Improving intranasal fentanyl use for pain relief in children with a limb fracture

Middlemore Hospital Emergency Department

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In February 2015 the Emergency Care Clinical Network began its seventh round of nine-month evidence-based improvement projects in emergency departments. The aim of these projects is to use evidence-based care to reduce unwarranted variation in clinical practice and improve consistency of patient care within emergency departments. Middlemore Hospital focused on improving intranasal fentanyl use for pain relief in children with a limb fracture.

Why this project was important to our emergency department
• We wanted to improve children’s pain management and their experience in the department.
• It highlighted the need to understand how we were delivering analgesia in the emergency setting.

What we did
• Used Plan, Do, Study, Act (PDSA) cycles throughout the project.
• Discussed and analysed different methods of pain scores, and their reliability in indicating different levels of analgesia.
• Made other complimentary analgesia, e.g. Entonox, more readily available in the nursing station.
• Placed red folders at triage so patients with a high level of pain are clearly identified at triage.
• Proposed and submitted application for standing order for ibuprofen and fentanyl for nursing staff to administer.
• Added scales to the paediatric triage area so prompt weight and analgesia charting can be initiated.
• Educated staff about assessment and use of intranasal fentanyl.
• Informed staff about audit results at regular meetings.

Our results
• The proportion of patients with a documented pain score on nursing assessment increased from 34% to 71%.
• The proportion of patients with a pain score >/= 5/10 receiving IN Fentanyl increased from 42% to 75%.
• The mean time to any pharmaceutical analgesia in patients presenting with pain decreased from 70 minutes to 23 minutes.

Impact on patients, staff and the health system
• There is increased awareness among doctors about the appropriate analgesia including a lower threshold for use of fentanyl.
• There is increased awareness in nursing staff on suitability and administration of IN Fentanyl.
• There is a change in the culture of fractured forearm management with analgesia delivery being made a priority.

What we learnt about improving quality of care
• Sharing audit data keeps staff engaged in improvement.
• Involving many aspects of the healthcare team aids in understanding the key components of the project.
• Trial periods of change allow for feedback from staff and modifications to be made.
• Using a multitude of data points allowed for the key influencing factors to be identified.