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(in collaboration with SIG Regional Anesthesia,Malaysia)

UNIVERSITY OF MALAYA

The Leader in Research & Innovation

Campus: 750 acres

Hospital: 1,200 beds


UNIVERSITY OF MALAYA
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REGIONAL BAY
R.A cases/ mth: 80-100

USGRA

Quick Start Guide

(Lower Limb)

Lower limb block

1. Femoral nerve block
2. Popliteal block
3. Subgluteal sciatic nerve block
4. Saphenous nerve block (above knee & below knee)
5. Lateral femoral cutaneous nerve block
6. Fascia iliaca block
7. Lumbar plexus block

Femoral nerve Block

(in collaboration with SIG Regional Anaesthesia, Malaysia)

Femoral nerve Block

- Frequency : High
- Plane : In-plane
- Needle : 50mm
- L.A. vol. : 10-15 ml

Femoral nerve Block

Positioning

US machine

- opp.side

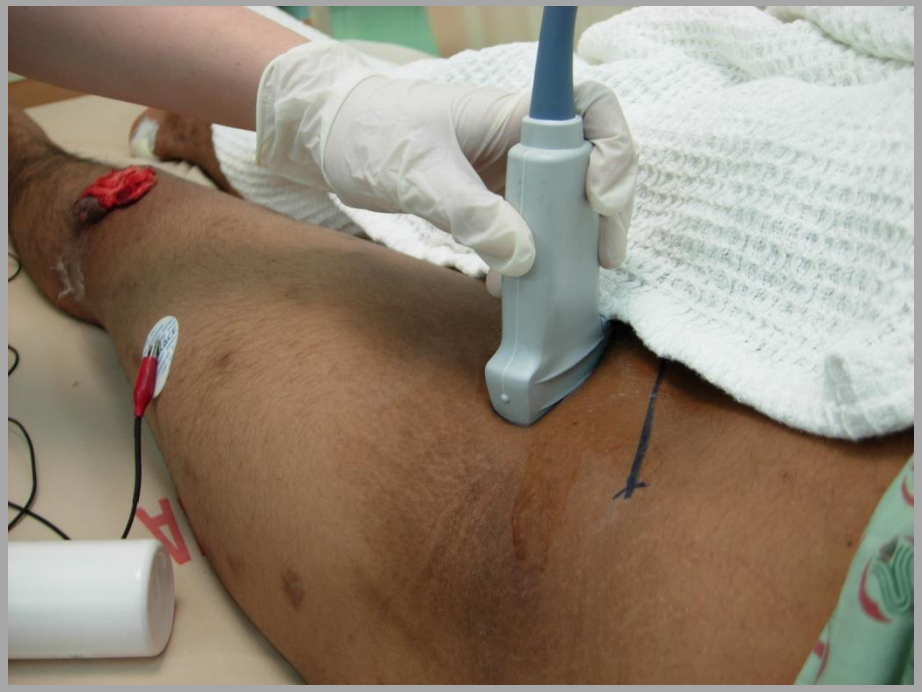
Anesthetist

-ipsilat. side

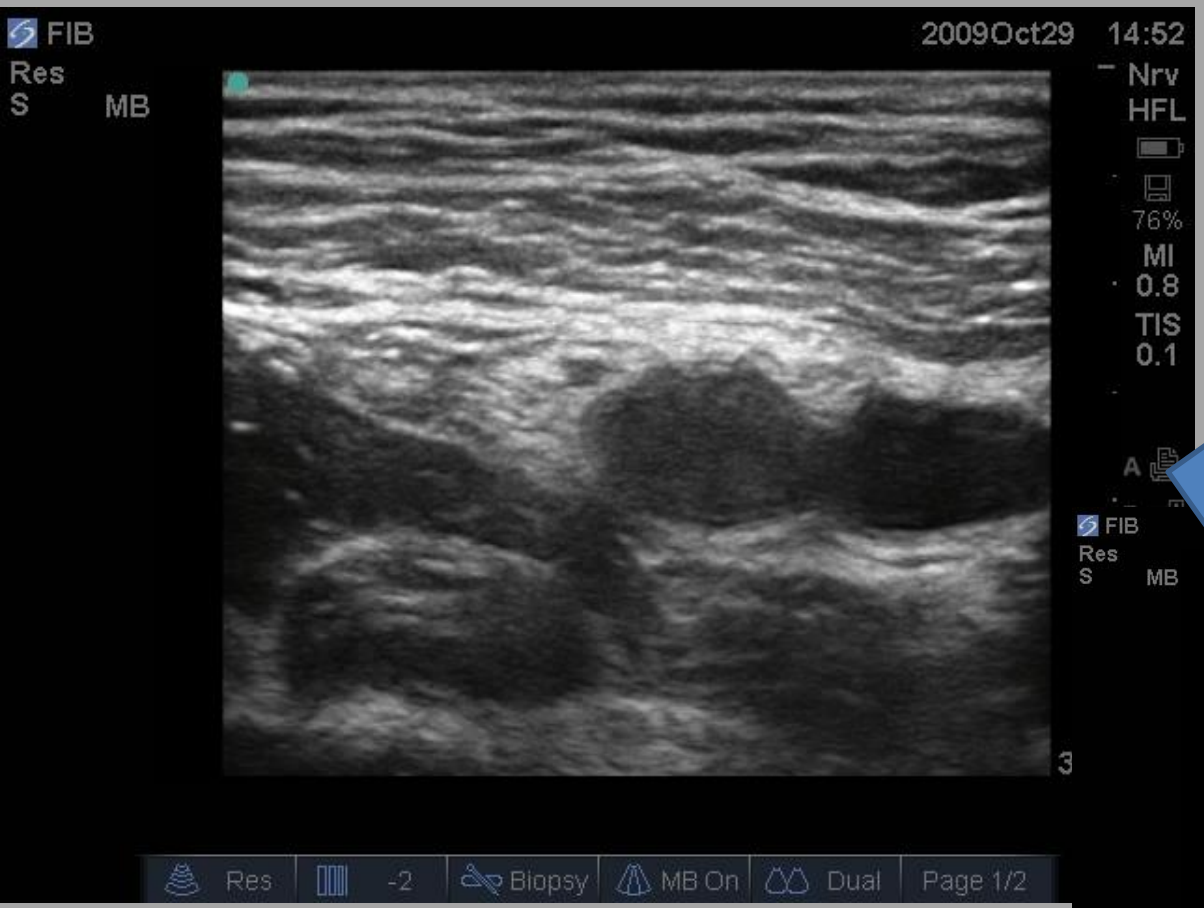
Femoral nerve Block

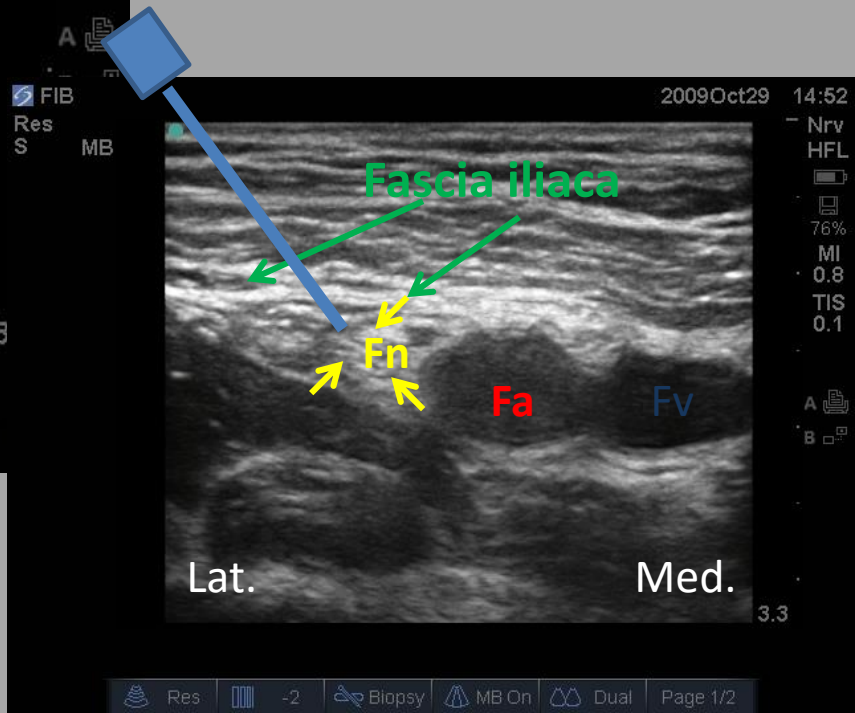
Transducer Position :

