Study of Nurse Initiated Intranasal Fentanyl to improve time to analgesia for children presenting to emergency with limb injury

Evidence-Based Clinical Fellowship Program
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Clinical Setting

- Mater Children’s Emergency Department
  Brisbane, Australia

- Tertiary facility with 47 000 presentations per year children aged 0 – 16 years

- Approximately 2 000 children (per annum) have limb fractures or dislocations
Background

- Limb injury is one of the most common reasons for childhood presentation to emergency.
- Analgesia is often delayed despite NHMRC NICS recommendation.
- Painful experiences in hospital significantly impact children - anxiety/emotional distress/poor adult health behaviours.
- Pain delays treatment.
Best practice

- Initiation of pain management by triage nurse is the key to best practice
- Nurse initiated opioid analgesia will potentially reduce time to analgesia
- Early analgesia may facilitate early discharge
Why intranasal fentanyl?
Why intranasal fentanyl?

- Safe and effective
- Minimal side effects
- Intranasal administration is less traumatic for children
- Onset of action is two to three minutes following administration
- Facilitates painless splinting and radiological investigation
- Equally as effective as intravenous opioid
- Short duration of action (twenty to thirty minutes)
- Allows time for topical anaesthetic cream to work should intravenous narcotic be required
- Reduces time to analgesia in comparison to intravenous narcotic
Aims and Objectives

1. To develop a protocol for nurse initiated intranasal fentanyl at triage for children with suspected limb fracture and moderate to severe pain.

2. To improve time to analgesia in children presenting to the emergency department with suspected limb fracture (<30 minutes)
Project Sample

Patient Inclusion:
- Children with suspected limb fracture $\geq 1$ year
- Pain Score $\geq 4$

Registered Nurse inclusion:
- Triage competent registered nurses
- Completion of medication standing order learning package
Protocol Development

- Standing order to allow nurses to initiate opioid
- Development of learning package
- Development of supporting policy
- Initial training program to attain critical mass
- Ongoing chart audit to track progress
## Strategies for Getting Research into Practice

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<thead>
<tr>
<th>Barriers to Evidence Based Practice</th>
<th>STRATEGY TO OVERCOME BARRIER</th>
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<tbody>
<tr>
<td>Lack of existing policy, education and competency assessment to support nurse initiated intranasal fentanyl</td>
<td>• Interdisciplinary approach to the development and endorsement of new policy and training package by key stakeholders</td>
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<td>• Development of standing order, training package and competency</td>
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<td>• Clinical fellowship</td>
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<tr>
<td>Time required to develop policy, education and competency to support nurse initiated intranasal fentanyl</td>
<td>Multi-faceted approach</td>
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<td>• Opinion polls</td>
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<td>• Electronic noticeboard</td>
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<td>• Emails</td>
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<td>• Discussion at unit forums</td>
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<td>• Face to face discussions</td>
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<td>• Power-point presentations and discussions at workshops</td>
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<td>• Focus on autonomy for nurses and improved patient outcomes/flow</td>
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<td>Engagement and communication with a large, transient, shift working team</td>
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<td>Time for clinical staff to complete training</td>
<td>• Support of clinical staff from nurse educator, clinical facilitators, nurse practitioners, clinical nurse consultants and staff who had completed training (recruitment of change champions)</td>
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<td>Changing practice</td>
<td>• Clinical relevance with reward of improved patient care</td>
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<td>• Narrow patient group defined to introduce change</td>
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<td>• Reinforcement, reminders, audit feedback</td>
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<td>Compliance to training requirements</td>
<td>• Inclusion in advanced practice development and training</td>
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<td>• New practice included in mandatory training supporting nurse initiated medications</td>
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<td>• New staff will complete training as part of triage competency</td>
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Results – compliance to training

- Nov-12
- Jan-13
- Mar-13
- May-13
- Jul-13
- Sep-13
- Nov-13
- Jan-14
- Mar-14

Eligible Nurses vs. Completion of Training
Results – time to intranasal fentanyl from triage

Proportion of intranasal fentanyl administrations provided within 30 minutes of triage

- Triage Nurse
- Doctor / Nurse Practitioner
Discussion

- Nurses need to own pain management

- Nurse initiated intranasal fentanyl can reduce time to analgesia for children presenting to ED with limb injury

- Potential to reduce length of stay in the emergency department

- This project provided a blueprint for introduction of other nurse initiated medications to improve time to analgesia and patient flow

- Sustainability has been supported as the process is now embedded in nursing triage education
Ongoing Research

- Expansion of the policy to allow subsequent NI doses of INF
- Expansion of patient population – children presenting with burns
- Inclusion of oral opioids
- On-going audit – publication under development
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- Carly Furler - Clinical Facilitator, Mater Children’s Emergency Department

And all the staff of Mater Children’s Emergency Department
References