

Sedative Premedication Guidelines at RCH

Premedication with sedative drugs is often used in paediatric practice as one of the modalities to reduce preoperative anxiety in children undergoing surgery.

Advantages	Disadvantages
<ul style="list-style-type: none"> Reduces both patient and parental anxiety and improves overall satisfaction with the experience Provides for anterograde amnesia Reduces postoperative behavioural changes and adverse outcomes in children 	<ul style="list-style-type: none"> Non-compliance by the child may worsen anxiety Paradoxical reaction may be seen in response to some drugs e.g. midazolam May potentiate the effect of other sedative drugs e.g. opioids

Indications	Contraindications
<p>Need for sedative premedication should be part of pre-anaesthetic assessment of every child. The following patients are likely to benefit from premedication:</p> <ul style="list-style-type: none"> children with disabilities or special needs e.g. Autistic, Asperger's, Downs syndrome children having major surgery children needing multiple operative procedures children with past h/o stormy anaesthetic induction or emergence 	<p>Following are some conditions where a careful risk benefit assessment must be made prior to prescribing sedative premedication:</p> <ul style="list-style-type: none"> anticipated airway difficulty increased risk of aspiration central or obstructive sleep apnoea raised intracranial pressure or altered GCS acute systemic illness e.g. severe sepsis reduced SpO₂ on room air severe renal or hepatic impairment previous allergic or adverse reaction to sedative premedication

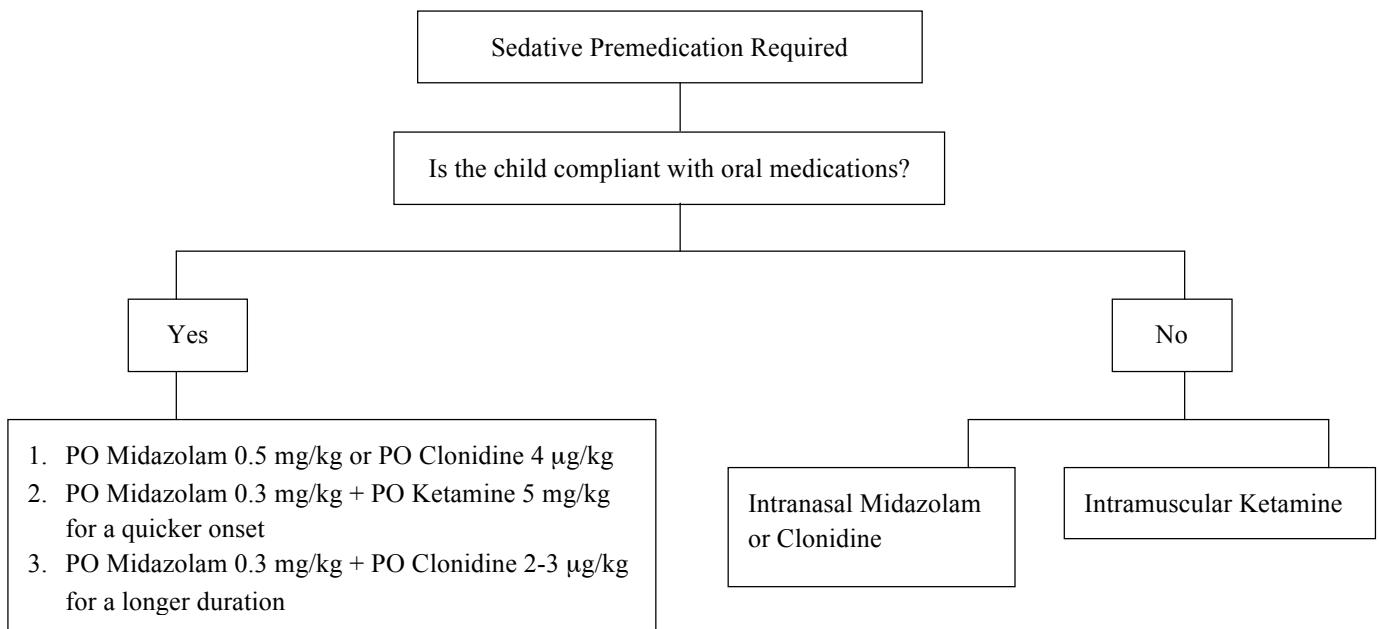
Practical Considerations
<ul style="list-style-type: none"> Confirm fasting status (refer to “fasting guidelines for all patients having an anaesthetic at RCH”) Inform parents and the child (where appropriate) as to what effects they can expect from the premedication Chart the premedication route, dose and the time when it should be administered (different drugs have variable onset times, see chart below) Inform the preoperative / day surgery nurse responsible for the patient that a “premed” has been charted, to ensure it is given at the appropriate time Oral premedication drugs can be given mixed with a small volume (5-30 mls) of clear solution (e.g. apple juice, lemonade, cordial or paracetamol mixture) which the child usually accepts to mask unpleasant taste Sedative drugs should be provided in a safe environment where resuscitation equipment and drugs can be easily accessed A sedated child should be appropriately monitored at all times, including when transferred from the day surgery or inpatient area to the pre-operative holding area and through to operating theatre

