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**Review of the Essential Medicines List for Children**

Overall, I found the document very thorough and well referenced to available literature. Consideration should be given to publishing this text in booklet form. The review does confirm the paucity of data in relation to symptom management in paediatric palliative care. I would be happy to endorse the document including all of the medications that are mentioned / suggested.

Other notes:

**Fatigue and Weakness**

The conclusions in relation to fatigue and weakness were in keeping with accepted Australian practice. Dexamethasone nevertheless is available on the WHO formulary, so its use can be left at the discretion of the prescriber.

**Pain**

The availability of morphine, paracetamol and NSAIDs would be the mainstay of pain management as per the document.

Ongoing availability of codeine may be beneficial in places where morphine is not available or there is a culture of concern about the use of morphine (although trying to re-dress these fears should also be undertaken). The use of codeine in Australia has reduced significantly in recent years.

The option of other opioid analgesics being available (in relation to rotation when side effects become bothersome) should be considered, but perhaps the priority is to have morphine readily available in all countries of the world (Drake, Longworth and Collins, 2004).

During a brief stint in the Democratic Republic of the Congo in 2006, I found Tramadol to be the most readily available analgesic (both in availability and comfort of the health professionals in using this).

Gabapentin probably has equivalent or better effectiveness to amitriptyline in the treatment of neuropathic pain. Its cost may prohibit its use in resource poor countries (Dworkin et al., 2007).

Consideration should be given to Hyoscine N-butylbromide for pain associated with spasm.

**Breathlessness**

The reference to the use of buccal midazolam is in keeping with Australian practice.

The use of clonazepam drops which can be administered sublingually is also acceptable for paediatric administration and should be considered.
**Agitation and Delirium**

Agree with recommendations for the use of haloperidol or midazolam. Again clonazepam drops could also be considered.

Chlorpromazine is also on the WHO list – and perhaps should be mentioned in case the other medications are not available in a certain region.

Levomepromazine is used on occasion for intractable nausea and vomiting in paediatric palliative care in Australia – it is accessed via a Special Access Scheme – see below.

**Nausea and Vomiting**

Both cyclizine and levomepromazine are SAS medications in Australia (Special Access Scheme). Special documentation is required and there may be supply issues as these items are sourced from overseas suppliers.

While there are no randomised controlled trials, a helpful case review and discussion of the literature has recently been published on haloperidol (Siden, 2008).

There are some controlled trials in the post-operative setting which demonstrate the efficacy of ondansetron in children (O’brien et al., 2003). A recent meta-analysis has also demonstrated its effectiveness in gastroenteritis (DeCamp et al., 2008). Ondansetron has increased usage in the paediatric palliative care setting (compared to adults) in Australia (at least in Brisbane and Sydney). Its cost may preclude its use in resource poor countries. I realize this will be a controversial point of discussion.

Promethazine and Chlorpromazine are also on the WHO list – and perhaps should be mentioned also as anti-emetics in case the other medications are not available.

Levomepromazine is used on occasion for intractable nausea and vomiting in paediatric palliative care in Australia.

**Constipation**

Consideration should also be given to the provision of Macrogol 3350 (or equivalent) medication (Nurko et al., 2008).

**Respiratory Tract Secretions**

The Hyoscine transdermal patch can be difficult to access in Australia.

Glycopyrronium bromide has the advantage of not crossing the blood-brain barrier.

Atropine eye drops may be another readily accessible medication to reduce secretions in resource poor countries (Lidstone et al., 2006).

**Anxiety**

Similar comment to breathlessness re: the use of clonazepam.
**Other medications**

Medications that have been included in a recent Paediatric Palliative Care reference for Australia (*A Practical Guide to Paediatric Oncology Palliative Care*) that have not been included in the WHO list of medications:

- Chloral hydrate
- Domperidone (this medication is freely available in many African countries)
- Gabapentin
- Glycopyrrolate
- Lactulose
- Lorazepam
- Macrogol 3350
- Oxycodone
- Benztropine
- Omeprazole
- Ondansetron
- Ranitidine
- Oxycodone
- Paraffin
- Prochlorperazine
- Other opioids (hydromorphone, fentanyl, methadone)

Another reference for the use of fentanyl transdermal patches in children is:


**References**


Royal Children’s Hospital. *A Practical Guide to Paediatric Oncology Palliative Care*, Royal Children’s Hospital, Brisbane, 1999


**Other Sources of Information**

I have recently been involved in compiling a Drug Table for Paediatric Palliative Care use in Australia (*A Practical Guide to Paediatric Oncology Palliative Care*) which has been adopted by the National Reference Group for PPC. Sources of information for this document included:

- Liaison with paediatric oncologists
- Liaison with other paediatric palliative care physicians
- Liaison with 2 pharmacists
- Reference to available Paediatric Pharmacopoeia.