Ashford and St. Peter's Hospitals
NHS Foundation Trust

Management of Pain in the Paediatric Emergency Department

Author: Dr Jacob Tiddy (Foundation Year One Doctor)

Supervisor: **Dr Alexandra Jones (Consultant Paediatrician)**

Contact details : jacob.tiddy3@nhs.net, alexandra.jones5@nhs.net

Guideline History		
Date	**Comments**	**Approved By**
September 2019	Issued by Dr F MacCarthy	
March 2026	Dr. Saptha G Nair and Dr.Mohammed Waqar (EM/PEM Consultants)	Paediatric Guideline Committee.
March 2026	Updated by Dr J Tiddy	Paediatric Guideline Committee.
July 2026	Penthrox agreed. PIER network link provided. Appendix for IN fentanyl	Paediatric Guideline Committee.

Contents

1. Guideline
    a. Introduction
    b. Content
        i. Initial Assessment
        ii. Pain Scoring Tools
        iii. Analgesia
        iv. Pain Management Flow Chart
        v. Intranasal Fentanyl
2. Supporting References
3. Supporting Trust Guidelines
4. Appendices – Intranasal fentanyl
5. Guideline Governance
    a. Scope
    b. Purpose
    c. Duties and Responsibilities
    d. Approval and Ratification
    e. Dissemination and Implementation
    f. Review and Revision Arrangements
    g. Equality Impact Assessment
    h. Document Checklist
6. Appendices

Glossary of Terms

AdjBW	Adjusted Body Weight
ASPH	Ashford and St Peter's Hospital
CYP	Children and Young People
ED	Emergency Department
FLACC	Face Legs Activity Cry Consolability
IBW	Ideal Body Weight
IV	Intravenous
IN	Intranasal
PO	Per Oral
PR	Per Rectum
PRN	Pro Re Nate (as required)
QDS	Quarter die sumendum
RCEM	Royal College of Emergency Medicine
TBW	Total Body Weight

Management of Pain in the Paediatric Emergency Department

Introduction

Acute Pain is a complaint present in up to 78% of attendances to Paediatric Emergency departments [1]; despite this a UK study highlighted pain records only being documented in 57.5% children's ED visits [1]. These figures demonstrate a gap in pain assessment and emphasise the importance of acute pain management in young people, especially in the Emergency Department.

Children are at risk of being under-treated for a multitude of reasons including difficulties in expressing pain, challenges with communication, difficulty interpreting severity and lack of clinician familiarity with paediatric pain management. [2]

This guideline aims to support clinicians in the decision making of acute pain management in Children and Young People (CYP) aged <18 years, that are treated in the Emergency Department. Please also refer to **Management of Acute Pain in Children Best Practice Guidelines for Paediatric Inpatients** when making decisions on pain management.

Initial Assessment

The Royal College of Emergency Medicine recommend **assessing pain and providing analgesia for moderate & severe pain within 20 minutes of arrival** for all children in the Emergency Department. [2]

Pain should be **re-evaluated and managed appropriately within 60 minutes** of initial management strategy. [2]

Pain assessment should be tailored to each individual child according to age and level of cognitive development. Pain may also be manifested psychologically and physiologically. Physiological manifestations include but are not limited to; tachycardia, hypertension, tachypnoea, diaphoresis, pallor, pupil dilation.