Drug	Route	Dose	Onset (mins)	Duration (hours)	Note	Effects
Midazolam	Oral	0.5 mg/kg (Max. 20 mg)	20-30	1-2	Unpleasant taste	Sedation, anxiolysis, anterograde amnesia, paradoxical reaction in some children.
	Intranasal	0.2 mg/kg	10-15	1-2	Stinging	
	Buccal / Transmucosal	0.5 mg/kg (Max. 20 mg)	10-15	1-2		
Temazepam (in older children)	Oral	10-30 mg	45-60	3		Sedation, anxiolysis, amnesia
Ketamine (avoid in children under 2 years)	Oral	5-10 mg/kg	10-20	3	Increased salivation, Nystagmus, Dissociative state	Sedation and analgesia
	Intranasal	3-5 mg/kg	10-15	1-3		
	Buccal / Transmucosal	5-6 mg/kg	10-15	1-3		
	Intramuscular	5 mg/kg	3-5	1-3		
Clonidine	Oral	4 µg/kg	45-60	6	Bradycardia,	Sedation, analgesia, anxiolysis but no amnesia.
	Intranasal	2 µg/kg	30-60	6	Hypotension (large doses)	
	Intramuscular	2-4 µg/kg	30-60	6		

Tips and trouble-shooting

- Oral midazolam has a quick & reliable onset and is most frequently used at RCH.
- Oral midazolam has an unpleasant taste that some children find unacceptable.
- Oral midazolam may be combined with oral ketamine for a quicker onset or with clonidine for a longer duration of action (Beware additive sedative effects and consider dose reduction).
- Clonidine is an alternative to midazolam and is preferred by some as the first-line agent. It has a slower onset of action and must therefore be timed accordingly.
- Children refusing oral midazolam due to its unpleasant taste may accept clonidine instead.
- In children with previous emergence agitation or paradoxical reaction to midazolam, clonidine given either as a premedication or intraoperatively, may have a beneficial effect.
- Intranasal/transmucosal route often has a quicker onset and may be used when oral premedications are refused, keeping in mind that trying the intranasal route in a distressed child may pose risk of injury to staff and child (Beware that absorption from the intranasal route may be variable).
- Intramuscular drugs (ketamine, clonidine) may be used as an alternative in noncompliant children if premedication is felt necessary (see footnote on use of Ketamine dart).

Suggested Pathway For Choosing Sedative Premedication



Ketamine Dart

Ketamine dart maybe useful particularly in large or unco-operative children with disabilities e.g. Downs syndrome, Asperger's, Autism etc, and has a quick onset of action.

- Prepare parents and team about the approach.
- Prepare the 'Ketamine dart' with 5 mg/kg of Ketamine in a syringe with a 23-Gauge needle attached.
- Parents should distract the child, who is seated or lying down.
- Keep the child's thigh exposed if possible. Injecting through clothes is acceptable.
- Approach the child from out of their field of vision. The anaesthetic techs should be prepared to restrain the child as the anaesthetist injects quickly.
- Withdraw whilst the parents comfort the child.
- Ketamine will take effect in 3-5 minutes.