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(in collaboration with SIG
Regional Anesthesia)



Campus: 750 acres
Hospital: 1,200 beds





UNIVERSITY
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REGIONAL BAY



R.A cases/ mth: 80-100

USGRA

Quick Start Guide (Upper Limb)

Interscalene Block

(in collaboration with SIG
Regional Anaesthesia, Malaysia)

Interscalene Block

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

Interscalene Block

Positioning

US machine

-head end or
opp.side

Anesthetist

-ipsilat. side



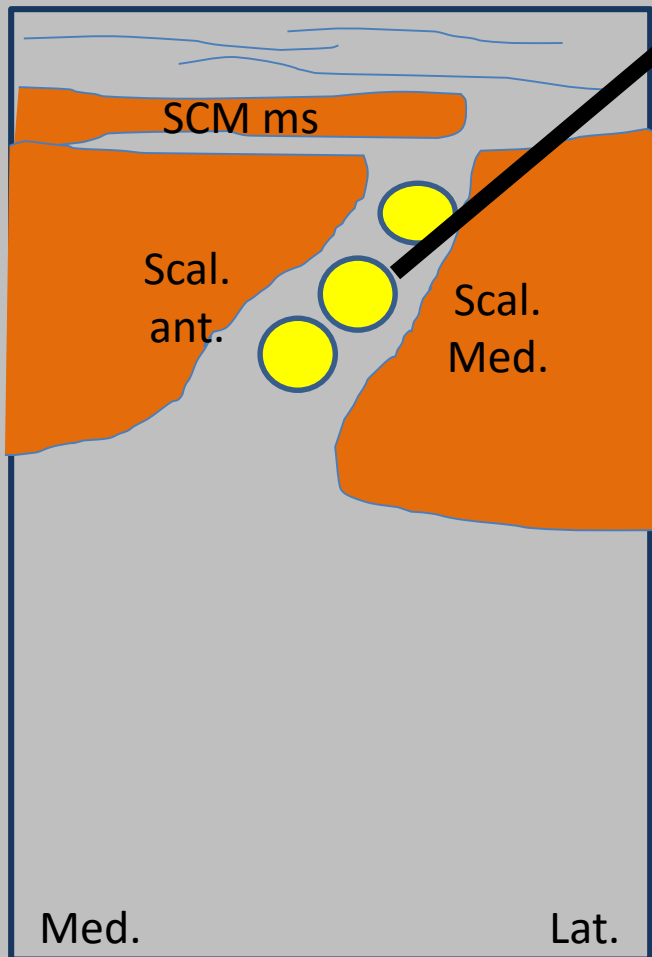
Interscalene Block

Transducer Position :

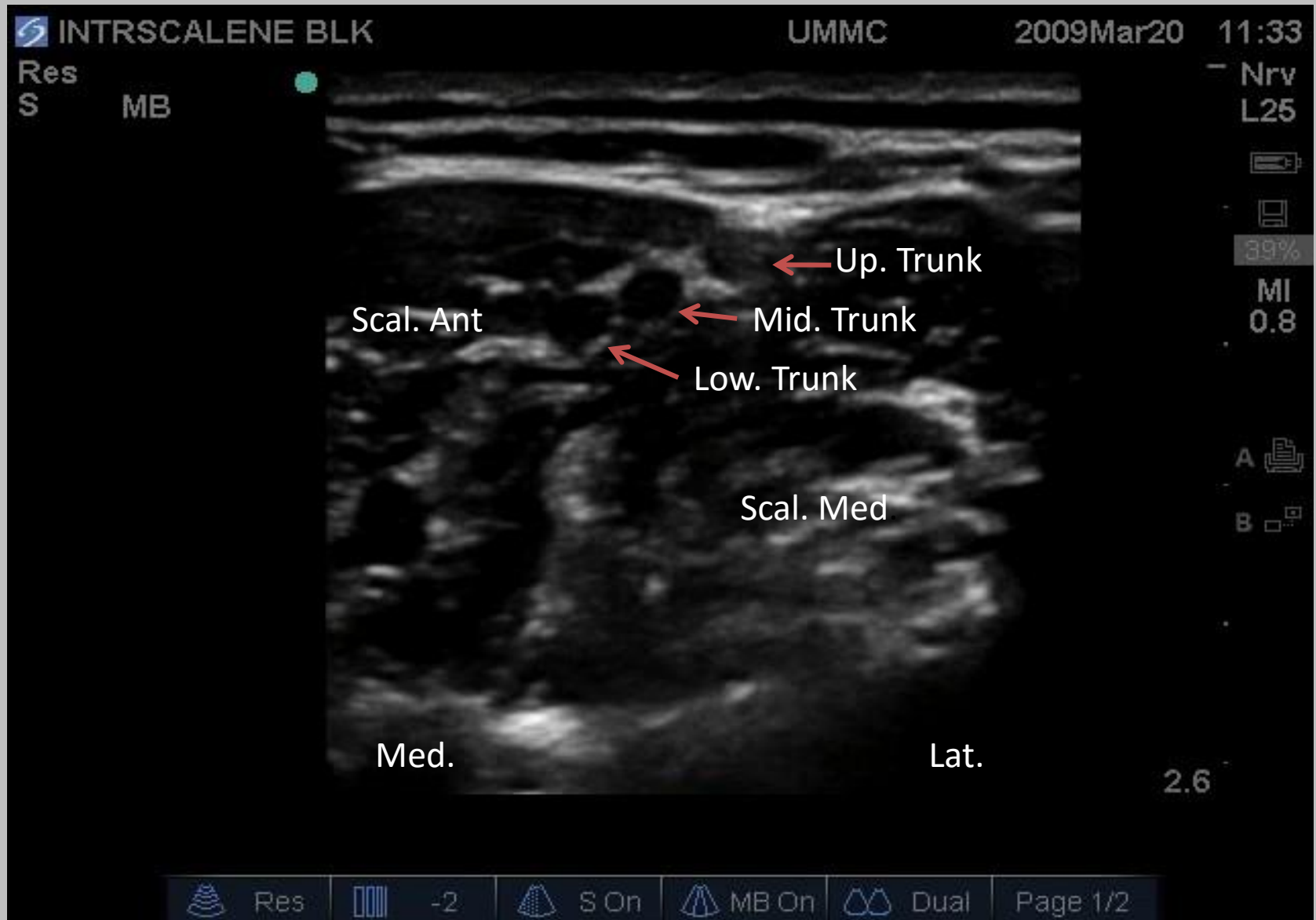
- Cricoid cartilage
- Lat. border of SCM