All children with moderate and severe pain presentation need early assessment by clinicians and where appropriate, an early escalation to senior tier of clinicians (Registrar/Consultant)

The following should be considered for escalation:

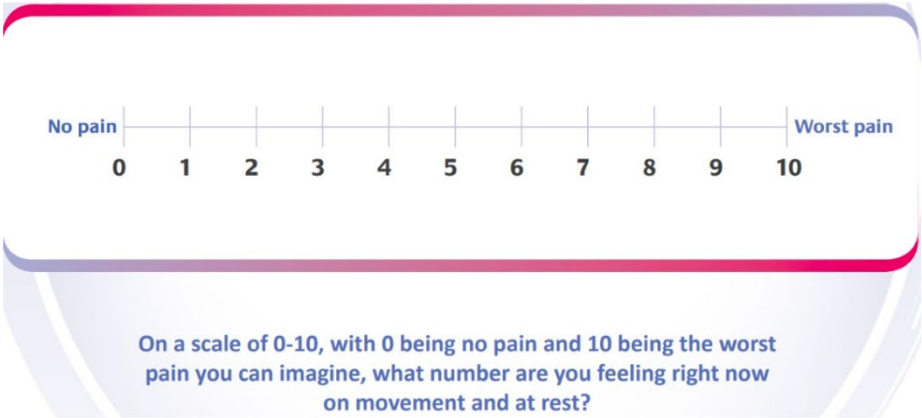
- If a child continues to require stronger analgesics to manage their pain

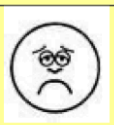
- If a child's pain score shifts from one scale to another **(**mild to moderate OR moderate to **severe)**
- If a child's pain appears disproportionate to presentation.

Pain at triage can be assessed using a multitude of pain assessment tools. The below tools include Visual Analogue Scale, Faces Scale Score and the FLACC pain scale. We currently use Wong Baker Faces scale in our ED, seen below.

https://wongbakerfaces.org

Visual Analogue Scale (Numeric Rating Scale) >7yrs old



Degree of pain (Numerical score)	**No Pain**	**Mild Pain**	**Moderate Pain**	**Severe Pain**
Faces Scale Score				
Behaviour	* Normal Activity * No ↓ movement * Happy	* Rubbing affected area * Decreased movement * Neutral expression * Able to play/talk normally	* Protective of affected area * ↓ movement/quiet * Complaining of pain * Consolable crying * Grimaces when affected part moved/touched	* No movement or defensive of affected part * Looking frightened * Very quiet * Restless/unsettled * Complaining of lots of pain * Inconsolable crying
Injury Example	Bump on head	Abrasion Small laceration Sprain ankle/knee # fingers/clavicle Sore throat	Small burn/scald Finger tip injury # forearm/elbow/ankle Appendicitis	Large Burn # Long bone/ dislocation Appendicitis Sickle crisis
Category chosen (tick)				

[Management of Pain in Children, Royal College of Emergency Medicine Best Practice Guideline, July 2017.]

FLACC Pain Scale [5]

A system to help parents, patients and professionals assess pain levels in children with limited or no expressive communication. Scores are totalled up for each category.

0 Relaxed **1-3** Mild Discomfort **4-6** Moderate Pain **7-10** Severe Discomfort

Categories	Score + 0	Score + 1	Score +2
Face	**No particular expression or smile**	**Occasional grimace or frown, withdrawn, disinterested**	**Frequent to constant quivering chin, clenched jaw**
Legs	**Normal position / relaxed**	**Uneasy, restless, tense**	**Kicking, or legs drawn up**
Activity	**Lying quietly, normal position, moves easily**	**Squirming, shifting back and forth, tense**	**Arched, rigid or jerking**
Cry	**No crying**	**Moans or whimpers, occasional complaint**	**Crying steadily, screams or sobs, frequent complaints**
Consolability	**Content, relaxed**	**Reassured by occasional hugging, touching, or being talked to, distractable**	**Difficulty to console or comfort**

Revised-FLACC Pain Scale [7]

The revised FLACC is a behavioural pain assessment scale for use with children unable to self-report their level of pain due to developmental disabilities. Rate the child in each of the five measurement categories, add together, and document total pain score (0 – 10).

Children who are awake: Observe for at least 1-2 minutes. Observe legs and body uncovered. Reposition patient or observe activity, assess body for tenseness and tone. Initiate consoling interventions if needed.