- Just below the iliac crease
- Over the femoral artery



Femoral nerve , sonoanatomy





Femoral nerve (scanning)

Femoral nerve (technique)

Popliteal Block

(in collaboration with SIG
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Popliteal Block

- Frequency: High
- Plane : In plane
- Needle : 100 mm
- L.A vol. : 20-30 ml

Popliteal Block (positioning)

Supine

Lateral

Popliteal Block (Transducer position)

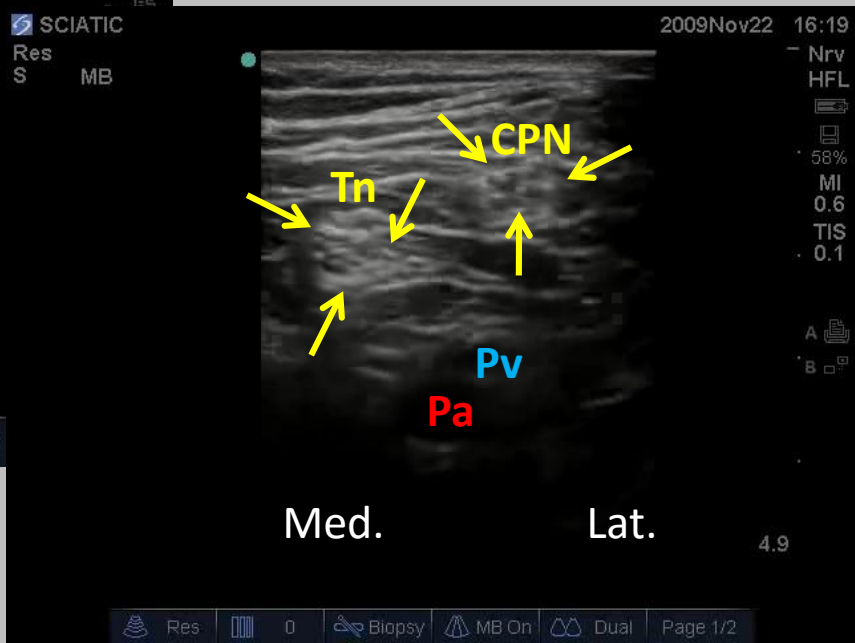
Supine position

-over the popliteal fossa

Lateral position

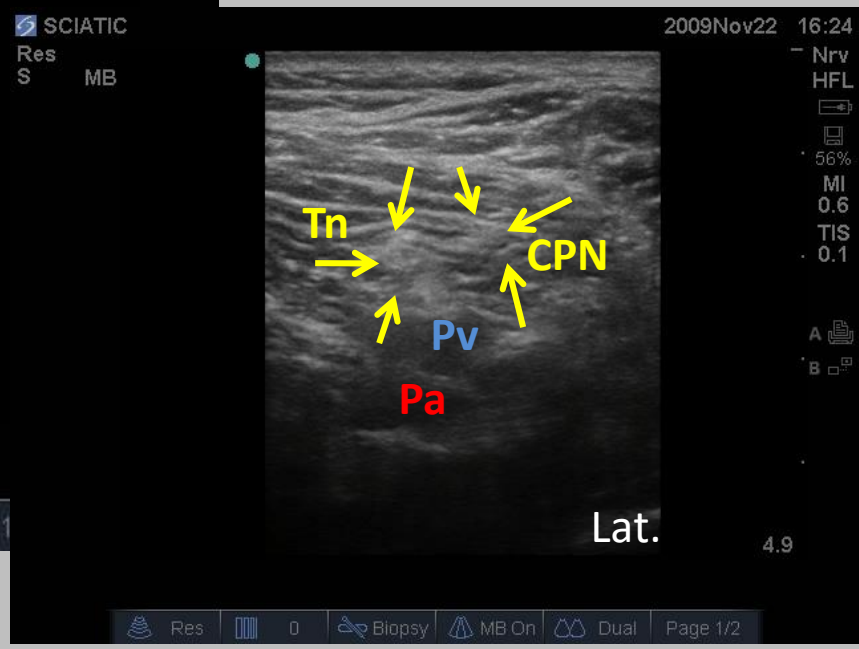
Popliteal Block (sonoanatomy)

Just above popliteal crease



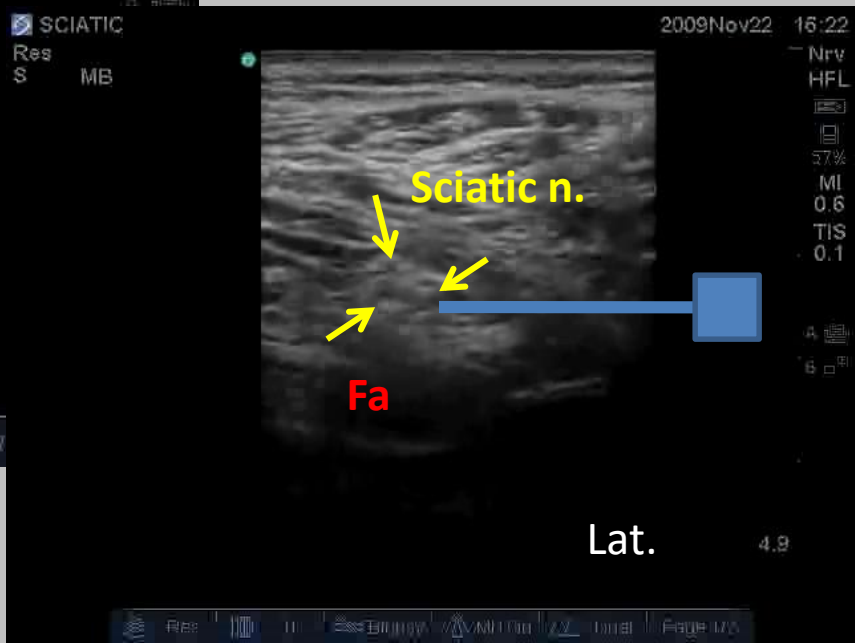
Popliteal Block (sonoanatomy)

6 cm above popliteal crease



Popliteal Block (sonoanatomy)

Apex of popliteal fossa

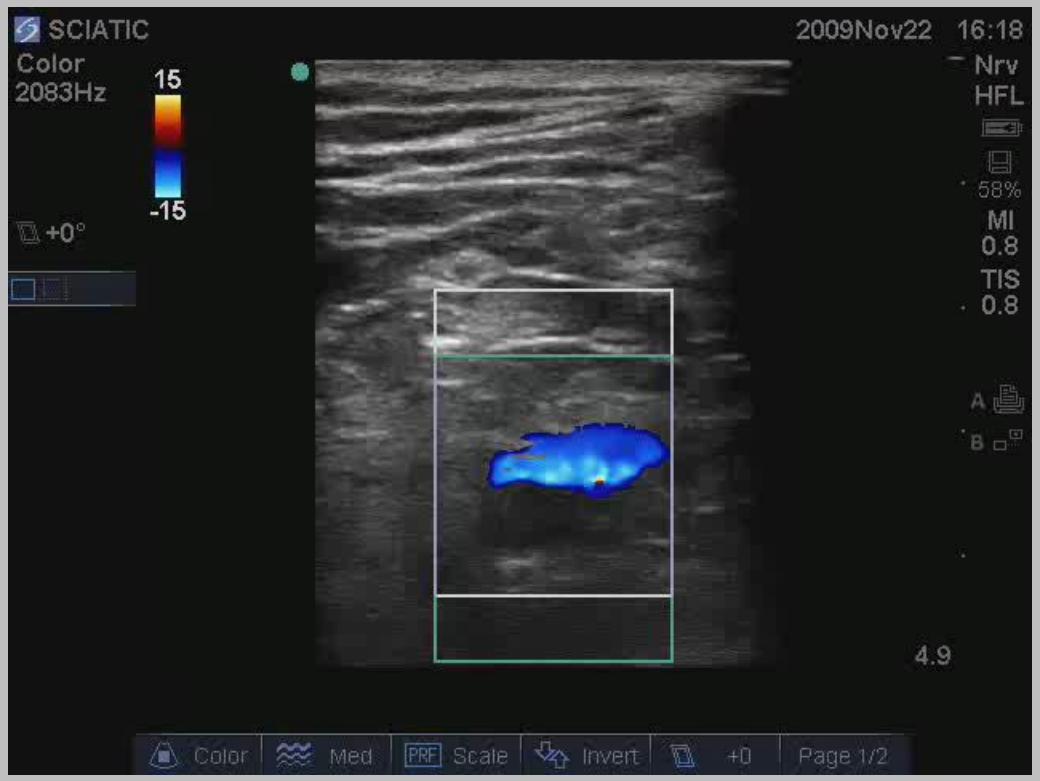


Popliteal Block (scanning)

Supine position

Lateral position

Popliteal Block (scanning)



Popliteal Block (scanning)

Popliteal Block (technique)

Popliteal Block (technique)

Subgluteal sciatic nerve Block

(in collaboration with SIG
Regional Anaesthesia, Malaysia)

Subgluteal sciatic nerve bock

- Frequency: High/ low
- Plane : In plane/out of plane
- Needle : 100 mm
- L.A vol. : 20-30 ml

Subgluteal sciatic nerve bock

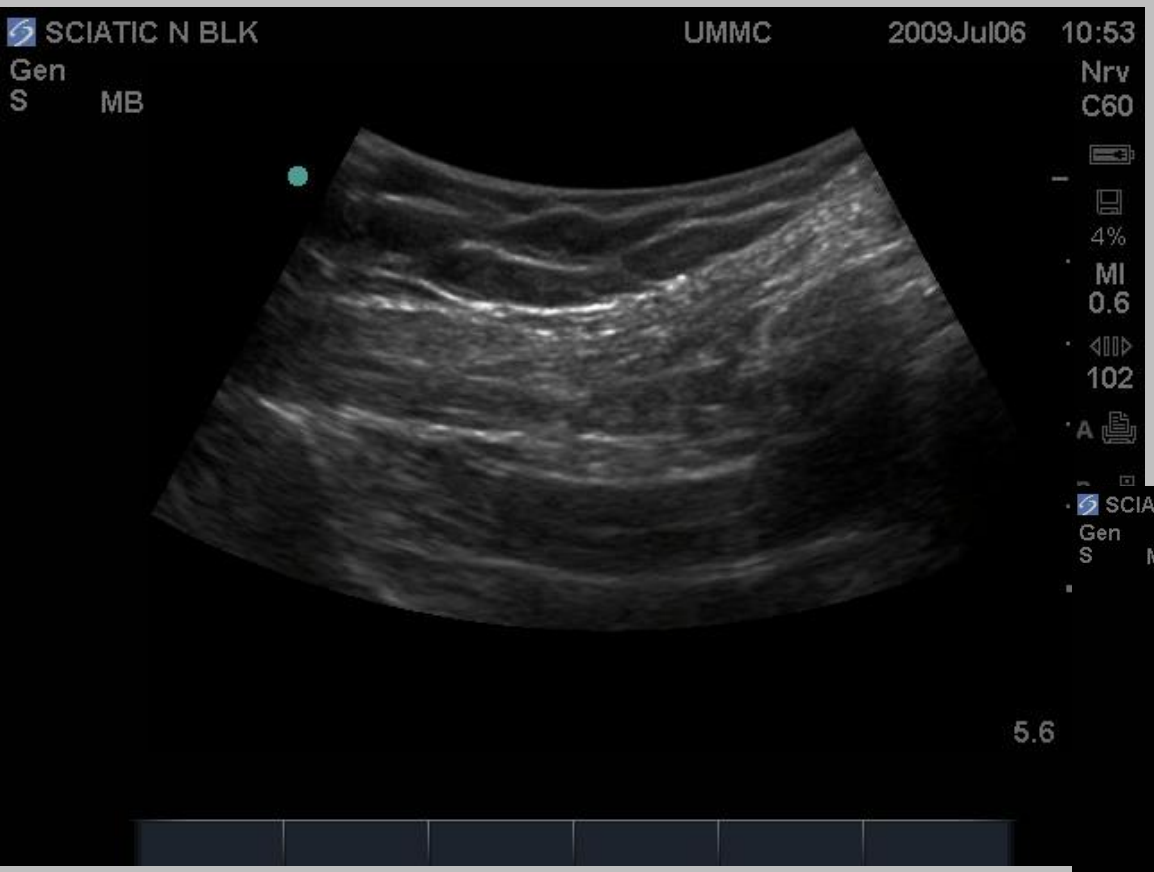
(positioning)

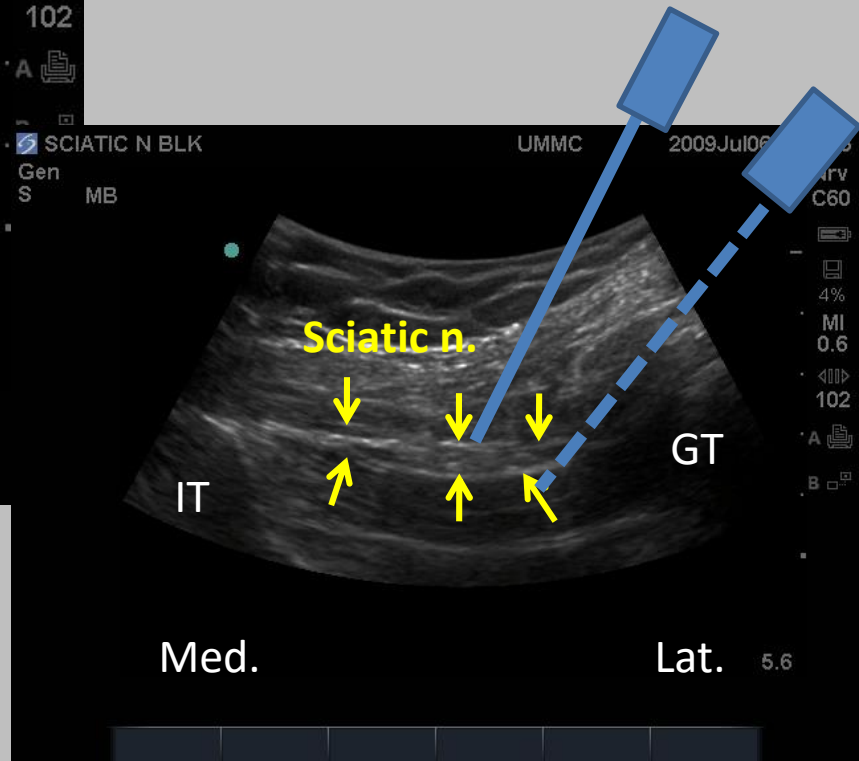
Positioning

Transducer position

Subgluteal sciatic nerve bock

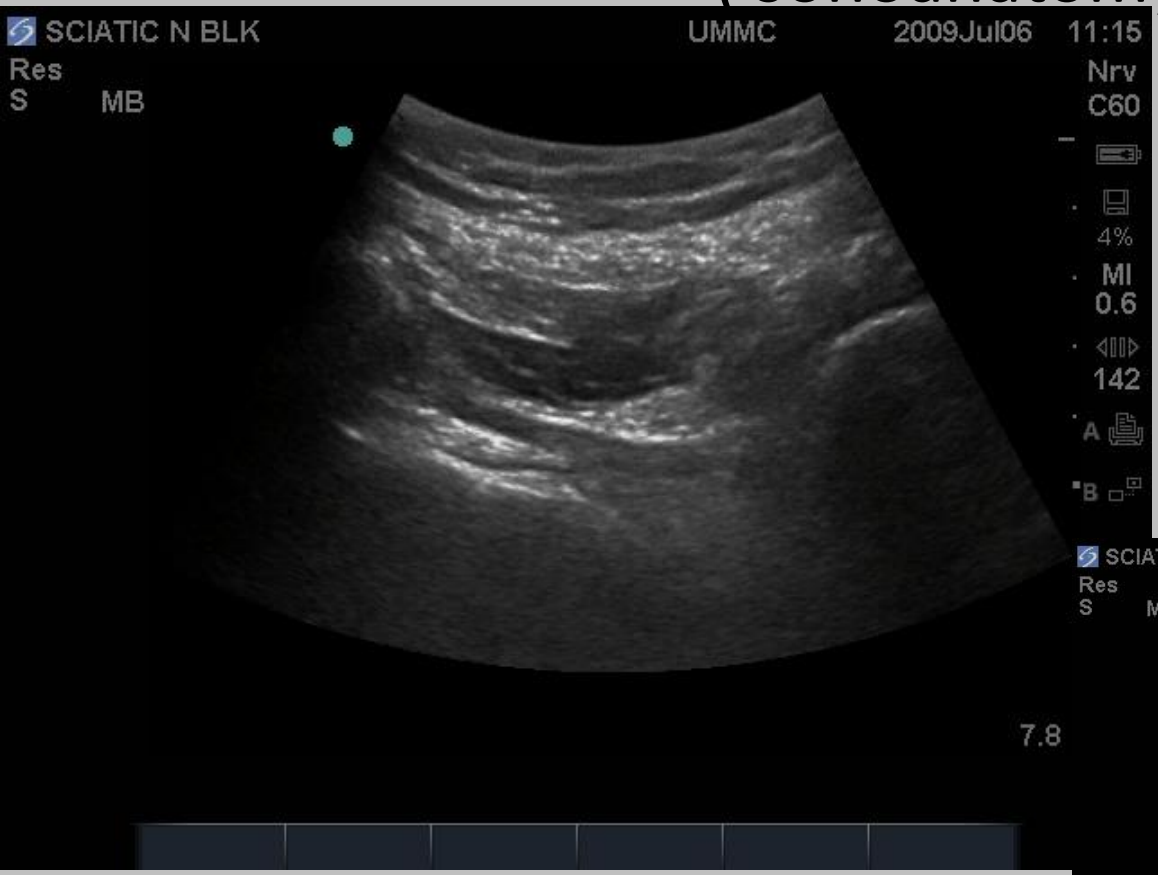
(sonoanatomy)

