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Analgesia for Acute Care

Aim

The objective of this guidance is to outline appropriate pharmacological and non-pharmacological techniques in paediatric acute pain management. This guideline was last updated in 2018 to keep our practice in line with international standards of best practice.

Target Patient Population

This guidance is designed to be used for paediatric patients in the acute care setting of the Emergency Department (ED) or Urgent Care Centres (UCC). Separate specific guidelines exist for pain in more specific conditions. For example: sickle cell disease, acute otitis media, burns, headaches and procedural pain (i.e. Sedation Guideline).

Target Users

This guidance has been developed for medical staff, nursing staff, pharmacists and other members of the multidisciplinary team, to guide them through achieving effective pain control. This guidance is designed to augment clinical judgement by provision of a framework for all members of the clinical team treating children experiencing pain

Introduction

Analgesics with psychological/physical therapies/techniques are the mainstay of pain control. The principals are to treat the pain quickly and effectively. Two pain scenarios commonly arise in acute care:

1. The child presenting with acute uncontrolled pain (e.g. Fracture, Appendicitis, etc.)
2. The child to undergo a painful controlled procedure (e.g. Fracture manipulation).

It is critical to emphasise that it may not be possible to achieve a completely "pain-free" condition. A realistic acute target is that the child should be comfortable (or have self-control) with the pain they are experiencing

Pain Assessment(s)

The assessment of pain should include history, examination and the presumed diagnosis should be considered. [1]

It should be recorded at first interaction with the patient. Pain scores should be recorded on movement and at rest.

Pain is classified as mild, moderate or severe, with treatment administered based on this.

Always consider pre-hospital/triage analgesia and pain mimics (Figure 1) when scoring pain.

Best practice states that children presenting with moderate and severe pain should have initial pain management commenced within 20 minutes of arrival to the ED.[1]

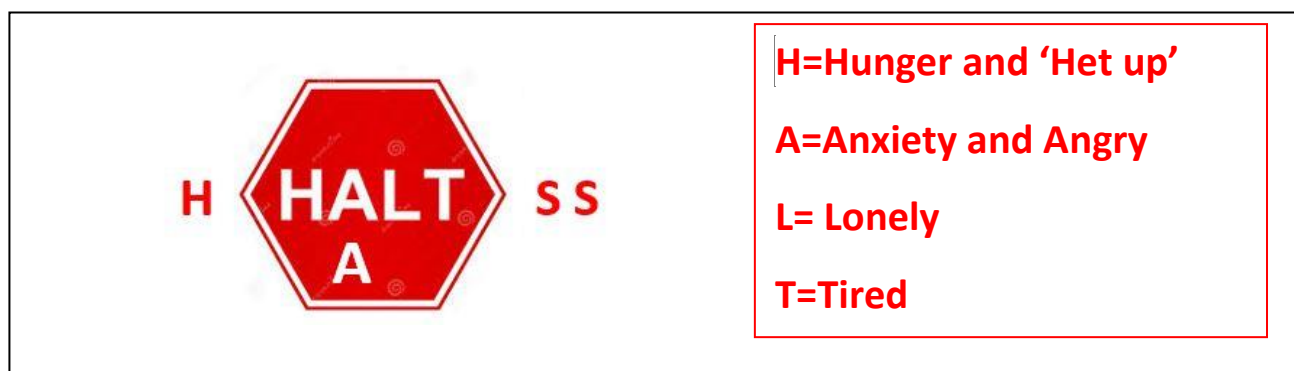


Figure 1: Distress in Children and Pain Mimickers

Pain Assessment Tools

Consider the age, developmental stage, co-morbidities and previous painful experiences when assessing pain in children.

Self-reporting tools are reliable in older, verbal children [2-6], e.g. Wong Baker (> 3 years old), Visual Analogue Scale (VAS) (>7 years old) or Manchester Pain Ladder.

Pain rating by parent/nurse/carers can be used for younger children e.g. Modified Face Legs Activity Cry Consolability scale[2, 7] (< 3 years old or non-verbal children/adolescents)

Reassessment of Pain

Following initial intervention pain should be reassessed and recorded. Best practice states effectiveness of analgesia should be re-evaluated within 60 minutes.[1]