Children who are asleep: Observe for at least 2 minutes or longer. Observe legs and body uncovered. If possible, reposition the patient. Touch the body and assess for tenseness and tone.

The revised FLACC can be used for all non-verbal children. The additional descriptors (in italics) are descriptors validated in children with cognitive impairment. The nurse can review with parents/caregivers the descriptors within each category. Ask the parents/caregivers if there are additional behaviours that are better indicators of their child experiencing pain. Add these behaviours to the tool in the appropriate category. [7]

	0	1	2
Face	No expression or smile	Occasional grimace or frown, withdrawn, disinterested; appears sad or worried	Frequent to constant frown, clenched jaw, quivering chin; ***distressed looking face; expression of fright or panic*** *Individualised behaviour described by family:*
Legs	Normal position or relaxed; usual muscle tone and motion to arms and legs	Uneasy, restless, tense; occasional tremors	Kicking, or legs drawn up; ***marked increase in spasticity; constant tremors or jerking*** *Individualised behaviour described by family:*
Activity	Lying quietly, normal position, moves easily; regular rhythmic breaths (respiration)	Squirming, shifting back and forth, tense or guarded movements; mildly agitated (head back and forth, aggression); shallow, splinting breaths (respirations); occasional sighs	Arches, rigid, or jerking; ***severe agitation; head banging; shivering (not rigors); breath holding, gasping, or sharp intake of breaths; severe splinting*** *Individualised behaviour described by family:*
Cry	No cry (awake or asleep)	Moans or whimpers, occasional complaint; occasional verbal outburst or grunt	Crying steadily, screams or sobs, frequent complaints; ***repeated outbursts; constant grunting*** *Individualised behaviour described by family:*
Consolability	Content, relaxed	Reassured by occasional touching, hugging, or "talking to"; Can be distracted	Difficult to console or comfort; ***pushing away caregiver; resisting care or comfort measures*** *Individualised behaviour described by family:*

Analgesia

Important factors to consider when selecting analgesic options.

