Fascia Iliaca Blocks for Hip Fracture in Emergency Departments

Pain Management and Aged Health Networks
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- **specialist advice on healthcare innovation** – advising on the development, evaluation and adoption of healthcare innovations from optimal use through to disinvestment
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ACI Clinical Networks, Taskforces and Institutes provide a unique forum for people to collaborate across clinical specialties and regional and service boundaries to develop successful healthcare innovations.

A key priority for the ACI is identifying unwarranted variation in clinical practice. ACI teams work in partnership with healthcare providers to develop mechanisms aimed at reducing unwarranted variation and improving clinical practice and patient care.

Acknowledgements

St Vincent’s Hospital Pain in the Elderly Working Party members 2013 and 2014
- Associate Professor Steven Faux, Chair (Director of Rehabilitation & Pain Service)
- Dr Andrew Finckh (Staff Specialist, Emergency Department)
- Dr Jennifer Stevens (Visiting Anaesthetist)
- Dr Elizabeth Harper (Staff Specialist, Geriatric Medicine)
- Julie Gawthorne (Clinical Nurse Consultant, Emergency)
- Jacqueline Jensen (Registered Nurse, Chronic Pain)
- Karon McDonell (Clinical Nurse Consultant, Trauma)
- Susan Welch (Pharmacist)
- Thomas Jennings (Registered Nurse, Orthopaedics)
- Melissa O’Brien (Quality Manager, Clinical Practice Improvement)
- Dr Julia Nelson (Orthogeriatric Registrar, 2011)

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- Dr Laura Ahmad (Orthogeriatrician, Royal North Shore Hospital)
- Dr Steven Faux (Director Rehabilitation & Pain Service, St Vincent’s Hospital)
- Dr Gerald Wong (Anaesthetist, Royal North Shore Hospital)
- Dr John Mackenzie (Medical Project Officer, ACI Emergency Care Institute)
- Glen Pang (Network Manager, Aged Health, ACI)
- Jenni Johnson (Network Manager, Pain Management, ACI).
Executive summary

It is common for people to fracture their hip in their later years. The aim of treatment is to ease pain and restore mobility as soon as possible, usually through surgery.

Fascia Iliaca Block (FIB) is an injection given near the hip for people with fractured hip while waiting for surgery. It can ease pain for up to 12 hours, and can reduce the need for opiates.1,2

The use of FIB can reduce adverse outcomes, reduce the risk of delirium, reduce length of stay and improve both the patient experience and staff satisfaction.

The Agency for Clinical Innovation, Pain Management and Aged Health Networks, and the St Vincent’s Health Network have produced a suite of resources to support the introduction of or increased use of Fascia Iliaca Block for older people following hip fracture in NSW hospitals. The work supports the Minimum Standards for the Management of Hip Fracture.3

The resources developed include the following.

- **Guide** - This document is a guide to ultrasound-guided FIB using an out-of-plane approach. It aims to: provide the tools and resources to enable the use of FIB as an analgesic option for patients with acute hip fracture and ensure patients with suspected or confirmed acute hip fracture are provided with safe and effective preoperative pain relief.

- **Toolkit** - This implementation toolkit has been developed to support the successful implementation of FIB in NSW health facilities having the appropriate governance. This includes competency, training, staffing, equipment, patient volume, infrastructure and supervision in place.

- **Frequently asked questions** - This leaflet gives patients and their carers information about the benefits and risks of FIB to help them make an informed decision about undergoing this procedure.

- **Pain Audit tool** - This audit tool will assist sites to monitor the management of older people with hip fracture

- **Flowchart** - This is a guide to help assess and treat elderly trauma pain.

This report provides an evaluation of the resources and approach. The results of the evaluation demonstrate good uptake and use of the toolkit and training in those facilities where there is sufficient governance and staffing to ensure safety.
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1. Background

In 2014, in partnership with St Vincent’s Hospital, and under the guidance of a steering committee, the ACI commenced a project to develop an implementation toolkit supporting emergency departments (EDs) in the uptake of fascia iliaca block (FIB) as a preferred approach in the management of pain associated with hip fracture.

The objective was to provide guidelines and training materials to minimise the risk of delirium and or associated harm related to unmonitored opioid prescription in the ambulance, ED and ward prior to surgery. In implementing the model, the aim was to reduce adverse events or poor patient outcomes related to use of oral opioids, and thereby:

- reduce the length of stay
- reduce complications related to delirium
- improve the patient experience
- improve the skill sets for staff involved in treating patients with hip fracture
- improve staff satisfaction
- improve efficiencies.

The toolkit was launched in August 2014 and is located on the Fascia Iliaca Block page of the ACI website. Several training sessions were provided through St Vincent’s Hospital in order to assist in promotion of the technique and the toolkit.

In March 2017, an evaluation was conducted analysing the benefit to participants of the training sessions. In addition, a survey was developed and conducted to assess uptake and utility of the toolkit, and uptake of FIB to all level 4 and above EDs who may have sufficient governance and local proficiency to undertake the technique.