Interscalene Block(sonoanatomy)



Interscalene Block(sonoanatomy)



Interscalene Block (Scanning)



Interscalene Block

(Scanning)



Interscalene Block (technique)



Interscalene Block (technique)



Supraclavicular Block

(in collaboration with SIG
Regional Anaesthesia, Malaysia)

Supraclavicular Block

- Frequency: High
- Plane : In plane
- Needle : 50mm
- L.A vol. : 10-20 ml

Supraclavicular Block

POSITIONING

- US machine

- head end or
opp. side

- Operator

- ipsilat. side



Supraclavicular Block

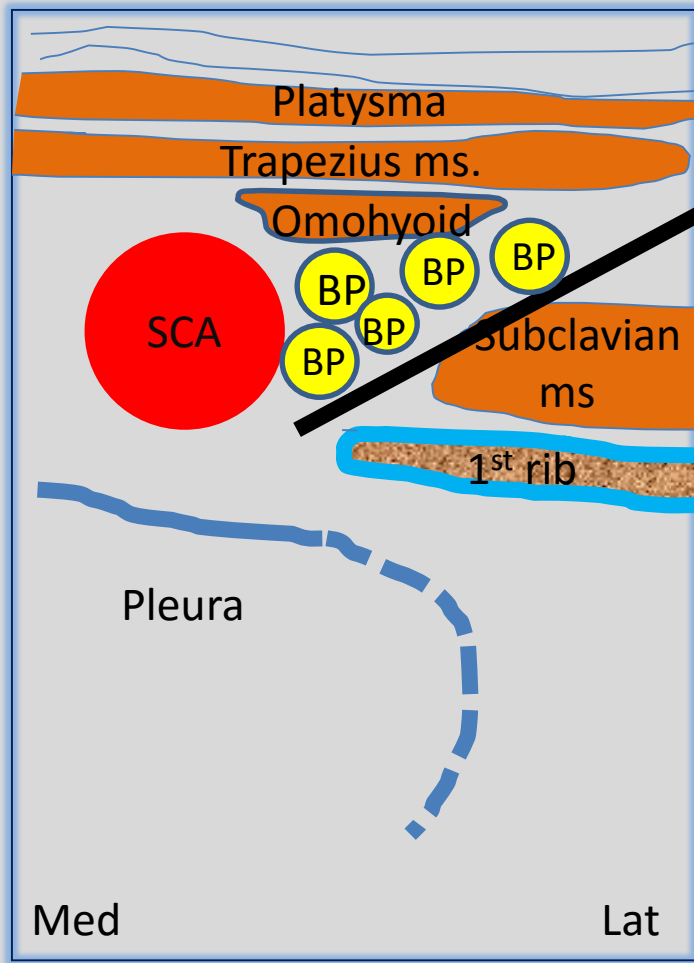
Transducer

Position :

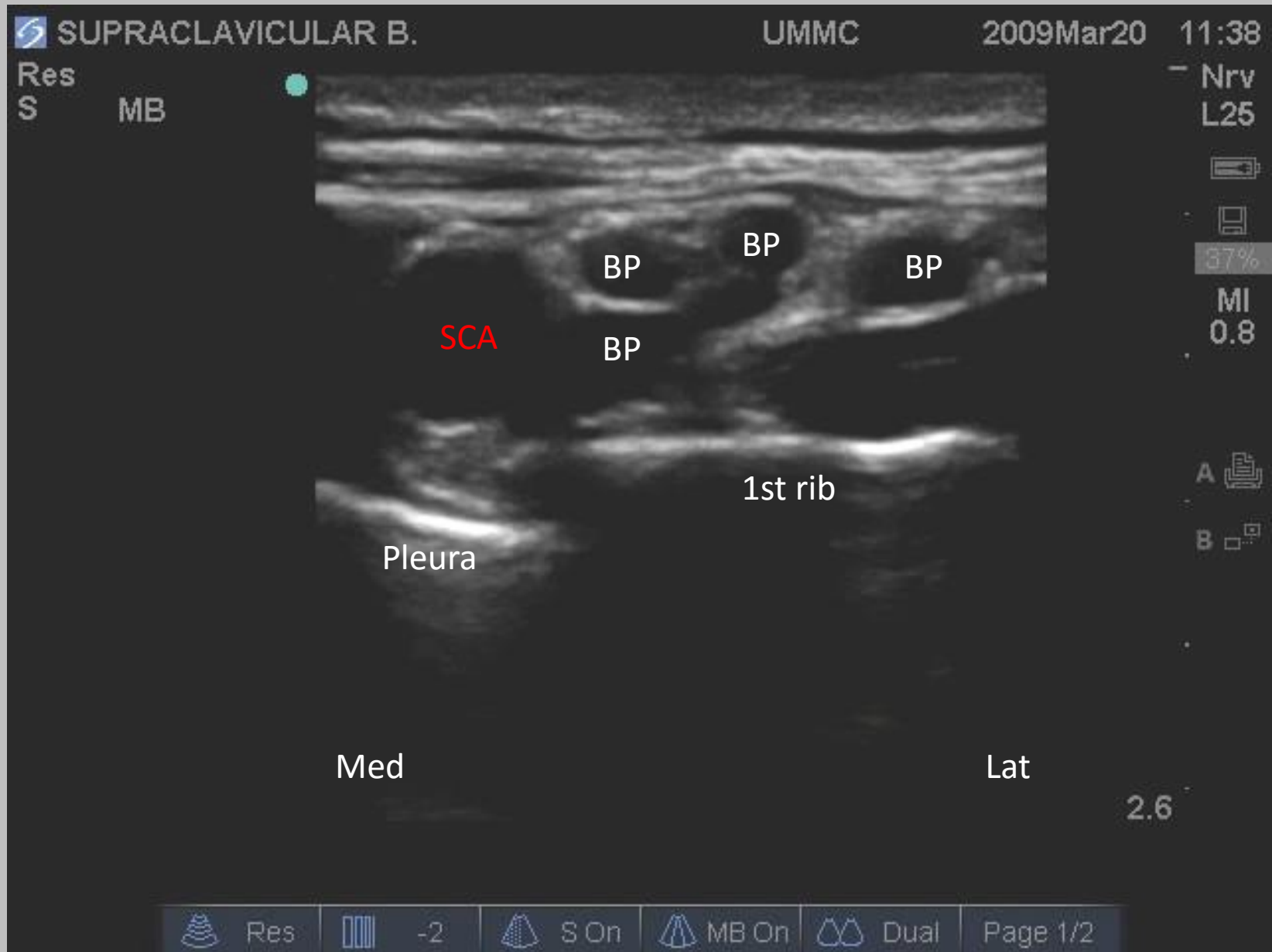
Parallel to
Clavicle, in the
Supraclavicular
fossa



