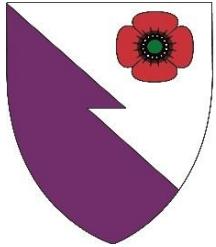


The Royal College of Emergency Medicine

Best Practice Guideline

Fascia Iliaca Block in the Emergency Department



Revised: July 2020

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Summary of recommendations

1. Fascia Iliaca Block (FIB or FICB) should be available in Emergency Departments as part of the pain management strategy for patients with fractured neck of femur.
2. Pain management in patients with fractured neck of femur 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. A departmental log of competent personnel should be kept up to date.
4. Patients receiving a FIB should be closely monitored during and after (for a minimum of 1 hour) the procedure; for both signs of local anaesthetic toxicity and sedation effects of other analgesia that may have been given.
5. Intralipid® should be easily available for treatment of local anaesthetic toxicity in clinical areas where FIB is administered.
6. In departments where FIB is administered, there should be a policy available which includes details of competency assessment, monitoring of patients, and treatment of complications.
7. The use of an invasive procedure checklist, and a 'Stop before you Block' process is recommended.

Scope

This guideline is designed primarily for use in Type 1 EDs.

Reason for development

Fractured neck of femur is a common presentation to the Emergency Department, and is subject to national audit process (1), as well as previous RCEM national audits (2). Delivery of timely and effective analgesia to patients with a fractured neck of femur is challenging, as evidenced by these audits. (2)

The use of Fascia Iliaca Block 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 highlighted some of the risks of FIB use. (3)

Introduction

Fascia Iliaca Block (FIB) is being increasingly used in Emergency Departments (ED) including in the United Kingdom, principally for pain relief in fractured neck of femur patients.

The advantage of FIB over Femoral Nerve Block (FNB) is that there is lower risk of intra-neural and intra-vascular injection (see surface anatomy Appendix 5). There is also a theoretical advantage of Lateral Cutaneous Nerve of the thigh blockade (although less utility in the ED setting). Additionally, but again of less relevance in the ED setting, a FNB uses a lower volume of local anaesthetic, and, therefore, allows concurrent use local anaesthetic at another site.

Considerations

Safety of FIB

As with any invasive procedure there are 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 toxicity
- 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 with the instillation of FIB resulting in patients who have had opiates prior to FIB.

Improving safety of FIB

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

Ultrasound guidance for the procedure is possible, however, there is currently no evidence that this reduces risks. Identification of injection intraneurally requires an awake patient.

Infection risk is low, but this is an aseptic procedure.

Bleeding risk is reduced by avoiding in patients on Warfarin/DOAC; there is currently debate about the risk of using this technique in patients who are therapeutically anticoagulated. Wrong site block is a 'Never Event' within the UK National Health Service, and risk reduced by using a checklist and 'Stop before you Block' procedures.

Controversies regarding FIB

In appendix 3 there is an example of a simplified proforma for FIB. The original listed contraindications and does not differentiate between absolute and relative. Many departments do separate these; hence this has been modified to provide nuance on two main current controversies that exist:

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- a local governance decision is required.
2. Whether inability to communicate symptoms of intraneural injection, and of local anaesthetic toxicity (especially in patient with cognitive impairment) is an absolute contra-indication. The authors opinion is that given the safety of FIB, and lower risk of these complications compared to other regional anaesthesia (combined to the large clinical spectrum patients in this category) that ability to consent and cooperate with procedure are more significant issues.

Efficacy of FIB

There is some evidence regarding efficacy of FIB in reducing opiate requirements before and after surgery (4). It is suggested that this has benefits including early mobilisation, and reduction of thrombo-embolism 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.

There is evidence regarding efficacy of FIB in pain relief (5), and regarding safety and use by a wide range of practitioners (6).

Procedures within ED

Many Quality Improvement Projects (QIPs) submitted for the Fellowship Examination of the Royal College of Emergency Medicine have involved use and introduction of FIB (7).

The learning from these QIPs suggests that uptake of FIB within a department can be improved using dedicated pre-prepared 'block pack', or a 'block trolley' where all required equipment and paperwork is housed. Additionally, electronic proformas, including in patient record assist with auditing.

Pain management in fracture neck of femur

Management of pain within the ED is a key element of the patient experience. Within patients with a (possible) fractured neck of femur, 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 FIB per se is not usually a 'magic bullet' to solve this issue. However, FIB can be an effective tool in the armoury of clinicians, and can be part of a wider strategy that looks at pain relief in this condition.

