

VV CANNULATION CHECKLIST – PHYSICIAN

PRE-CANNULATION

- Consent obtained and witnessed
- Radial a-line in place
- Check for cannulation targets
 - Right IJ (RIJ)
 - Right femoral vein (RFV) preferred
- Remove hair from access sites
- Nursing/perfusionists ready to proceed
- Bed & Patient position (see diagram)

SUGGESTED* CANNULA SITES & SIZES

*Operators' Discretion

Patient > 60 kg

Venous/drainage; RFV; 25 - 29 Fr
Arterial/return; RIJ; 19 - 21 Fr

Patient < 60Kg

Venous/drainage; RFV; 21 - 23 Fr
Arterial/return; RIJ; 17 - 19 Fr

EQUIPMENT

- US monitor and probes
- Wires – super stiff?
- Sutures
- Sterile cannulation drape set
- Biopatch
- Sorbiview dressing
- Micropuncture set prn

CANNULATION STEPS OVERVIEW

1. Prep & drape
2. TIME OUT
3. Estimate wire/cannula lengths
4. Access – ALWAYS US GUIDED; FRESH STICK PREFERRED
5. Wiring, place all wires before anticoagulation
6. Heparin 3,000 units (or other anticoagulant) when BOTH wires in place
7. Dilation – groin begins first
8. Cannulation
9. Confirmation of position
10. Connection
11. Note cannula positions
12. Securement
13. Confirm appropriate ECMO flows based on sats and blood gas,
14. Post-cannulation order set
15. Notes/documentation/time card

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DETAILED MD CANNULATION STEPS – RIGHT IJ VEIN

- Estimate *in situ* wire length
- Estimate *in situ* cannula position
- Flush cannula
- (RE) Tighten all caps/stopcocks
- Obtain introducer needle access ALWAYS under US guidance
 - Access point low, at clavicular/SCM junction
 - Fresh stick strongly preferred
 - consider micropuncture for difficult access
- Place 80cm 0.035 wire into right IJ and visualize with US
 - Consider stiff wires in obese patients, etc
 - Administer 3000U heparin (or other anticoagulant) when BOTH wires placed
- Sequentially dilate over wire – groin operator starts first
 - Only ~ 1/3 of dilator needs to go in
 - Continuously ensure wire moves easily back and forth
 - Dilate to one size smaller than planned cannula size
- Advance cannula with introducer until last hole intravenous
 - *All cannula access ports AWAY FROM FACE*
 - remove introducer
- Clamp cannula
- Connect to arterial (return) circuit** with appropriate air-free technique
 - Ensure no air entrainment
 - Check access port on cannula is secured
- Secure cannula and cover with sterile dressing
 - Note position

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DETAILED CANNULATION STEPS – RIGHT FEMORAL VEIN

- Estimate *in situ* wire length
- Estimate *in situ* cannula position
- Flush cannula
- (RE) Tighten all caps/stopcocks
- Obtain introducer needle access ALWAYS under US guidance
 - Fresh stick strongly preferred
 - consider micropuncture for difficult access
- Place 160cm 0.035 wire under direct US guidance
- Confirm placement of wire within IVC using US guidance
 - Consider stiff wires in obese patients, etc
 - Administer 3000U heparin (or other anticoagulant) when BOTH wires placed
- Sequentially dilate over wire – groin operator starts first
 - Only ~ 1/3 of dilator needs to go in (unless obese)
 - Continuously ensure wire moves easily back and forth
 - Dilate to one size smaller than planned cannula size
- Advance cannula with introducer until last hole intravenous
 - Use US to determine placement at intrahepatic IVC
- Remove wire and introducer
- Clamp cannula
- Connect to venous (drain) circuit with appropriate air-free technique
 - Ensure no air entrainment
- Secure cannula and cover with sterile dressing
 - Note position