Supraclavicular Block(sonoanatomy)

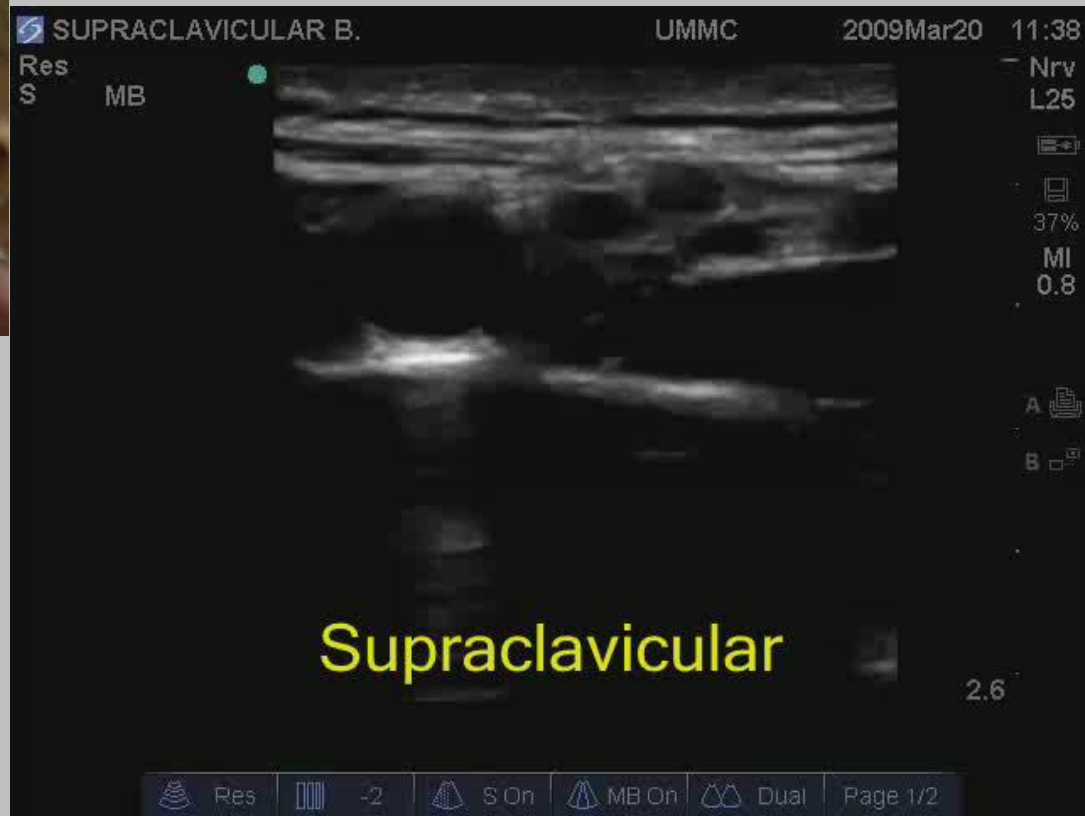


Supraclavicular Block(sonoanatomy)



Supraclavicular Block

(Scanning)



Supraclavicular Block

Tips:

- deposite L.A. adjacent to the art. & inf. to the B.P
- may reposition the needle if L.A. not well spread
- may blk the phrenic nerve

Supraclavicular Block (Technique)



Supraclavicular Block (Technique)



Infraclavicular Block

(in collaboration with SIG
Regional Anaesthesia, Malaysia)

Infraclavicular Block

- Frequency : 5-10MHz
- Plane : In-plane
- Needle : 100mm
- L.A vol. : 15-20ml

Infraclavicular Block

Positioning

US machine

-opp. Side or head
end

Operator

-ipsilat. site



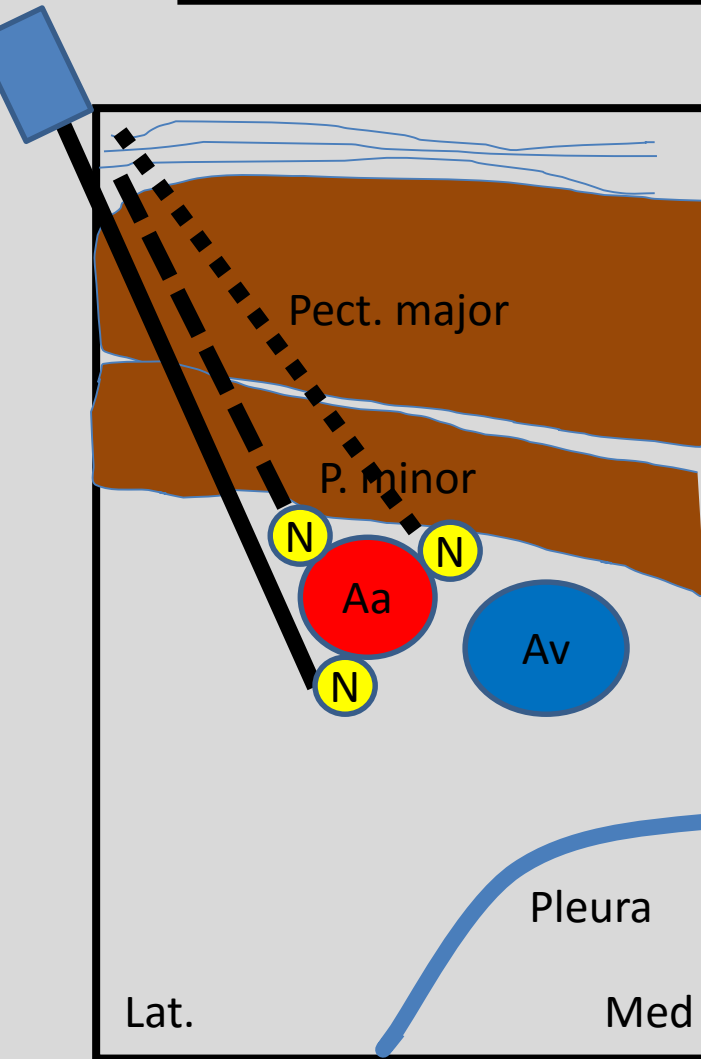
Infraclavicular Block

Transducer Position :

