

ULTRASOUND-GUIDED RADIAL ARTERY CANNULATION

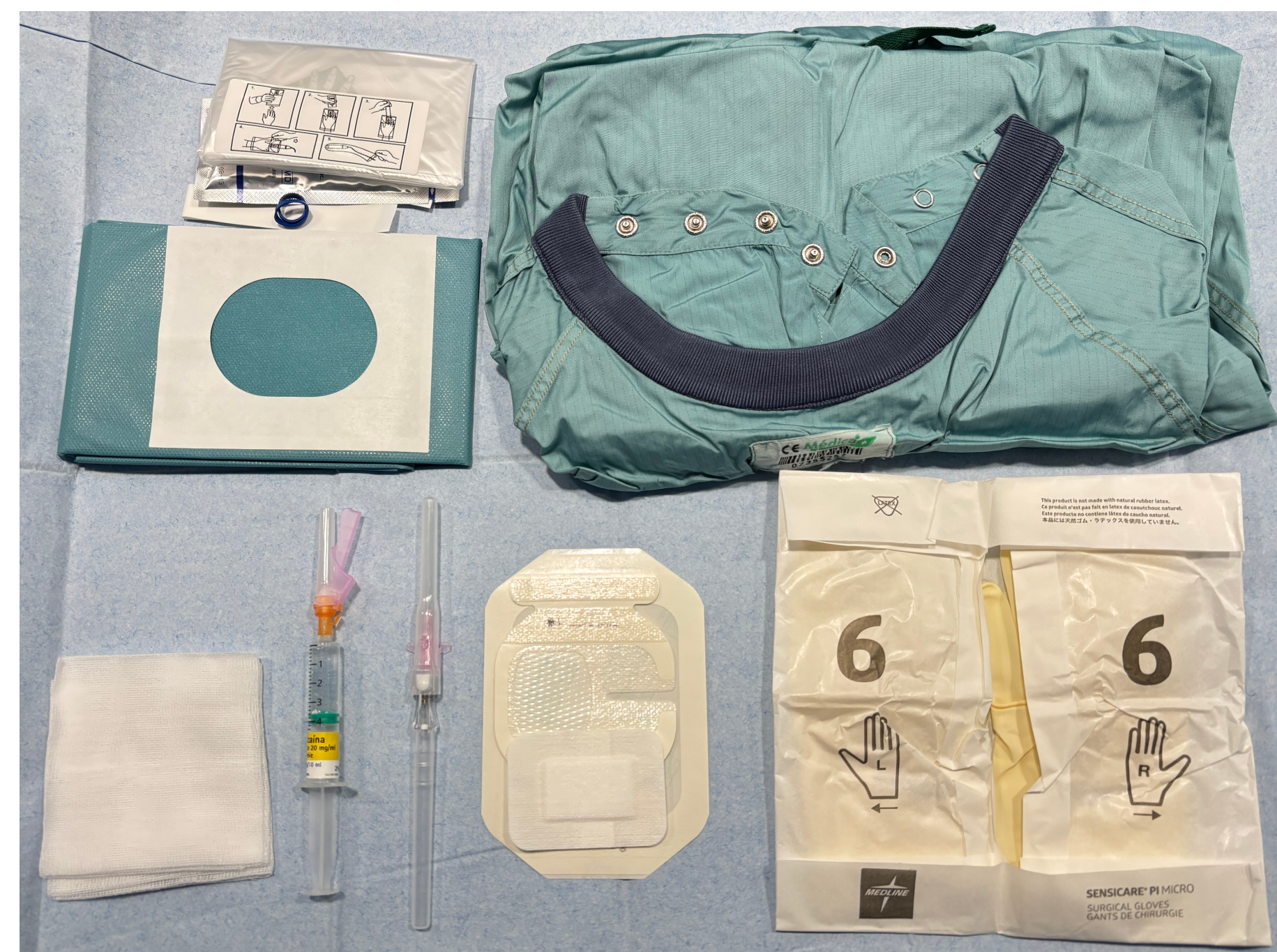
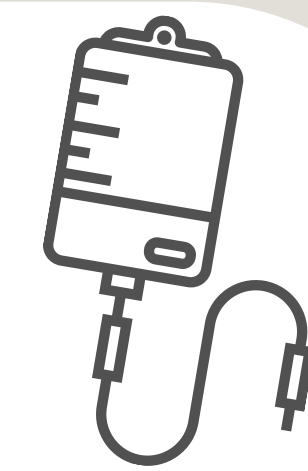
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Introduction:

Arterial cannulation is a fundamental invasive technique in the hospital setting, particularly for critically ill patients, as it enables continuous and precise hemodynamic monitoring. Proper execution is essential to avoid complications and ensure the reliability of the collected data. In this context, the use of specific materials and standardized techniques—along with the integration of ultrasound as a support tool—has been shown to improve success rates and reduce adverse events. This poster presents the essential aspects of the procedure, describing the materials used, the arterial cannulation technique, and the role of ultrasound in guiding and verifying vascular access.

