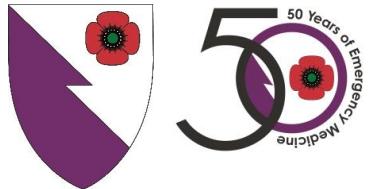


The Royal College of Emergency Medicine

Best Practice Guideline

# Management of Pain in Children



Revised  
July 2017

## **Summary of recommendations**

1. Recognition and alleviation of pain should be a priority when treating ill and injured children. This process should start at the triage, be monitored during their time in the ED and finish with ensuring adequate analgesia at, and if appropriate, beyond discharge. *Level 5 evidence.*
2. The RCEM Quality in Emergency Care Committee (QEC) standard of analgesia for moderate & severe pain within 20 minutes of arrival in the ED should be applied to children in all Emergency Departments. Patients in severe pain should have the effectiveness of analgesia re-evaluated within 60 minutes of receiving the first dose of analgesia. *Level 5 evidence.*
3. Patients in moderate pain should be offered oral analgesia at triage / assessment. Patients with moderate pain should have the effectiveness of analgesia re-evaluated within 60 minutes of the first dose of analgesia. *Level 5 evidence.*
4. An audit against these standards should be done annually. *Level 5 evidence.*
5. In treating pain, pay attention to the other factors distressing the child such as fear of the unfamiliar environment and people, parental distress, people in uniforms, needle avoidance, fear of injury severity etc. *Level 5 evidence.*
6. Training in pain relief in children for all staff involved in patient care is essential to ensure quality and timely management. *Level 5 evidence.*

## **Scope**

This guideline has been developed and reviewed in order to provide clear guidance on the standards for timeliness of provision of analgesia, and to provide an approach to the delivery of analgesia based on available evidence and consensus of the RCEM QEC. It is applicable to all children presenting to Emergency Departments in the UK.

## **Reason for development**

Pain management is one of the most important components in patient care, which is why it is given such a high priority in the RCEM 'Clinical Standards for Emergency Departments' and the Manchester Triage Scale <sup>(1)</sup>.

## **Introduction**

Pain is commonly under-recognised, under-treated and treatment may be delayed <sup>(2)</sup>. This is especially true in children <sup>(3)</sup>.

Reasons include difficulty in assessing severity, the child may not appear distressed or have difficulty describing / admitting to pain. Drug choice and dosage may also cause problems due to unfamiliarity.

Recognition and alleviation of pain should be a priority when treating ill and injured children. This process should start at the triage, be monitored during their time in the ED and finish with ensuring adequate analgesia at, and if appropriate, beyond discharge.

There is some evidence that pain relief is related to patient satisfaction <sup>(4)</sup>.

## **Pain assessment**

Pain assessment forms an integral part of the Manchester Triage Scale <sup>(1)</sup>.

Multiple assessment tools are in use. The better known uni-direction scales have some evidence in the context of an ED environment, and even where the atmosphere is tense and the child and parent are using such tools for the first time, are satisfactory for the purpose of pain assessment and management <sup>(5)</sup>.

The pain ladder contains objective and subjective descriptions with a numerical scale.

Some scales are based solely on faces <sup>(6)</sup>, and the APLS pain ladder combines objective and subjective descriptions with panda faces <sup>(7)</sup>. RCEM recommends the use of the attached assessment tool or a locally developed alternative. The Ladder element (which included a 0-10 numerical rating scale) of the scale has been removed following evidence suggesting limited advantage to this section <sup>(8)</sup>.

The experience of the member of staff triaging the child will help in estimating the severity of the pain. In addition, we rely on visual clues such as crying or loss of movement of a limb, which can be measured by behavioural scoring systems such as the CHEOPS score, which are particularly useful in non-verbal children <sup>(9)</sup>.

## How to treat pain

Psychological strategies: involving parents, cuddles, child-friendly environment, and explanation with reassurance all help build trust. Also, distraction with toys, blowing bubbles, reading, or story-telling using superhero or magical imagery to make the pain go away.

The use of non-pharmacological adjuncts: such as limb immobilisation, dressings for burns.

Pharmacological agents, via a variety of routes: **see attached algorithm (Appendix 2)**. Also local or regional anaesthesia are useful (e.g. femoral and auricular blocks). For procedures, departments may consider sedation using ketamine (IV / IM) or midazolam (oral or intranasal).

## **Authors**

Adapted and updated in July 2017 from the 2013 guideline by: Simon Smith FRCP, FCEM. Consultant in Emergency Medicine, John Radcliffe Hospital, Oxford.

