Use of nerve block for adjuvant analgesia in patients with fractured neck of femur

Dandenong Hospital

Why this project is important in our Emergency Department

In March 2012, the Emergency Care Improvement and Clinical Network (ECIICN) embarked on its fourth round of evidence-based improvement projects in Emergency Departments (EDs). The aim of these projects is to enhance the use of evidence-based care in EDs, to reduce variation in clinical practice and to improve consistency of care.

Dandenong Hospital Emergency Department selected 'I*ncreasing the use of nerve blocks for adjuvant analgesia in patients with fractured neck of femur'* as the topic for improvement. Fractured hip is a common presenting issue at ED and good early pain management enhances recovery. The project has presented the ED with the opportunity to improve management for patients suffering fractured hip and to ensure uniformity in care of these patients.

Project Team:

Leslie Graham, Cathy Tran & Shemma Hasanovic

What we did

- Discussions held with individual staff members and during staff meetings
- Visual signs put up around the department about the project
- Produced packs containing all necessary equipment to perform a block in order to encourage involvement and to make it easier on the staff
- Education and training provided to medical staff on how to perform femoral nerve blocks
- Monthly audits completed and results sent out to all staff via email to keep them updated and to see the success
- Sought feedback from orthopaedic ward in regards to patient comfort and pain levels when arriving from ED.

What we did

FRACTURED NECK OF FEMUR MANAGEMENT PATHWAY

For a clinically obvious NOF fracture (rotation, shortening, swelling fracture site)
OR

For a patient whose most likely diagnosis is fractured NOF (with the pain/tenderness in the hip/groin area, as well as pain on hip flexion/rotation)
1. Allocated cubicle
2. Nursing assessment including primary survey etc
3. Nursing staff to flag consult in charge of suspected #NOF patient
4. CIC to allocate a medical staff member to quickly RATC patient, perform femoral nerve block & arrange imaging (must ensure that nerve block is documented!)
5. Medical/nursing staff to continue with normal patient care – i.e IV access, bloods, analgesia, other interventions eg. ECG, observations, IDC
6. Medical assessment
7. Diagnosis
8. Admit ortho (if required)
9. Send to ward / Discharge home

For a patient with an alternative diagnosis more likely (soft tissue injury)
1. Allocated cubicle
2. Nursing assessment including primary survey etc
3. Nursing staff to flag CIC of a possible #NOF patient
4. CIC to allocate a medical staff member to quickly RATC patient & arrange imaging
5. Medical/nursing staff to continue with normal patient care – i.e IV access, bloods, analgesia, other interventions eg. ECG, observations, IDC
6. Once imaging done & confirmed #NOF, medical staff to perform femoral nerve block (must ensure that nerve block is documented!)
7. Medical assessment
8. Diagnosis
9. Admit ortho (if required)
10. Send to ward / Discharge home

What we achieved

1. Increase in patients receiving block **from 13% to 64%** ($p<0.01$)
2. Increase in proportion receiving block within 90 minutes of presentation **from 3% to 22%** ($p=0.03$)

What we learnt

- Once a routine has been established and is found to be successful and not too difficult, it then becomes the new standardised practise
- Verbal reminders are often required to keep interest in the project
- Femoral nerve blocks provided majority of the patients with instant pain relief that lasted up to 12 hours

What we would do differently next time

- More education to the nursing and medical staff
- Ensure we do not run out of supply of the equipment required for the project

Impact on patient care, staff and ED

- Femoral nerve blocks are now standard practice.
- Nursing staff spent less time providing patients with opioids and dealing with the side effects of opioid use as the femoral nerve blocks had long lasting analgesic benefits with virtually no side effects.
- Ability to increase patient flow by recognising the potential diagnosis of a fractured neck of femur, arranging early x-ray and analgesia, and referring to orthopaedics.
- The Nurse Unit Manager (NUM) of the orthopaedic ward provided the ED NUM with positive feedback that the patients had increased comfort and decreased pain levels.