Miscellaneous

The appendices include a competency framework, based on the RCEM e-portfolio, a proforma for completion by practitioner (paper version), a brief instruction guide and a block 'stop before you block' brief summary. These have been written by employees of the Oxford University Hospitals NHS Foundation Trust, and this is kindly acknowledged.

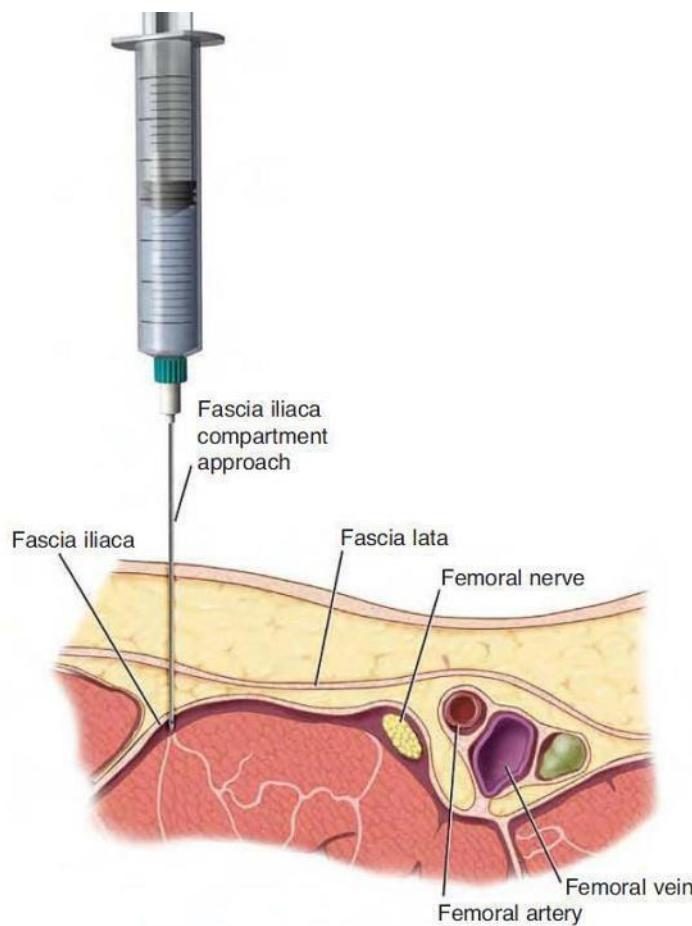
Additionally, a FIB policy is available on the RCEM website (8).

Appendix 1 – Example of FIB competency assessment

COMPETENCY ASSESSMENT

Fascia Iliaca Block in adult patients with fractured neck of femur

Author: Karen Chivers, Nurse Consultant trainee, written 2015



Name:-

Position:-

Reviewed at ED Clinical Governance ...10th June 2015.....

Process

The aim of the competency document is to establish that the professional undertaking of the procedure is safe. This assessment form is to be used for qualified nurses at a minimum level of Band 6. Competence will need to be reassessed if more than six months has lapsed between episodes of performing the procedure.

Prerequisites of the assessment

The candidate must:-

- Be competent in intravenous and single 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

Assessors in ED

ED Consultants

ED Registrars

ED ACP on the trainers list

Training process for nurses

- Background reading (file of articles in ED)
- Attended teaching session and observed the process
- Be familiar with the ED protocol and proforma (attached in this document)
- Completed three Fascia iliac blocks under supervision to a competent standard
- Have final assessment signed off by a Duty Consultant

Based on: Royal College of Emergency Medicine portfolio

Direct Observation of Procedural skills – DOPs

Summative Assessment

Fascia Iliac Block Insertion

Trainee name:			
Assessor:		Assessor GMC No:	
Grade of assessor:		Date	/ /
Procedure observed (including indications)			

Please TICK to indicate the standard of the trainee's performance in each area	Not observed	Further core learning needed	Demonstrates good practice		Demonstrates excellent practice
			Must address learning points highlighted below	Should address learning points highlighted below	
Indication for procedure discussed with assessor					
Obtaining informed consent					
Appropriate preparation including monitoring, positioning of patient, analgesia .					
Technical skills and aseptic technique					
Correctly identifies landmarks for FIB installation					
Correct needle insertion with 2 'clicks'					

Slow injection and aspiration after each 5 mls					
Situation awareness and clinical judgement					
Safety, including prevention and management of complications and disposal of sharps					
Care /investigations immediately post procedure					
Professionalism, communication and consideration for patient, relatives and staff					
Documentation in the notes and on proforma					
Completed task appropriately					
Things done particularly well					
Learning points					
Action points					
Assessor Signature:	Trainee Signature:				

Adapted from Royal College of Emergency Medicine portfolio

Final Assessment

..... has satisfactorily completed his /her training in fascia iliaca blocks (theoretical and practical observation) and is competent to perform them unsupervised for analgesia for patients with fractured neck of femur.

