

**PARKLAND HEALTH & HOSPITAL SYSTEM
LEADERSHIP & ORGANIZATIONAL DEVELOPMENT**

**COMPETENCY VALIDATION
ARTERIAL LINE SET-UP and MAINTENANCE (ADULT)**

Name: _____ ID#: _____

Unit: _____ Date: _____

Arterial Line Set- Up and Maintenance	1 st Attempt (P or F)	2 nd Attempt (P or F)	Comments
Set up			
1. Verify consent and Perform a Time-Out (can verbalize)			
2. Gather Equipment			
• “Vamp” Pressure Tubing (SafeSet™)			
• Pressure Tubing (Pressure Monitoring Kit)			
• Pressure Bag appropriate size for IV Solution			
• NS or Heparinized Saline as appropriate			
• IV pole			
• Transducer Holder			
• Carpenter’s Level			
• Pressure cable			
3. Wash hands (can verbalize).			
4. Identifies the patient utilizing two forms of identification and explains procedure to patient. (can verbalize)			
5. Connect “Vamp” tubing to pressure line tubing at transducer			
6. Spike IV bag			
7. Prime tubing			
8. Remove white cap and replace with yellow occlusive cap			
9. Turn stopcock off to the yellow cap			
10. Prime “Vamp” tubing			
11. Place IV bag in pressure bag & inflate to 300mmHg			
12. Place transducer in transducer holder on the IV pole			
13. Connect pressure cable to monitor and transducer			
A. Select appropriate pressure label and scale on monitor			
B. Verify pressure waveform by moving end of pressure line			
14. Connect end of pressure tubing to catheter hub when MD is ready (can verbalize)			
15. Ensure MD sutures line in place if applicable to area (can verbalize)			
16. Cover with sterile dressing (can verbalize)			
Maintenance			
1. Calibrate the Transducer:			
A. Position the patient flat (if appropriate).			
B. Level the transducer (air-fluid interface side port) to the Phlebostatic Axis (4 th ICS, mid-axillary line) using the carpenter’s level.			
C. Calibrate (“zero”) the transducer (may verbalize depending on monitor).			
D. Assess for presence of arterial waveform on monitor.			

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2.	When asked, states that calibration is done at start of shift, every 4 hours, and when significant variations are noted.			
3.	Identifies a dampened arterial waveform (lack of dicrotic notch and/or flattened wave peak).			
4.	Troubleshoot a dampened arterial waveform (performs at least 5 of the following):			
	A. Ensure that pressure bag is inflated to 300 mmHg.			
	B. Check the transducer and tubing for air bubbles.			
	C. Check the tubing for loose connections.			
	D. Check for kinks in the tubing or catheter.			
	E. Aspirate back and/or flushes tubing.			
	F. Recalibrate the transducer.			
	G. Maintain a proper numeric scale on monitor.			
5.	Evaluate site circulation (states at least 2 of the following):			
	A. Blanching and/or burning to extremity when flushing.			
	B. Diminished pulses in affected limb.			
	C. Mottling and/or temperature changes in affected limb.			
6.	When asked, states that <u>arterial line with signs of compromised blood flow is to be removed and provider notified.</u>			
7.	When asked, states that pressure bag and tubing is to be changed every 72 hours, with line changes, and PRN.			
8.	Demonstrate proper sampling and flushing technique:			
	A. Pinch top of SafeSet™ in-line syringe (to unlock), and withdraw “waste” blood (usually 3-5 mL) and flush into reservoir ($\leq 1 \text{ mL/sec}$).			
	B. Close shut-off valve by turning perpendicular to tubing.			
	C. Swab port with antiseptic prior to obtaining sample.			
	D. Open shut-off valve by turning parallel to tubing.			
	E. Re-infuse “waste” blood and flush ($\leq 1 \text{ mL/sec}$).			
	F. <u>Intermittently</u> flush line until clear, utilizing intra-flow device.			
	G. Assess for return of arterial waveform on the monitor.			
9.	When asked, states that firm pressure should be applied with sterile gauze for ≥ 5 minutes after discontinuing an arterial line (≥ 10 minutes if patient receiving anticoagulants or has a coagulopathy disorder).			

The completion of this form validates the above nurse’s competency for this skill.

#1 Pass / Fail Competency Validator Signature: _____

#2 Pass / Fail Competency Validator Signature: _____