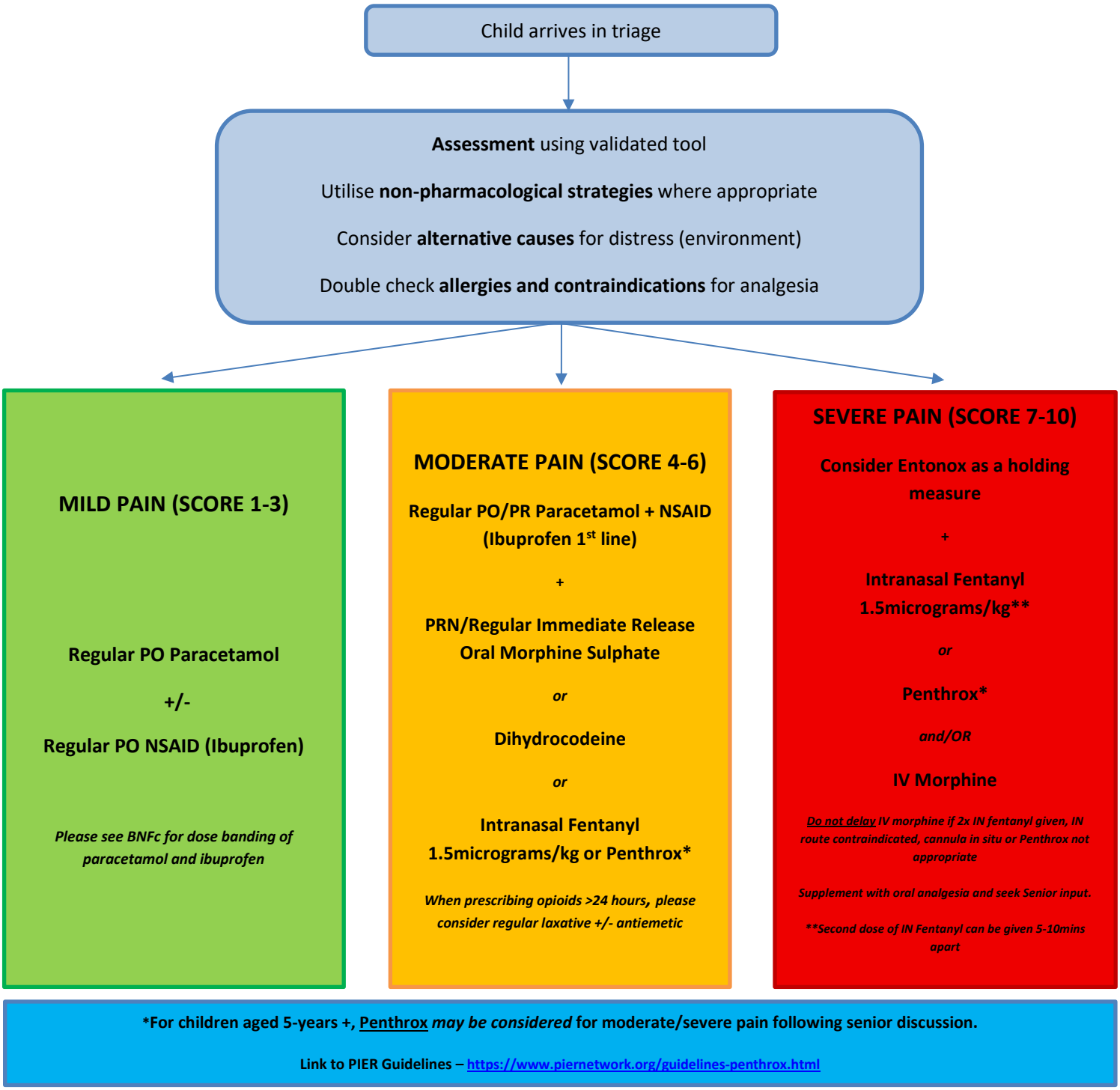
- Consider non-pharmacological options (play and distract, immobilisation of limb)
- Age
- Weight (Ideal vs actual, using estimated body weight)
- Renal Function
- Allergies
- Contraindications
- Hypersensitivities

Non-Pharmacological Options

Physical/Sensory	Psychological	Environmental
Repositioning – Of patient +/or pillows/bedding	Parental presence	Awareness of adverse effects of light, noise, music, alarms etc.
Physical Activity	Distraction	Encourage normal sleep cycle and rest periods
Heat Compress	Reassurance, information and explanation to child and parents	
TENS	Quiet, calm, child-orientated environment	
Ice Pack	Play	
Physiotherapy	Allow choices	
Breast Feeding	Guided Imagery	
Non-nutritive Sucking (dummy)	Relaxation Techniques	
Sucrose		

[Acute Pain Management in Children, Dr Richard Hawkins]

Paediatric Analgesia Flowchart



***For children aged 5-years +, Penthrox *may be considered* for moderate/severe pain following senior discussion.**

Link to PIER Guidelines – https://www.piernetwork.org/guidelines-penthrox.html

PLEASE SEE ORAL MORPHINE AND DIHYDROCODEINE DOSING BELOW, ALONGSIDE FENTANYL GUIDANCE

PLEASE CHECK: Allergies, Contraindications, Maximum doses, Underlying cause for pain

EFFICACY OF PAIN MANAGEMENT SHOULD BE RE-EVALUATED WITHIN 1 HOUR

All children with moderate and severe pain presentation need early assessment by clinicians and where appropriate, an early escalation to senior tier of clinicians (Registrar/Consultant)

For example:

- If a child continues to require stronger analgesics to manage their pain
- If a child's pain score shifts from one scale to another **(mild** to **moderate** OR **moderate** to **severe)**
- If a child's pain appears disproportionate to presentation

