECTION D: Midazolam administration instructions

Midazolam to be used by parent/carer? Yes No ▶ If 'No' please cross through rest of this section and do not provide *Midazolam Instruction* to parent/carer.
 For usual indications for parent/carer midazolam use see 'Who should use midazolam?' in the *Midazolam Information* document (attached below).

When is midazolam to be used? [Strike through if midazolam not used]

For seizure/s described in Section C(1) only

If seizure/s last longer than _____ minutes (usually 5 minutes, as most seizures resolve by themselves before 5 minutes)

If _____ (insert number) or more seizures occur in _____ minutes (usually 3 or more seizures in 60 minutes)

Other:

How is midazolam to be administered? [Strike through if midazolam not used]

Buccal (against cheek, does not need to be swallowed, administration preferable if there is a blocked/runny nose or the child is aware)

Intra-nasal (half dose each nostril, administration preferable if there is vomiting or heavy salivation)

Either buccal or intra-nasal (recommended, to allow parent/carer to choose optimal route)

How much is to be given? [Strike through if midazolam not used]

Give _____ mg = _____ mL of 5mg/mL solution (do not use other strength solutions) = _____ mg/kg

Dose is 0.3mg/kg subject to rounding to nearest 0.1mL and to a maximum dose of 10mgs for any parent/carer use.

What to do after midazolam is administered? [Strike through if midazolam not used]

- Return to following seizure first aid procedures.
- Record that midazolam was administered (date, time, amount, response), safely discard any open ampoules.
- If the full dose of midazolam in *Section D* has been given, no further midazolam should be given outside of hospital for a period of 6-8 hours.
- If the person has seizures that meet criteria for midazolam administration again before 6-8 hours has elapsed, call emergency services for assistance.

Completed by

Responsible Consultant:

Signature:

It is recommended that young people with epilepsy requiring home midazolam are under regular review with a Paediatrician or Paediatric Neurologist.

Date:

Position title:

Institution:

Contact (phone/page):

Education of parent/carer administering midazolam

I confirm I have undertaken education of the parent/carer below and am satisfied they understand how to follow the steps for managing a seizure emergency as outlined in this document. I also confirm that I have provided education in relation to midazolam and its administration (delete if midazolam not prescribed).

Name of educator:

Signature:

Education should be given by a person competent in the clinical care of a child with epilepsy, including in emergency seizure management.

Date:

Position title:

Institution:

Contact (phone/page):

Parent/carer statement

I confirm I have undertaken education on the steps involved in managing a seizure emergency as outlined in this document. I understand how to administer midazolam and am satisfied that I am competent to do so (delete if midazolam not prescribed).

Name of parent/carer:

Signature:

Date:

DO NOT WRITE IN THIS BINDING MARGIN

Midazolam Information

(this document accompanies the *Young Person's Seizure Emergency and Midazolam Instruction*)

What is midazolam	<p>Midazolam (Hypnovel) is a benzodiazepine medication like diazepam, clonazepam and clobazam. It is rapidly absorbed through mucosal membranes (the lining of the cheek and nose) and penetrates into the fluid around the brain. It is effective in stopping seizures if seizures do not stop of their own accord.</p>
What is midazolam used for?	<p>Midazolam has a number of uses in medicine. It can be used for sedation for procedures. In Australia, Midazolam is not yet approved by the Therapeutic Goods Authority for seizure emergencies, however it is widely recognized to be very effective for this purpose. It is widely used by doctors across Australia and in many countries around the world for seizure emergencies.</p>
How is it given?	<p>Buccal (cheek): midazolam can be given by trickling it into the cheek. If the solution lies against the inner lining of the cheek it will be absorbed into the blood stream rapidly (ideally trickle it in with the young person lying on their side and direct it against the cheek that is closest to the ground).</p> <p>Intra-nasal (nose): midazolam can be dripped into the nose or can be converted into a fine mist using a nasal atomizer (nasal atomizers are available from some pharmacies in Queensland or on request from Epilepsy Queensland).</p> <p>Ambulance officers may give it other ways, such as by injection into muscle (and at different doses, according to their policies), however it is absorbed just as fast or faster from the intra-nasal or buccal routes.</p> <p>Whether you use the nose or the cheek for administration may depend on:</p> <ul style="list-style-type: none"> • If your child has a blocked or runny nose • If your child frequently vomits or has excess saliva in their mouth during seizures • If your child is awake during seizures (nasal administration can be irritating) • The position the child is in when they have a seizure (e.g. upright in a chair or on the floor) <p>Midazolam does not need to be swallowed. It is absorbed from the lining of the inner cheek and therefore, if swallowed, will be less effective (but swallowing is not harmful).</p>
Potential side effects?	<ul style="list-style-type: none"> • Drowsiness • Headache, weakness, tiredness, hiccups • Irritation and stinging in the nostrils (intra-nasal route) • Altered mood and balance (giggly, hyperactivity, unsteady on feet) • Confusion and disorientation can occur after a seizure or after midazolam • Slow shallow breathing. In rare circumstances, this can be marked – if this occurs commence first aid measures and call an ambulance immediately.
Who should use midazolam?	<p>Home midazolam is considered when:</p> <ul style="list-style-type: none"> • A young person with epilepsy has parents/carers that have completed education in the administration of midazolam and are confident in their ability to do this (mandatory – the doctor should ensure this is the case before prescribing midazolam) • A young person with epilepsy has a track record of prolonged (5 minutes or more) seizures or seizures that occur very frequently (typically seizures that are < 20 minutes apart, especially if there is poor recovery of the person between seizures, are considered frequent enough to warrant midazolam) • A young person with epilepsy lives remotely from emergency services • A young person has a history of recurrent prolonged febrile convulsions
Important tips	<p>Ensure that you have plastic midazolam ampoules with solution strength of 5mg/mL and check regularly that the supply has not passed its expiry date. Return any expired stock to your pharmacy and get a new prescription. To obtain plastic ampoules you may have to ask your doctor to write 'plastic ampoules' on the prescription and inform your pharmacist in advance so he/she can order these in. To obtain nasal atomisers you may need to speak to your pharmacist or Epilepsy Queensland or Epilepsy Action Australia. The midazolam ampoules state 'for slow iv or im injection' but this solution is still appropriate for buccal or intranasal administration.</p> <p>Midazolam should be available to your young person in emergencies. This means that it should travel with them. Midazolam should be securely stored in your home but exercise caution with locking cupboards if keys cannot be located in an emergency.</p> <p>Midazolam should be protected from light and kept at room temperatures 8 - 25°C (not in the fridge) – this means you may have to use a cooler bag, with the midazolam wrapped in foil for light protection for outings. Avoid leaving midazolam in hot locations such as in the car in summer.</p> <p>If exposed to light (or when the foil wrapping is opened), midazolam will have a shorter expiry date. The package should be relabeled with an expiry date 8 months from the time of opening the foil package or light exposure.</p>

