FASCIA ILIACA BLOCK FOR PRE-OPERATIVE PAIN MANAGEMENT IN PATIENTS WITH NECK OF FEMUR FRACTURE

PURPOSE
To outline the pre-operative pain management using the Fascia Iliaca Compartment Block (FICB) in adult patients with neck of femur fracture.

AIM
Fascia Iliaca Compartment Block (FICB) is a regional anaesthetic technique for the management of pain in the pre-operative period for patients with fractures of the proximal femur and hip.

Hip fractures can cause considerable pain if treated inadequately. FICB reduces pain and requirements for opioid based medications and their undesired side effects in patients with hip fractures.

FICB is an effective, rapid and relatively safe method of providing analgesia. The advantages of the Fascia iliaca block are its simplicity, low skill and low cost and relatively easy to perform without use of expensive medical equipment.

SCOPE
This policy applies to Doctors, Nurses and other Healthcare professionals working in the Emergency Department, Trauma and Orthopaedics, Anaesthetics and Pain Management Team who are competent at performing the procedure.

This policy serves to:
Outline the management of patients suitable to have Fascia Iliaca Block for neck of femur fracture.
Ensure safety and uniformity when the Fascia Iliaca Block is performed by healthcare professionals who are competent in the procedure.
Ensure that Fascia Iliaca Block is used in conjunction with the Trust Fracture Neck of Femur Pathway.

ROLES AND RESPONSIBILITIES
All Health care staff is responsible and accountable for their own practice, in line with their Professional Codes of Practice.
Medical, nursing staff and other healthcare professionals have a duty to make sure that the care given to patients is of high standard and safe.
Healthcare staff performing the Fascia Iliaca Compartment Block should ensure they are competent at performing the procedure and are familiar with and guided by the contents of this document.

INDICATION AND PATIENT CRITERIA
**Indication**
Pre-operative pain management in adult patients with neck of femur and proximal femur fractures

| Inclusion Criteria | Confirmed neck of femur fracture on x-ray.  
|                   | Verbal consent obtained if possible. |

| Exclusion Criteria | Patient refusal or unable to communicate.  
|                   | Allergic reaction or anaphylaxis to local anaesthetics  
|                   | Previous vascular surgery in the groin  
|                   | Unable to identify landmarks or palpate the femoral pulse.  
|                   | Anti-coagulopathy INR>1.5  
|                   | DOACS e.g. apixaban, dabigatran, edoxaban.  
|                   | Peripheral neuropathy |

| Inclusion criteria met | Proceed with Procedure |
| Exclusion criteria met | Discuss with Medical Team Leader/Consultant  
|                         | Consider alternate analgesia  
|                         | Document in health care records |

**TREATMENT DESCRIPTION**

| Name of Drug | 0.25% Levobupivacaine (2.5mg/ml) 10ml ampoule |
| Dose         | Dose calculated according to body weight  
|             | <50kg: 30ml  
|             | ≥50kg: 40ml  
|             | Maximum Dose 2mg/Kg and NEVER more than 150mg |
| Route        | Injection into the fascia iliaca compartment |
| Frequency    | Every 12 hours if required |
| Observations after procedure | Monitor Blood pressure, Heart rate, Respiratory rate and Oxygen saturations every 5 minutes |
for 15 minutes, at 30 minutes and 4 hourly thereafter.

| Signs of adverse drug reaction | Light-headedness  
|                               | Circumoral paraesthesia  
|                               | Slurred speech  
|                               | Tinnitus  
|                               | Nausea and Vomiting  
|                               | Severe Bradycardia with widening of the QRS complex  
|                               | Loss of Consciousness  
|                               | Convulsions  
|                               | Cardiovascular collapse/Cardiac arrest  
|                               | **NB**-signs of Local anaesthetic may be delayed but highest within the first 15-30 minutes which makes close monitoring mandatory at this stage. |

**EQUIPMENT**

- Sterile dressing pack
- Chloraprep sticks
- 20ml syringe x2
- 5ml syringe
- Short and blunt 50mm needles or fascia iliaca block needle
- Small mepore dressing for puncture site
- 30-40ml of 0.25%Levobupivacaine
- 2-5ml of 1%Lidocaine for skin infiltration

**PROCEDURE AND TECHNIQUE**
Gain IV access

Attach pulse oximeter

Position patient into the dorsal recumbent (supine) position with the relevant lower extremity slightly abducted and externally rotated (if possible).

The key landmark is the inguinal ligament, which extends from the pubic tubercle to the anterior superior iliac spine.

The puncture site lies 1 cm below the union of the lateral and medial thirds of the inguinal ligament.

This point is 4 cm lateral to the femoral artery.

Mark the site with ink or by indentation with end of needle cover.

Using Sterile pack, drape and gloves draw up local anaesthetic 30-40 ml of 0.25% levobupivacaine in 20 ml syringes.

Clean the unbroken skin with chloraprep and infiltrate the skin around injection site with 2-5 ml of 1% lidocaine using an orange needle.

Insert blunt tip of needle at right angle to the skin until two distinctive losses of resistance are felt at the breaching of the fascia lata and fascia iliaca respectively.

Aspirate to ensure you are not in a blood vessel.

Inject local anaesthetic slowly initially 2 ml slowly then aspirate to ensure no blood. If not, continue to inject in 5 ml increments aspirating in between injection.

After injection gently massage around the injection site to aid the spread of anaesthetic and reduce haematoma formation.

Cover puncture site with mepore dressing.

Observe for signs of local anaesthetic.

Monitor vital signs every 5 minutes for 15 minutes, at 30 minutes and 4 hourly thereafter.
MANAGEMENT OF LOCAL ANAESTHETIC TOXICITY

All Healthcare staff administering local anaesthetics should be able to identify signs of early to severe local anaesthetic toxicity, have knowledge of its treatment and management.

**Signs of local anaesthetic toxicity:**

Light-headedness

Circumoral paraesthesia

Tinnitus

Nausea and vomiting

Slurred speech

Loss of consciousness

Convulsions

Myocardial depression culminating in cardiac arrest

**Immediate management:**

Stop injecting local anaesthetic (LA).
Call for help - 2222

Start cardio-pulmonary resuscitation (CPR) as per ALS guidelines, as recommended by resuscitation Council (UK).

Maintain airway.

Establish intra-venous (IV) access if not already sited.

Control seizures using benzodiazepines.

Treat hypotension with IV fluids and inotropes

Treat Bradycardia with atropine or glycopyrrolate

Treat ventricular arrhythmia with amiodarone

In cardiac arrest, start cardiopulmonary resuscitation (CPR) as per ALS guidelines as recommended by the Resuscitation Council UK.

Consider the use of 20% intralipid emulsion in local anaesthetic induced cardiac arrest or circulatory failure unresponsive to standard therapy. Administer intralipid 20% intravenously using the Association of Anaesthetists of Great Britain and Northern Ireland Guidelines (AAGBI) on management of severe local anaesthetic toxicity.

Remember:
Continue CPR as per ALS guidelines throughout, along with lipid emulsion. Recovery from local anaesthetic toxicity and successful outcome of resuscitation can take well over 1 hour.
REFERENCES