Suggested ORAL morphine and Dihydrocodeine doses for corrected gestational age

DRUG	AGE	DOSE	TIMING
Oral Morphine Sulphate	**Neonates**	**0.05mg/kg**	4-hourly
	1-3 **months**	0.05-0.1 mg/kg	
	4-6 **months**	0.1-0.15 mg/kg	
	7-12 **months**	0.2 mg/kg	
	1-12 **years**	0.2-0.3 mg/kg	
	>12 **years**	5-10 mg	
Dihydrocodeine	1-4 **years**	0.5mg/kg	6-hourly
	5-12 **years**	1mg/kg	
	>12 **years**	30mg	

In ASPH, dihydrocodeine liquid is not readily available. ***Dihydrocodeine should only be used when 30mg tablets are suitable****. This generally means children >30kg or 12+ years of age who can swallow tablets.*

[Acute Pain Management in Children, Dr Richard Hawkins – ASPH Trust Guideline]

Dosing in Children with Excess Weight

In clinical practice we are more frequently encountering children whose analgesic doses require adjustment based on weight.

Height and weight should be taken on each ED encounter to allow for up-to-date calculation on the below parameters.

The below formulae can be used to calculate appropriate weight-based dosages for Children with excess weight.

Table 1: Common measures of weight used when dosing medicines in childhood obesity

Weight (kg)	How/What to measure/calculate
Total Body Weight (TBW)	Weight in kg (no adjustment necessary)
Body Mass Index (BMI)	TBW(kg)/ (height in m)^2
Ideal Body Weight (IBW) [20,21]	Moore's Method - Using STAMP tool or UK WHO growth charts, cross reference height centile to weight for that centile
Adjusted Body Weight (AdjBW) [18]	IBW + Adjustment Factor (0.3) x (TBW-IBW)

[How should medicines be dosed in children who are obese?, for NHS healthcare professionals.]

Recommended Weight-Based Descriptors

Drug	NPPG Recommendation for Weight-Based Dosing
Ibuprofen	AdjBW (correction factor 0.35) up to adult max
Fentanyl	**AdjBW (correction factor 0.35)**
Morphine	IBW
Paracetamol	**AdjBW (correction factor 0.35) up to adult max**

These calculations are a **guide** for prescribers written by the Neonatal and Paediatric Pharmacy group. [9]

Intranasal Fentanyl

PLEASE REFER TO APPENDIX FOR INTRANASAL FENTANYL USE

Intranasal Fentanyl is a safe and effective synthetic form of **opiate analgesia** which allows for effective pain relief in children with moderate to severe pain. It is rapidly acting with an onset of action within 5 minutes, and duration of 30-60 minutes. It is non-invasive and useful for patients without IV access. [4]

Fentanyl should be prescribed, handled and administered with care due to the opiate-based nature of the drug.

Both intranasal Fentanyl and Penthrox can be utilised in the same patient. However, typically the best option from the two should be chosen for the individual patient. The duration of use of analgesia, ability to use a handheld device, and previous analgesia use should be considered.

Prescription:

Ages: 1 – 15 years of age

Dose: 1.5 micrograms/kg for initial dose. Subsequent second doses should be calculated at 0.75-1.5 micrograms/kg (max 75 micrograms) if analgesia insufficient. [8]

Maximum single dose: 75 micrograms [8]

Route: Intra-nasal

Minimum dose interval: 5-10 minutes

Consider additional IV opiate such as morphine if requiring 2 or more IN Fentanyl doses, for sustained pain relief and better monitoring.