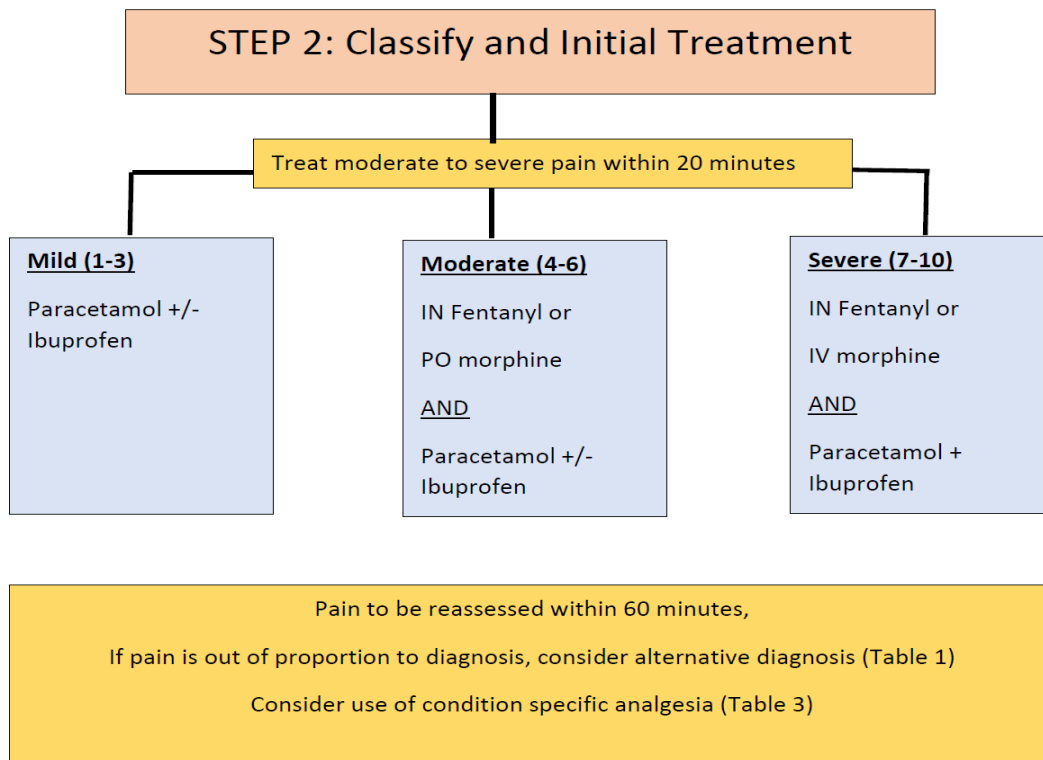
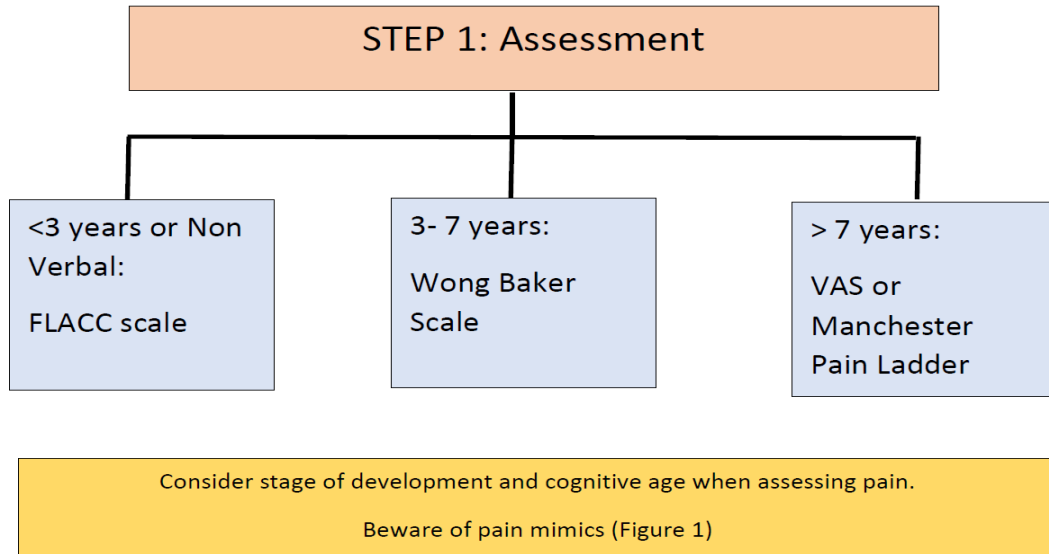
If the pain is out of proportion to the presumed diagnosis, consider alternative causes. (Table 1)

Paediatric Pain Out of Proportion		
consider pain mimickers (Figure 2)		
Unseen Injury*	Unseen infection*	Unseen Oncology*
Fracture (s) (limb, ribs, non-accidental injury)	Sepsis	Leukaemia
Corneal abrasion	Toxic Shock Syndrome	Sarcoma
Hair tourniquet	Necrotising Fasciitis	Neuroblastoma
Compartment syndrome	Appendicitis	
Intusseption/Volvulus		
Other		
Complex regional pain : characterised by amplified musculoskeletal pain in a limb that is out of proportion to history physical findings, accompanied autonomic dysfunction (e.g. cold limb)		
Functional Pain: Pain of no obvious organic origin is a diagnosis of exclusion		
Fabrication is a diagnosis of exclusion by clinical findings and/or investigations		

Table 1: Example differential diagnoses of pain that is maybe out of proportion

*this list is not exhaustive

Consider following the pain management pathway (Figure 2) as shown below to guide your initial assessment of pain.