Administration of Midazolam

1. Check the midazolam

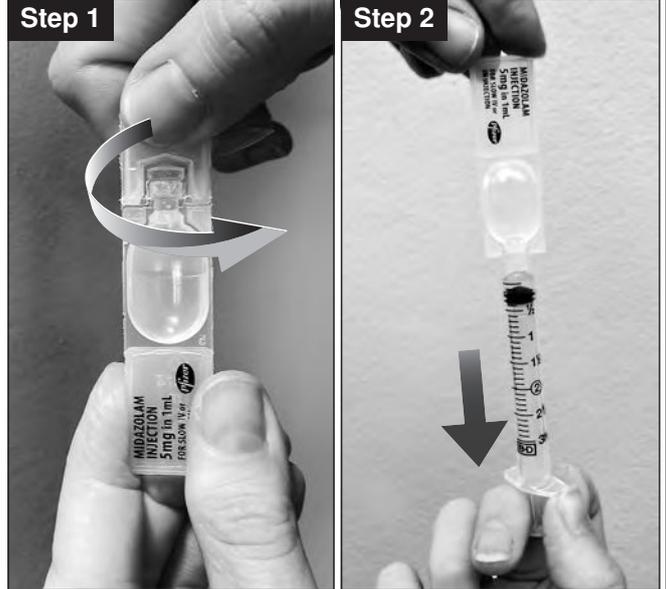
Check the ampoule to confirm that it is midazolam you are administering, check that there is 5mg in 1mL and that the expiry date has not passed. Check you know the amount of midazolam in mLs that you will be drawing up.

2. Draw up into plastic syringe (use plain white syringes only)

Check you have the necessary equipment – the ampoule/s of midazolam, a plain 1mL or 3mL plastic syringe and the nasal atomizer (if you use one).

Make sure the plunger is pressed all the way into the syringe barrel. Unscrew the top of the plastic ampoule. Insert the plastic syringe tip firmly into the top of the ampoule. Invert the ampoule and draw on the syringe plunger to pull fluid into the syringe barrel.

Disconnect the plastic ampoule. With the syringe held open end upwards, gently tap the syringe barrel to release air bubbles to the top of the liquid. Then, keeping the open end of the syringe up, push the plunger gently in to expel out the air from the open end of the syringe. Also expel any midazolam that is not required until only the right amount of mLs is left in the syringe for administration.



3. Administer: a. buccal (cheek) route; OR

With the person lying on their side, insert the syringe against the lower most cheek. Push the plunger until the entire contents of the syringe has been dispensed. Gently massage the cheek to spread the dose against the inner cheek surface. The midazolam does not need to be swallowed; this should be avoided. There is no need to open the jaw/teeth as the syringe should be placed outside the jaw/teeth and against the inside lining of the cheek.



b. intranasal (nose) route

Attach the nasal atomizer firmly to the end of the syringe. You may need to turn the young person onto their back briefly for administration, returning them onto their side as soon as possible afterwards. Insert the atomizer firmly into one nostril and dispense half the dose, pressing slowly and firmly on the syringe plunger. Insert the atomizer into the other nostril and dispense the remaining amount.



4. Other ways of administering?

There are two other possible ways of administering midazolam. These methods are only advisable if the dose of midazolam to be administered is either one or two full ampoules i.e. 1mL or 2mL.

For the buccal route, you can insert an opened plastic ampoule with the open end against the inner lining of the cheek and squeeze the ampoule to deliver the full ampoule dose against the cheek lining. For the intra-nasal route, you can drop midazolam from the tip of an opened plastic ampoule into the nostrils by squeezing the plastic ampoule slowly (remember to give approximately half of the ampoule into each nostril).

These methods should not be used if the dose to be given requires measurement of an amount of midazolam that is less than the amount in an ampoule, as exact measurement of the amount to be administered (with a syringe) should be undertaken in this circumstance.

5. What if I cannot access the midazolam or the other equipment such as the atomizer or syringe?

If you cannot find the required medication or equipment to safely administer a correct dose of midazolam, you should call emergency services.