Under Pressure: Arterial Lines in the Emergency Department

Author: Joshua Bloom, MD, PhD
Reviewed by: Anthony DeVivo, DO (@anthony_devivo), EM-Critical Care Fellow, Icahn School of Medicine- Mount Sinai Hospital, Alex Koyfman, MD (@EMHighAK), Brit Long, MD (@long_brit) and Manpreet Singh, MD (@MprizzleER)

✓ Rapid Procedure Review

1. Position patient and site of interest.
2. Prepare your equipment, including a fully connected transducer setup that has been prepared aseptically, flushed, and evacuated of air.
3. Palpate the pulse of the artery you intend to cannulate; examine distal collateral circulation (e.g. modified Allen’s test) as needed. Use ultrasound to confirm the location and integrity of your artery.
4. Don sterile gown and gloves, apply sterile drape, and sterilize site with antiseptic.
5. Anesthetize the site with local anesthetic.
6. Insert the arterial catheter under dynamic ultrasound guidance. Remove any needle or guidewire and hold pressure to avoid brisk arterial bleed.
7. Connect the transducer to the catheter and have an assistant connect to the monitor.
8. Suture the catheter in place and secure with a transparent dressing.