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Assessment of Vascular Access Using Ultrasonography (live demonstration)

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The arterio-venous fistula ultrasound : A basic scan

1) Set up : probe selection (7.5-12MHz)
2) flow volume measurement in brachial artery
   a) by a transverse scan (B-mode ,color doppler mode)
      - identify the brachial artery
      - describe diameter`r of brachial artery ,its course and its bifurcation into radial and ulnar arteries
   b) by a longitudinal scan (pulse wave doppler mode)
      - select in a region of straight , nontubulent (above 5cm at elbow)
      - identify the velocity spectrum at the doppler on brachial artery
      - provide the measurement of the flow rate (obtain 3 measurements to ensure accuracy and average)
3) Scan the anastomosis between radial artery and cephalic vein
   - examine juxta-anastomotic stenosis
4) Scan the cannulation segment
   - identify the region where proceed with cannulation
   - identify its depth from the skin, the diameter of vein and its course
   - identify its side branch and valve
5) Scan the efferent vein to cephalic arch by a longitudinal and transverse scan in B-mode
   - describe the outflow channels and its course
   a) The basilic vein ,via the median cubital vein
   b) A perforating vein just distal to the elbow which joins the venae commitantes of the brachial artery
   c) The cephalic vein ,which joins at the subclavian junction under the clavicle
   - identify which central vein can be directly imaged with ultrasound
6) Report