The Royal College of Emergency Medicine

Best Practice Guideline

Fascia Iliaca Block in the Emergency Department

March 2020,
updated October 2025

Contents

Summary of recommendations

1. Fascia Iliaca Block (FIB or FICB) should be available and performed in Emergency Departments as part of the routine pain management strategy for patients with hip fractures.

2. Pain management in patients with a hip fracture should be instituted as soon as possible (*see RCEM standards and guidance on pain management*).

3. Administration of FIB should be undertaken only by clinicians who have completed a competency assessment in this skill. An up-to-date departmental log of competent personnel should be maintained.

4. Patients receiving a FIB should be closely monitored during and after the procedure for a minimum of 1 hour for both signs of local anaesthetic toxicity and potential sedation effects of other analgesia that may have been given (particularly strong opioids).

5. Intralipid® should be readily available for treatment of local anaesthetic systemic toxicity in clinical areas where FIB is carried out.

6. In clinical areas where FIB is carried out, there should be a policy available which includes details of competency assessment, monitoring of patients, treatment of complications and relevant patient/carer information

7. The use of an invasive procedure (LocSSIP) checklist, and a 'Stop before you Block' process is recommended.

8. Ultrasound-guided FIB is the preferred technique, where training and equipment allows, and this does not delay time to block. Use of the landmark technique remains an acceptable alternative when necessary resources are unavailable.

Scope

This guideline is designed primarily for use in Type 1 Emergency Departments.

Reason for development

Hip fracture is a common presentation to the Emergency Department (ED) and is subject to a national audit process [1], as well as previous RCEM national audits [2]. Delivery of timely and effective analgesia to patients with a hip fracture is challenging, as evidenced by these audits [2].

The use of the Fascia Iliaca Block (FIB) in this condition has increased. Whilst there is some evidence to support the use of FIB, this is not conclusive. An RCEM patient safety alert has also highlighted some of the risks associated with FIB use [3].

Introduction

Fascia Iliaca Block (FIB) is being increasingly used in ED's, including in the United Kingdom, principally for pain relief for patients with hip fractures.
The advantage of FIB over Femoral Nerve Block (FNB) is that there is a lower risk of inadvertent intraneural and intravascular injection (*see surface anatomy Appendix 5*). There is also a theoretical advantage of Lateral Cutaneous Nerve of the thigh blockade (although of less utility in the ED setting). Additionally, but again of less relevance in the ED setting, an FNB uses a lower volume of local anaesthetic, and would permit concurrent use of local anaesthetic at another site e.g. other nerve blockade.
Another recent development in the management of hip fracture pain is the Pericapsular Nerve Group (PENG) block, and a recent Systemic Review [4] shows this might be a promising alternative to FIB.

Ultrasound-guided FIB

The RCEM Curriculum was changed in 2021, and ultrasound-guided FIB (USG FIB) became a mandatory skill to acquire and demonstrate competency. Hence, there has been an increase in the use of US for placing FIB, and decrease in the use of the landmark technique. The theoretical advantage of USG FIB is that direct visualisation of needle and anaesthetic injection reduces the risk of intraneural or intravascular injection, and increases the likelihood of successful blockade. Whilst the evidence for these benefits remains limited at present, there is a move towards USG FIB, where the availability of skills and equipment means there is no delay to block delivery.

Conduct of an ultrasound-guidedblock requires specific sign-off. There are two approaches: infra-inguinal and supra-inguinal, with some limited evidence that the latter provides more effective anaesthesia. Both approaches differ from the landmark approach, the main pragmatic difference being needle choice. For a landmark technique a blunt ended needle is used (to enable the 'pops' to be felt); usually an 18G drawing up needle or occasionally a

Tuohy needle. For USG FIB, an echogenic spinal or regional nerve block needle is required. (For continuous infusions, National advice [5] recommends NRFIT™ needles, and some centres use these for 'one-shot' regional anaesthesia).