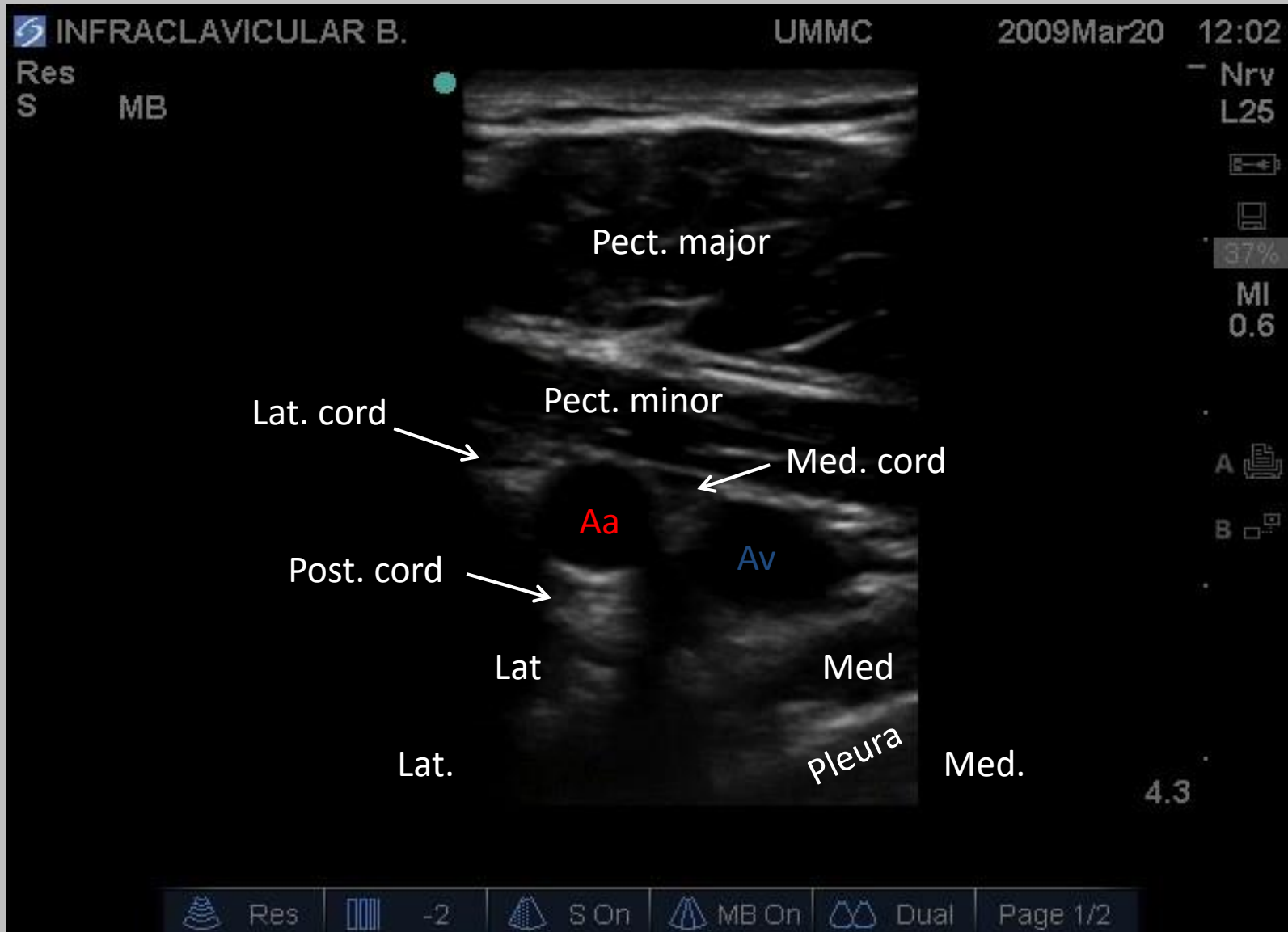
- Infraclavicular fossa
- Perpendicular to the clavicle
- Medial to coracoid process



Infraclavicular Block (sonoanatomy)



Infraclavicular Block (sonoanatomy)



Infraclavicular Block (scanning)



Infraclavicular Block (technique)



Infraclavicular Block (technique)



Axillary Block

(in collaboration with SIG
Regional Anaesthesia, Malaysia)

Axillary Block

- Frequency : 5-13MHz
- Plane : In-plane or out of plane
- Needle : 50mm
- L.A vol. : 20ml

Axillary Block

Positioning

US machine

- Side of pt.

Operator

-ipsilat. site



Axillary Block

Positioning

US machine

- Head end of pt.

Operator

-ipsilat. site



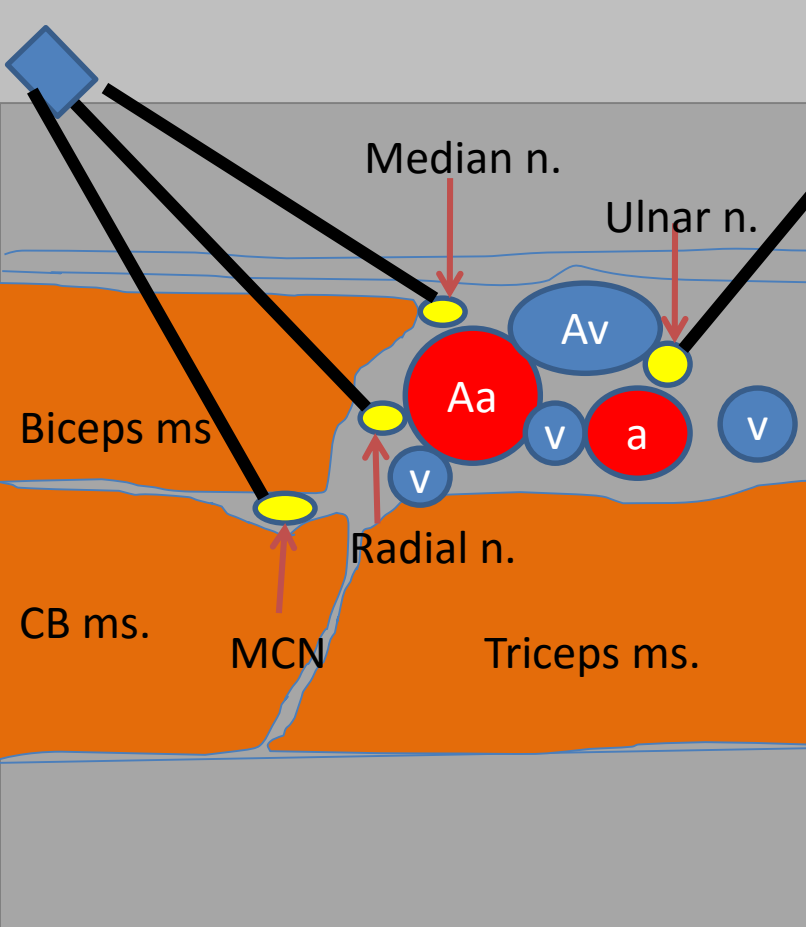
Axillary Block

Transducer Position :

