



PROCEDURE

Midazolam administration

Scope (Staff):	Community health
Scope (Area):	CACH

Child Safe Organisation Statement of Commitment

CAHS commits to being a child safe organisation by applying the National Principles for Child Safe Organisations. This is a commitment to a strong culture supported by robust policies and procedures to reduce the likelihood of harm to children and young people.

This document should be read in conjunction with this [disclaimer](#)

Aim

To outline the administration of prescribed midazolam for the emergency management of epileptic seizures.

Risk

Failure to adhere to this policy may result in medication errors and possible harm to the client.

Background

Midazolam is a water-soluble, short acting benzodiazepine used in the emergency treatment of prolonged seizures¹. It is classified as a Restricted Schedule 4 Recordable (S4R) medication and is available by prescription only¹.

Early treatment with transmucosal midazolam is used to avoid progression to, and the complications of convulsive status epilepticus (prolonged seizures)². Midazolam may be given for a seizure lasting longer than 5 minutes², or as directed by the client's doctor¹.

Any client requiring midazolam for seizures should have a health care plan that clearly outlines the administration requirements for this medication. The prescribed dose, maximum dose of midazolam to be given in a 24-hour period, and route of administration (buccal or intranasal) must have been written in the client's health care plan. The health care plan may be a Department of Education (DoE) Form 7 Seizure Management Plan (SMP) or an Epilepsy WA Plan. It should be signed by a medical practitioner or accompanied with a neurologist care plan.

Key points

- All nurses will refer to the [Nursing and Midwifery Board AHPRA Decision-making framework](#) in relation to scope of practice and delegation of care to ensure that decision-making is consistent, safe, person-centred and evidence-based.
- All nurses administering medications are required to complete the Medication Safety eLearning in accordance with the CAHS-[Community Health Practice Framework for Community Health Nurses](#).
- Community Health Nurses working in non-education support school settings who are asked to respond in a medical emergency involving a child prescribed midazolam must act as per the [School aged health services policy](#) and the [School aged health services Secondary guideline](#) in relation to a medical emergency, as well as the [Recognising And Responding To Acute Deterioration policy](#).
- There are three formulations available:
 - Plastic Ampoules:
 - The plastic, twist-top ampoules of midazolam are labelled 'for slow intravenous (IV) or intramuscular (IM) injection' but are suitable for buccal and intranasal use³.
 - The formulation available is 5 mg/1 mL (approximately 20 drops)^{1, 2, 4}.
 - Drops can be discarded to allow for administration of smaller dosages.
 - Oromucosal Solution Pre-filled Syringe⁵:
 - The entire contents of the pre-filled should be given.
 - The oromucosal solution comes in four different strengths (2.5 mg/0.25 mL, 5 mg/0.5 mL, 7.5 mg/0.75 mL, 10 mg/1 mL).
 - Glass Ampoules:
 - It is highly recommended **not** to use glass ampoules of midazolam.
 - The formulation available is 5 mg/1 mL.
- The max dose/ 24 hours should be annotated if available. Where the dose is unknown the field (CHS414) should be left blank, and effort should be made to confirm the maximum 24 hours dosage with the prescriber at the earliest convenience.
- Community health nurses must follow the organisation's overarching infection prevention and management policies and perform hand hygiene in accordance with WA Health guidelines at all appropriate stages of the procedure.

Equipment


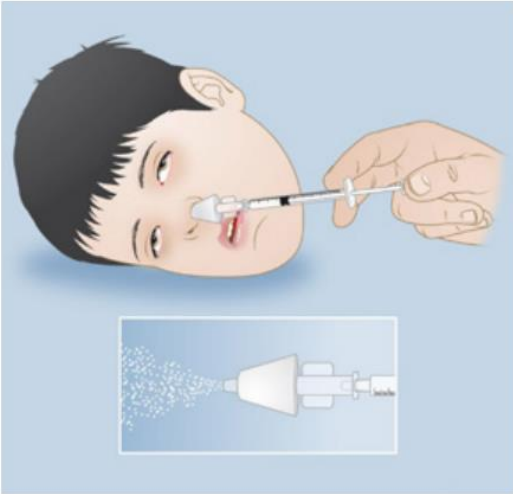
- Midazolam plastic/glass ampoule or oromucosal solution prefilled syringe
- Mucosal Atomisation Device (MAD) – if stated in care plan
- Syringe (supplied by parent if required)

- Ampoule opener (for glass ampoules only)
- Blunt filter needle (for glass ampoules only)

