

## QUICK REFERENCE FOR CENTRAL VENOUS CATHETERS: DRAWING BLOOD AND FLUSHING

Tunneled Catheters	USE/DESIGN	DISCARD VOLUME BEFORE BLOOD DRAW	NS FLUSH VOLUME **Use 10ml syringe	HEPARIN FLUSH * *Do not use if heparin allergy or Heparin Induced Thrombocytopenia (HIT). Call Vascular Access Team or HO for alternative plan. **Use 10ml syringe	FLUSH FREQUENCY (for lumens not in use)
<b>Hickman: double and single lumen</b>  * HSCT – Hemopoietic stem cell transplant	<ul style="list-style-type: none"> <li>long term</li> <li>dacron cuff</li> <li>red and white lumens of double catheter are same volume</li> </ul>	<ul style="list-style-type: none"> <li>two 3ml discard tubes using vacutainer technique</li> <li>can draw from either lumen</li> <li>HSCT* pts &lt; 40 kgs use push/pull if drawing &gt; 3ml / kg / 24 hours</li> <li>HSCT* patients &gt; 40 kgs – use push/pull if drawing ≥ Q 2hours</li> </ul>	<ul style="list-style-type: none"> <li>10 ml normal saline</li> <li>use 10 ml syringe to flush</li> <li>use positive pressure technique</li> <li>HSCT* outpatients 5 ml. normal saline followed by 2.5 ml. 100 Unit/ml heparin flush</li> </ul>	<ul style="list-style-type: none"> <li>draw up 3 ml of 100 Unit/ml heparin flush, inject 2.5ml with positive pressure technique</li> <li>use 10 ml syringe to draw up flush</li> <li>HSCT* inpatients-use 10 ml normal saline only</li> </ul>	<ul style="list-style-type: none"> <li>every day</li> </ul>
<b>Groshong</b>	<ul style="list-style-type: none"> <li>long term</li> <li>dacron cuff</li> <li>slit valves along distal sides; closed distal tip</li> </ul>	<ul style="list-style-type: none"> <li>6 ml waste in syringe</li> <li>vacutainer may collapse catheter</li> <li>use firm steady pull to open slit valve</li> <li>HSCT pts &lt; 40 kgs use push/pull if drawing &gt; 3ml / kg / 24 hours</li> <li>HSCT patients &gt; 40 kgs – use push/pull if drawing ≥ Q 2hours</li> </ul>	<ul style="list-style-type: none"> <li>20 ml normal saline</li> <li>do not clamp</li> <li>use 10 ml syringe to flush</li> </ul>	<ul style="list-style-type: none"> <li>NO heparin flush is required as these are closed ended catheters with internal valve.</li> <li>normal saline flush is required.</li> </ul>	<ul style="list-style-type: none"> <li>every day</li> </ul>
<b>Large Bore: Hickman, PermCath</b>	<ul style="list-style-type: none"> <li>long term</li> <li>dacron cuff</li> <li>hemodialysis &amp; apheresis</li> <li>arterial lumen: red, proximal &amp; shorter</li> <li>venous lumen: blue, distal &amp; longer</li> </ul>	<ul style="list-style-type: none"> <li><b>withdraw heparin flush before use</b></li> <li>two 3ml discard tubes using vacutainer technique</li> <li>may draw from either lumen</li> <li>HSCT pts &lt; 40 kgs use push/pull if drawing &gt; 3 ml/ kg/ 24 hours</li> <li>HSCT patients &gt; 40 kgs – use push/pull if drawing ≥ q 2 hrs</li> </ul>	<ul style="list-style-type: none"> <li><b>withdraw heparin flush before use</b></li> <li>flush with 10 ml normal saline flush</li> <li>HSCT inpatients – 10 ml normal saline and no heparin flush</li> <li>HSCT outpatients 5 ml normal saline followed by 2.5 ml of 100 Unit/ml heparin flush</li> <li>use positive pressure technique</li> </ul>	<ul style="list-style-type: none"> <li><b>withdraw heparin flush before use</b></li> <li>DIALYSIS CATHETER OR PHERESIS CATHETER for Non-HSCT population : inject heparin flush 1,000 Unit/ml, the volume instilled is equal to the dwell volume recorded on the catheter lumen.</li> <li>HSCT (Pheresis catheter ONLY) inpatients – flush with 10 ml normal saline only (no heparin)</li> <li>HSCT (Pheresis catheter ONLY) outpatients – flush with 5 ml normal saline followed by 2.5 ml of 100 Unit/ml heparin</li> <li>Inject using positive pressure technique</li> </ul>	<ul style="list-style-type: none"> <li>every 48-72 hours</li> <li>switch to daily if problem</li> <li>keep catheter clamped while not in use</li> <li>HSCT patients flush daily</li> </ul>

Sub-cutaneous Implanted Ports	USE/DESIGN	DISCARD VOLUME BEFORE BLOOD DRAW	NS FLUSH VOLUME	HEPARIN FLUSH	FLUSH FREQUENCY (for lumens not in use)
<b>PORT-A-CATH, HICKMAN-IMPLANTED, MEDIPORT, Q PORT</b>	<ul style="list-style-type: none"> <li>long term</li> <li>reservoir placed subcutaneously</li> </ul>	<ul style="list-style-type: none"> <li>2-3ml discard tubes – use vacutainer technique</li> </ul>	<ul style="list-style-type: none"> <li>20 ml normal saline-flush promptly, don't allow blood to sit in port.</li> <li>use positive pressure technique</li> </ul>	<ul style="list-style-type: none"> <li>5 ml of 100 Unit/ml heparin flush in 10ml syringe</li> <li>inject with positive pressure technique and clamp during the last 0.5 ml</li> </ul>	<ul style="list-style-type: none"> <li>monthly</li> </ul>

