

REGIONAL NERVE BLOCKS

Learners Guide

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PRE- READING FOR LEARNERS

[Local Anaesthetics](#) quick tutorial on RCEM learning

[Hand Anatomy • LITFL • BSCC Clinical Anatomy](#)

[Pediatric Femur Fractures – Core EM](#)

[Physics and basic equipment settings RCEM learning \(for those not familiar with using ultrasound machines\)](#)

[Managing wounds](#)

Also aim to listen to the EM podcast

[Regional Nerve Blocks for Hip Fractures | Journal Jam podcast](#)

CASE 1

Harry is a 14-year old who injured his right hand while playing football. He explains that, as he fell, he caught his little finger on the ground, bending it awkwardly. On presentation, there is an obvious deformity of the little finger. He has had paracetamol and ibuprofen prior to arriving in the emergency department and is comfortable.

On assessment, Harry has a closed injury of his 5th finger, with no neurovascular compromise. There is an obvious deformity of the proximal phalanx, with reduced movement at the joint. An x-ray reveals a dorsal dislocation of the proximal interphalangeal joint, with no evidence of an associated fracture.

- 1. What local anesthetic would you choose for a digital nerve block?**
- 2. Outline the nerve supply of a digit?**
- 3. Describe the technique and steps of performing a nerve block?**

CASE 2

Ciara, a 7-year-old girl, has been brought to the emergency department because her earring is stuck somewhere in her earlobe. Ciara won't let anyone look for it as it's too painful to touch. You sit Ciara on her mom's lap, and with the help of the magical play specialist, you plan to perform an auricular block.

- 1. How are you going to position your patient for an auricular block?**
- 2. Can you recall the nerve supply to the ear, the targets of your block?**
- 3. Outline the steps of performing an auricular block?**
- 4. Describe the discharge advice for your patient?**

CASE 3

Sam is a 15-year-old brought to the emergency department by ambulance following a fall from a tree. The ambulance crew have given paracetamol and ibuprofen en route but Sam is very distressed, complaining of severe pain in his right leg, as he is moved from the trolley to the bed. Following a primary survey, you are satisfied Sam is stable with no airway, c-spine, breathing or circulatory compromise. His right thigh is grossly swollen and tense. You place it in a traction splint, give Sam intranasal fentanyl and organise an urgent x-ray of his right femur, which confirms a proximal femur fracture.

- 1. Outline the equipment and monitoring required prior to performing a fascia iliaca block?**
- 2. Describe your rationale of local anesthesia choice?**
- 3. Describe the steps of performing a fascia iliac or femoral nerve block?**

ADVANCED DISCUSSION

ADVANCED CASE 1

An alternative analgesic approach for Harry's 5th phalanx dislocation is an ulnar nerve block. Describe the landmarks of the ulnar nerve?
Outline the steps of performing an ulnar nerve block?

ADVANCED CASE 2

When preparing your equipment for Harry's digital nerve block, you find 1% lidocaine with adrenaline. Is this suitable to use when performing a digital nerve block?

ADVANCED CASE 3

You have completed the nerve block and are tidying up your equipment when Sam complains of a funny sensation around his lips and says he feels sick. As you turn towards Sam you notice his heart is racing and he looks really unwell. What differentials can you think of as to why Sam is suddenly unwell? Outline the emergency steps in managing this condition?

QUESTIONS

Question 1.

When performing digit nerve blocks which of the following agents is the most suitable?

- A: 1% lidocaine with adrenaline
- B: 0.5% lidocaine
- C: 1% or 2% lidocaine
- D: 0.25% bupivacaine

Question 2.

What is the maximum dose in mg/kg for lidocaine and bupivacaine?

- A: Lidocaine 3mg/kg and Bupivacaine 2.5mg/kg
- B: Lidocaine 2mg/kg and Bupivacaine 3mg/kg
- C: Lidocaine 1.5mg/kg and Bupivacaine 1mg/kg
- D: Lidocaine 4mg/kg and Bupivacaine 3mg/kg

Question 3.

When performing a femoral block, you inject the local anaesthetic only:

- A: Underneath the lata fascia
- B: Underneath the iliac fascia
- C: Lateral to the femoral artery
- D: Between psoas muscle and fascia lata

Question 4.

In addition to supportive measures, what is the specific antidote required when managing local anaesthetic toxicity?

- A: Methylene blue
- B: Digibind
- C: Intralipid
- D: Flumazenil

Take-home messages

- 1 Consider regional nerve blocks as an adjunct to oral analgesic for MSK injuries
- 2 A cooperative and correctly positioned patient keyc
- 3 Ensure you are familiar with maximum doses of local anaesthetic
- 4 Always ensure appropriate monitoring is applied prior to performing a femoral nerve block
- 5 STOP injection of LA and CALL FOR HELP if you have concerns for local anaesthetic toxicity

REFERENCES

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