Best practices: Radial Access Neuro.v1.ss

The AHA has released guidelines for best practice in radial access in 2018. (See Reference 1)
I have summarized some of the recommendations and prioritized these based on our experience with radial access for neurovascular procedures.

1. Ultrasound guidance2:
   - Favor single anterior wall approach versus traditional “blind” double wall counter puncture technique
   - Routine use of ultrasound guidance decreases access time, improves success rates, decreases cross over to alternative access, reduces number of passes
   - Operator comfort/competence with ultrasound allows simple transition to other arm access sites (ulnar or distal radial)

2. Sheath/Artery Diameter3: less than 1
   - When possible use of sheaths/guides that are smaller in OD than the radial artery diameter will minimize risk of radial artery occlusion
   - Although generally asymptomatic, this limits future procedures, use of the radial artery for donor site for CABG, and future AV fistula
   - Strategies include: use of smallest necessary access to perform procedure at hand (use of 5F guide) and direct radial access with long sheath or 6F guide
   - Radial specific sheath: lower OD and hydrophilic

3. Radial cocktail4:
   - Routine use of IA vasodilators to minimize radial artery spasm (generally buffer with 15 cc blood)
   - Nitroglycerin (100-200 mcg)
   - Calcium channel blockers (Verapamil 2.5-5 mcg or Nicardipine 250-500 mcg)
   - Calcium channel blockers (Verapamil 2.5-5 mcg or Nicardipine 250-500 mcg)

4. Anticoagulation4: (50U/kg max 5000 units IA vs IV)
   - Sufficient anticoagulation critical for reducing RAO
   - I routinely use 3-4000U heparin for diagnostic and 5,000U for intervention all procedures
   - IV administration after arch access (in case alternative access required)

5. Patent hemostasis: just enough pressure to stop bleeding
   - Use of compression device (Terumo TR band or Merit Prelude Sync)

6. Ulnar counter compression5:
   - I use a small rolled 4 x 4 over ulnar artery during radial compression with a radial compression band

Additional practice tips:
1. Sq nitro (mixed with 1 cc lidocaine) prior to access (easier access and less RAO)6
2. Patient Factors: education to minimize anxiety, adequate sedation, addition IA vasodilators to treat spasm and for wire/catheter exchanges7

3. RADIAL FIRST - Experience: high volume centers are more successful with lower complication rates

References:


NeuroRadialAccess.com