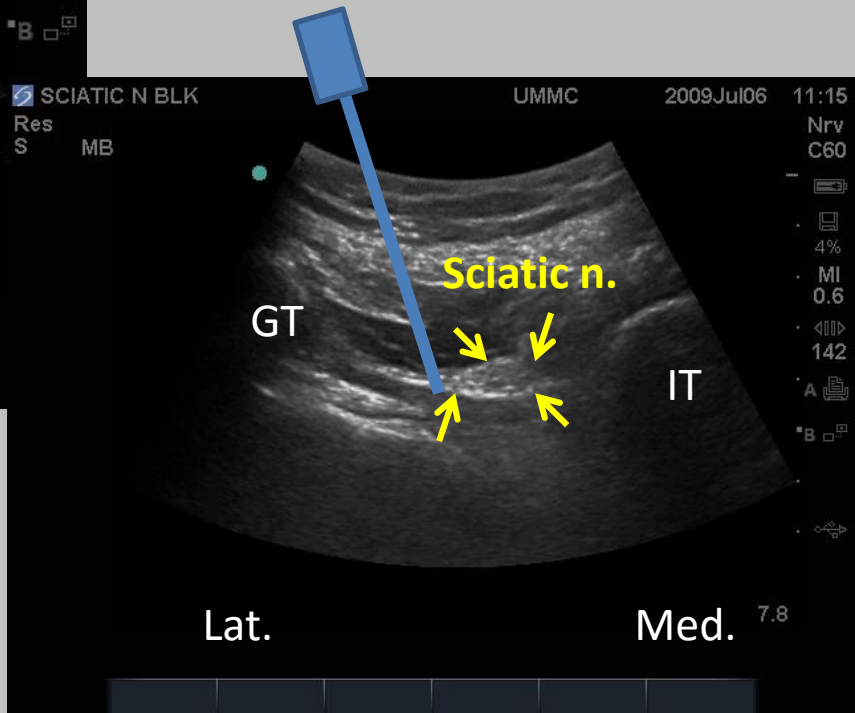




Subgluteal sciatic nerve bock

(sonoanatomy)



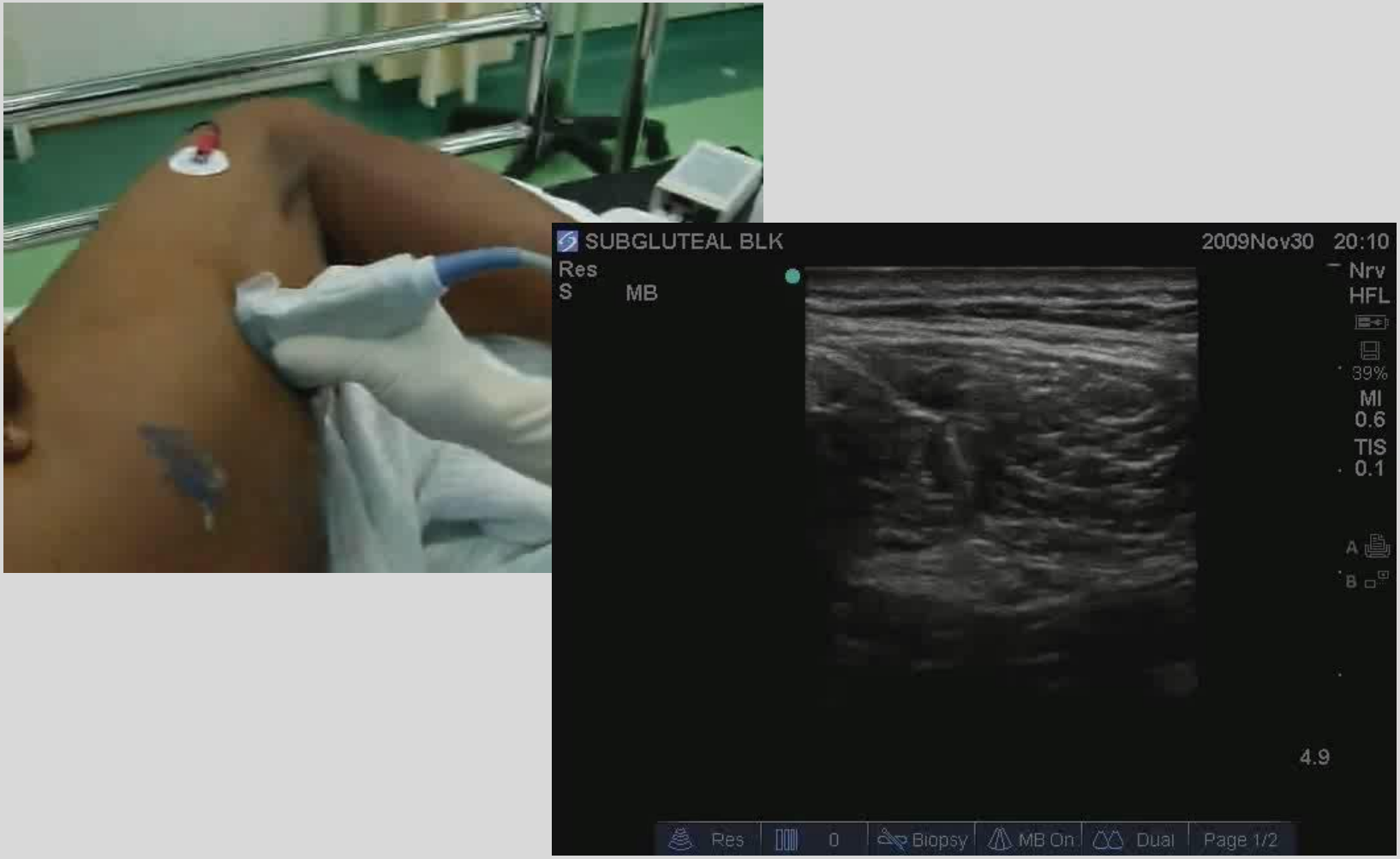


Subgluteal sciatic nerve bock

(sonoanatomy)

Subgluteal sciatic nerve bock

(scaning)



Subgluteal sciatic nerve bock

(technique)

Saphenous nerve Block

(above knee)

(in collaboration with SIG
Regional Anaesthesia, Malaysia)

Saphenous nerve bock

(above knee)

- Frequency: High
- Plane : In plane
- Needle : 50 mm
- L.A vol. : 10 ml

Saphenous nerve bock

(above knee)

Positioning

Saphenous nerve bock

(above knee)

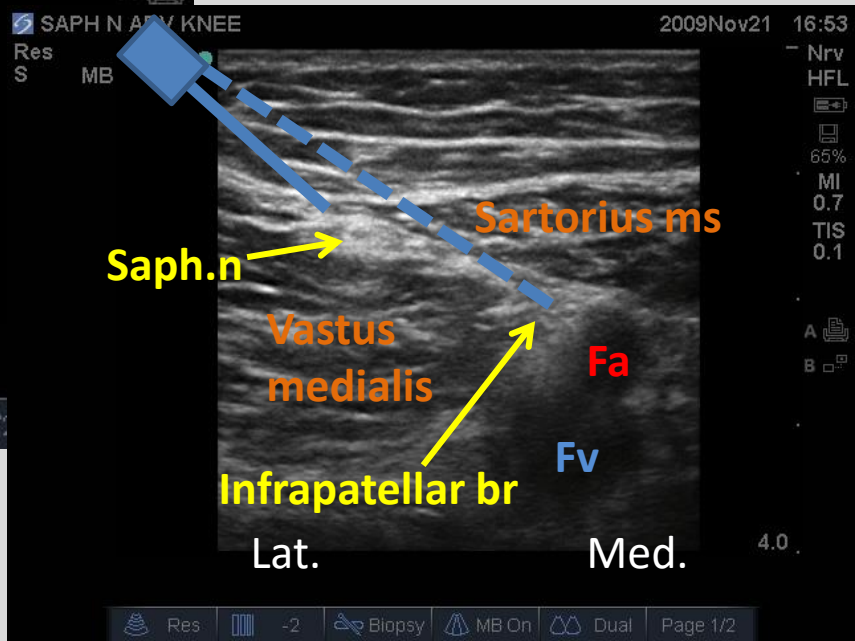
Transducer positioning

-medial, lower 1/3 of the thigh

-leg externaly rotated

Saphenous nerve bock

(above knee- sonoanatomy)