Procedure

Steps	Additional Information
<p>1. Storage of midazolam</p> <ul style="list-style-type: none"> • Midazolam must be stored in a locked cupboard that is only accessible to authorised staff ¹. Refer to <i>Medication Management in Education Support Schools</i> for further information • Midazolam must be stored below 25°C and protected from light³. • Midazolam prefilled syringe should not be stored in the refrigerator or freezer.⁵ 	<p>Plastic Ampoules:</p> <ul style="list-style-type: none"> • When a sealed pack of midazolam is opened (and therefore exposed to light), record its opening date on the pack. • Ensure the remaining unused ampoules in the pack are protected from light by wrapping in the original foil package and/or in aluminium foil. <ul style="list-style-type: none"> ○ Ampoules must be wrapped in foil for protection from light when provided to teacher/school staff for client use on school excursions. • Dispose of any remaining ampoules 8 months after opening the pack. <p>Glass Ampoules and Pre-filled Syringes:</p> <ul style="list-style-type: none"> • Must be kept in its outer carton for protection from light and can be used until the expiry date on the ampoule/syringe.
<p>2. Client engagement and preparation</p> <ul style="list-style-type: none"> • Check client identity using 3 identifiers as per the CAHS Patient/Client Identification protocol. • Refer to client's health care plan for information on dosage and route of administration. • Note time that seizure started. • Check if a dose has been given prior to client's arrival at school. 	<ul style="list-style-type: none"> • Verbal clarification from the parent/caregiver when the client arrives at school or prior to dose administration ensures that midazolam is given at the recommended frequency and daily drug dose. (see Medication Management in Education Support Schools policy)
<p>3. Prepare to administer medication</p> <p>Plastic Ampoule:</p>	<ul style="list-style-type: none"> • Store syringe (if required) with the client's midazolam, along with a

Steps	Additional Information
<ul style="list-style-type: none"> • Open the plastic ampoule by twisting off the top. • If the dosage is less than the full ampoule, expel the drops that are not needed onto a tissue³ or draw up the appropriate dose in a syringe^{3, 4}. <p>Glass Ampoule:</p> <ul style="list-style-type: none"> • If midazolam is dispensed in a glass ampoule, draw up the prescribed amount into a syringe. <ul style="list-style-type: none"> ○ ALWAYS use a blunt filter needle to prevent drawing up small glass particles ○ ALWAYS remove the needle before administering dose <p>Pre-filled Syringe⁵:</p> <ul style="list-style-type: none"> • Pull the tamper evident tab on the side of the plastic outer case, open it and take the syringe out. • Holding the clear finger grips, unscrew the amber sheath cap in an anticlockwise direction and remove the amber sheath cap. 	<p>current copy of client's health care plan.</p> <ul style="list-style-type: none"> • Once the seal on an ampoule is broken, the contents must be used immediately or discarded safely³. <p>Discard any unused midazolam.</p>
<p>4.a Buccal administration</p> <ul style="list-style-type: none"> • Lay child in recovery position, if possible³. • Insert the ampoule/syringe gently between the inside of the lower cheek and the gum^{3, 4}. • Administer approximately half the dose on each side of the mouth if able¹. • Gently squeeze the ampoule/syringe to administer the dose³. 	<ul style="list-style-type: none"> • Ensure safety of child during seizure. • The solution is absorbed through the buccal mucosa. • In some emergency situations, unilateral administration may be undertaken. • Note time of dose administration. <p>Plastic Ampoule:</p> <ul style="list-style-type: none"> • Give 3 squeezes of the ampoule to make sure all of the dose has been given³. • Discard any unused midazolam. <p>Pre-filled Syringe:</p>

Steps	Additional Information
	<p>Press the syringe plunger until it stops.</p>
<p>4.b Intranasal administration using midazolam plastic ampoule</p> <ul style="list-style-type: none"> • Attach the mucosal atomiser device (MAD) to the 1 mL syringe with prescribed dose plus 0.1 mL to account for dead space in the device⁶. • Insert the MAD loosely into the client's nostril and depress the plunger to give half the prescribed dose². • Repeat the procedure in the opposite nostril to give the remaining amount of the dose. 	<ul style="list-style-type: none"> • Intranasal midazolam can be administered directly from the plastic ampoule or via a MAD¹. • The MAD device fits on the 1 mL syringe and disperses a mist into the nostrils to aid the spread of midazolam across the mucosa. • Half the dose of midazolam is administered into each nostril to optimise absorption and to lessen nasal irritation². In some emergency situations, unilateral administration of the full dose may be undertaken. • Intranasal administration may produce local irritation, stinging, and sometimes watering eyes and a runny nose². <p>Discard any unused midazolam.</p>
<p>5. Observation</p> <ul style="list-style-type: none"> • Place client on their side when seizure activity ceases. • Note what time the seizure stops³. 	<ul style="list-style-type: none"> • Absorption takes approximately 1–3 minutes and midazolam can take up to 10 minutes to abort the seizure. If specified on the student's Health care plan, the dose can be repeated after five minutes if the seizures persist^{2, 7}.