Considerations

Safety of FIB

As with any invasive procedure there risks. The principal concerns regarding FIB are common to blocks and local anaesthetic use:

- possibility of trauma to closely associated structures, including femoral canal structures
- local anaesthetic systemic toxicity(LAST)
- risks of infection and bleeding post-procedure
- failure of technique to provide analgesia

Additionally, the RCEM safety alert [3], highlighted the risks of removal of painful stimulus due to successful FIB resulting in patients who have had strong opiates becoming sedated post-procedure.

Improving safety of FIB

The above issues are addressed in the FIB guidance as provided in the appendices. Firstly, risk of local anaesthetic systemic toxicity is reduced by dose reduction in patients with lower body weight, aspiration every 5mls, close monitoring of patients during and after the procedure, and avoidance of the technique in those who cannot report early signs of toxicity (i.e. obtunded patients).

Ultrasound guidance for the procedure is now recommended, although there is currently no evidence that this reduces risks. Identification of an intraneural injection requires a conscious, capable patient.

The risk of infection risk is low, and FIB is considered an aseptic procedure.

The risk of bleeding is reduced by avoiding this technique in patients on Warfarin/DOAC. There is currently debate about the risk in patients who are therapeutically anticoagulated, and also whether the use of ultrasound guidance could theoretically reduce the risks from bleeding

Wrong site block is a 'Never Event' within the UK National Health Service The risks are reduced using a checklist and 'Stop before you Block' process.

Within the UK, there are National Audit Programmes related to both analgesia for hip fractures and for regional anaesthesia (RCoA NAP8). There are also National safety

standards for invasive procedures (NatSSIPS)with specific FIB checklists developed locally and by RCEM.

Controversies regarding FIB

In appendix 3 there is an example of a simplified proforma for FIB which does not differentiate absolute from relative contraindications.

1: As described above, there is debate surrounding whether patients who are prescribed anticoagulation have an absolute or relative contraindication. There is insufficient evidence to determine this. Therefore, a local safety and governance decision is required.

2: It is unclear whether the inability to communicate symptoms that may suggest intraneural injection, and of local anaesthetic toxicity (especially in patients with cognitive impairment) represents an absolute contra-indication. It is the authors' opinion that, given the safety of FIB and lower risk of these complications compared to other regional anaesthesia, the ability to co-operate with the procedure is a more significant consideration. The inability to cooperate should be considered a contraindication, rather than the ability to communicate symptoms.

Efficacy of FIB

There is some evidence regarding efficacy of FIB in reducing opiate requirements before and after surgery [6]. It is suggested that this has benefits including early mobilisation and reduced incidence of thromboembolism and lower respiratory tract infections. However, despite much anecdotal evidence and opinion, there is little current evidence that this benefit (or avoidance of risk) affects mortality outcomes.

There is evidence regarding the efficacy of FIB as pain relief [7])], and regarding the safety and use by a wide range of practitioners [8].

Procedures within ED

Many of the Quality Improvement Projects (QIP) submitted for the Fellowship Examination of the Royal College of Emergency Medicine have involved the utility and introduction of FIB as a procedure [9]. The learning from these QIPs suggests that uptake of FIB within a department can be improved using a dedicated pre-prepared 'block pack', or a 'block trolley' where all required equipment and paperwork is housed. Additionally, electronic proformas, included in the patient record can assist with audit and service evaluation studies.

Pain management for patients with hip fractures

Management of pain within the ED is a key element of the patient experience. Within patients with a (possible) hip fracture, the delay to effective pain relief can be due to several factors. The use of QIP tools to investigate the causes of delay to pain relief (such as process mapping) and the barriers to efficacy may help an ED understand the local context. However, introduction of the FIB procedure *per se* is not usually a 'magic bullet' to solve this issue. The FIB can be an effective tool in the armoury of clinicians, and can be part of a wider pain management strategy for this condition.