2. Methods

2.1 Training in FIB

Six workshops in FIB implementation were conducted between 2014 and 2016 at St Vincent’s Hospital using animal models. The aim of the workshop was to train key staff so they could implement FIB training at their hospital. This workshop was four hours in duration, with ultrasound guided FIB insertion a component of the skills training. The training was promoted across all EDs. A total of 100 people attended the workshops from 25 hospitals (19 metropolitan and 6 rural): 49 medical, 48 nursing and 3 paramedic staff attended. A post education survey was conducted by St Vincent’s, with 70% rating the course as excellent, and 30% very good.

2.2 Dissemination and promotion

The toolkit was promoted to all LHDs and specialty services together with the offer of free training at St Vincent’s Hospital. The toolkit was placed onto the ACI website. Feedback has been received from around Australia with other states requesting to use and or modify the toolkit including Queensland Health and Queensland Ambulance Service and Department of Health and Human Services, Victoria. Training has also been undertaken with paramedics in the NSW Ambulance service to facilitate the administration of FIB, in preference to oral morphine, during ambulance transport. 20 paramedics have undertaken the training in total, with 9 trainers identified within NSW Ambulance services. This enables
nine stations to carry out the procedure. It is expected that the training will be rolled out to more stations over time.

2.3 Survey

A survey was conducted statewide to all EDs who are at level 4 and above. The key points highlighted by the survey are summarised below.

3. Results

3.1 Responses

23 services responded to the survey. Directors and staff specialists within EDs completed 90% of the surveys. All metropolitan LHDs were represented, with 6 regional and rural LHDs (10 hospitals) completing the survey.

85% of services had six or more fractured hips presenting per month.

![Bar chart showing the number of older patients (≥65y) presenting to the service with fractured neck of femur per month.](image-url)
3.2 Use of assessment scales

Half of the services responding to the survey do not use assessment scales routinely, but of those who do, the Numerical Rating Scale followed by the Abbey and then Painad are the most commonly used. The algoplus is the least common scale used.

3.3 Uptake of FIB: facilitators and barriers

78% of services are using FIB, femoral nerve blocks or continuous infusion as the first preference for hip fracture.

75% of people completing the survey had confidence in using FIB within their environment, with a comment that audit revealed regional anaesthesia is used in 87% of their presenting cases. Some services use regional anaesthesia all the time.

A prerequisite to successful implementation of the procedure is having a critical number of competent, trained staff, so patients presenting after hours can be managed appropriately. It is noted that the time taken to do the procedure is longer than administering oral medications, so uptake will be dependent upon how busy the ED is at the time of presentation.

While 10 of the services were already performing FIB prior to the initiative, the others services were influenced to commence FIB following the introduction of the toolkit and training support.

45% of services had used the toolkit with comments as follows.

- It provides a good overview of the procedure.
- It is used to train staff.
- The video is useful.
• It provides a step by step guide refreshing what was learnt at St Vincent’s Hospital training.
• It is good for teaching.
• It is useful as the hospital did not have any resources available.

While only four respondents had personally attended the training at St Vincent’s, other staff from within the services had attended.

Identified barriers to performing the technique include lack of time, overcrowding in the ED, and lack of trained staff available 24 hours per day. The high turnover of medical staff means that training needs to be done on a regular basis.

3.4 Benefits of FIB

The reported benefits to the patient include:
• lower incidence of delirium
• more immediate and prolonged analgesia
• reduced complications
• reduced length of stay
• ease of application
• reliable effect
• improved freedom of movement.

The reported benefits for the staff include:
• easier care in toileting
• skill development
• improved nursing care
• the technique is easy to teach
• improved management of children who wriggle
• improved management of patients with cognitive impairment, as there is less distress related to pain.

The reported benefits for the service include:
• fewer complaints
• financial benefits
• reputation as good quality care provider
• decreased demand on intensive care services
• better outcomes.

26% of services have audited the outcomes of this intervention since introduction of the technique verifying that improved outcomes are supported through adoption of FIB or other regional anaesthesia. Auditing has also demonstrated steady improvement in compliance with ACI guideline, no incidence of respiratory depression, and no complications associated with FIB.

Most services have trained between 10 and 20 staff to perform the technique; the majority are registrars and senior clinicians. Several services have trained senior nurses with up to 30 nurses trained in one facility.
Some services suggested that they would like to continue to make FIB usual procedure and therefore train more staff. In particular, it was acknowledged that training nurses within the ED would provide greater capability to undertake the procedure at all times of the day, and to deal with changeover of medical staff.

4. Conclusion

FIB has been adopted widely across the system in EDs that have the proficiency and local governance to ensure that training is appropriate and patient safety ensured. The facilitators for effective uptake and use of the technique include having sufficient and trained staff available, and a supportive supervisory environment. Future work may extend to the implementation of continuous infusions.

References


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