

The principles of pain management for children

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Pain receptors - nociceptors

- Receptors are present all over the body that are sensitive to noxious stimuli
 - skin = polymodal receptors: touch/pressure, heat and chemicals
 - cornea, dentine, periosteum = unimodal receptors: pain only
- All sensory nerves will produce pain sensation if stimulated sufficiently

Harmful effects of unrelieved pain

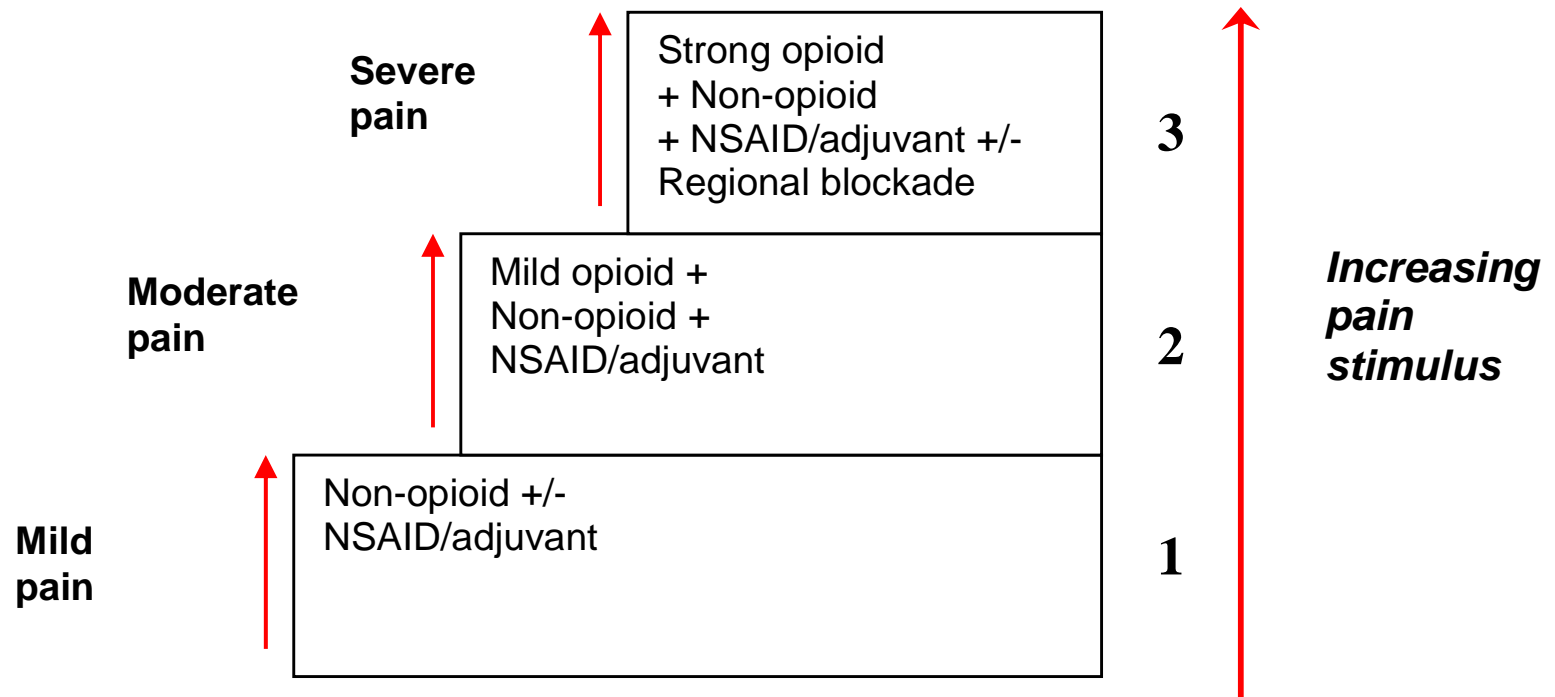
Systems:

- **Cardiovascular:** ↑HR ↑BP ↑CO ↑O₂ consumption
- **Respiratory:** ↑RR ↓flow/vol ↓SaO₂
- **Endocrine:** ↑cortisol ↑adrenaline ↑glucagon ↑BSL
- **Gastrointestinal:** ↓gastric & gut motility
- **Musculoskeletal:** tension, spasm, fatigue

Principles of pain management

- Follow the WHO analgesic ladder
- Combined analgesia is more effective than a single modality
- Minimising opioids does not need to mean no analgesia

WHO analgesic ladder (modified)



Causes of surgical pain

- Underlying reason for surgery
- Surgical incision
- Position during surgery
- After surgery care
- Complications
- Physiotherapy/mobilisation

Causes of medical pain

- Investigations
- Treatment
- Disease process
- Secondary complications
- Organ distension or compression
- Nerve damage or compression

Causes of procedural pain

- Needles
 - IV, bloods, LP, SPA, biopsy
- Tubes
 - Catheters, drain tubes, NGT, MCU
- Position
 - For LP, for MCU, colonoscopy
- Emotional aspects...

Non-opioid analgesia

- AnGel/EMLA
- Paracetamol
- NSAIDs eg ibuprofen, ketorolac
- Tramadol
- Local anaesthesia blocks

Opioid analgesia

- Codeine
- Morphine/MS Contin
- Oxycodone/Oxycontin
- Fentanyl
- Hydromorphone


Analgesia for procedures

- **IV's** AnGel cream/EMLA
- **lumbar punctures** AnGel cream/EMLA/local anaesthetic
- **earache** local anaesthetic drops
- **eyes** local anaesthetic drops
- **systemic** opioids/non-opioids/NSAIDs
- **topical** AnGel cream/EMLA/local anaesthetic gel
- **nasopharynx** local anaesthetic spray

Optimising analgesia

- Administer analgesia
- Utilise other comfort measures
- Review within short period ie at expected peak effect of drug
- Don't assume the analgesia has worked
- Take action if analgesia is ineffective
- **Document** findings clearly for others

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- RCH pain management info:
<http://www.rch.org.au/anaes/pain/>



Pain control must be based on scientific fact, not on personal beliefs or opinions

Finally...

Optimal pain management
is the right of **all** patients
and the responsibility of **all**
health professionals