Assessors signature

Assessors name and position

Date

Declaration of Competence

I have undergone appropriate training in the insertion of a fascia iliaca block. I have read and understood the guideline regarding the insertion technique and subsequent care of the patient. I have undertaken a period of supervised practice. I acknowledge my own personal accountability regarding my on-going practice and competency and undertake to complete an on-going practice log. If six months passes between performing this procedure, I take responsibility for practicing under supervision and being reassessed before practicing independently.

Practitioners signature

Practitioners name and Position

Date

Fascia Iliaca Block on-going practice log

Date	Patient Number	Notable event / variation, comments, complications

Appendix 2 – Example of FIB record

ADULT FASCIA ILIACA COMPARTMENT BLOCK (FICB)

Larry.fitton@ouh.nhs.uk v2 June 2011

EMERGENCY DEPARTMENT PROFORMA

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

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

Operator.....

Consent Y/N Side R/ L

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% Bupivacaine = 2.5mg

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

Weight less than 50kg give 30ml of 0.25% Bupivacaine (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: <ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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	<p>IN CIRCULATORY ARREST</p> <ul style="list-style-type: none">• 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 <p>GIVE INTRAVENOUS LIPID EMULSION (following the regimen overleaf)</p> <ul style="list-style-type: none">• 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 <p>WITHOUT CIRCULATORY ARREST</p> <p>Use conventional therapies to treat:</p> <ul style="list-style-type: none">• hypotension,• bradycardia,• tachyarrhythmia <p>CONSIDER INTRAVENOUS LIPID EMULSION (following the regimen overleaf)</p> <ul style="list-style-type: none">• Propofol is not a suitable substitute for lipid emulsion• Lidocaine should not be used as an anti-arrhythmic therapy
4 Follow-up	<ul style="list-style-type: none">• 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:<ul style="list-style-type: none">• 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.lmb.ie) <p>If Lipid has been given, please also report its use to the International registry at www.llpidregistry.org. Details may also be posted at www.llpidsave.org</p>

Your nearest bag of Lipid Emulsion is kept

This guideline is not a standard of medical care. The ultimate judgement with regard to a particular clinical procedure or treatment plan must be made by the clinician in the light of the clinical data presented and the diagnostic and treatment options available.

© The Association of Anaesthetists of Great Britain & Ireland 2010

Appendix 3 – Example of proforma (text only)

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

Emergency Department Protocol

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

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

Ensure no contraindications to FICB: Relative marked with *

- Patient refuses procedure/unable to comply with procedure
- Allergy or intolerance to local anaesthetic
- 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, SpO₂, 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



Patient likely to benefit from nerve block, consented and discussed at the WHO pre-list briefing.

STEP 1 – WHO SIGN IN

STEP 2 – SBYB SIGN IN

- Ask extra personnel to leave anaesthetic room
- Confirm block site with patient (if able), anaesthetic practitioner, consent form & surgical marking
- Apply stop sticker at/near intended needle insertion point

STEP 3 – (GA undertaken if indicated) Preparation for block

STEP 4 – STOP

- IMMEDIATELY before inserting needle
- Reconfirm block site verbally

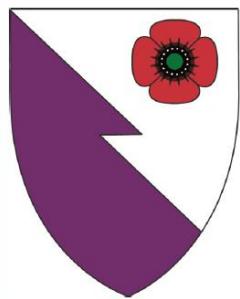


STEP 5 – PERFORM BLOCK

STOP BEFORE YOU BLOCK –documentation and reminder sticker

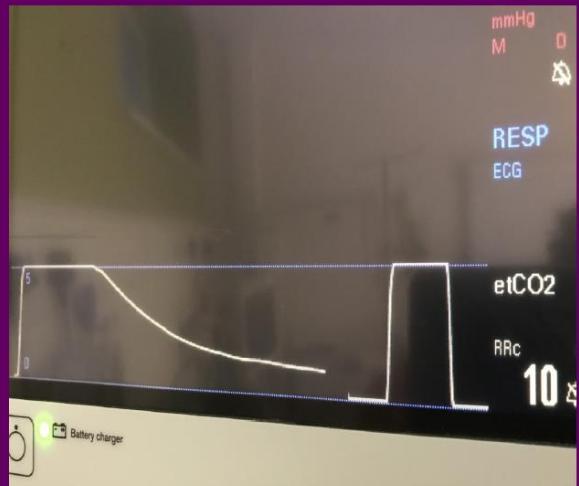
Site of surgery confirmed with consent	
Block site confirmed verbally	
Surgical site mark confirmed	
Correct side identified and prepared for block	
Stop before you block completed	