Contra-indications:

- <1 years of age
- Opiate hypersensitivity
- Head injury / GCS <15
- Epistaxis
- Bilateral blocked nostrils

Adverse Effects: respiratory depression, hypotension, nausea and vomiting, itching

Monitoring - Pre-and Post-dose:

- Time of administration
- Pain score
- Baseline observations – RR, Sats, HR, BP, GCS,
- Observations taken at 5, 10 15 & 30 minutes following administration

Do not administer IV Opiates for 20-minutes post-administration

2. Supporting References

[1] Implementation of the WHO standards to assess quality of care for children with acute pain in EDs: findings of a multicentre study (CHOICE) in Italy. BMJ Paediatrics Open. 2024;8:e002610. https://doi.org/10.1136/bmjpo-2024-002610

[2] Management of Pain in Children, Royal College of Emergency Medicine Best Practice Guideline, July 2017. Available at: https://rcem.ac.uk/wp-content/uploads/2021/10/RCEM_Pain_in_Children_Best_Practice_Guidance_REV_Jul2017.pdf

[3] CLINICAL GUIDE TO THE USE OF INTRANASAL ANALGESIA (FENTANYL) FOR CHILDREN IN THE EMERGENCY DEPARTMENT, Doncaster and Bassetlaw Teaching Hospitals. Babu Benjamin, ED Consultant & Paediatric Lead for ED

[4] Intranasal Fentanyl, Clinical Practice Guidelines, The Royal Children's Hospital Melbourne. Updated October 2025. Available at: https://www.rch.org.au/clinicalguide/guideline_index/intranasal_fentanyl/#:~:text=Background,do%20not%20have%20IV%20access.

[5] FLACC Pain Scale Infographic. Available at: https://cerebra.org.uk/download/flacc-pain-scale-infographic/

[6] PIER Penthrox Guidance: https://www.piernetwork.org/guidelines-penthrox.html

[7] Revised FLACC (r-FLACC) Behavioural Scale ©2002, The regents of the University of Michigan. Available at: https://media.starship.org.nz/rflacc/rflacc.pdf

[8] Evelina London Children Hospital Paediatric Formulary

[9] How should medicines be dosed in children who are obese?, Prepared by UK Medicines Information (UKMi) pharmacists with input from the Neonatal and Paediatric Pharmacists Group (NPPG) for NHS healthcare professionals. Available at: https://nppg.org.uk/wp-content/uploads/2024/08/UKMIQA-drug-dosing-in-childhood-obesity.pdf

3. Supporting relevant trust guidelines

Acute Pain Management in Children, Best Practice Guidelines for Paediatric Inpatients – Dr Richard Hawkins, Consultant Anaesthetist. 2025 Guideline

Intranasal Analgesia (Fentanyl and Diamorphine) for children and young people in the Paediatric Emergency Department – Jennie Thompson, Paediatric ED Lead. 2023

Appendix 1.

Intranasal Analgesia (Fentanyl) for children and young people in the Paediatric Emergency Department

Indications:

- The nasal route avoids the delay and pain associated with placing IV access, and can result in faster onset and improved bioavailability compared to the oral route.
- Children between the ages of 3 and 16 years in severe pain as defined by pain algorithm in paediatric ED requiring analgesia, but not immediate intravenous access.
- Children who fall into the moderate/severe categories should also be given basic analgesia.
- Most children can and are able to use entonox, remember this can be a valuable source of analgesia whilst waiting for oral analgesia to work.

Contra-indications:

- Known fentanyl or diamorphine hypersensitivity
- Altered conscious level, GCS <15
- Head, Chest or Abdominal trauma with hypovolaemia
- Epistaxis
- Bilateral occluded nasal passages
- MAOI antidepressant within 14 days

Cautions:

- URTI may cause unreliable delivery of drug
- Prior dosing with other opiates/narcotics may cause accumulation
- Adverse effects:
- Adverse effects are uncommon, but may include
- Respiratory depression
- Hypotension
- Nausea and vomiting
- Itch
- Chest wall rigidity(only reported in rapid large IV doses)

Observations

- Time of administration
- Baseline pre-narcotic observations: HR, RR, BP, oxygen saturations
- Observe closely for adverse reactions and over sedation