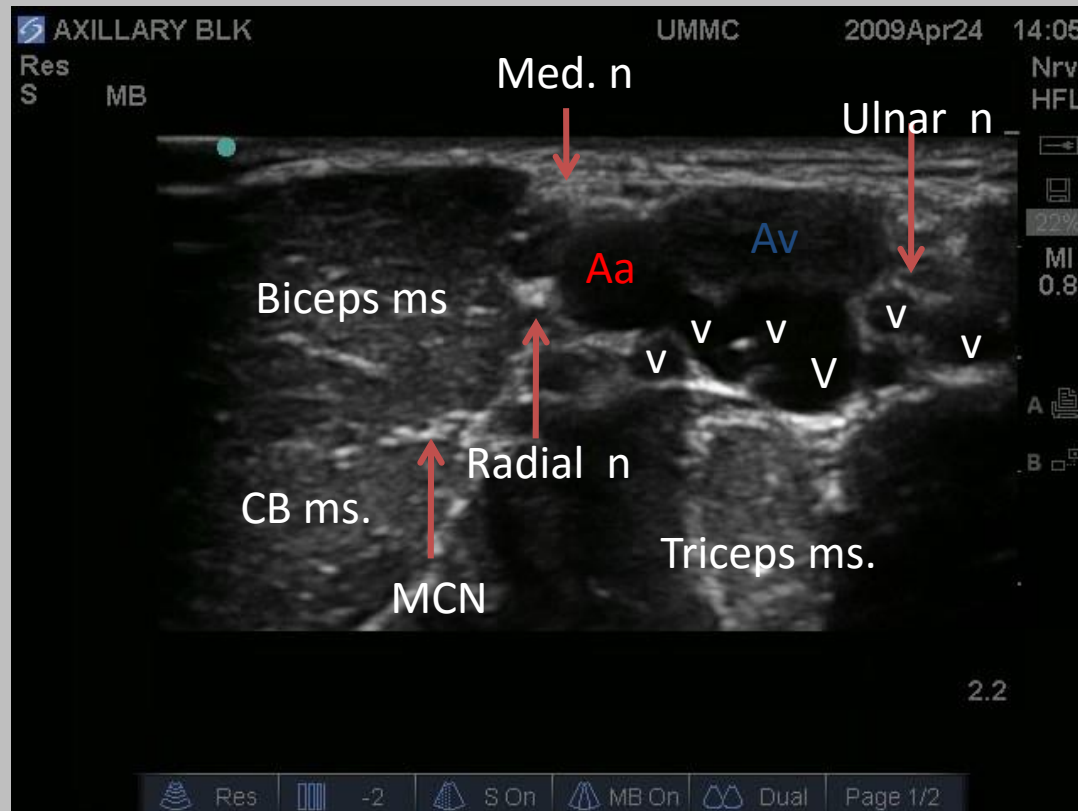
- Between P. major & biceps ms.
- Perpendicular to the axillary a.



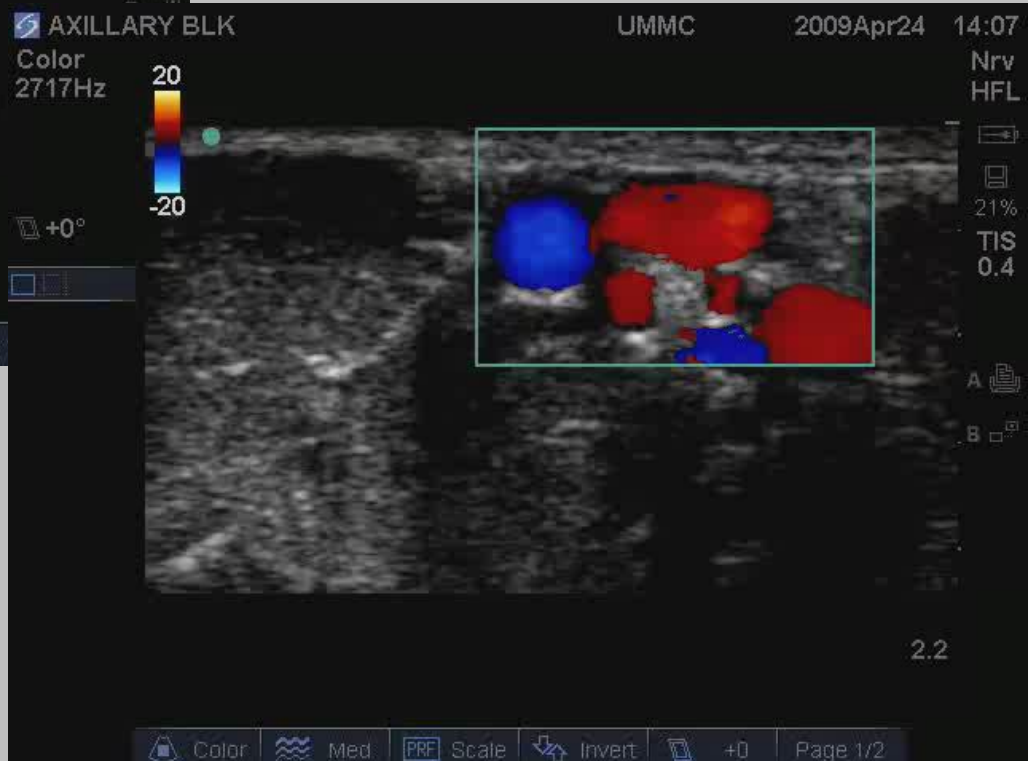
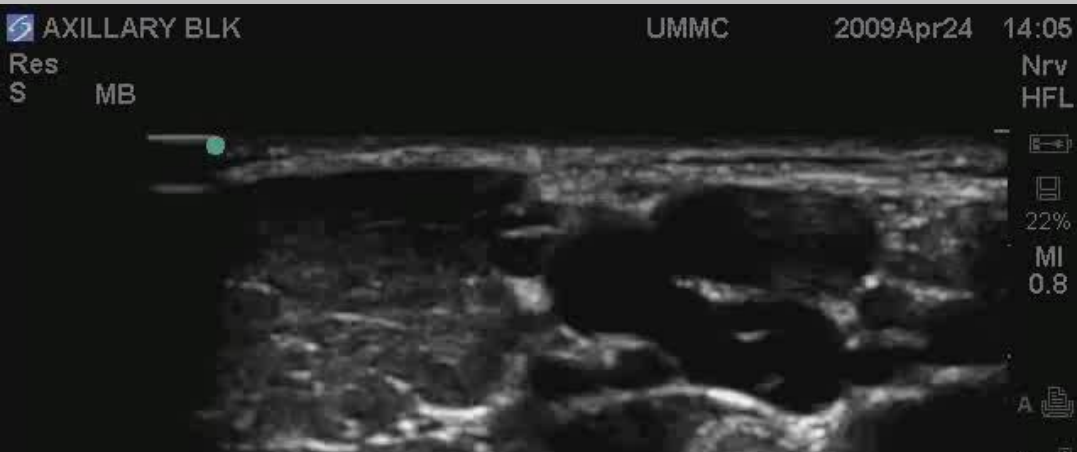
Axillary Block (sonoanatomy)