## QUICK REFERENCE FOR CENTRAL VENOUS CATHETERS: DRESSING AND DECLOTTING

Tunneled Catheters	DRESSING	DRESSING FREQUENCY <small>Neutropenic = ANC &lt;500</small>	DECLOTTING USING t-PA	VOLUME OF t-PA	ASPIRATION of t-PA
<b>Hickman: double and single lumen</b>  * HSCT – Hemopoietic stem cell transplant	<ul style="list-style-type: none"> <li>chlorhexidine gluconate 2% with isopropyl alcohol 70% (Chloraprep)</li> <li>non-occlusive</li> <li>sterile gauze</li> <li>paper tape, Medipore or Ray Marshall shield</li> <li>clean technique</li> </ul>	<ul style="list-style-type: none"> <li>every 72 hours</li> <li>every day if neutropenic or if redness/drainage present</li> <li>whenever wet, soiled, or loosened</li> </ul>	<ul style="list-style-type: none"> <li>MD order required</li> <li>for best results: treat all lumens at the same time</li> <li>may treat one lumen and use other lumen for infusion if needed</li> <li>CXR first if suspicious of kink or malposition or if no CXR within 1 week</li> </ul>	<ul style="list-style-type: none"> <li>Dose: 2 mg t-PA</li> <li>Dilute t-PA with 2 ml. preservative free normal saline</li> <li>Draw t-PA dose 2mg/2ml into a 10cc syringe and inject gently into catheter lumen</li> </ul>	<ul style="list-style-type: none"> <li>attempt aspiration after 2 hours</li> <li>if unsuccessful, may repeat times one                             <ul style="list-style-type: none"> <li>if not cleared, see policy and procedure for t-PA IV drip, requires MD order.</li> </ul> </li> <li>If not cleared – physician may order a dye study and/or contact a Vascular Access Consultant</li> </ul>
<b>Groshong</b>	<ul style="list-style-type: none"> <li>chlorhexidine gluconate 2% with isopropyl alcohol 70% (Chloraprep)</li> <li>non-occlusive</li> <li>sterile gauze</li> <li>paper tape, Medipore or Ray Marshall shield</li> <li>clean technique</li> </ul>	<ul style="list-style-type: none"> <li>every 72 hours</li> <li>every day if neutropenic or if redness/drainage present</li> <li>whenever wet, soiled, or loosened</li> </ul>	<ul style="list-style-type: none"> <li>same as above</li> </ul>	<ul style="list-style-type: none"> <li>same as above</li> </ul>	<ul style="list-style-type: none"> <li>same as above</li> </ul>
<b>Large Bore: Hickman, PermCath</b>	<ul style="list-style-type: none"> <li>chlorhexidine gluconate 2% with isopropyl alcohol 70% (Chloraprep)</li> <li>non-occlusive, gauze, Medipore or Ray Marshall shield</li> <li>clean technique</li> <li><b>If dialysis catheter-</b> patient and RN mask, use betadine ointment, sterile gauze, and cover with vapor transparent dressing</li> </ul>	<ul style="list-style-type: none"> <li>every 48-72 hours</li> <li>every day if neutropenic or if redness/drainage present</li> <li>whenever wet, soiled, or loosened</li> </ul>	<ul style="list-style-type: none"> <li>same as above</li> </ul>	<ul style="list-style-type: none"> <li>Dose: 2 mg t-PA</li> <li>Dilute t-PA with 2.5 ml. preservative free normal saline</li> <li>Draw t-PA dose 2mg/2.5ml into a 10ml syringe and inject gently into catheter lumen</li> </ul>	<ul style="list-style-type: none"> <li>same as above</li> </ul>

SUB-CUTANEOUS IMPLANTED PORTS	DRESSING	DRESSING FREQUENCY	DECLOTTING USING t-PA	VOLUME OF t-PA	ASPIRATION of t-PA
<b>PORT-A-CATH, HICKMAN-IMPLANTED; MEDIPORT, Q PORT</b>	<ul style="list-style-type: none"> <li>sterile technique, mask</li> <li>chlorhexidine gluconate 2% with isopropyl alcohol 70% (Chloraprep)</li> <li>access with Huber needle</li> <li>sterile gauze under needle, covered with steri-strips</li> <li>vapor transparent dressing</li> </ul>	<ul style="list-style-type: none"> <li>needle and dressing changed every seven days</li> <li>whenever dressing is wet, soiled or loose.</li> </ul>	<ul style="list-style-type: none"> <li>same as above</li> </ul>	<ul style="list-style-type: none"> <li>Dose: 2 mg t-PA</li> <li>Dilute t-PA with 2 ml. preservative free normal saline</li> <li>Draw t-PA dose 2mg/2ml into a 10 ml syringe and inject gently into catheter lumen</li> </ul>	<ul style="list-style-type: none"> <li>same as above</li> </ul>