Saphenous nerve bock (above knee) -scanning

Saphenous nerve bock

(above knee) -technique

Saphenous nerve Block

(below knee)

(in collaboration with SIG
Regional Anaesthesia, Malaysia)

Saphenous nerve bock

(below knee)

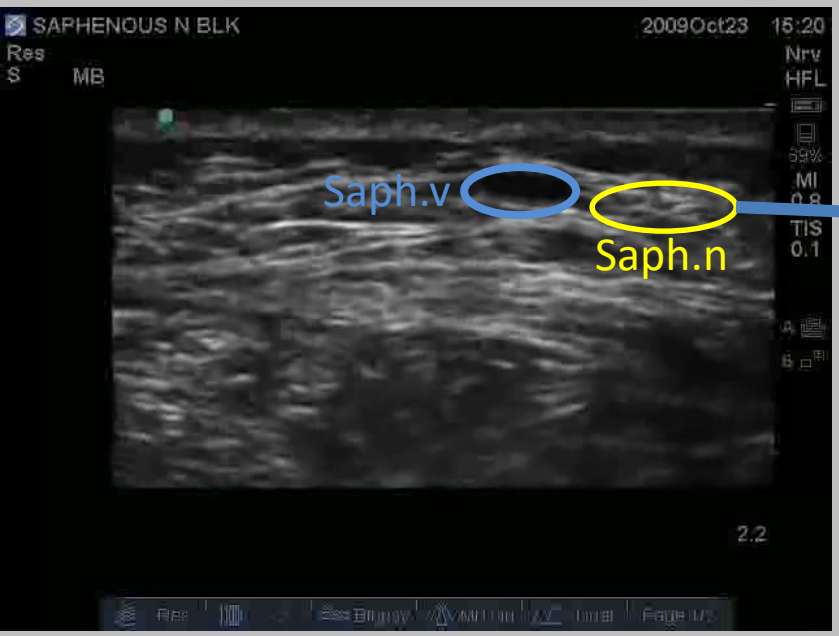
- Frequency: High
- Plane : In plane/ out of plane
- Needle : 25-50 mm
- L.A vol. : 5 ml

Saphenous nerve bock
(below knee)

Positioning

Transducer positioning

Saphenous nerve bock
(below knee- sonoanatomy)

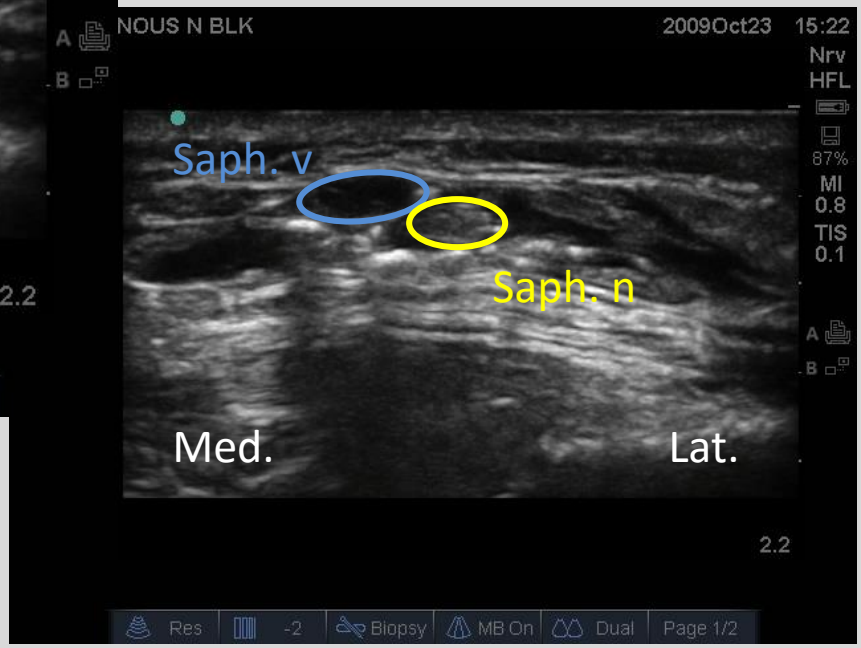


Saphenous nerve bock

(below knee) -technique

Saphenous nerve bock

(below knee) –post L.A. injection



Lateral femoral cutaneous nerve (LFCN) Block

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LFCN nerve block

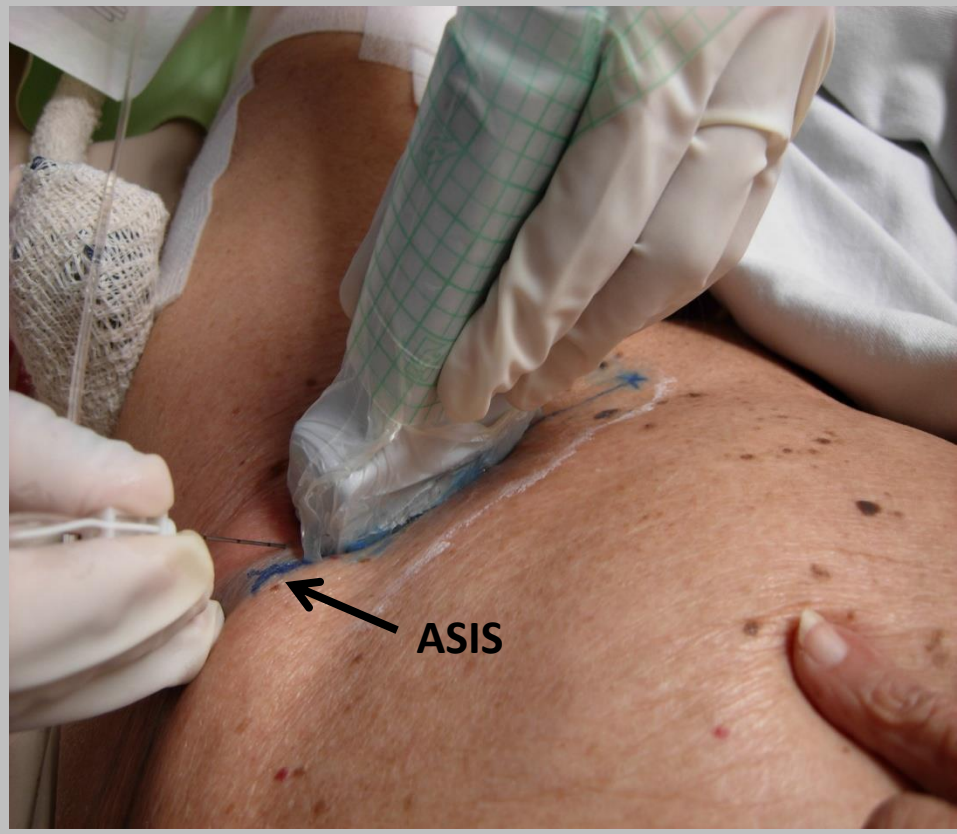
- Frequency: High
- Plane : In plane/ out of plane
- Needle : 50 mm
- L.A vol. : 5-10 ml