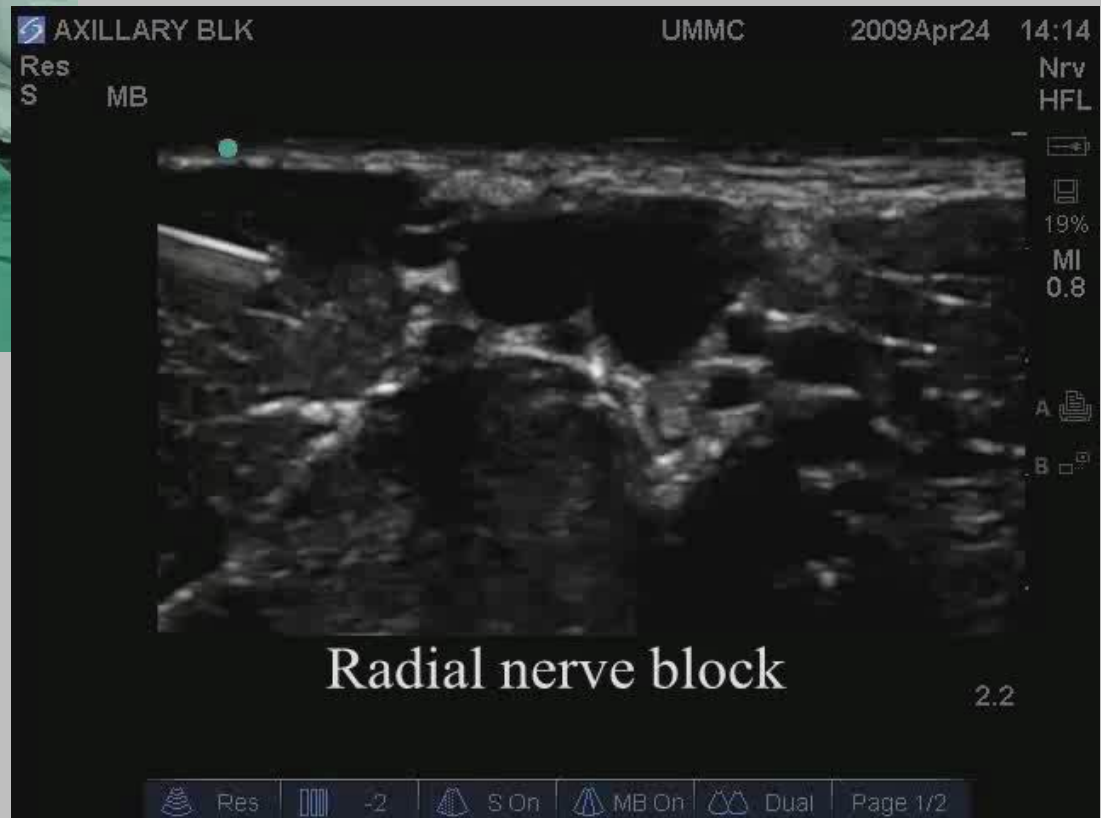
Axillary Block (sonoanatomy)



Axillary Block (scanning)



Axillary Block (Technique)



Axillary Block-Ulnar n. (Technique)



Ulnar n. block (Mid-forearm)

(in collaboration with SIG
Regional Anaesthesia, Malaysia)

Ulnar n. block (Mid-forearm)

- Frequency : 5-13MHz
- Plane : In-plane or out of plane
- Needle : 50mm
- L.A vol. : 5-10ml

Ulnar n. block (Mid-forearm)