Miscellaneous

The appendices include a competency framework, based on the RCEM e-portfolio, a proforma template for completion by practitioners (paper version), a brief instruction guide and generic ‘Stop before you Block’ summary. These have been written by employees of the Oxford University Hospitals NHS Foundation Trust, and this is kindly acknowledged by the authors

Additionally, a FIB policy is available on the RCEM website [10].

Appendix 1 FIB competency assessment

Robust governance of the competency process is advised: only practitioners signed off as competent should undertake FIB. The process should involve a documented sign-off,ideally using a specific Direct Observation of Procedural Skills (DOPs) format and signed by an approved assessor (such as ED Consultants, ED Registrars orED ACPs on the trainers list). The suggested minimum level of experience for nursing staff is Band 6. Competence will need to be reassessed if more than six months has elapsed between episodes of performing the procedure.

Before assessment the candidate must:

- Be competent in intravenous and drug administration
- Have a good working knowledge of the following policies and guidelines:
    - NCEPOD (2010) An Age-Old Problem: A review of the care received by elderly patients undergoing surgery
    - NMC (2006) Standards for administration of drugs
    - NMC (2008) The Code: Standards of conduct, performance and ethics for nurses and midwives.
    - Infection Control Policy
    - Exposure to Blood Bourne Viruses (BBV's)
    - Procedure on Sharps and Infection Control Standard Precautions
    - Procedure and guidelines for the prescribing, preparation and administration of Injectable medicines
    - AAGBI (2010) Management of Severe Local Anaesthetic Toxicity
- Have completed training: (Background reading (locally kept file of articles), be familiar with the ED protocol and proforma (attached in this document)
- Attended teaching session and observed the process
- Completed three Fascia iliac blocks under supervision to a competent standard

Maintain an ongoing logbook of procedures **including notable event variation, comments, and complications**

Acknowledgement to Karen Chivers, Consultant Nurse.

Appendix 2 – Example of FIB record

ADULT FASCIA ILIACA COMPARTMENT BLOCK (FICB)

EMERGENCY DEPARTMENT PROFORMA

Please file completed in the ED notes. This is being AUDITED.

PATIENT LABEL/DETAILS	Weight……..KG Date…….. Are there any contraindications? If Yes then do not proceed……..

Operator……

Consent Y/N Side R/ L Ultrasound guided Y/N

Was any analgesia used before the block Y/N…….if yes, what……

DRUG: PLAIN BUPIVICAINE 0.25%

Note: Do not exceed maximum dose of 2mg/kg

GUIDANCE: *1ml of 0.25% Bupivicaine = 2.5mg*

Weight greater than 50kg give 40ml of 0.25% Bupivicaine (contains 100mg)

Weight less than 50kg give 30ml of 0.25% Bupivicaine (contains 75mg)

Total Dose Given (mls) …….. FCIB Time……..

PAIN SCORE (Before Block)……

PAIN SCORE at 30 min (Rest)……..

Complication……

INTRALIPID: (***Kept in Theatre Pharmacy Cupboard***)

AAGBI guidance must be followed (see separate sheet)

BOLUS DOSE IMMEDIATELY over one minute= 1.5x weight (kg) =……..

INFUSION DOSE over 60 minutes= 15 x weight (kg) = ……

AAGBI Safety Guideline

Management of Severe Local Anaesthetic Toxicity

1 Recognition

Signs of severe toxicity:

- Sudden alteration in mental status, severe agitation or loss of consciousness, with or without tonic-clonic convulsions
- Cardiovascular collapse: sinus bradycardia, conduction blocks, asystole and ventricular tachyarrhythmias may all occur
- Local anaesthetic (LA) toxicity may occur some time after an initial injection

2 Immediate management

- Stop injecting the LA
- Call for help
- Maintain the airway and, if necessary, secure it with a tracheal tube
- Give 100% oxygen and ensure adequate lung ventilation (hyperventilation may help by increasing plasma pH in the presence of metabolic acidosis)
- Confirm or establish intravenous access
- Control seizures: give a benzodiazepine, thiopental or propofol in small incremental doses
- Assess cardiovascular status throughout
- Consider drawing blood for analysis, but do not delay definitive treatment to do this