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:

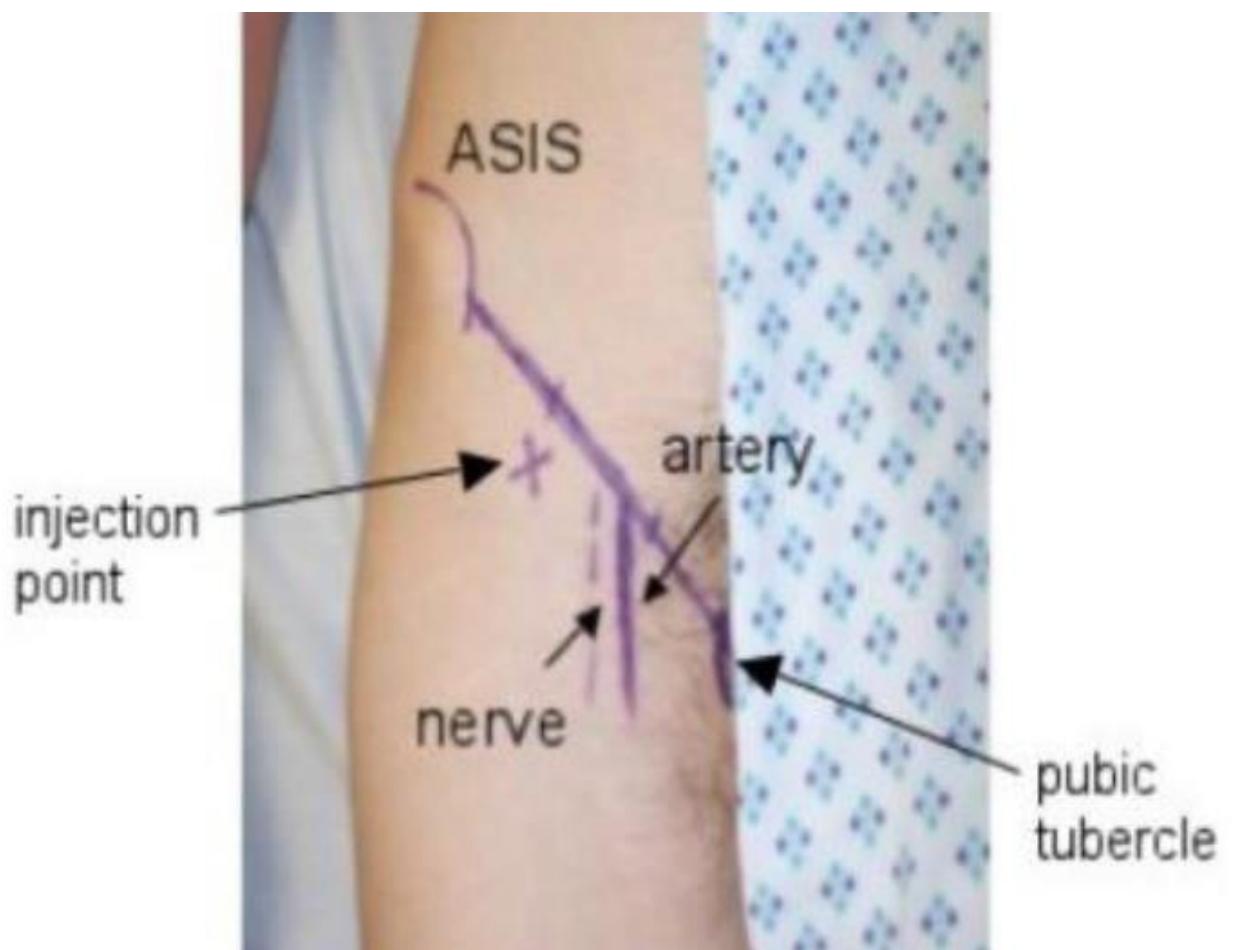
- Site, side, dose and time of block
- Frequency of post procedure observations

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 6 – Surface anatomy



Picture credit: Fascia Iliaca 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-427ca4af-57fca689a0de accessed 27.04.2020

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About this document

Authors/Acknowledgements

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Karen Chivers and the OUH NHSFT for the re-printed work,
James France for editing.

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.

Audit standards

None specified

Key words for search

Emergency Department, Fascia Iliaca Block, FICB, FIB

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