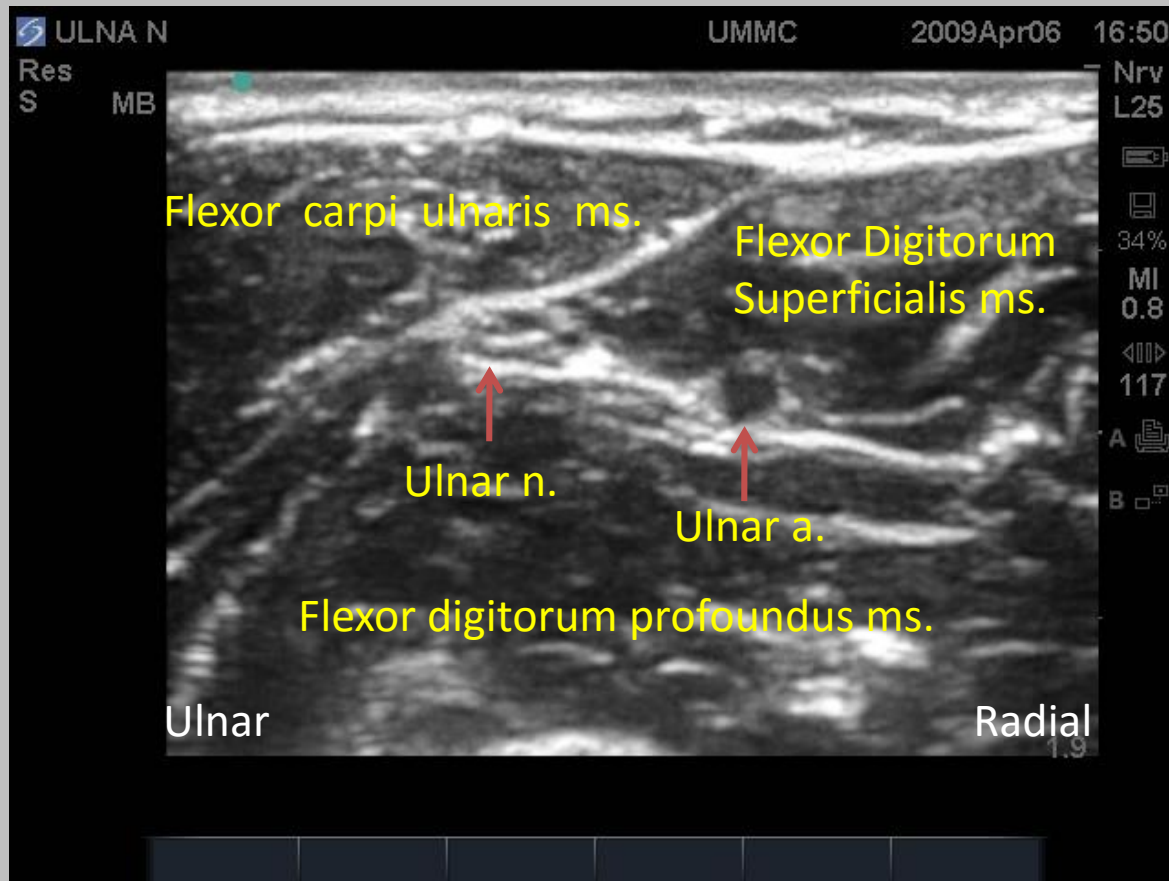
Positioning



Transducer positioning



Ulnar n. block (Mid-forearm) -sonoanatomy



Ulnar n. block (Mid-forearm) -scanning



Ulnar n. block (Mid-forearm)-Technique



Median n. block (Mid-forearm)

(in collaboration with SIG
Regional Anaesthesia, Malaysia)

Median n. block (Mid-forearm)

- Frequency : 5-13MHz
- Plane : In-plane or out of plane
- Needle : 50mm
- L.A vol. : 5-10ml

Median n. block (Mid-forearm)

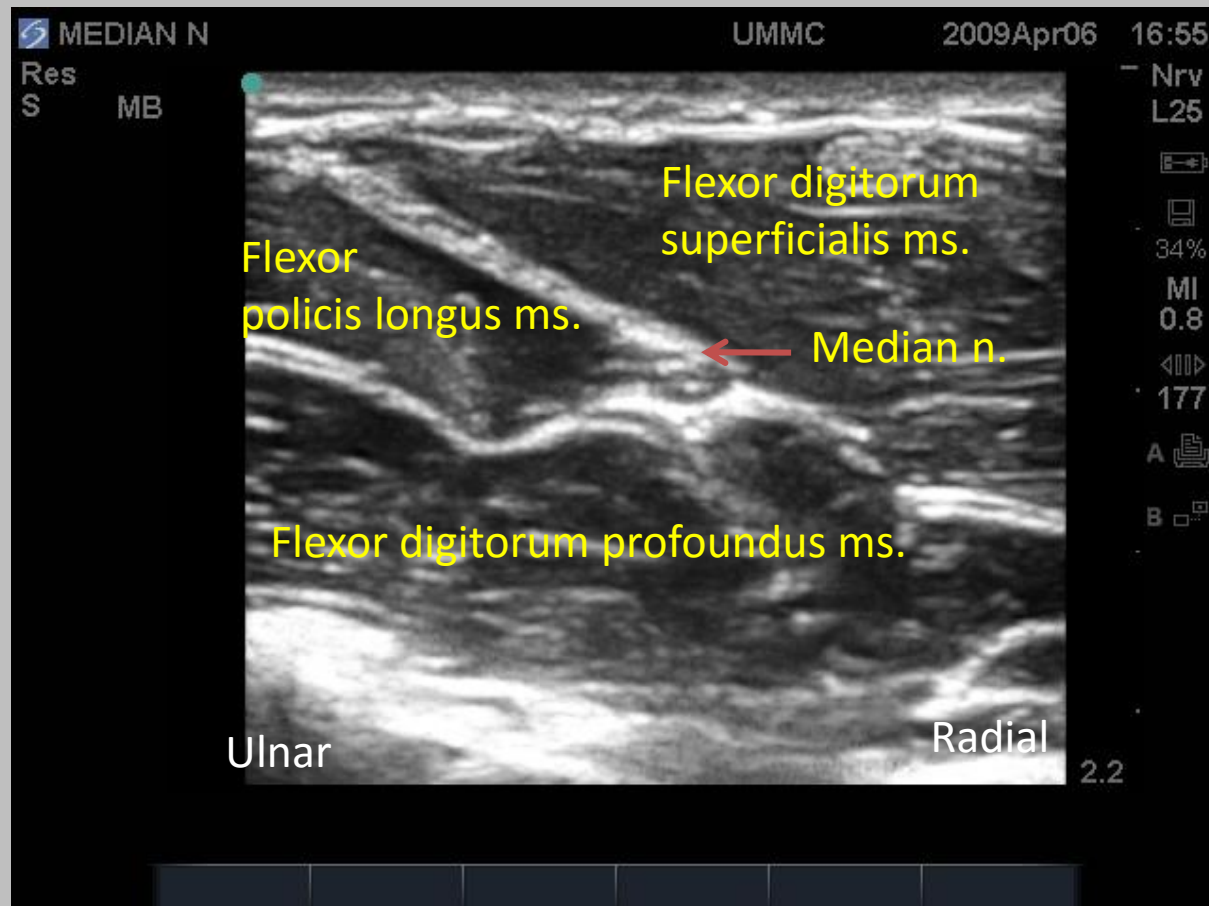
Positioning



Transducer positioning



Median n. block (Mid-forearm)-Technique



Median n. block (Mid-forearm) -scanning



Median n. block (Mid-forearm)-Technique



Radial n. block (Elbow)

(in collaboration with SIG
Regional Anaesthesia, Malaysia)

Radial n. block (Elbow)