3 Treatment

IN CIRCULATORY ARREST

- Start cardiopulmonary resuscitation (CPR) using standard protocols
- Manage arrhythmias using the same protocols, recognising that arrhythmias may be very refractory to treatment
- Consider the use of cardiopulmonary bypass if available

GIVE INTRAVENOUS LIPID EMULSION
(following the regimen overleaf)

- Continue CPR throughout treatment with lipid emulsion
- Recovery from LA-induced cardiac arrest may take >1 h
- Propofol is not a suitable substitute for lipid emulsion
- Lidocaine should not be used as an anti-arrhythmic therapy

WITHOUT CIRCULATORY ARREST
Use conventional therapies to treat:

- hypotension,
- bradycardia,
- tachyarrhythmia

CONSIDER INTRAVENOUS LIPID EMULSION
(following the regimen overleaf)

- Propofol is not a suitable substitute for lipid emulsion
- Lidocaine should not be used as an anti-arrhythmic therapy

4 Follow-up

- Arrange safe transfer to a clinical area with appropriate equipment and suitable staff until sustained recovery is achieved
- Exclude pancreatitis by regular clinical review, including daily amylase or lipase assays for two days
- Report cases as follows:
  - In the United Kingdom to the National Patient Safety Agency (via **www.npsa.nhs.uk**)
  - In the Republic of Ireland to the Irish Medicines Board (via **www.imb.ie**)

If Lipid has been given, please also report its use to the International registry at **www.lipidregistry.org**. Details may also be posted at **www.lipidrescue.org**

Your nearest bag of Lipid Emulsion is kept .....

Appendix 3 – Example of ED protocol for FIB (text only)

Emergency Department Protocol

Use of Fascia Iliaca Compartment Block (FICB) (landmark technique) in Adult Hip Fracture

(please see section on controversies in FIB for discussion of contraindications*)

Only to be performed by clinicians who have been signed off as competent

Ensure no contraindications to FICB: Relative marked with *

- Patient refuses procedure
- Allergy or intolerance to local
- Coagulopathy (anticoagulants*, INR>1.5, platelets<100)
- Infection at injection site
- Patient unable to report possible analgesia complications/side-effects due to e.g. confusion/dementia/learning difficulties*
- Inability to identify landmarks
- Previous femoral vascular surgery

