Standard Operating Procedure

For the usage of

Intranasal fentanyl for the treatment of children with acute pain in the Emergency Department

Adapted for use at CHFT – Alistair Morris

Document Control	
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Appendix list • Appendix A - Intranasal fentanyl quick reference guide version1.1	

1. Summary statement

This guidance is to relevant to the administration of Intranasal fentanyl to children (between the age of 1 to 17 years old) who are in moderate to severe pain.

Intranasal Fentanyl will replace “Ayendi” intranasal diamorphine for which there is MHRA guidance around long term stock issues

1.1 Introduction

The intranasal route is proven to be a highly effective alternative to the intravenous route when providing opiate analgesia for pain relief in children. The intranasal route avoids the need for intravenous cannulation which can be time consuming, distressing and difficult in children. It negates the risk of needle stick injury.

1.2 Purpose

The purpose of this document is to detail the process for use of Intranasal Fentanyl in children with acute moderate to severe pain.

1.3 Responsibilities

Emergency Department staff are responsible for the following;

- Checking the drug on a daily basis using the medicines policy guidelines
- Safe storage of the drug
- Safe administration of the drug as per guideline
- Correct recording of the administration
- Safely monitoring the patient post administration
- Ordering stocks of the drug according to the medicines policy
- Maintaining competency to administer the drug safely

1.4 License

- The informed use of some unlicensed medicines or licensed medicines for unlicensed applications is necessary in paediatric practice. Where available an appropriate licensed preparation

should be prescribed and supplied in preference to an unlicensed preparation but where unlicensed practice takes place, parents/carers will be provided with further information. Fentanyl is a licensed drug but its usage via the intranasal route is unlicensed. Parents/carers should be consented and given the trust leaflet on Unlicensed medication prior to delivery of the drug. The discussion with the parents should be documented in the notes.

2. Intranasal Fentanyl

Fentanyl is equally as effective as diamorphine when used intranasally. Fentanyl gets absorbed through the vascular nasal mucosa, avoiding the first pass metabolism and breakdown by the liver. This enables to drug to act quickly.

2.1 Duration of action

- Onset – 2 minutes
- Half-life – 6 minutes
- Length of analgesia – Up to 60 minutes
- A second dose can be given after 10 minutes to provide adequate analgesia

2.2 Indications

- Children above the age of 1 with moderate to severe pain (weight between 7kg to 69kg)
- The examples of usage include – Burns, fracture/dislocation manipulation, splint application, foreign body removal, testicular torsion, wound cleaning.

2.3 Contraindications

- Blocked nose due to upper respiratory illness or epistaxis
- Respiratory depression
- Hypovolaemia
- Altered consciousness
- Hypersensitivity to fentanyl
- Children below 1 year old

2.4 Cautions

- Paralytic ileus
- Head injury
- Children with facial abnormalities eg cleft palate
- Prior dosing with opioid

2.5 Adverse Effects

Adverse effects are uncommon, but may include the following;

- Nasal burning and irritation
- Nausea and vomiting
- Deep sedation
- Respiratory depression
- Hypotension
- Itch

3. Procedure

The following equipment are required;

- 100micrograms/2mL Fentanyl IV Solution
- 1mL or 2mL syringe
- Mucosal atomiser device

3.1 Preparation

- Explain the procedure to the child and their parents/carers
- Weigh the child or document the estimated weight according to APLS guidance
- Perform baseline observations: Pulse, respiratory rate, oxygen saturations, GCS/AVPU

3.2 Drug dosing

- Use **100 micrograms/2mL** strength fentanyl solution for intravenous use
- **First dose - 1.5 micrograms / kg dose**
- A second dose **(0.75 micrograms/Kg)** may be administered 10 minutes after the first dose
- Consider alternative analgesic types if required e.g. Paracetamol, NSAIDs, Nitrous Oxide.
- If a second dose is required, a new fentanyl vial and MAD device should be used.