LFCN nerve block

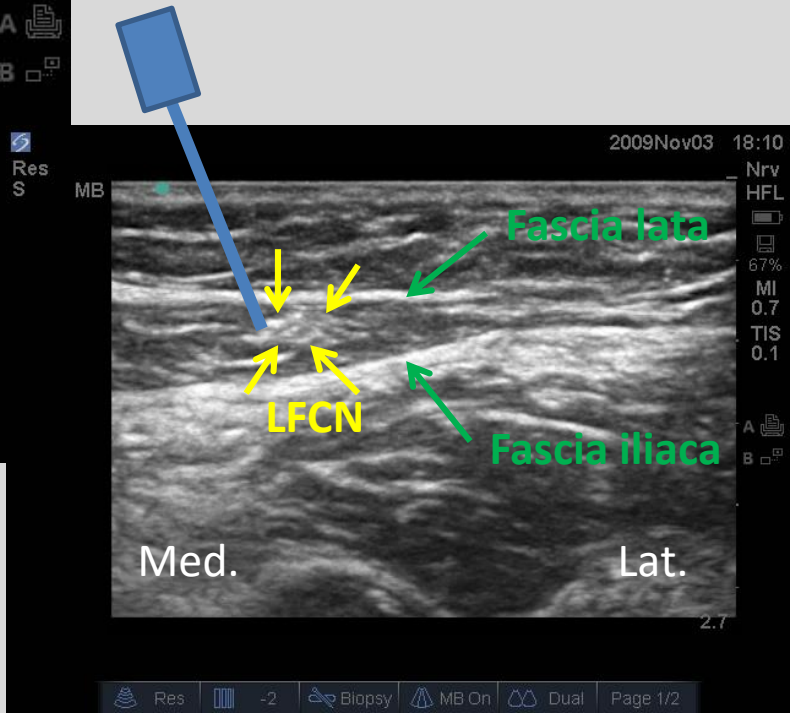
Positioning

Transducer positioning

-medial to ASIS, along Inguinal ligament

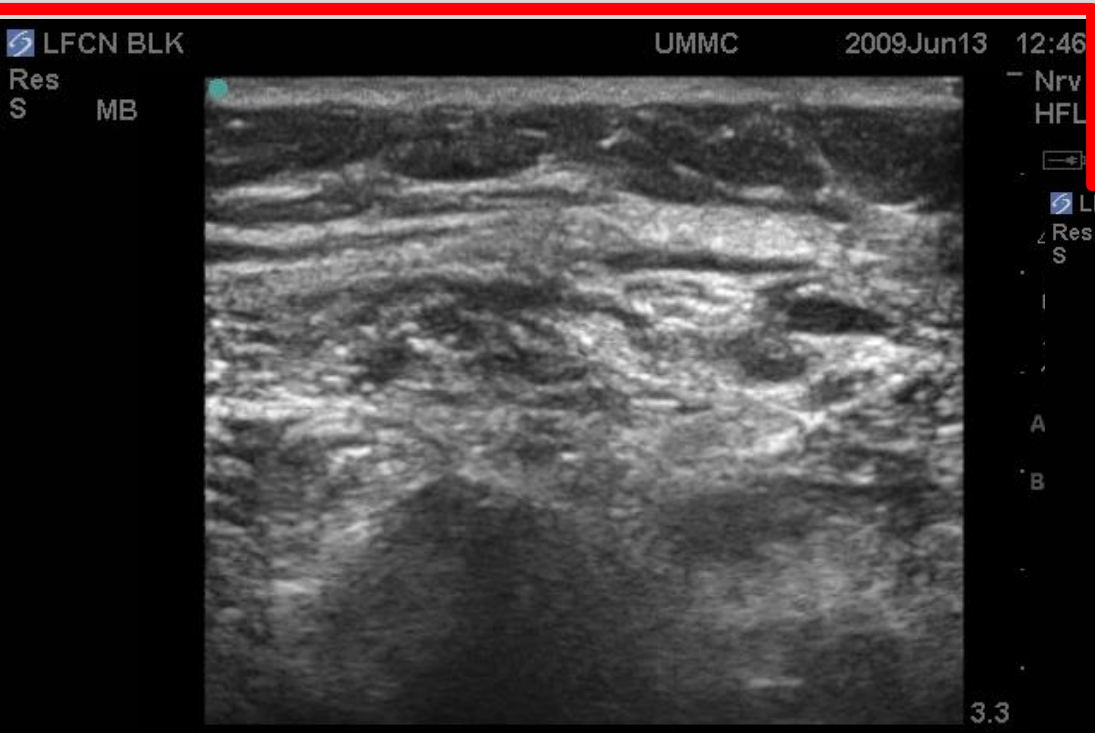


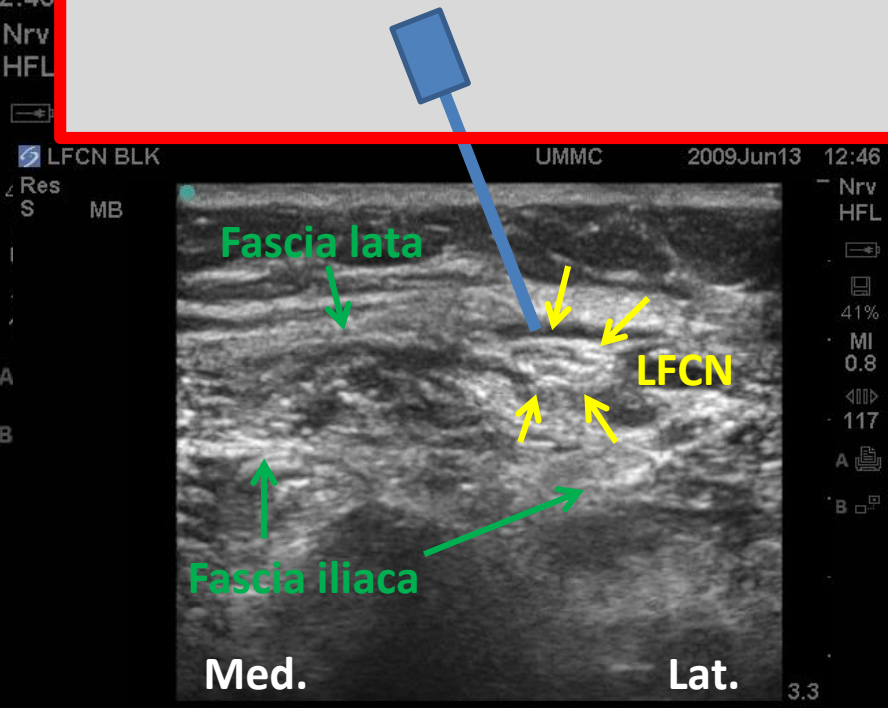
LFCN nerve block (sonoanatomy)



LFCN nerve block

(sonoanatomy)





LFCN nerve block (scaning)

-scan medial inferiorly from ASIS, alone inguinal ligament

LFCN nerve block (scaning)

LFCN nerve block (technique)

Fascia Iliaca Block (FIB) Block

(in collaboration with SIG
Regional Anaesthesia, Malaysia)

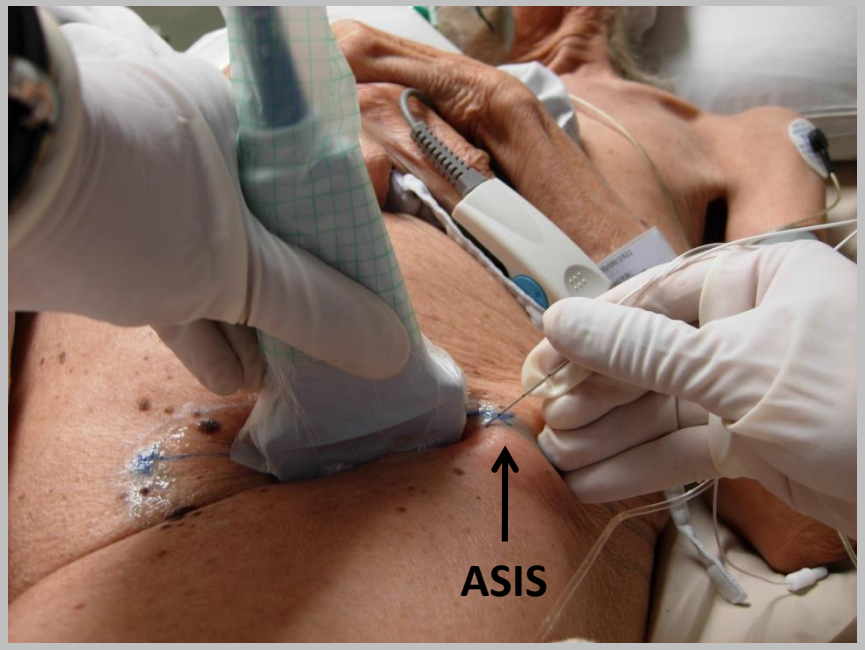
FIB block

- Frequency: High
- Plane : In plane/ out of plane
- Needle : 50 mm
- L.A vol. : 20-30 ml