## **Review**

A full review of this guideline will be undertaken in three years, or sooner if required.

## **Disclaimers**

RCEM recognises that patients, their situations, Emergency Departments and staff all vary. This guideline cannot cover all possible scenarios. The ultimate responsibility for the interpretation and application of this guideline, the use of current information and a patient's overall care and wellbeing resides with the treating clinician.

## **Research Recommendations**

None identified. Given the high incidence of pain in an ED, and the paucity of evidence in evaluation, difficulties with identification and pain and provision of pain relief in acute settings (especially in paediatrics), and the confounding variables that are known to exist there is a lot of scope for research in this area.

## **Audit standards**

There should be a documentation and audit system in place within a system of clinical governance. RCEM clinical standards based on this guidance can be found at:

[www.rcem.ac.uk/RCEMguidance](http://www.rcem.ac.uk/RCEMguidance)

Results of previous RCEM national audits of pain in children can be found at:

[www.rcem.ac.uk/audits](http://www.rcem.ac.uk/audits)

## **Key words for search**

Pain, Analgesia, Paediatric

## References

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## **Appendix 1**

### **Methodology**

Where possible, appropriate evidence has been sought and appraised using standard appraisal methods. High quality evidence is not always available to inform recommendations. Best Practice Guidelines rely heavily on the consensus of senior emergency physicians and invited experts.

### **Evidence Levels**

1. Evidence from at least one systematic review of multiple well designed randomised control trials
2. Evidence from at least one published properly designed randomised control trials of appropriate size and setting
3. Evidence from well-designed trials without randomisation, single group pre/post, cohort, time series or matched case control studies
4. Evidence from well-designed non experimental studies from more than one centre or research group
5. Opinions, respected authority, clinical evidence, descriptive studies or consensus reports.

## Appendix 2

### Assessment of acute pain in children in the Emergency Department

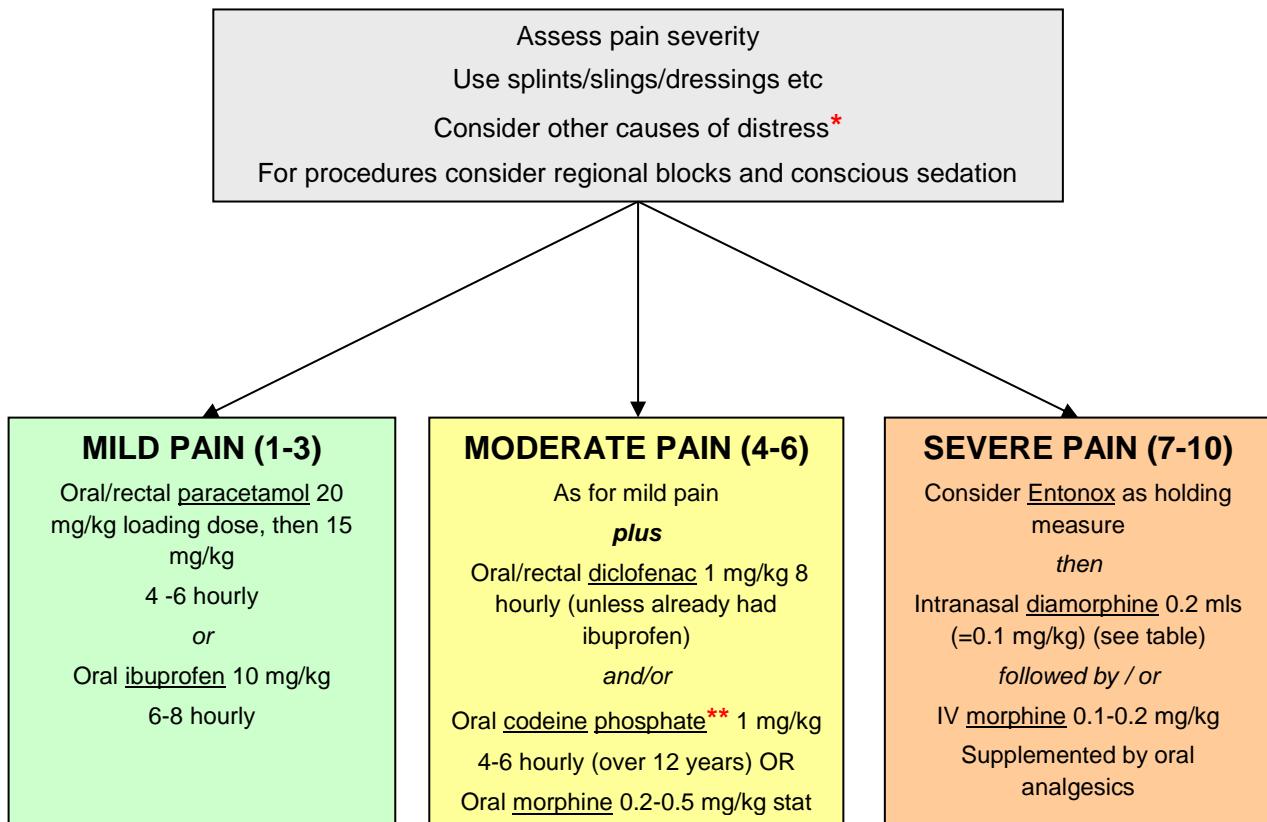
Degree of pain (Numerical score)	No Pain (0)	Mild Pain (1)	Moderate Pain (2)	Severe Pain (3)
Faces Scale Score				
Behaviour	<ul style="list-style-type: none"> <li>* Normal Activity</li> <li>* No ↓ movement</li> <li>* Happy</li> </ul>	<ul style="list-style-type: none"> <li>* Rubbing affected area</li> <li>* Decreased movement</li> <li>* Neutral expression</li> <li>* Able to play/talk normally</li> </ul>	<ul style="list-style-type: none"> <li>* Protective of affected area</li> <li>* ↓ movement/quiet</li> <li>* Complaining of pain</li> <li>* Consolable crying</li> <li>* Grimaces when affected part moved/touched</li> </ul>	<ul style="list-style-type: none"> <li>* No movement or defensive of affected part</li> <li>* Looking frightened</li> <li>* Very quiet</li> <li>* Restless/unsettled</li> <li>* Complaining of lots of pain</li> <li>* Inconsolable crying</li> </ul>
Injury Example	Bump on head	<p>Abrasion</p> <p>Small laceration</p> <p>Sprain ankle/knee</p> <p># fingers/clavicle</p> <p>Sore throat</p>	<p>Small burn/scald</p> <p>Finger tip injury</p> <p># forearm/elbow/ankle</p> <p>Appendicitis</p>	<p>Large Burn</p> <p># Long bone/ dislocation</p> <p>Appendicitis</p> <p>Sickle crisis</p>
Category chosen (tick)				