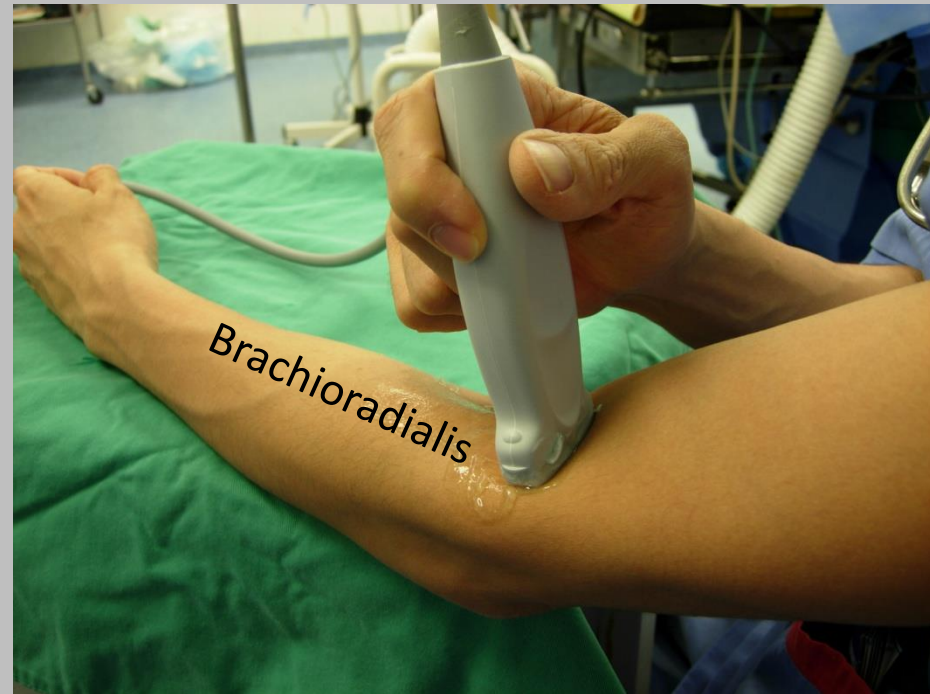
- Frequency : 5-13MHz
- Plane : In-plane or out of plane
- Needle : 50mm
- L.A vol. : 5-10ml

Radial n. block (Elbow)

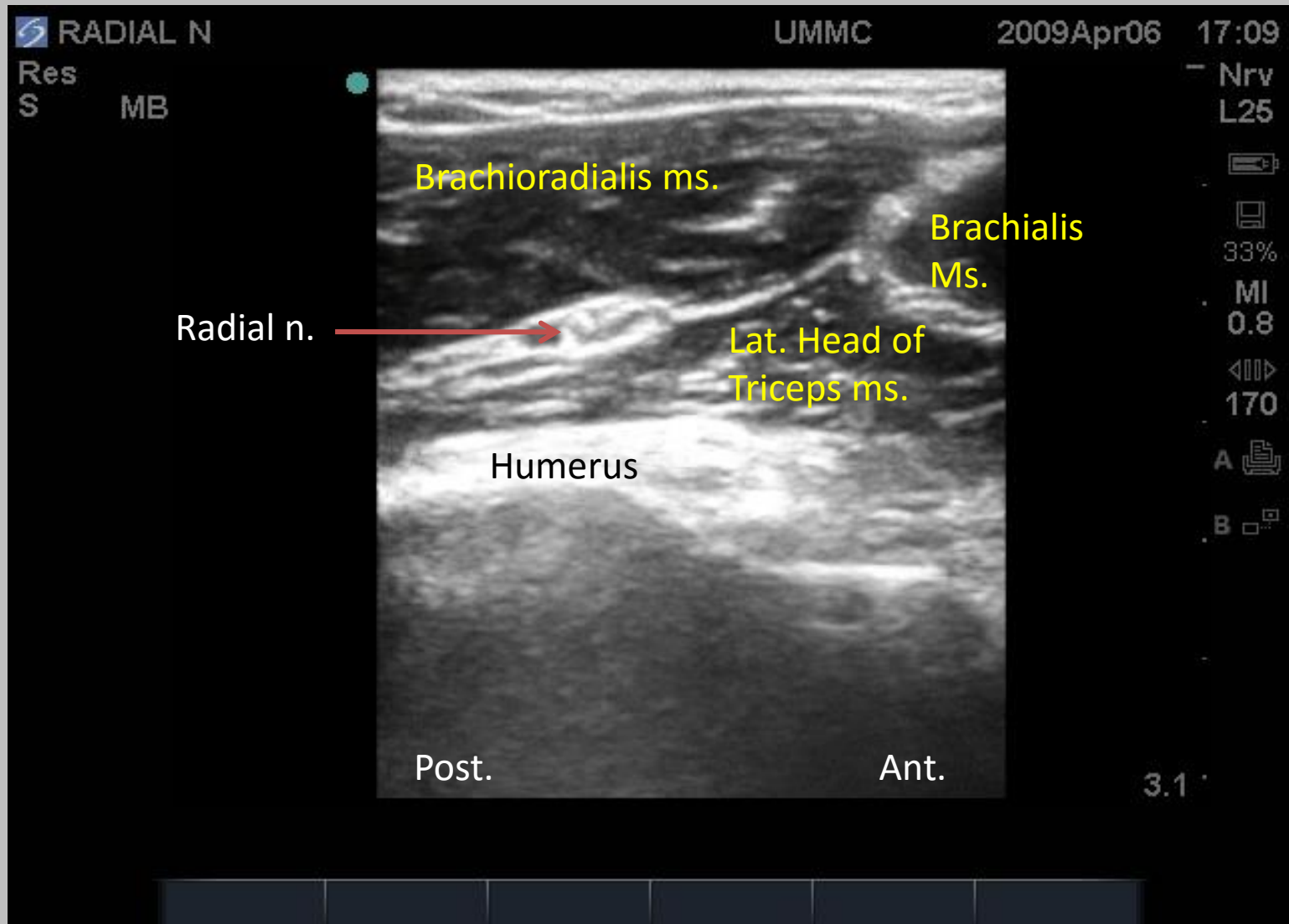
Positioning



Transducer positioning



Radial n. block (Elbow)-sonoanatomy



Radial n. block (Elbow) -scanning



Radial n. block (Elbow) -technique



Guideline for R.A.

- Consent
- Indication
- Contraindication
- Emergency drug
- G.A machine & airway equipment.
- IV drip
- Full monitoring (+ CNS)
- Pt. Positioning
- Landmark/ anatomy
- Aseptic technique
- Light sedation
- L.A. to skin
- Appropriate Needle
- Familiar Technique
- End point
- Correct Dosage
- Complication
- Anesthesia assessment

Management of L.A. Toxicity

- ACLS
- ABC/CAB
- Call for help
- O₂
- 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.

R.A. website

- www.usgraweb.hk
- www.asra.ca
- www.nysora.com
- www.sono-nerve.com
- www.rapm.ca
- www.usmsk.com
- www.neuroaxim.com
- www.asra.ca
- www.usra.ca
- www.lipidrescue.org

Safety First!
Lots of Practice!
Lots of Patience!



Tips on USGRA

- Always place the US machine in front of the operator
- 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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