

BP3 Closed Blood Draw / Closed Flush System

Clinical Situations & Solutions

CLINICAL SITUATIONS	SOLUTION
<p><u>AIR IN BIOPORT or LINE</u> (prevention and removal of air bubbles)</p>	<ul style="list-style-type: none"> ♦ Priming of the line to be air free is most important initially on setup. ♦ Holding of Bioports in a vertical position during initial prime and “finger thumping” of Bioports to expel any air. ♦ If air is present after set-up and start of infusion – air can be removed by using the Bioports and clamping appropriately and using a syringe to remove air bubble. ♦ When obtaining waste or blood sample make sure that the syringe plunger is fully depressed, prior to use, assuring the air in the syringe due to sterilization process is eliminated. When removing a syringe from the port...support the port from below, grasp the syringe at the base (near the tip of the syringe), and gently pull the syringe out of the port. Remove the syringe gently so the syringe does not “pop” out when removed from the site. Popping the syringe out can create air in the line. ♦ When giving back waste/holding blood make sure not to fully depress plunger and infuse all blood in syringe as there is air in the tip of the syringe. Always hold the syringe in a vertical position when aspirating, so that any air bubble will rise to the top of the syringe making this removal process easier.
<p><u>DAMPENED WAVE FORMS</u></p>	<ul style="list-style-type: none"> ♦ Catheter Tip Location – If up against the vessel wall, no pulsatile flow will be able to get through efficiently (reposition catheter). ♦ Air in Line – Particularly in the Transducer or Bioports (remove air). ♦ Silicone catheters – Compared to polyurethane catheters can cause some dampening due to their compliant nature. ♦ Extension tubing near the catheter - Extension tubing is usually not made of pressure monitoring material and will damp some of the line pressure. ♦ Inadequate flushing of catheter after a blood draw – blood is more viscous than saline, leaving blood in the catheter could possibly clot over time. ♦ Condition of the umbilical artery after several days of use. ♦ Condition of the patient – exhibits low pressures without strong heart contraction.
<p><u>BLOOD IN TUBING OR CATHETER</u> (solutions – continued)</p> <ul style="list-style-type: none"> • During Waste Draw – Pulling waste blood too quickly can cause blood to mix in line above waste port. • Do not allow a gap between blood and syringe plunger, as this creates negative pressure in the tubing. 	<ul style="list-style-type: none"> ♦ Improper position of white lever on the communication port during blood sampling process. ♦ Inadequate flushing leaving blood in the catheter or tubing ♦ Did not utilize positive pressure on flush syringe when rotating white lever on the communication port to monitoring (neutral) position. ♦ Flow rate too low to offset higher patient pressures. ♦ Increased intra-abdominal pressure – commonly caused by the infant crying vigorously. ♦ Leak in the tubing or transducer – check and tighten all connections. ♦ Infusion pump malfunction
<p><u>BLANCHING OR DISCOLORATION OF EXTREMITIES</u></p>	<ul style="list-style-type: none"> ♦ Catheter tip placement ♦ Aspiration of waste or sample too fast. It is recommended that withdrawal of blood waste takes a minimum of 30 seconds. (waste is the larger 1.5cc volume) ♦ If vasospasm occurs, review of aspiration techniques, placement confirmation, and warming of the opposite extremity will cause simultaneous vasodilatation of the opposite extremity.
<p><u>QUESTIONABLE LAB VALUES</u></p>	<ul style="list-style-type: none"> ♦ Patient line not shut off: at transducer or flush syringe facing wrong direction. ♦ Clamp not in lock/closed position for blood draw. ♦ Inadequate blood waste withdrawn. ♦ If using 2 lumen UAC, shut off both lines before blood draw

