Trust Guideline for the Management of: Condition or Procedure in Adults and / or Children

Joint Trust Guideline for The Management of: Fascia Iliaca Compartment Blocks for Preoperative Pain in Adults with a Fractured Neck of Femur

Document Control:

For Use In:	Norfolk and Norwich University Hospitals, James Paget University Hospitals		
	Emergency department, Minor Injuries Unit – Emergency Nurse Practitioners. ED Medical staff, Orthopaedic doctors who have been specifically trained and assessed as competent.		
Search Keywords	Femoral neck fracture in adults, analgesia, fascia iliaca compartment block		
Document Author/s:	Dr Paul Barker Consultant Anaesthetist Julie Marshall Sister / Emergency Nurse Practitioner Dr Tarek Ahmed Consultant in Emergency Medicine		
Document Author/s Line Manager:	Tim Leary, Consultant Anaesthetist James Edwards, Consultant Physician		
Document Owner:	Surgical Division		
Approved By:	Clinical Guidelines Assessment Panel		
Ratified By:	Clinical Safety and Effectiveness Sub-Board		
Approval Date:	4th April 2023	**Date to be reviewed by:** This document remains current after this date but will be under review	4th April 2026
Implementation Date:	September 2014		
Reference Number:	JSG0338 – Trust Docs ID: 10424		

Version History:

Version	Date	Author	Reason/Change
1	Sept 2014	Dr Paul Barker Consultant Anaesthetist Julie Marshall Sister / Emergency Nurse Practitioner Dr Tarek Ahmed Consultant in Accident and	To originate document

		Emergency Medicine	
2.1	April 2020	Dr P Barker, J Marshall and Dr T Ahmed	No clinical changes to document – but due to Covid-19 has been reapproved with a short review date to allow for a thorough review in the future
3	March 2023	Dr P Barker, J Marshall and Mr T Ahmed	No clinical changes to the document. Document transferred across to new procedural document template

Previous Titles for this Document:

Previous Title/Amalgamated Titles	Date Revised
None	Not applicable

Distribution Control

Printed copies of this document should be considered out of date. The most up to date version is available from the Trust Intranet.

Consultation

The following were consulted during the development of this document:
Dr Helen May NNUH, Dr Susan Lee NOF Lead in Older Peoples Medicine NNUH; Mr James Wimhurst Consultant in Trauma & Orthopaedic Surgery NNUH, Dr James Crawford Consultant Accident and Emergency Medicine JPUH.
Clinical Director and Consultants in A+E (via their CD)
Clinical Director Anaesthesia
Clinical Director and Consultants in OPM (via their CD)
Mr J Wimhurst and Mr B Davis Department of Orthopaedics
Dr M Wolmarans Department of Anaesthesia

This version has been endorsed by the Clinical Guidelines Assessment Panel.

Monitoring and Review of Procedural Document

The document owner is responsible for monitoring and reviewing the effectiveness of this Procedural Document. This review is continuous however as a minimum will be achieved at the point this procedural document requires a review e.g. changes in legislation, findings from incidents or document expiry.

Relationship of this document to other procedural documents

This document is a clinical guideline applicable to Norfolk and Norwich University Hospitals and James Paget University Hospitals; please refer to local Trust's procedural documents for further guidance.

Guidance Note

Trust Guideline for the Management of: Condition or Procedure in Adults and / or Children

This guideline has been approved by the Trust's Clinical Guidelines Assessment Panel as an aid to the diagnosis and management of relevant patients and clinical circumstances. Not every patient or situation fits neatly into a standard guideline scenario and the guideline must be interpreted and applied in practice in the light of prevailing clinical circumstances, the diagnostic and treatment options available and the professional judgement, knowledge and expertise of relevant clinicians. It is advised that the rationale for any departure from relevant guidance should be documented in the patient's case notes.

The Trust's guidelines are made publicly available as part of the collective endeavour to continuously improve the quality of healthcare through sharing medical experience and knowledge. The Trust accepts no responsibility for any misunderstanding or misapplication of this document.

Trust Guideline for the Management of: Condition or Procedure in Adults and / or Children

Introduction

Rationale

To outline the management of adult patients receiving fascia iliaca compartment blocks (FICB) for a fractured neck of femur pre-operatively.