Steps	Additional Information
<ul style="list-style-type: none"> • Stay with the client and continuously observe airway, breathing, circulation (ABC) and fitting activity³. • Visual observation should be undertaken by an allocated person until the client returns to their pre-sedation state. • Observe for medication side effects. 	<ul style="list-style-type: none"> • Common side effects of midazolam include drowsiness, headache, weakness, altered mood (giggling, hyperactivity), disorientation, confusion and altered balance^{1, 3, 4}. • Very rarely, breathing may become shallow and slower⁴. <p>Client in a wheelchair^{8, 9}:</p> <ul style="list-style-type: none"> • Leave client in wheelchair with seatbelt fastened and brakes on. • Recline backrest only – DO NOT tilt wheelchair. <ul style="list-style-type: none"> ○ NB If using a Tilt-in-Space Wheelchair, tilt seat and lock in position. • Lean client to one side to facilitate drainage of oral contents (e.g., food, vomit, saliva) as required. • Maintain open airway. • Moving the client from the wheelchair when seizure ends will depend on an assessment of the safety issues involved for both the nurse and the client.
<p>6. Ambulance considerations</p> <ul style="list-style-type: none"> • Call an ambulance: <ul style="list-style-type: none"> ○ as stated in client’s health care plan ○ if clinical judgement indicates. • Complete clinical handover following iSoBAR format if client is transported by ambulance. • Inform the principal and parent/caregiver as soon as possible if an ambulance is called. 	<ul style="list-style-type: none"> • If breathing becomes shallow or slow, call an ambulance immediately^{3, 4} • Follow guidance in client’s health care plan on the timing of second dose of midazolam and when to call an ambulance (e.g., if the seizure continues). <ul style="list-style-type: none"> ○ If a repeat dose is not specified in the SMP, this must be interpreted as once only administration.

Steps	Additional Information
<p>7. Communication with family</p> <ul style="list-style-type: none"> Inform parent/caregiver about seizures, midazolam use, and whether ambulance transfer was required. 	
<p>8. Documentation</p> <ul style="list-style-type: none"> Record events, decisions, actions, outcomes, and communications accurately in client record. Record midazolam administration, using Medication chart CHS414 or DoE Form 12. 	<ul style="list-style-type: none"> Note the time seizure started, a brief description of the seizure, when midazolam was given, and when the seizure stopped³. Document midazolam administration in progress notes as per Medication management in Education Support Schools policy.

* Images from The Royal Children's Hospital Melbourne *Midazolam for Seizures* factsheet, 2018.

Compliance

See [Medication management in Education Support Schools](#) policy for information about medication auditing and compliance.


References

- Perth Children's Hospital. Medication Management Manual - Midazolam. Perth: Child and Adolescent Health Service; 2020
- Smith R, Brown J. Midazolam for status epilepticus. *Australian Prescriber* [serial online]. 2017;40:23-25.
- Perth Children's Hospital - Pharmacy. Midazolam buccal. Perth, WA: State of Western Australia and Child and Adolescent Health Service; 2023
- The Royal Children's Hospital Melbourne. Midazolam for seizures. Melbourne: Neuroscience Centre and Pharmacy; 2018
- Zyamis. Zyamis. Consumer Medication Information (CMI) summary,. n.d.
- Teleflex. MAD Nasal™ Intranasal Mucosal Atomization Device. 2017
- Australian Medicines Handbook. Midazolam. Children's Dosing Companion; 2023
- Epilepsy Action Australia. First Aid for Seizures - Person in Wheelchair. 2017
- Epilepsy Action Australia. First Aid for Seizures - Person in Tilt-in-Space Wheelchair. 2017

Related internal policies, procedures, and guidelines
The following documents can be accessed in the CH Clinical Nursing Manual: HealthPoint link or Internet link
Clinical Handover - Nursing
Medication management in education support schools
Student health care plans
The following documents can be accessed in CH Operational Policy and Procedure Manual
Home and Community Visits
Recognising and Responding to Acute Deterioration
The following documents can be accessed in the CAHS Policy Manual
Abbreviations for clinical documentation
Blood and Body Fluid Exposure Management
Clinical Documentation
Hand Hygiene
Infection Control Manual
Midazolam - Monograph (PCH Medication Management Manual)
Patient/ Client Identification
Recognising and responding to acute deterioration
Schedule 8 and Restricted Schedule 4 Medication (PCH)
Standard and Transmission Based Precautions
Related external legislation, policies, and guidelines
Clinical Handover Policy (MP0095/18)
Clinical Incident Management Policy (MP 0122/19)
DOE Student Health Care in Public Schools
Memorandum of Understanding 2022-2024 (MOU)

Related <u>CACH forms</u>
Clinical Handover/Referral Form/Electronic (CHS663, CHS663E)
Clinical Handover/Referral Envelope (CHS663-1)
Community Health Progress Notes (CHS800C)
Medication administration (CHS414)
Record of Medication Received/Discarded/Requested for Education Support Students (CHS428)
Related <u>CACH resources</u>
Epilepsy information session
Medication Audit Tool – Education Support Schools
Practice Framework for Community Health Nurses (Learning and Development)
Other CAHS resources
Buccal Midazolam Health Facts sheet
Related external resources (including related forms)
Consumer Medicines Information (CMI) Summary - Zyamis
Epilepsy Action Australia
Epilepsy Australia
Epilepsy WA
Zyamis Midazolam Oromucosal Solution video – access through website

This document can be made available in alternative formats on request.

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