ENTERAL PREMEDICATION BEFORE ANAESTHESIA

PRACTICE GUIDELINE ©

DOCUMENT SUMMARY/KEY POINTS

- Premedications are used in combination with non-pharmacological strategies to minimise anxiety prior to anaesthesia.
- This document covers the prescription, administration, and management of commonly used premedications prescribed by the anaesthetic team for children prior to anaesthesia.
- This document covers enteral premedications. These are administered via the oral, nasogastric or gastrostomy route.
- To be read in conjunction with
    - Medication Administration Practice Guideline (SCHN)
    - Medication Handling PD2022_032 (NSW Health)

CHANGE SUMMARY

- N/A – new guideline.

READ ACKNOWLEDGEMENT

- All medical and nursing staff involved in the care of children prior to anaesthesia should read and acknowledge having read this guideline.

Approved by:	SCHN Policy, Procedure and Guideline Committee	
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Team Leader:	Staff Specialist	**Area/Dept**: Surgical and Anaesthetics

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Purpose of premedications before anaesthesia

Non-pharmacological strategies to decrease anxiety should be employed for all children. Occasionally however, these techniques need to be supplemented with medications known as “premedications”. Premedications prior to anaesthesia are used to provide anxiolysis to children who may be distressed prior to coming to the operating theatre. Provision of a premedication in these select children minimises patient and parental anxiety, smooths out the induction of anaesthesia and may reduce postoperative behavioural changes.

The scope of this guideline covers the administration of enteral (oral, nasogastric or gastrostomy route) premedications where the child will subsequently be in the care of an anaesthetist.

Prescription and administration of premedications

Children who may benefit from premedication

Children may be anxious for many reasons related to their patient journey.

The following children are more likely to benefit from a premedication:

- Children who are displaying clear signs of anxiety or have expressed fears in relation to upcoming surgery
- Children who have previously had a distressing experience with anaesthesia and for whom a premedication was recommended for future anaesthesia care
- Children with special needs such as autism-spectrum disorders, severe global developmental delay and other neurobehavioural disorders who may also be anxious or uncooperative
- Children needing multiple operative procedures and/or those with a history of medical trauma
- Children undergoing major surgery such as spinal surgery or cardiac surgery
- Children that are distressed with the presence of nursing and medical staff or with nursing cares such as taking of observations, applying name bands, avoidant behaviours etc.
- Children whose parents are unable to attend the operating theatre (e.g., highly infectious airborne diseases)

Premedications are generally not administered to children less than 12months of age.

If you identify a child that may benefit from a premedication who is planned for theatre, please escalate to the anaesthetic team so that the child may be suitably assessed. Please also note this in the comments section on the second page of the preoperative checklist.

The prescription of premedications is to be done under the direction of the anaesthetic team. Occasionally the anaesthetic team may delegate the prescribing to the medical team responsible for the child.

Precautions

The prescription of a premedication is at the discretion of the anaesthetic team having assessed the risks and benefits prior to prescribing.

Conditions associated with increased risk in prescribing premedications include:

- anticipated airway difficulty
- unfasted or children at risk of aspiration
- severe central or obstructive sleep apnoea
- altered level of consciousness
- acute major illness
- severe liver and renal dysfunction
- patients on multiple sedative agents
- previous adverse reactions to sedative premedication.

Common premedications

Drug and Formulation	Practice points	Timing of administration	Premedication Dose	Adverse effects
Midazolam Oral: use parenteral (plastic ampoule) preparation 5mg/mL	Has a bitter taste S4 recordable	Give 20-30minutes before anaesthesia	Dose: 0.3 - 0.5 mg/kg (Maximum = 15 mg).[1]	**CNS:** paradoxical agitation and delirium, confusion, sedation **Respiratory:** respiratory depression
Lorazepam Oral: 1mg and 2.5mg tablets (round dose to nearest half or full tablet)	Generally prescribed in the older child, or for outpatient use prior to attending hospital Can be administered sublingually S4 recordable	Give 60minutes before anaesthesia (or at home prior to admission)	Dose: 0.02 - 0.1mg/kg (Maximum = 4mg).[2]	**CNS:** drowsiness **Respiratory:** respiratory depression
Ketamine Oral: use parenteral preparation 100mg/mL	Usually administered in combination with midazolam S8 recordable	Give 20-30minutes before anaesthesia	Dose: 2 - 3mg/kg (Maximum = 200mg) in combination with midazolam.[2]	**CNS:** emergence reactions including restlessness, confusion, delirium, vivid hallucinations. Deep sedation. **Other:** hyper-salivation
Clonidine Oral: use 100microg tablets to crush and aliquot dose as required.[2]	May be administered alone or in combination with midazolam	Give 60minutes before anaesthesia	Dose: 2 - 4microg/kg (Maximum = 150microg).[2]	**CNS:** dizziness, drowsiness, deep sedation **CVS:** hypotension, bradycardia

This table is to be used as a quick reference guide only. At times, doses and instructions may fall outside this reference under the direction of the anaesthetist.