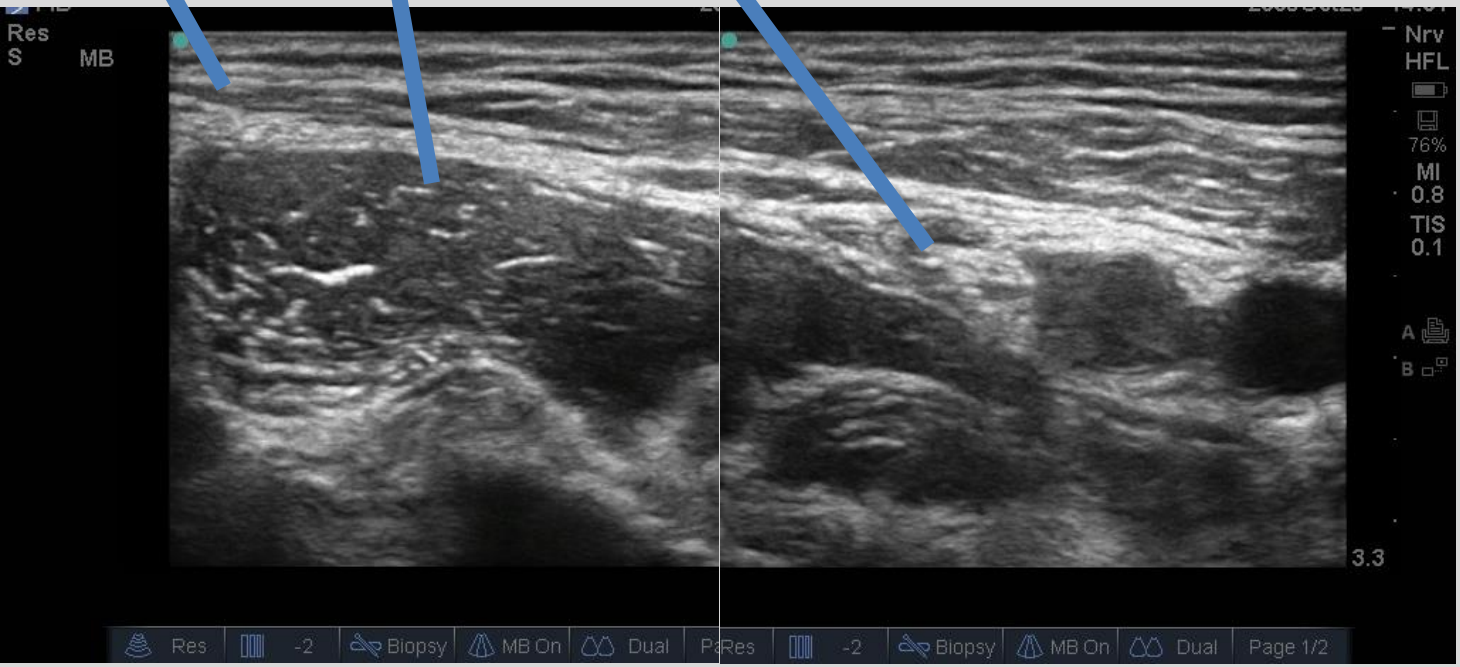
FIB block

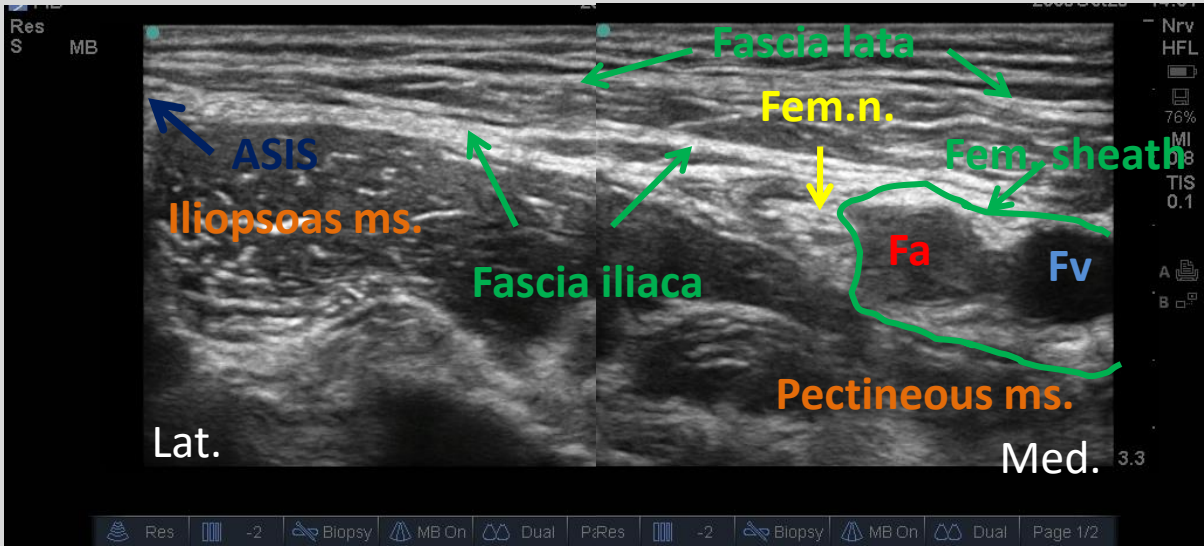
Positioning

Transducer positioning



FIB block (sonoanatomy)





FIB block (scaning)

FIB block (technique)

Lumbar plexus Block

(in collaboration with SIG
Regional Anaesthesia, Malaysia)

Lumbar plexus block

- Frequency: low, curve probe
- Plane : In plane
- Needle : 100 mm
- L.A vol. : 20-30 ml