Fentanyl Dosage

- Intranasal opiates are not recommended in children under 2
- The recommended dose of Fentanyl is 1.5micrograms/Kg. See table below.
- Repeat after 5-10 minutes, if required
- If further analgesia required after second dose, obtain medical review and consider alternative analgesia. (it is acceptable to prescribe multiple dosages if efficacy is good, however, consider whether IV analgesia is required long term)

Fentanyl Administration

- The required volume of Fentanyl injection should be drawn up according to weight in a 1ml syringe , using 2 syringes for dose volumes over 1ml
- Attach Mucosal Atomising Device to syringe.
- Position patient either sitting up at 45^{o} or with head to one side
- Administer dose by inserting in to nostril loosely and aim for centre of nasal cavity prior to squirting
- If the dose is > 1ml, split between both nostrils to prevent loss of solution by sneezing or swallowing
- Depress the plunger quickly
- Hold atomiser in place for 5 seconds to prevent medication from dribbling out of nostril

Dose

Weight (kg)	Initial dose (1.5micrograms/kg)	Volume (ml)
10	15 micrograms	0.3 ml
11-12	18 micrograms	0.35 ml
13-14	20 micrograms	0.4 ml
15	22.5 micrograms	0.45 ml
16-17	25 micrograms	0.5 ml
18-19	27.5	0.55 ml
20 - 24	30 micrograms	0.6 ml
25 - 29	37.5 micrograms	0.75 ml
30 - 34	45 micrograms	0.9 ml
35 - 39	50 micrograms	1ml
40 - 44	60 micrograms	1.2 ml
45 - 49	67.5 micrograms	1.35 ml
50	75 micrograms	1.5 ml
55	82.5 micrograms	1.65 ml
60	90	1.8 ml

Table 1: Intranasal Fentanyl Dosing Chart – based on 50 mcg/ml ampoules

Treatment of overdose

- CALL FOR HELP
- Support airway
- Oxygen
- Assist ventilation
- Consider Naloxone as reversal agent:
    1. Should be administered for excess sedation or respiratory depression
    2. Dose – 1-5 micrograms/kg IM or IV, maximum dose of 100 micrograms, may be repeated every 2-3 minutes if required
    3. Has short duration of action – approximately 30 minutes, may necessitate repeat doses or infusion

References:

Leicester Children's Emergency Department, SOP for intranasal analgesia in the children's ED, 2016

Oxford Universities NHS Foundation Trust, Fentanyl memorandum, 2018

Mudd S. Intranasal Fentanyl for Pain Management in Children: A Systematic Review of the Literature. J Pediatr Health Care, 2011; 25: 316-322

Adelgais et al. Intranasal Fentanyl and Quality of Paediatric Acute Care. J Em Med, 2017; 53: 5 607-615 https://www.rch.org.au/clinicalguide/guideline_index/Intranasal_fentanyl/ https://www.starship.org.nz/for-health-professionals/starship-clinical-guidelines/i/intranasal-fentanyl/ Wilson et al. Intranasal diamorphine for paediatric analgesia: assessment of safety and efficacy. J Accid Emerg Med., 1997; 14(2) :70-2.

2. Guideline Governance

a. Scope

This guideline is relevant to all staff caring for all children from 0-18 years old across the emergency department, inpatient ward and outpatient department.

b. Purpose

i. This guidelines aims to facilitate a common approach to the management of children. At times deviation from the guideline may be necessary, this should be documented and is the responsibility of the attending consultant.

ii. This guideline is subject to regular review to ensure ongoing evidence based practice.

c. Duties and Responsibilities

All healthcare professionals responsible for the care of all children 0-18years should be aware of practice according to this guideline.

d. Approval and Ratification

This guideline will be approved and ratified by the Paediatric Guidelines Group.

e. Dissemination and Implementation

i. This guideline will be uploaded to the trust intranet 'Paediatric Guidelines' page and thus available for common use.