Intranasal fentanyl dosing schedule

Weight (kg)	Initial dose **(1.5 micrograms/kg)**	Initial dose volume **(mL)**	Top up dose **(0.75 micrograms/kg)**	Top up dose volume (**mL**)
7	10 micrograms	0.2 mL	5 micrograms	0.1 mL
10	15 micrograms	0.3 mL	7.5 micrograms	0.15 mL
12	18 micrograms	0.35 mL	9 micrograms	0.2 mL
14	20 micrograms	0.4 mL	10 micrograms	0.2 mL
16	24 micrograms	0.5 mL	12 micrograms	0.25 mL
18	27 micrograms	0.55 mL	13.5 micrograms	0.25 mL
20-24	30 micrograms	0.6 mL	15 micrograms	0.3 mL
25-29	37.5 micrograms	0.75 mL	18.75 micrograms	0.35 mL
30-34	45 micrograms	0.9 mL	22.5 micrograms	0.45 mL
35-39	52.5 micrograms	1.05 mL	26.5 micrograms	0.5 mL
40-44	60 micrograms	1.2 mL	30 micrograms	0.6 mL
45-49	67.5 micrograms	1.35 mL	33.75 micrograms	0.65 mL
>50	75 micrograms	1.5 mL	37.5 micrograms	0.75 mL

*Volumes have to be rounded to the nearest 0.05mL

3.3 Drug Delivery

- Draw up appropriate dose for weight (according to table) PLUS 0.1ml to the first dose (to allow for dead space in device).
- Attach Mucosal Atomiser Device on to the end of the syringe
- Sit the child up 45 degrees (or with head to one side) and then insert the device loosely into the nostril and press the plunger quickly
- Doses greater than 0.5mL will be split between nostrils, doses of 0.5mL and less to be given as single dose up one nostril.

- Hold atomiser in nostril for 5-10 seconds after administration to prevent medication from dribbling out.

3.4 Monitoring

- Prior to administration a full set of observations should be done
- Observations (HR, RR, Sp02, pain score and conscious level) should be completed 15 minutes after each administration. Observe closely for adverse effects.
- The patient should be awake and easily roused to voice before considering the top up dose.
- If there are signs of reduced consciousness, respiratory depression or parental concern, a senior clinician to be informed and observations to be done every 5 minutes.

3.5 Transfer

- Patients should only be sent unaccompanied by a nurse to X-ray or the ward if the above observations are normal and the patient is not experiencing any signs or symptoms of toxicity.
- Clinical judgement should be used, and senior medical advice sought if needed when making decisions on when the patient can be discharged or transferred.
- Patient only to be discharged 1 hour after the last dose of IN Fentanyl

4. Management of adverse effects

Treatment of overdose includes

- Airway support and oxygen
- Assisted Ventilation
- Consider giving naloxone as a bolus 100 micrograms/kg IM or IV, up to maximum 2mg only in extreme situations. **Please refer to the BNFC for dosing**

5. Record Keeping

Fentanyl is a controlled drug and should be handled according to the trust's policy for the use and management of controlled drugs

6. Training

- Staff key trainers named and assessed as competent to administer and supervise other staff.
- Staff to have an observed assessment and completion of competency form for personal file.
- Ensure staff are aware that Mitigating risks of incorrect route of administration using an IV syringe is less chance of IV administration as the IN route is being used prior to obtaining IV access in most cases.

An audit will be carried out after 3 months to assess effectiveness, complications and whether 1 or 2 doses are required

References

1. LTHT IN Fentanyl SOP Ver 1.5 – obtained 1st Sept 2021
2. Yorkshire Ambulance Services – Pre Hospital Emergency Medicine Standard Operating Procedure (pages 25 to 30), Version 3.1, Last revised May 2018
3. Royal Children's Hospital Melbourne Intranasal fentanyl clinical practice guidelines, https://www.rch.org.au/clinicalguide/guideline_index/Intranasal_fentanyl/

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