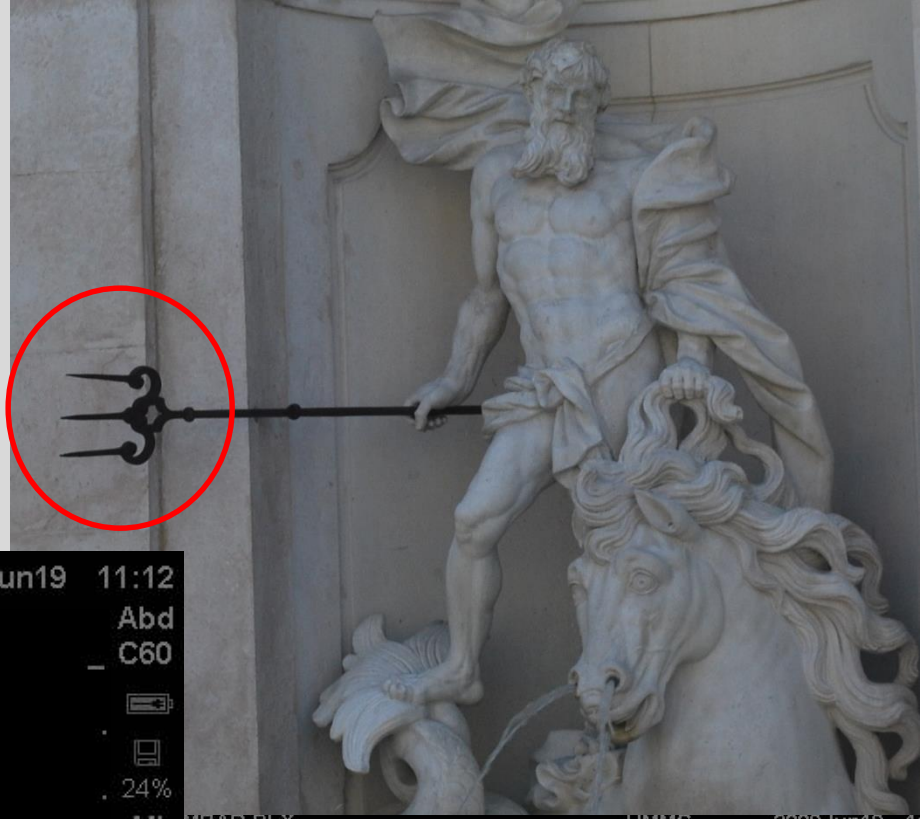
Lumbar plexus block

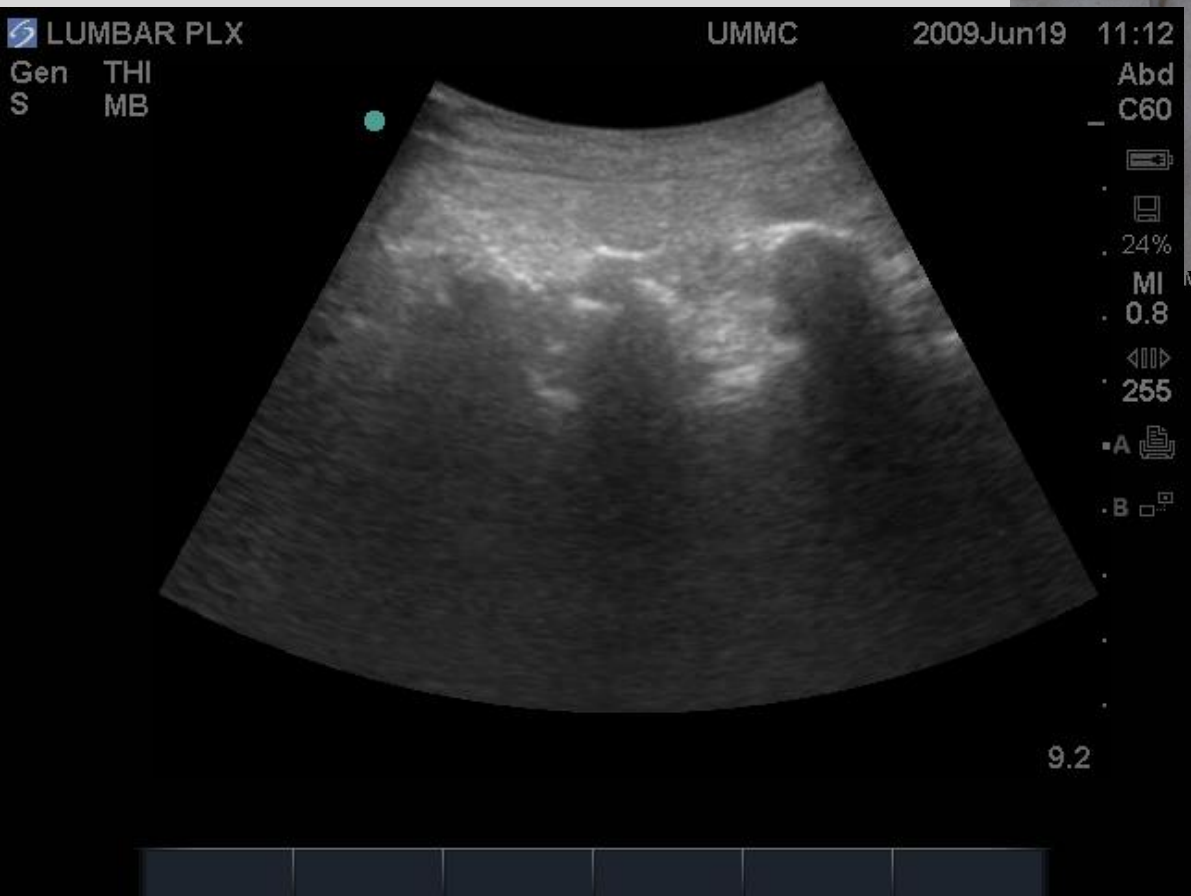
Positioning

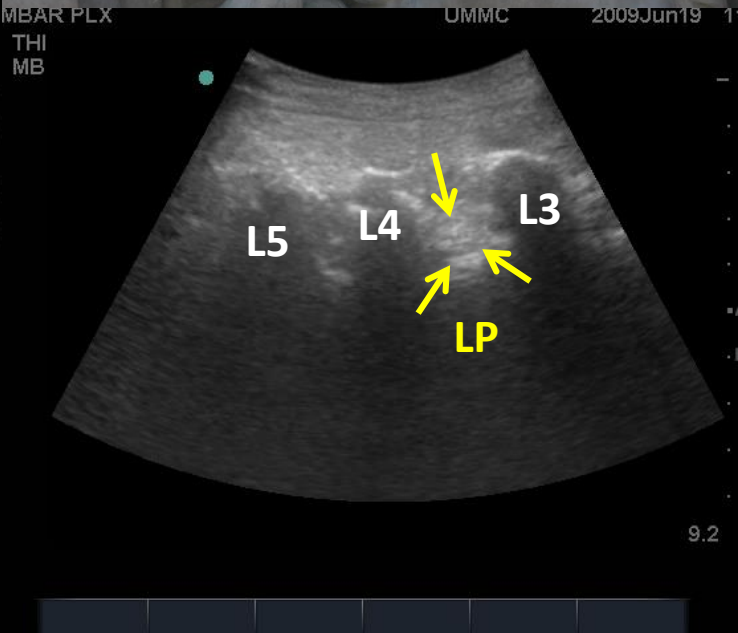
Transducer positioning

Lumbar plexus block

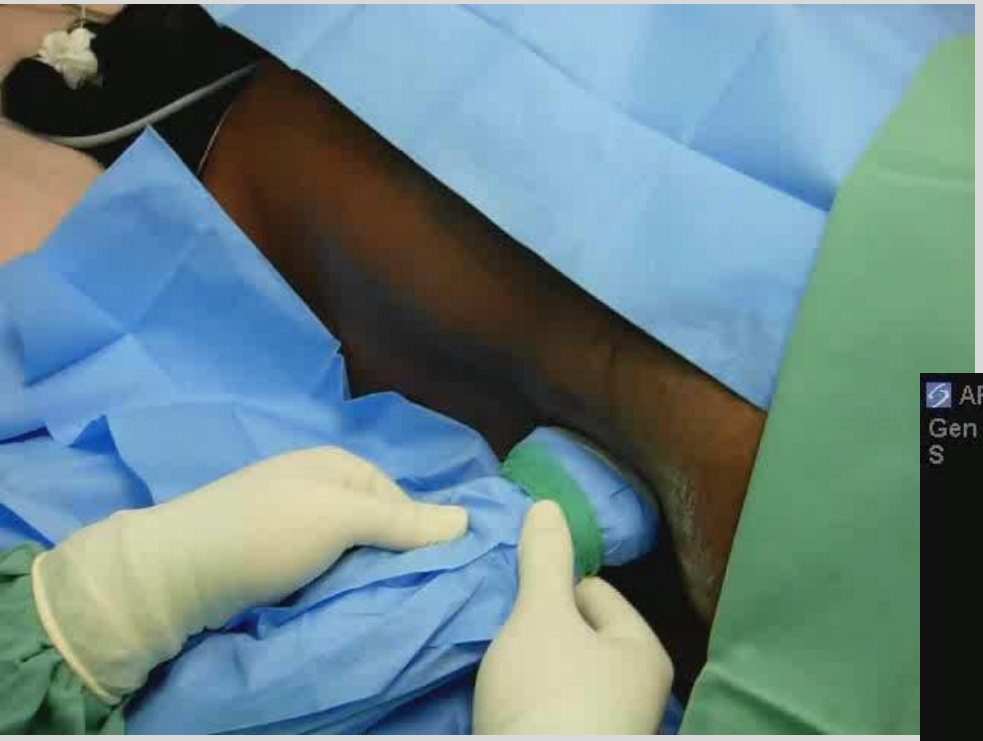
(sonoanatomy)







Lumbar plexus block (scaning)



Lumbar plexus block (scaning)

Lumbar plexus block (technique)

Lumbar plexus block (technique)

Protocol for R.A.

- Consent
- Indication
- Contraindication
- Emergency drug
- G.A machine & equ.
- IV drip
- Full monitoring
- Pt. Positioning
- Landmark
- Aseptic technique
- Light sedation
- L.A. to skin
- Needle
- Technique
- End point
- Dosage
- Complication
- Anesthesia assessment

Prevention Of Nerve Damage in R.A

- Avoid intraneuron injection
- Avoid strong ms. twitch at current of < 0.3mA
- Avoid painful injection
- Avoid rapid & forceful injection
- Cautious in coagulopathy pt.
- Aseptic technique
  - infection damage the nerve
- Avoid heavy sedation
- Avoid doing block under GA/ SAB (adult)
- Avoid excessively large vol.

Management of L.A. Toxicity

- ACLS
- ABC
- Call for help
- O_2
- CPR
- Intubation & hyperventilation
- Atropine/Adrenaline
- Abort seizure(eg: STP)
- Amiodarone for VT
- 20% Intralipid (1.5ml/kg over 2 min., follow by ivi 0.25-0.5ml/kg/min)
- Treat acidosis
- Defib.


Safety First!
Lots of Practice!
Lots of Patience!

Tips on USGRA

- Always place the US machine in front of the operator
- Do a scout scan first before scrub up
- Left hand hold the probe
- Right hand hold the needle
- Start with in-plane technique
- Larger nerve usually need multiple injection
- Use nerve stimulator whenever you are unsure

Arapaima, 80 Kg, Krabi, Thailand, Nov 2008

USGRA is- EASY!

THANK YOU !

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