Preparation for FICB

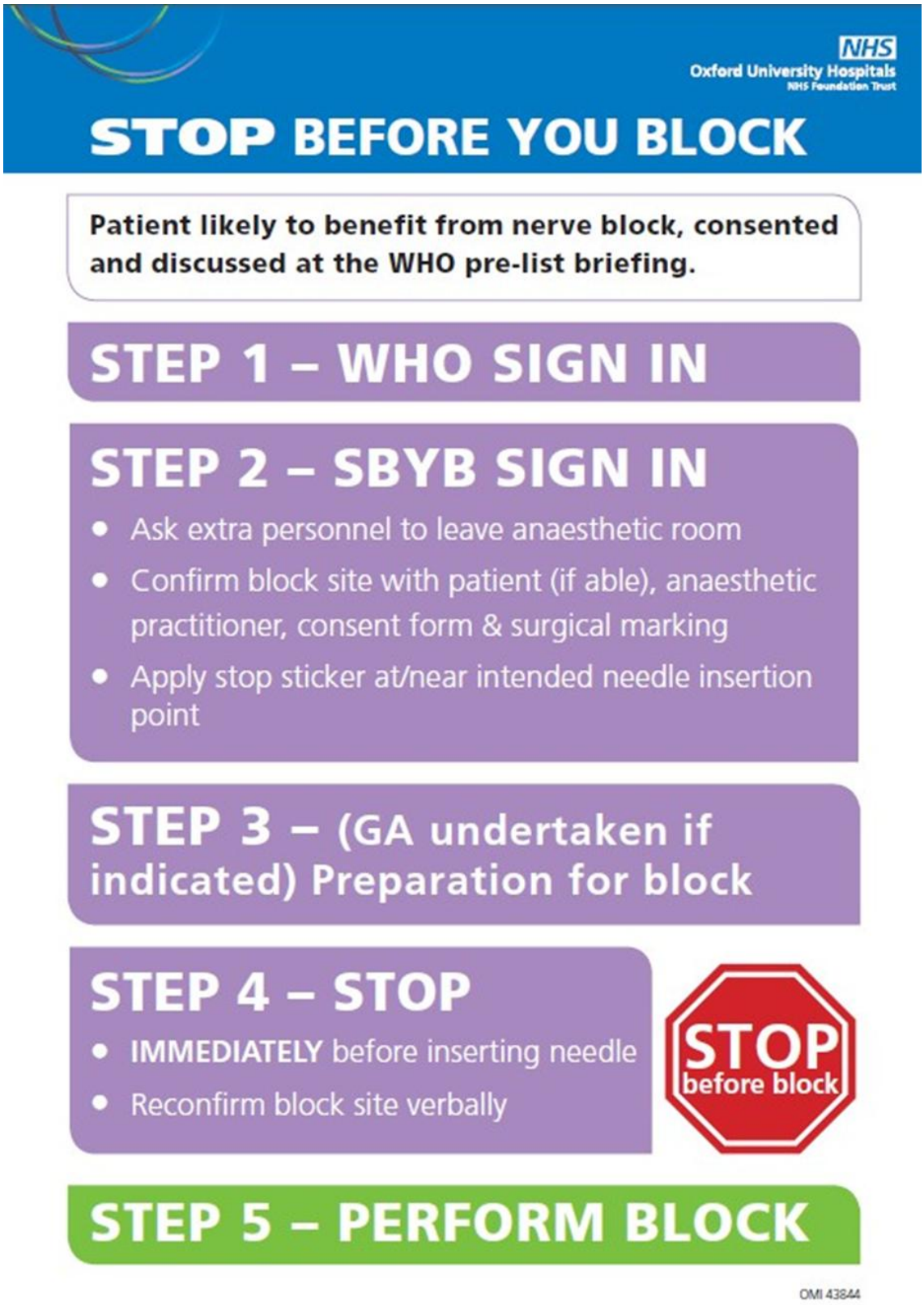
- Obtain consent
- Position patient; supine
- This is a sterile procedure
- Prepare equipment, and drugs (0.5ml/kg (ideal bodyweight) of 0.25% Bupivacaine drawn up in anaesthetic 20ml syringes) -1ml of 0.25% Bupivacaine contains 2.5mg
- Ensure you do not exceed the maximum safe dose of 2mg per kg
- Complete proforma
- If no pain relief after 30 minutes offer alternate analgesia
- Do not repeat block

Technique for FICB

- Ensure patient has **iv access**, and that **resuscitation equipment** is nearby.
- Ensure that patient is monitored (3L ECG, NIBP, SpO_2, RR, GCS)
- Find line joining anterior superior iliac spine and pubic tubercle (line of inguinal ligament).
- Find and mark junction where lateral 1/3 and medial 2/3 meet and move inferiorly 1cm from this point. This is to be the point of injection.
- Palpate to ensure you are not close to the femoral artery. If you are, recheck landmarks and if still over the artery abandon procedure.
- Chlorhexidine/Betadine skin prep, sterile gloves, drape the area.
- Raise a small bleb of Lignocaine at the intended skin puncture site.
- Pierce the skin with a large gauge needle.
- Change to a blunt ended needle (BD Integra™ - Blunt Fill Needle 18G) connected via a short extension tube to your syringe of local anaesthetic (LA).
- Advance the needle (aspirating intermittently) perpendicular to the skin, and feel for two “pops” indicating you have crossed the fascia lata followed by the fascia iliaca.
- Aspirate again and **slowly** inject the LA whilst asking the patient how they feel throughout, being vigilant for signs of LA toxicity or accidental injection into a nerve (severe pain/paraesthesia). **Stop injecting** if adverse effects occur.
- After injection, withdraw needle and apply 30secs of pressure distal to the injection site to direct the local anaesthetic proximally. Dress the injection

