

1

PROBE PLACEMENT

Transducer: Linear/Curved
Depth: 4-5 cm

Increase gain and turn off tissue harmonics for better image.

Cephalad



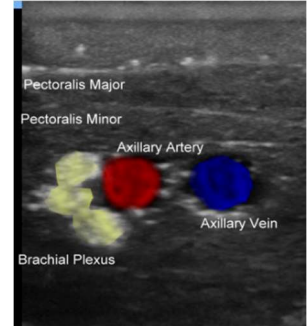
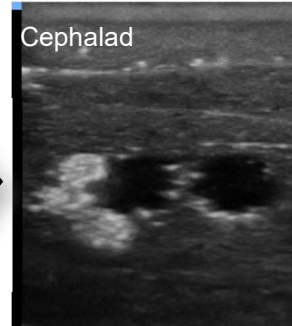
Position the transducer, with gel, just below the clavicle, adjacent to the coracoid process, in the sagittal plane. Adjust the position of the probe (caudad/cephalad) until the axillary artery and vein are clearly visible.

2

ANATOMY

- Pectoral Muscles (Maj/Min)
- Axillary Artery
- Axillary Vein
- Brachial Plexus

Cephalad



The distribution of the chords of the brachial plexus alters as it travels laterally toward the axilla (see reverse). Positioning the probe slightly cephalad once the landmarks are confirmed will allow for better observation of the needle.

3

NEEDLE INSERTION

Use sharp bevel 25-22g, 5-10 cm length needle.

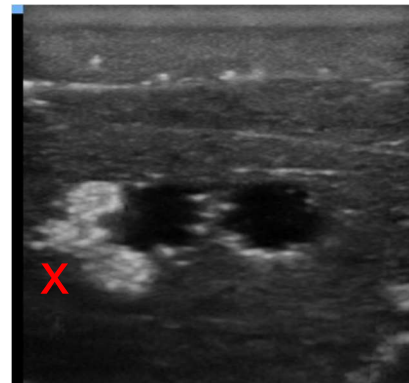
- Insert the needle in-plane from cephalad to caudad with the insertion point just inferior to the clavicle.
- Direct the needle behind the axillary artery while avoiding the lateral cord.

cephalad



Advance the needle slowly, adjusting the probe to visualize the needle by slightly sliding the PROBE medial/laterally to keep it on top of the needle.

The angle of approach is steep and the brachial plexus is deep (4-5 cm). Consequentially needle visualization is challenging but can be improved by applying pressure to the caudad end of the probe (heeling).



Do not use the needle to find the beam, Use the beam to find the needle.

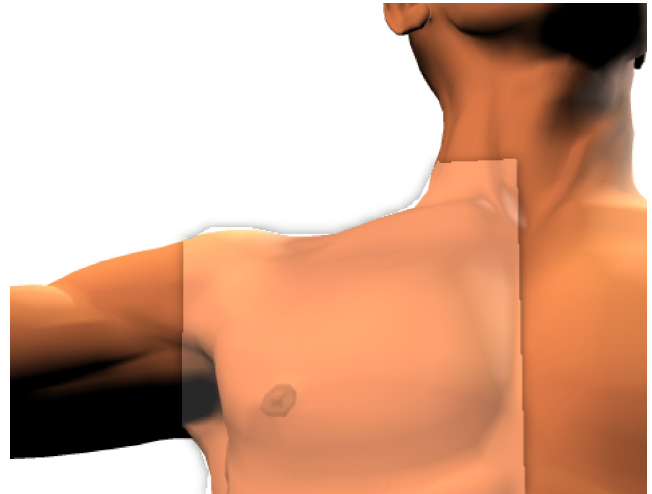
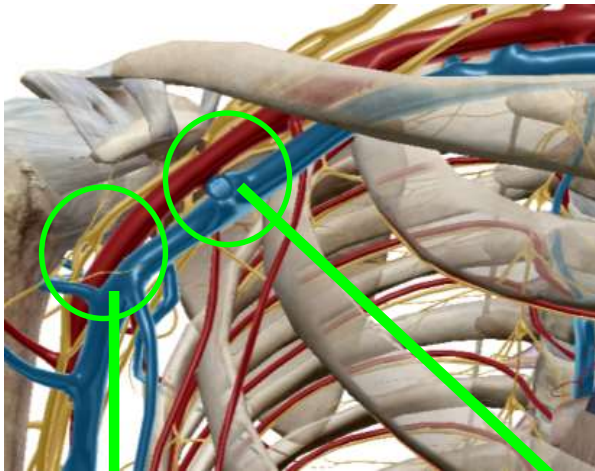
Place the tip of the needle at the 6-7 o'clock position relative to the artery, immediately adjacent to the brachial plexus.

ANATOMICAL DETAIL

The distribution of the chords of the brachial plexus alter as it travels laterally toward the axilla. As the plexus passes under the clavical the chords are grouped together on the cephalad side of the artery. As it passes the coracoid process the chords typically start to separate to approximately the 9,6, and 3 o'clock positions relative to the axillary artery.

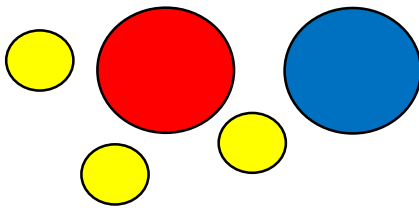
The pectoralis minor inserts at the coracoid process and s thus typically not present or not easily visible more than a few centimeters medial or lateral from the coracoid process.

The axillary vein is not always visible and if often compressed when pressure is applied with the probe.

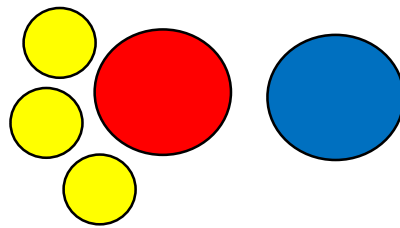


Brachial Plexus Distribution

Cephalad



Cephalad



CARE AND MAINTENANCE

Clean the simulator with an alcohol swab or wash with soap and warm water before first use and prior to storage.

Allow to dry naturally or dab dry with a lint-free cloth.

Store at room temperature.

Never place objects on top of the simulator while in storage.

Never place printed material on the simulator as permanent ink transfer may occur.

Always use the smallest gauge needle possible as this will help with simulator life and recovery.

Never use a tuohy needle.

An increase in gain is typically required for the best image.