

Intranasal Fentanyl



Is an effective first line analgesia for pain management in the Children's Emergency Department

Background

Intravenous (IV) Morphine is considered the standard opiate analgesia in many Emergency Departments.⁽¹⁻³⁾

Analgesia can be delayed or inadequate due to the logistics of Intravenous Line (IVL) insertion in children.⁽¹⁻³⁾

For children IVL insertion can be a painful and anxious experience which requires skilled staff and takes time to complete.⁽¹⁻³⁾

Search

CINAHL, Cochran Library Databases, and Medline were searched using the term "(intranasal fentanyl) AND (child\$ OR pediatric OR paediatric)" between 2000 - 2009 and limited to English Language.

Duplicates, papers discussing IN fentanyl during surgery and Fentanyl administered by non-IN routes were removed.

Findings

Intranasal (IN) Fentanyl is an effective analgesia in children when compared with morphine. It provides an alternative route to IV analgesia and helps reduce the anxiety and pain associated with IV insertion. IN Fentanyl reduces the initial time to opiate analgesia.⁽¹⁻⁶⁾

Mean IN doses of Fentanyl 1.4 micrograms and 1.7 micrograms / kg were as effective as IV Morphine in patients above 10 kg and below 16 years.⁽¹⁻³⁾

Limitations

Pain Scale interpretation is limited by cognitive development and is subjective.⁽¹⁾

There is very little research on IN Fentanyl in children, except for 3 studies published after 2000 and reviews of these. All studies are in children > 10 kg children with long bone fractures or burns.^(1,3)

Research from CED is yet to be published.

Further Research

- Nurse initiated IN Fentanyl.
- IN Fentanyl analgesia for pain with origins other than long bone fracture or burns.
- Concentrated IN Fentanyl solution to decrease the volume for IN administration.
- IN Fentanyl in Children under 10 kg.

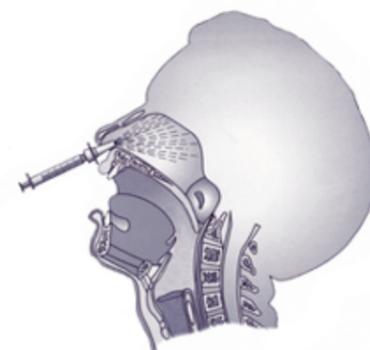
Starship Children's Hospital Clinical Guidelines Intranasal Fentanyl

Dosage

- 1.5 micrograms / kg (first dose)
- 0.5 micrograms / kg (second dose) 10 minutes post first dose
- maximum dose 100 micrograms

Delivery

- maximum 1 ml per nostril
- position - reclined at 45 degrees



Onset

- 5 minutes

Half Life

- 30 minutes

Precautions

- Blocked Nose
- Injury Nature
- Prior Narcotics Doses
- Co-morbidities

Actions

- analgesic
- anxiolytic
- euphoric

Contraindications

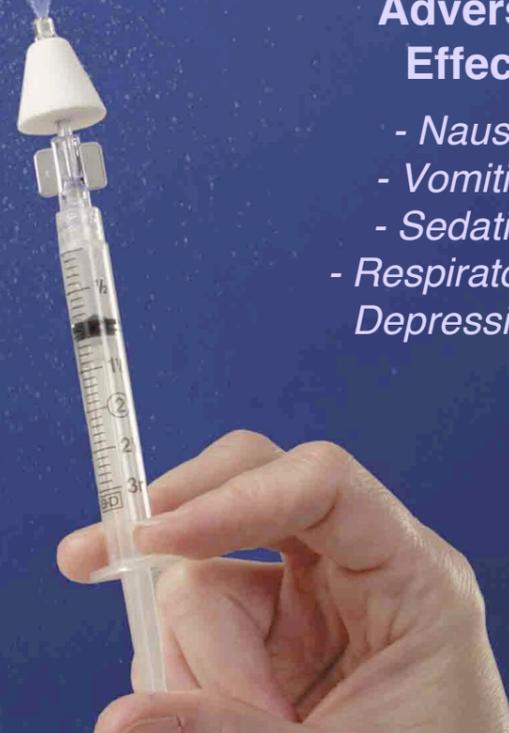
- Head Injury
- Chest Injury
- Abdominal Trauma
- Age < 2 years
- Hypersensitivity

Indications

- Pain (Moderate /Severe)
- IVL unavailable
- Allow time for EMLA or AMETOP to be effective

Adverse Effects

- Nausea
- Vomiting
- Sedation
- Respiratory Depression



1. Borland M, Jacobs I, King B, O'Brien D. A randomized controlled trial comparing intranasal fentanyl to intravenous morphine for managing acute pain in children in the emergency department. *Ann Emerg Med* 2007, Mar;49(3):335-40.

2. Borland ML, Bergesio R, Pascoe EM, Turner S, Woodger S. Intranasal fentanyl is an equivalent analgesic to oral morphine in paediatric burns patients for dressing changes: A randomised double blind crossover study. *Burns* 2005, Nov;31(7):831-7.

3. Borland ML, Jacobs I, Geelhoed G. Intranasal fentanyl reduces acute pain in children in the emergency department: A safety and efficacy study. *Emerg Med (Fremantle)* 2002, Sep;14(3):275-80.

4. Ali S, Klassen TP. Intranasal fentanyl and intravenous morphine did not differ for pain relief in children with closed long-bone fractures. *Evid Based Med* 2007, Dec;12(6):176.

5. Yost J. Intranasal fentanyl and intravenous morphine did not differ for pain relief in children with closed long-bone fractures. *Evid Based Nurs* 2008, Apr;11(2):42.

6. Manjushree R, Lahiri A, Ghosh BR, Laha A, Handa K. Intranasal fentanyl provides adequate postoperative analgesia in pediatric patients. *Can J Anaesth* 2002, Feb;49(2):190-3.

7. Medsafe. DBL fentanyl injection; <http://www.medsafe.govt.nz>. 18 April 2009.

8. Shepherd. Intranasal fentanyl. Starship Children's Health Clinical Guideline 2007, Aug