EMERGENCY INTRALIPID IS STORED IN: _____

Appendix 4 – Stop before you Block/invasive procedure checklist



Appendix 4 – RCEM safety flash

The Royal College of Emergency Medicine

February 2018 (revised)

The Importance of Monitoring After Fascia Iliaca Block (FIB)

The Coroner has issued a Regulation 28

FIB removed painful stimulus; pre-administered opiates caused apnoea, this went unrecognised.

NRLS data reveals:

- Poor or no documentation of procedure in ED
- Poor or no post procedure observations in ED

An ED LocSSIP/guideline should include documentation of:

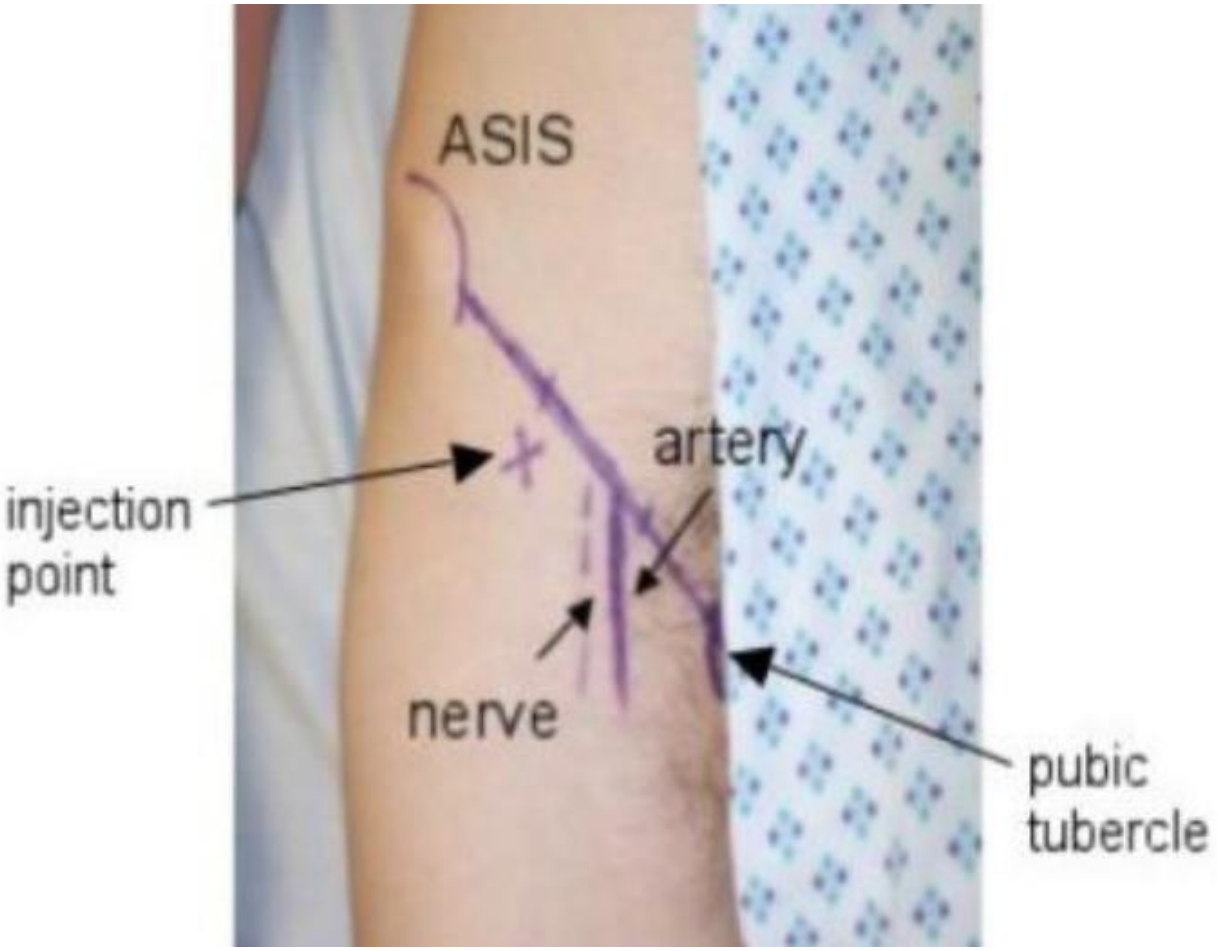
- Site, side, dose and time of block
- Frequency of post procedure observations