Other than ankle blocks, lower extremity blocks are extremely under-utilised. There are multiple advantages to using peripheral lower extremity blocks. These include minimal to no haemodynamic alterations and the reduced need for opioids and therefore the side effects these sometimes bring, especially in the elderly.

Objective

The principal objective is to provide analgesia to patients with fractured necks of femur by local anaesthesia and reduce their opioid consumption. This is well supported in the anaesthetic literature and widely used for postoperative analgesia.

Scope

Registered Nurses, A&E Medical staff, Orthopaedic doctors who have been specifically trained and assessed as competent.

Eligible patients should have a fascia iliaca compartment block performed in the A+E department at the earliest opportunity to improve their pain relief. This may be administered by any appropriately trained staff.

Glossary

NNUH	Norfolk and Norwich University Hospitals
JPUH	James Paget University Hospitals
A+E / A&E	Accident and emergency
FICB	Fascia iliaca compartment blocks
#NOF	Fracture neck of femur
SpR	Specialty registrar
BMI	Body mass index
PGD	Patient Group Direction
NB	Nota bene – mark well / please note
CNS	Central nervous system
ECG	Electrocardiogram

Responsibilities

Mr T Ahmed (Consultant in EM) & Dr P Barker (Consultant Anaesthetist) : Writing the document
Sister J Marshall : For introducing it to the ED staff.

Processes to be Followed

Pre-operatively in A & E or on the ward

The block will be performed by specially trained doctors and nurses only. For nurses this is an extended scope of practice. All staff must be deemed competent by a consultant anaesthetist or A+E consultant before using this technique. The person inserting the block will ensure that all appropriate observations are carried out.

Inclusion criteria

- Confirmed #NOF by X-ray
- Obtain verbal consent. If this is not possible (i.e. patient cognitively impaired), a senior (SpR or above) doctor's agreement must be sought before proceeding. However, nurses trained in taking consent and performing the block may proceed without consulting a doctor.

Exclusion criteria

- Anticoagulant problems including clotting disorders
- Known sensitivity to local anaesthetics
- Previous vascular surgery
- Peripheral neuropathy
- High body mass index (BMI) (estimated BMI of >40kg/m^2)
- Unable to identify femoral artery
- Unable to communicate or unconscious

Any deviations from the above must be sanctioned by a consultant

Anatomy

The nerves involved in this block procedure are:

- The lateral cutaneous nerve of the thigh
- The femoral nerve

Local Anaesthesia

Fascia iliac blocks.

Levobupivaicaine 10mL ampoules - (0.25%)

Estimated weight

40 – 60 kg= 30mL Levobupivaicaine 0.25%

60 – 90kg= 40mL Levobupivaicaine 0.25%

.

under the maximum toxic dose 2mg/kg as per PGD Ref 248.1

Pre-procedural Assessment

- Obtain verbal consent, if possible and document in patient record
- Explain procedure to patient and document in health record that risks and benefits have been explained.

Equipment for single shot block

- Gather all equipment needed for procedure:
  - Dressing pack
  - Chlorhexidine or alcohol disinfectant
  - Insert intravenous cannula if one not already sited
  - Occlusive dressing
  - Sodium chloride 0.9% flush in a 30mLsyringe (label contents)

    - Plain Lidocaine 1%
    - 5mL syringe (label contents)
    - orange sub cutaneous needle

  - Plain Bupivaicaine/Levobupivacaine 0.25% (20-40mL depending on patient estimated weight as above)
  - 30mL and 50mL syringes
  - 21g needle and transparent extension line (optional) between the needle and the syringe – this helps to immobilise the needle, especially during syringe changes.
  - Pulse oximeter
- Attach pulse oximeter

Patient's position:

- Dorsal recumbent position (supine) with the relevant lower extremity slightly abducted and externally rotated (if possible)

Puncture site:

- The key landmark is the inguinal ligament which extends from the pubic tubercle to the anterior superior iliac spine (see appendix 3 for anatomy of nerves, posteria and anterior views)
  - The puncture site lies 1cm below the junction of the lateral and middle thirds of the inguinal ligament.

- This point is approximately 4cm lateral to the femoral artery (see figure).
- Mark the site.