Administration of medications

All medications must be administered in accordance with policies, procedures, and guidelines for administration of medication within SCHN, including Ministry of Health and SCHN documents - "Medication Administration Practice Guideline" (SCHN), and "Medication Handling" policy (NSW HEALTH).

Ward staff will be notified by operating theatres when to administer the premedication. Please ensure that consent for the procedure and fasting status are confirmed well before the expected time of administration.

The child should (where possible) have baseline routine observations taken prior to administering a premedication including HR, RR and SpO_2. BP should also be measured where possible if administering clonidine. Please notify the anaesthetic team prior to administration of the premedication if there are any observations outside the normal ranges.

Each medication should be drawn up undiluted. Ketamine and midazolam may be combined into one syringe for administration in Middleton Ward-CHW only. Crushable medications may be dissolved and dispersed in <10mL of cool water for administration.

Some medications may have a bitter taste. The medications can be followed by a small amount (<10mL) of water or clear apple juice ONLY unless otherwise directed by the anaesthetist. No other fluids or solids are to be administered with the medication whilst the child is fasting for theatre.

If the child refuses an oral premedication despite encouragement, spits it out or is unable to take PO/NG/PEG meds; please notify the anaesthetic team so that an alternative perioperative plan may be made for the child.

Following administration, please notify the Operating Theatres Team Leader that it has been given so that a porter is sent.

Monitoring and transport to operating theatres

Monitoring

Once a premedication has been administered, the patient should be accompanied by a staff member at all times who must be continuously responsible for observation of the patient's vital signs, airway patency, ventilation and level of sedation. The staff member must be trained and competent (BLS + resuscitation e-learning package completed) to initiate resuscitation procedures if required; and know how to call for additional help.

Continuous pulse oximetry should be placed as soon as the child is cooperative with doing so. Oxygen should be applied if saturations fall below 95% or the child is deeply sedated with a sedation score greater than 1.[3]

If you suspect the child is having an adverse reaction such as an allergic reaction to a premedication, please activate a rapid response as per usual practice and notify the duty anaesthetist.

Transport

Following administration, the child should be prepared and transported to the operating theatre with a nurse escort and porter. The peak onset of premedications is usually 20minutes. Therefore, unless there are extended delays to transport, the premedication will mostly take effect whilst the child is in the holding bay of operating theatres.

The close monitoring of the child remains the responsibility of the nursing staff until they have been transported to the operating theatre and a formal handover has occurred to the anaesthetic nurse.

The following should be available:

- A portable monitor with pulse oximetry with audible alarms at appropriate limits
- Full oxygen cylinder
- Hudson mask or T-piece
- CHW only: Children from CSSU and ED must also be accompanied with portable suction and self-inflating bag valve mask.

Special Circumstances

Severe autistic spectrum disorders /neurobehavioural disorders

Children with severe behavioural disorders needing anaesthesia care should be identified early and escalated to the anaesthetic team for assessment as they may need an alternative admissions process and plan for premedication.

Highly infectious airborne diseases

If the parent or child has a highly infectious airborne disease, then the parent is generally not allowed to accompany the child into the operating theatre. This separation can cause significant distress and infectious precautions may be quite confronting for the child.

These children will therefore be highly encouraged to have a premedication to minimise the distress of coming to theatres without the presence of a parent. This is particularly in the case of younger children and those without IV access.

Children unable or unwilling to take oral medications

Please escalate these children to the anaesthetic team so that an appropriate plan can be made. Alternative routes such as intranasal or intramuscular medications may be considered in these children.

Who to contact

Should you have any questions regarding a child requiring premedication before anaesthesia please contact any of the following:

CHW

- Anaesthetic Registrar on call (pager 6008),
- Duty Anaesthetist (phone 83165, pager: 6777),
- Operating Theatres Team Leader (phone: 52381, pager: 6182)

SCH

- Paediatric Duty Anaesthetist (phone 0427 242 727)

References

1. *AMH Children's Dosing Companion* (online). Adelaide: Australian Medicines Handbook Pty Ltd; 2020 July. Available from: https://childrens.amh.net.au/
2. Meds4Kids Dosing Guide. Sydney Children's Hospital Network. 2022. Available from: http://webapps.schn.health.nsw.gov.au/meds4kids/
3. Procedural Sedation (Paediatric Ward, Clinic and Imaging Areas) Practice Guideline 5.4 Monitoring and Documentation. Sydney Children's Hospital Network. 2018. Available from: https://www.schn.health.nsw.gov.au/_policies/pdf/2011-9017.pdf