A *minimum* would be at 5, 10, 15, 30 mins post procedure

RCEM/FIBguideline

For other RCEM issued Safety Alerts and Safety Newsflashes see:
www.rcem.ac.uk/safetyalerts

Appendix 5 – Surface anatomy



Picture credit: Fascia Illiaca Compartment Block: Landmark Approach. Morriston Hospital June 2016. https://www.rcem.ac.uk/RCEM/Quality_Policy/Clinical_Standards_Guidance/Local_Guidance/RCEM/Quality-Policy/Clinical_Standards_Guidance/Local_Guidance.aspx?hkey=3765ca3b-617c-427c-a4af-57fca689a0de accessed 27.04.2020

Appendix 6 – USG FIB

Technique: The differences in technique relate to approach and needle choice; there are two approaches described, and many online resources with visual aids. The RCEM learning platform has resources [11] that describe infra-inguinal approach (this will be more familiar and intuitive to those practitioners who use landmark technique (or femoral nerve block). The super-inguinal approach involves: The procedure involves palpating the anterior superior iliac spine (with a supine patient), then positioning the ultrasound probe parasagittal or oblique orientation, medially and caudally to identify the pelvic brim and iliacus muscle. The needle is advanced in-plane caudal to cranial towards the subfascial plane under the fascia iliaca, above the pelvic brim and inguinal ligament, to achieve spread along the iliacus muscle into the thigh and hip. Needle tip confirmed in subfascial plane by observing 'unzippering' of fascia with test doses.

Training and logbooks: The RCEM POCUS curriculum describes the skills and knowledge requirements and the assessment and sign of processes [12].

Recording: This will be as described in Appendix 2. Ideally, this proforma will be electronic and in patient records. Similarly, prescribing of local anaesthetic (dosing is the same) should be in patient electronic record.

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About this document

Authors/Acknowledgements

Larry Fitton, Simon Smith
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Review

Usually within three years or sooner if important information becomes available.

Disclaimers

The College recognises that patients, their situations, Emergency Departments and staff all vary. This guideline cannot cover all possible scenarios. The ultimate responsibility for the interpretation and application of this guideline, the use of current information and a patient's overall care and wellbeing resides with the treating clinician.

This document contains reference to drugs and their doses; whilst we have tried to ensure accuracy the ultimate responsibility for treatment decisions (including doses) remains with the prescriber.

Research Recommendations

Safety of FIB in patients on anti-coagulants.
Safety of FIB in patients who are obtunded.
Effect of pre-operative/ED administered FIB on post-operative complications.
USG FICB vs landmark technique
PENG vs FICB

Audit standards

None specified

Key words for search

Emergency Department, Fascia Iliaca Block, FICB, FIB, Ultrasound-guided FIB, USG FIB

The Royal College of Emergency Medicine

The Royal College of Emergency Medicine
7-9 Breams Buildings
London
EC4A 1DT
Tel: +44 (0)20 7400 1999
Fax: +44 (0)20 7067 1267
www.rcem.ac.uk

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