Pain Interventions

Interventions in pain management is through the combination of the following:

- Non-pharmacological methods (Psychological/Physical therapies/techniques)
- Pharmacological methods

Non Pharmacological Interventions

These can be used independently or in combination with pharmacological methods.

Parents should remain with their child when in pain or having a painful procedure, as presence of the care giver is shown to reduce pain/distress.[8-11]

Age Groups

Infants. Strong evidence exists for the use of comfort measures such as swaddling, non-nutritive sucking and breast-feeding for reduction of pain scores in the infant population.[12-17]

Older Children. Distraction techniques such as visual (e.g. books, smart devices, virtual reality headsets), play, either with a play therapist or guardian (blowing bubbles, conversation/interaction with care-giver).[18-22]

Physical techniques can include Vibration devices/ Cold spray [23-25]

Application of support devices/cooling techniques – These may not be definitive management methods but can aid in pain reduction in the interim e.g. Backslab, splint and cast, ice pack, 20 minutes of water for burns

Language for health care providers and parents

Positive. Use language which can be described as distracting (e.g. 'what did you do in school today?'), informative (e.g. 'It might feel like a pinch', 'tell me how it feels') with a positive focus (e.g. 'you are being very brave', 'that was hard; I'm very proud of you', 'you are doing a great job')

Negative. Avoid using language that is falsely reassuring (e.g. 'there is nothing to worry about'), vague ('this won't really hurt') or negative ('this will feel like a bee sting', 'the medicine will burn', 'don't cry'). [26, 27]

Rewards. Rewards for the child who has undergone a painful procedure should be considered. E.g. – stickers and teddy bears.

Pharmacological Interventions

The prescription of Oral/Intranasal (IN)/intravenous (IV)/subcutaneous (SC) analgesics/ regional/adjuvant drugs dosing is done in line with local formulary, guidelines and policies. Separate hospital guidance may exist for sickle cell disease, acute otitis media, burns and headaches.

Route of administration. The oral, intranasal, topical and intravenous routes are the preferred routes. Intramuscular injections should not be used to manage pain except on discussion with consultant. The subcutaneous route is useful for children receiving palliative care or where IV access is extremely poor.[2]

Sustaining Pain Relief. Maintenance analgesia must be prescribed regularly around the clock rather than "PRN" when pain is expected to be persistent. The oral route is preferable. For patient discharged a plan for pain management should be given to the carer.

Please consult local formulary for drug/dosage recommendations beyond this document

Disease Specific Conditions

Certain diseases or injuries have been shown to respond well to certain pharmacological interventions. Table 3, below, is a non-exhaustive 'quick consult' list to help if your initial management has not worked.

Specific Disease or procedural	Consider Use Of:
Brief minor Procedure in small infant (< 3 months)	SUCROSE [14, 18, 32-35] Sucrose administered orally before performing painful procedures e.g. heel prick blood sampling, eye examination, insertion or removal of IV lines, phlebotomy, insertion of gastric tubes, has been shown to decrease the duration of crying; facial action associated with pain, heart rate and composite scores in infants less than 3 months of age. Sucrose is more effective if given with a soother as this promotes non-nutritive sucking which contributes to calming.
Acute otitis media	Lidocaine Drops 1- 2% w/v (topical): Instil into the affected ear and have the patient lie with the affected ear up for 5 minutes. Provides short term pain relief [1] [28, 29]. For ED use only. Do not discharge patient with same
Pharyngitis	Dexamethasone: This has been shown to be effective in reducing pain associated with pharyngitis when used in conjunction with antibiotics. [1, 31,[30-32]]
Corneal Abrasion	Tetracaine eye drops 0.5% w/v: Instil drops in the affected eye to achieve analgesic effect. [33]
Femoral fracture	BUPIVACAINE NERVE BLOCK: consult local guidelines and involve senior members of staff.[34, 35]
Migraine	Sumatriptan as a single dose which can be repeated in 2 hours if migraine recurs. Use in conjunction with IV Fluids and anti – emetics.
Laceration repair	LAT (Lidocaine/Adrenaline/Tetracaine) GEL: Apply 30-40 minutes prior to laceration repair and cover with occlusive dressing. Not suitable for use on areas of distal blood supply – e.g. – fingertips/ear lobes. [36]
IV cannulation/ phlebotomy	AMETOP (TETRACAINE) GEL [17, 35, 37, 38]: Apply contents of the tube to the area to be anaesthetised, do not rub into the skin. Cover with occlusive dressing. Effective after 45 minutes approximately. Contraindicated in infants <1 month corrected gestational age or if history of hypersensitivity. ETHYL CHLORIDE SPRAY (Cryogesic ®): Use on unbroken skin only. Effect will last approximately 30 – 45 seconds.[39]
Fractures/ Dislocations	FENTANYL INTRANASAL: Initial analgesia in children aged 1 year or older in moderate to severe pain

Table 3 – disease specific conditions that may respond to specialised treatments.

[Link to References](#)