ii. This guideline will be shared as part of ongoing education within the Paediatric Department for both medical and nursing staff.

iii. All members of staff are invited to attend and give comments on the guideline as part of the ratification process.

f. Review and Revision Arrangements

a. This policy will be reviewed on a 3 yearly basis by the appropriate persons.
b. If new information comes to light prior to the review date, an earlier review will be prompted.
c. Amendments to the document shall be clearly marked on the document control sheet and the updated version uploaded to the intranet. Minor amendments will be ratified through the Paediatric Guidelines Group. A minor amendment would consist of no major change in process, and includes but is not limited to, amendments to documents within the appendices.

g. Equality Impact Assessment

Background • Who was involved in the Equality Impact Assessment
Author and the supervising consultants.
Methodology • A brief account of how the likely effects of the policy was assessed (to include race and ethnic origin, disability, gender, culture, religion or belief, sexual orientation, age) • The data sources and any other information used • The consultation that was carried out (who, why and how?)
All groups of staff and patients were taken into consideration and there is no bias towards or against any particular group.
Key Findings • Describe the results of the assessment • Identify if there is adverse or a potentially adverse impacts for any equalities groups
There is no evidence of discrimination.
Conclusion • Provide a summary of the overall conclusions
There is no evidence of discrimination.
Recommendations • State recommended changes to the proposed policy as a result of the impact assessment • Where it has not been possible to amend the policy, provide the detail of any actions that have been identified • Describe the plans for reviewing the assessment
This guideline is appropriate for use.

h. Document Checklist

To be completed (electronically) and attached to any document which guides practice when submitted to the appropriate committee for approval or ratification.

Title of the document:

Policy (document) Author:

Executive Director: N/A

		Yes/No/ Unsure/NA	Comments
1.	**Title**		
	Is the title clear and unambiguous?	**Y**	
	Is it clear whether the document is a guideline, policy, protocol or standard?	**Y**	
2.	**Scope/Purpose**		
	Is the target population clear and unambiguous?	**Y**	
	Is the purpose of the document clear?	**Y**	
	Are the intended outcomes described?	**Y**	
	Are the statements clear and unambiguous?	**Y**	
3.	**Development Process**		
	Is there evidence of engagement with stakeholders and users?	**Y**	
	Who was engaged in a review of the document (list committees/ individuals)?	**Y**	
	Has the policy template been followed (i.e. is the format correct)?	**Y**	
4.	**Evidence Base**		
	Is the type of evidence to support the document identified explicitly?	**Y**	
	Are local/organisational supporting documents referenced?	**Y**	
5.	**Approval**		

		Yes/No/ Unsure/NA	Comments
	Does the document identify which committee/group will approve/ratify it?	**Y**	
	If appropriate, have the joint human resources/staff side committee (or equivalent) approved the document?	**Y**	
6.	**Dissemination and Implementation**		
	Is there an outline/plan to identify how this will be done?	**Y**	
	Does the plan include the necessary training/support to ensure compliance?	**Y**	**Teaching session TBA**
7.	**Process for Monitoring Compliance**		
	Are there measurable standards or KPIs to support monitoring compliance of the document?	**Y**	
8.	**Review Date**		
	Is the review date identified and is this acceptable?	**Y**	**3 years**
9.	**Overall Responsibility for the Document**		
	Is it clear who will be responsible for coordinating the dissemination, implementation and review of the documentation?	**Y**	
10.	**Equality Impact Assessment (EIA)**		
	Has a suitable EIA been completed?	Y	

Committee Approval (Paediatric Guidelines Group)			
If the committee is happy to approve this document, please complete the section below, date it and return it to the Policy (document) Owner			
Name of Chair	**Alexandra Jones**	**Date**	**10/7/2026**

Ratification by Management Executive (if appropriate)
If the Management Executive is happy to ratify this document, please complete the date of ratification below and advise the Policy (document) Owner
Date: n/a