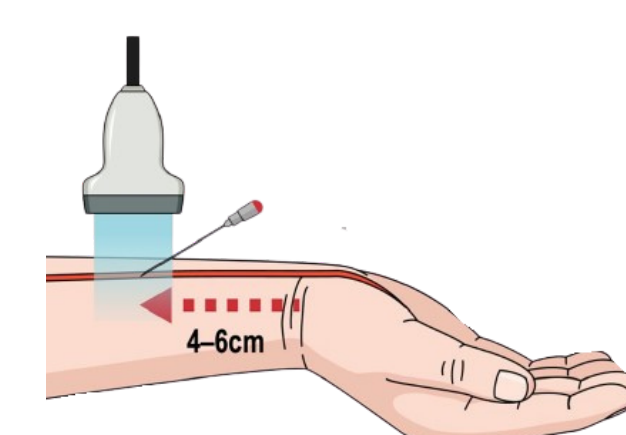
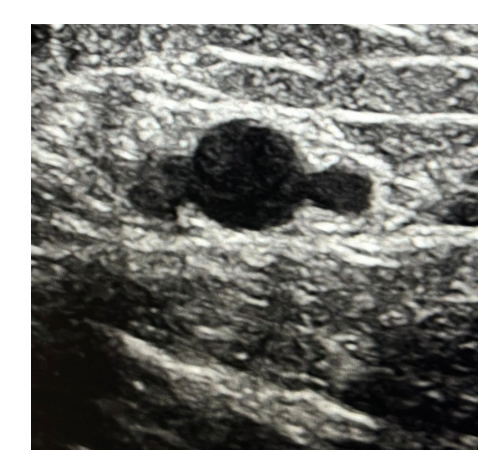
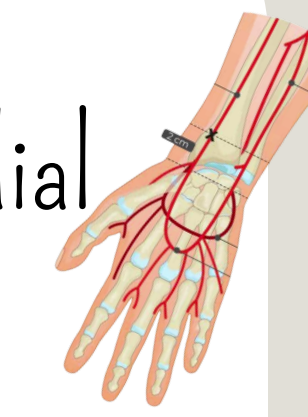
Materials for Arterial Cannulation:

- ✓ Pressure infusor bag (300 mmHg)
- ✓ Arterial pressure transducer
- ✓ 500 ml Normal Saline (0.9% NaCl)
- ✓ Transducer holder / bracket
- ✓ Surgical cap and mask (OR setting)
- ✓ Sterile gown and gloves
- ✓ 2% Chlorhexidine gluconate in alcohol
- ✓ Topical / Local anesthetic
- ✓ Underpad (Chux)
- ✓ Sterile drape
- ✓ 20G 45mm Arterial catheter
- ✓ Sterile dressing
- ✓ Securement device (e.g., StatLock)
- ✓ Sterile gauze pads
- ✓ Sterile ultrasound probe cover



Insertion Technique:

- 1 Preparation: Prime the transducer system. Select the radial artery via US mapping (verify pulsatility and shape).
- 2 Anesthesia: Apply US-guided local anesthetic if the patient is conscious.
- 3 Antisepsis: Clean the site with 2% chlorhexidine.
- 4 Localization: Locate the artery at least 4 cm proximal to the wrist joint.
- 5 Cannulation: Insert the 20G catheter under real-time US guidance.
- 6 Connection: Verify arterial backflow and connect to the transducer.
- 7 Securing: Dry the area and secure with a sterile dressing (e.g., StatLock).
- 8 Zeroing: Perform the "zeroing" procedure on the monitor.



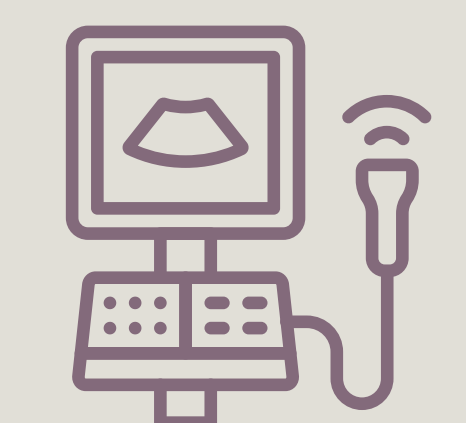
Advantages:

- ✓ Higher first-attempt success rate (2, 4, 5)
- ✓ Reduced complications (3)
- ✓ Shorter procedure duration (5)

Recommendations:

- ✓ Routine use of ultrasound as the gold standard (2)
- ✓ Puncture at the middle third of the forearm (2, 3, 4, 6)
- ✓ Structured ultrasound (US) training for nursing staff (3)

Instructional video:



Bibliography:

