

18. Analgesia, including for chest trauma with rib fractures

This guideline covers the assessment and early management of pain in paediatric major trauma patients in the Emergency Department.

Assessment of pain

Choose a pain assessment tool appropriate for the child's age and developmental stage. The gold standard of assessment is the ability to self report.

Prehospital analgesia

Many children will NOT have been given any pain relief before reaching hospital.

Always confirm if any prehospital analgesia has been administered, such as:

- Oral paracetamol
- Entonox in the awake older child
- Intranasal or intravenous opiates
- Ketamine in the awake child with blunt trauma

Early pain management in the Emergency Department (ED) – also see flow chart [Appendix 11](#)

(a) Non-pharmacological measures

Pain management starts with your approach to a distressed and injured child:

- Engage the help of an appropriately trained therapist, play specialist or nurse
- Use the presence of a parent if possible as a source of comfort for the child
- Reducing anxiety helps reduce pain levels and this can be achieved by explaining, talking and to a degree by distraction.

Consider using non-pharmacological means of pain relief early - eg. for burns apply burns shields initially or more definitively use a clear dressing such as cling film.

Don't forget that reduction of displaced fractures and dislocations immediately reduces the severe pain associated with the abnormal anatomy and this can then be maintained with appropriate splintage.

When these measures have been addressed then the next step will be pharmacological agents; all the above can be actioned while drug doses are being calculated and drawn up.

(b) Pharmacological measures

Aggressive use of multimodal therapy in all stages should be used to control pain

Assess patient's pain on presentation to ED using appropriate assessment tool

Reassess pain scores at regular intervals and top up pain relief as needed.

Options

- Intra-nasal diamorphine 100micrograms/kg
- Paracetamol IV or orally
- Morphine IV dose is 50-200microgram/kg (up to a max of 10mg)
- Ketamine IV dose is 250-300 microgram/kg (can be administered via IV, IM, oral or buccal routes)
- Shorter acting opioids e.g. fentanyl and alfentanil for rapid pain control (experienced personnel only who would be competent at managing the airway)
- Peripheral nerve blocks (trained personnel only), using 0.25% levobupivacaine maximum 2mg/kg, = maximum volume of 0.8mL/Kg
 - Femoral nerve block or fascia iliaca block: fractures of the femur
 - Brachial plexus blocks: upper limb injuries
 - Intercostal nerve blocks: rib fractures
- NSAIDs usually have no role in the immediate management of major trauma.

See also [Appendix 11](#): Pain management flow chart

Appendix 11 - Pain management flow chart