Using this composite method of pain scoring it should be possible to group children into one of four categories.

- In some children, it will not be possible to obtain a value for each of the indicators; however a generalised, majority score may be obtained.
- Once the category has been established, appropriate analgesia may be prescribed according to the flow chart.
- An example of injury is only intended as a guide. However based on the professional's own knowledge, it is possible to infer the likely severity of the pain experienced.

## Appendix 2 (ctd)

### Algorithm for treatment of acute pain in children in the Emergency Department



\*Other causes of distress include: fear of the unfamiliar environment, parental distress, fear of strangers, needle phobia, fear of injury severity etc.

\*\* The MHRA has restricted use of codeine to those over 12 years of age <sup>(10)</sup>

**Most children can and are able to use entonox, remember this may be a valuable source of analgesia whilst waiting for oral analgesia to work.**

Remember to ensure that there are no contraindications to medications before administration. The maximum daily dose of paracetomol should not be exceeded.

In all cases it is important to think of using other non-pharmacological techniques to achieve analgesia. These may include play and distraction or other measures such as applying a dressing or immobilising a limb.

Following reassessment if analgesia is still found to be inadequate, stronger analgesics should be used along with the use of non-pharmacological measures.

Children who fall into the moderate / severe categories should also be given basic analgesia.

## Appendix 2 (ctd)

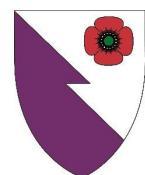
### Intranasal Diamorphine for acute pain

Dilute 10 mg of diamorphine powder with the specific volume of Sterile Water:

Childs Weight	Vol. Sterile Water
10 kg	1.9 mls
15 kg	1.3 mls
20 kg	1.0 mls
25 kg	0.8 mls
30 kg	0.7 mls
35 kg	0.6 mls
40 kg	0.5 mls
50 kg	0.4 mls
60 kg	0.3 mls

**Aerosolize (using MAD® or similar device) 0.2mls of the solution into one nostril using a 1 ml syringe (gives 0.1mg/kg in 0.2ml). Remember to allow for dead space of device (0.1mls for MAD, therefore draw up 0.3mls).**

A child who has had intra-nasal diamorphine only requires monitored observation for 20 minutes.



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