### Preparing Arterial Line Tubing

**What do you need?**
- Blood conservation arterial line pressure tubing
- 500 mL bag of normal saline
- Pressure bag
- IV pole

**Procedure:**
- Remove pressure tubing from package and tighten all connections
- Connect tubing to 500 mL bag of normal saline
- Place pressure bag over the IV bag and hang on the IV pole but do not inflate
- Label the tubing with: date, time and RN signature
- Slide the transducer into the mounting bracket
- Slide the inline syringe into the mounting bracket
- Fill the drip chamber half way
- Flush the tubing including the stopcock ports using the squeeze valve
- Change vented caps to non vented caps using aseptic technique
- Inflate pressure bag to 300 mmHg

### Determining the Phlebostatic Axis

The phlebostatic axis is the reference point for zeroing the arterial line. It is located midway between the posterior chest and the sternum at the 4th intercostal space.

### Zero Balancing and Calibration

**What do you need?**
- Level
- Deadender for zeroing port [M/F luer lock plug]

**Procedure:**
- Connect the monitor cable to the transducer and the bedside monitor
- Level the mounting bracket so that the zeroing point is level with the patient’s phlebostatic axis
- Close the stopcock to the patient
- Remove the non-vented cap from the zeroing port of the transducer
- Zero balance and calibrate- select “art line” and then select “zero” on the monitor
- Replace non-vented cap to the transducer port
- Reopen the stopcock to the patient and assess the arterial wave form
- Set the alarms

### Drawing a Blood Sample from Blood Conservation Tubing

**What do you need?**
- Requisitions and blood tubes
- Labels
- Non sterile gloves
- Vacutainer and needleless luer lock adaptor
- Puncture device (Shielded blunt cannula)
- Blood gas syringe if doing blood gases
- Ice if doing blood gases

**Procedure:**
- This is a time limited procedure and should be completed in 2 minutes or less.
- Verify identity of patient according to policy
- Prepare the vacutainer and the blood gas syringe separately as follows
  - Attach vacutainer and needleless luer lock to puncture device
  - Attach blood gas syringe to puncture device
  - Keep the puncture device inside the packaging to maintain sterility
- Suspend monitor alarms
- Gently aspirate 10 mLs of blood into the in-line syringe at a rate of 1 mL per second
- Turn off the stopcock to the inline syringe
- Cleanse the sampling port nearest to the patient with an alcohol swab
- Using prepared ABG syringe and/or Vacutainer to obtain samples
  - Push puncture device into safeset port & obtain samples as required
  - Remove ABG syringe/Vacutainer together with the puncture device, not just the syringe or Vacutainer
  - If the puncture device is left in, blood will continue to spurt out of the puncture device
- Open the inline syringe stopcock to the patient
- Return blood from the syringe back to the patient at rate of 1 mL per second
- Flush line until clear using the squeeze valve – no more than 3 seconds continuously
- Observe arterial wave form and turn alarm back on

### Other Tips

- Always adhere to the principles of aseptic technique and perform hand hygiene when caring for an arterial line.
- Upon receiving a patient from the OR, check bag to see if it if heparinized saline- if so, change the bag to normal saline
- The inline flush device delivers 3 mLs an hour when the pressure bag is inflated to 300 mm Hg
- Document 5 mLs as hourly intake to account for accessing of the squeeze valve
- Change the dressing and pressure tubing every 96 hours