The technique to insert the needle:

- Draw up Local Anaesthetic (Plain Levobupivacaine 0.25%)
- Clean the skin with chlorhexidine or alcohol disinfectant
- Infiltrate the skin with plain lidocaine 1% with a sub cutaneous orange needle (makes a weal). NB this is optional and often causes more pain and is probably unnecessary.
- Insert at a right angle to the skin until two clearly identifiable losses of resistance (or pops) are felt respectively at the crossing of the fascia lata then the fascia iliaca.
- Aspirate to make sure you are not in a blood vessel.
- Inject local anaesthetic through the extension line according to usual safety rules (i.e. inject 2mL and check that there is no blood in the aspirate – if any blood seen, stop procedure immediately – do not, in any circumstances, inject any more local anaesthetic into the patient – if no blood seen proceed with increments of 5ml, aspirating after each 5ml, as described below)
- Inject the anaesthetic slowly into the site starting with 2mLl (total of 20mL – 40mL Levobupivacaine in syringe[s])
- Check for complications that may indicate incorrect siting:
  - Bradycardia or any changes in pulse rate
  - Drowsiness
  - De-saturation
  - Circumoral tingling

Only proceed if patient has none of the above

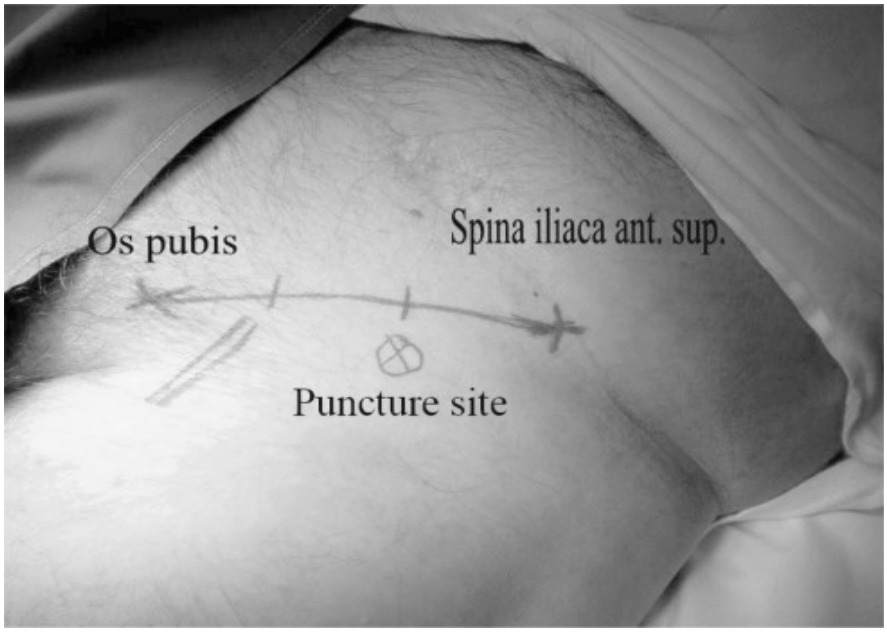
- Aspirate - if no blood aspirated, follow with 5mL increments aspirating after each 5mL pausing briefly between each of the increments for complications.
- Massage the swelling produced to aid the upward spread of the anaesthetic. Blocks should last for 16-18 hours – the procedure can be

  repeated if necessary. A minimum time of 4 hours should elapse before repeating the block

Give patient 6 litres of Oxygen if sats <94%

Figure 1 Approach to the fascia iliac block.

.Right side



Left side

Post procedure monitoring

Observations will be recorded as follows:-

Blood Pressure

Pulse

Respirations

Oxygen saturations

Observe for signs of toxicity (see below)

Every 5 minutes for 15 minutes (during this period the patient should remain in the A+E department as these will mostly be performed in A+E)

Every 15 minutes for 1 hour

Every 30 minutes for 1 hour

Monitor carefully during block and afterwards for 16 –18 hours:

If patient stable commence hourly observations:

blood pressure

pulse

sedation scores

Check pain scores 4 hourly and record on observation sheet – if pain score >3

give further analgesia as prescribed

The administration of Fascia Iliac Compartment Block will be documented in the patient's Accident and Emergency notes and signed by the Nurse according to PGD.

Drug and quantity administered will be signed and timed, in the Drug administration section of the A&E notes and / or Hospital Inpatient drug chart.

Observation to be continued on the ward.

Possible complications

LAs are intended to inhibit sodium channels in the targeted neural structures. However, if they gain access to unintended neural tissue, toxicity within the CNS may ensue. This can result from:

- absorption from injection site
- direct intravascular injection

LAs are relatively small molecules & readily cross the blood-brain barrier.

Signs of local anaesthetic toxicity

Early onset

A feeling of inebriation and light-headiness

Tingling and/or numbness around the mouth

Bradycardia

Drowsiness

Later onset

Sedation

Twitches

Fits

Bradycardia

Hypotension

Cardio-vascular collapse

Treatment of local anaesthetic toxicity

If any of the symptoms above are present:

- High flow oxygen – 10 L/min (patient should be already receiving 6 litres/min)
- Maintain airway
- Lay patient on side (left lateral if possible)

- Prepare for resuscitation – ECG, fluids
- Fast bleep anaesthetist on call anaesthetist on call via switchboard
- Prepare for lipid rescue - CA5033 Administration of Intralipid in the Management of Toxicity Secondary to Local Anaesthetic

Training and Competencies

Registered Nurses, A&E Medical staff, Orthopaedic doctors who have been specifically trained and assessed as competent.

References

1) GodoyD, Monzon D, K, Iserson KV, J, Vazquez JA, 2007. Single Fascia Iliaca Compartment Block for Post Hip fracture Pain Relief. The Journal of Emergency Medicine vol32, No3, pages 257 – 262.
2) A, Høugh A, L, Dremstrup L, S, Jensen SS, J, Lindholt J. 2008. Fascia iIliaca compartment block performed by junior registrars as a supplement to pre operative analgesia for patients with hip fractures. fractured neck of femurs Levobupivicaine 10ml ampoules - (0.25%) Strategies Trauma Limb Reconstr. 3(2), 65 – 70.
3) A, Randall A. et al, 2008. Fascia Iliac compartment block – a nurse led initiative for the pre operative pain management in patients with fractured neck of femurs. Journal of Orthopaedic emergency Nnursinge 12: 69-74
4) Trust Guideline for the Administration of Intralipid® in the Management of Toxicity Secondary to Local Anaesthetics - CA5033 Administration of Intralipid in the Management of Toxicity Secondary to Local Anaesthetic

Clinical audit standards

Compliance with the process will be monitored through the following:

Key elements	Process for Monitoring	By Whom (Individual / group /committee)	Responsible Governance Committee /dept	Frequency of monitoring
Record the proportion of patients receiving a black, the reasons for not performing a block and a review of pain scores and opioid use to assess the effectiveness of the block	Notes review	Registrars and ACP's Consultants	ED Governance	6 monthly

The audit results are to be discussed at the ED governance meetings to review the results and recommendations for further action and ensure the actions and recommendations are suitable and sufficient.

Trust Guideline for the Management of: Condition or Procedure in Adults and / or Children

Equality Impact Assessment (EIA)

Type of function or policy	New/Existing (remove which does not apply)

Division	Emergency Department /Surgery	**Department**	Emergency Department
Name of person completing form	Mr Tarek Ahmed	**Date**	02/03/2023

Equality Area	**Potential Negative Impact**	**Impact Positive Impact**	**Which groups are affected**	**Full Impact Assessment Required YES/NO**
Race	No	N/A	N/A	No
Pregnancy & Maternity	No	N/A	N/A	No
Disability	No	N/A	N/A	No
Religion and beliefs	No	N/A	N/A	No
Sex	No	N/A	N/A	No
Gender reassignment	No	N/A	N/A	No
Sexual Orientation	No	N/A	N/A	No
Age	No	N/A	N/A	No
Marriage & Civil Partnership	No	N/A	N/A	No
EDS2 – How does this change impact the Equality and Diversity Strategic plan (contact HR or see EDS2 plan)?				

- **A full assessment will only be required if: The impact is potentially discriminatory under the general equality duty**
- **Any groups of patients/staff/visitors or communities could be potentially disadvantaged by the policy or function/service**
- **The policy or function/service is assessed to be of high significance**

IF IN DOUBT A FULL IMPACT ASSESSMENT FORM IS REQUIRED

The review of the existing policy re-affirms the rights of all groups and clarifies the individual, managerial and organisational responsibilities in line with statutory and best practice guidance.