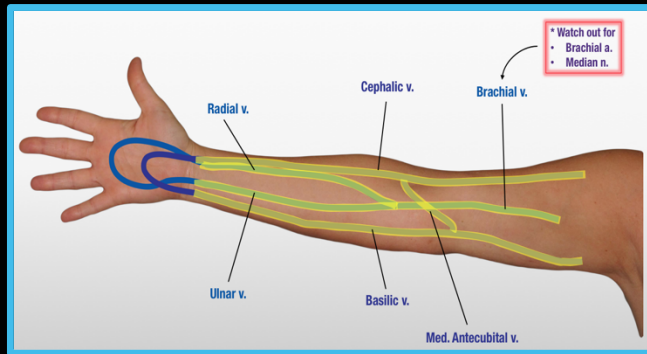
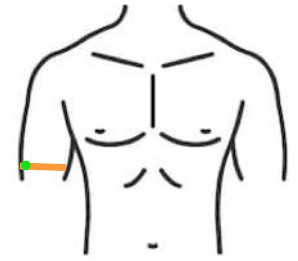
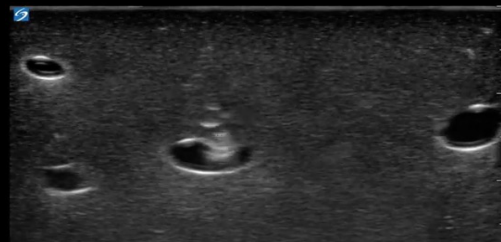




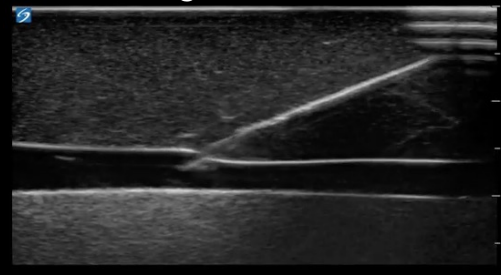
Vascular Access



Transverse Plane



Longitudinal Plane



Purpose: To obtain peripheral venous access

Probe: Linear (vascular preset)

Orientation: Marker to operator's left (transverse),
away from operator (longitudinal)

Real time Guidance:

1. Position yourself, patient, and equipment to minimize head movement. Place ultrasound directly in line of sight.
2. Use one-person technique
3. Needle entry close to probe at steep angle then drop accordingly

Images: Transverse Plane ('out of plane')

Slide probe away from insertion point and follow needle tip into lumen of vein with ultrasound

Longitudinal Plane ('in plane')

Align vein and needle in same plane. Advance needle until vein wall punctured, advance 1-2mm into lumen until cannula in vein then advance plastic sheath over needle

Troubleshooting: Use long IV catheter and consider local anesthetic for deeper proximal veins

Pitfalls : Best success with vein >4mm in diameter, < 1.5cm deep

Avoid brachial vein due to proximity to brachial artery

Longitudinal view – vein often moves out of plane & may damage surrounding structures