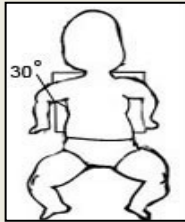


**NICU: Key Points for Use of Central Catheters (PICC, CVL, Umbilical)**

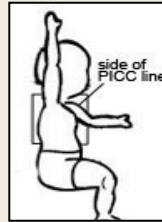
<b>Aseptic Technique</b>	<b>Maximal barrier precautions:</b> <i>strict</i> compliance: antiseptic handwash, wearing cap, mask, sterile gown and sterile gloves
<b>UAC or UVC Catheter Size</b>	<1.5 kg 3.5 Fr ≥1.5 kg 5 Fr
<b>Determining Insertion Depth</b>	<b>UAC:</b> high position: (weight in kg x 3 + 9) + length umbilical stump (cm) <b>UVC:</b> [(weight in kg x 3 + 9) ÷ 2] + 1 + length umbilical stump (cm) <b>Arm PICC in SVC:</b> 1. insertion site along vein to sternal end right clavicle + 2. sternal end right clavicle to 3 <sup>rd</sup> intercostal space just right of sternum <b>Leg PICC in IVC:</b> with leg fully extended: 1. insertion site along vein to inguinal area + 2. inguinal area to 1 cm below xiphoid process <b>Scalp PICC in SVC:</b> 1. insertion site to sternal end right clavicle + 2. sternal end right clavicle to 3 <sup>rd</sup> intercostal space just right of sternum + 3. <b>add 3 cm</b>
<b>Catheter Tip Position</b>	<b>UAC: High:</b> thoracic vertebrae 6 to 9 <b>Low:</b> lumbar vertebrae 3 to 4 <b>UVC:</b> in IVC just outside right atrium (~T9-10, just above right diaphragm) <b>PICC: Arm or Scalp:</b> in SVC at or beyond T2 but outside RA (RA~T4-5) <b>Leg:</b> in IVC above L4-L5 vertebrae but outside RA (RA~T7)
<b>Syringe Size</b>	<b>Flushing:</b> smaller the syringe = greater the pressure exerted, risking rupture; avoid syringes <10 ml
<b>PICC Dressing</b>	<b>Use transparent semi-permeable membrane (TSM) dressing</b> <b>Gauze &amp; tape:</b> only if moisture, exudate or skin reaction to TSM dressing
<b>Transfusions &amp; blood sampling</b>	Avoid using catheters smaller than 3 French (20 gauge) due to risk of occlusion
<b>Documentation</b>	•type of procedure •#attempts •pain control measures •size & length catheter •length catheter if trimmed •position on x-ray •cm pulled back if repositioned •complications •patient status during & after procedure •if available, paste catheter label in patient chart

**Positioning  
for PICC X-  
Ray**

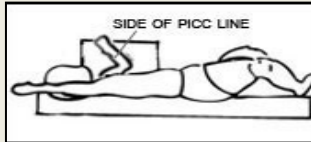
**ARM**



**AP:** abduct humeri 30° & slightly flex elbows

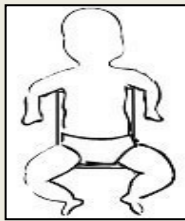


**Lateral:** turn onto PICC side, bring arm slightly forward and flex elbow; raise other arm straight up next to head

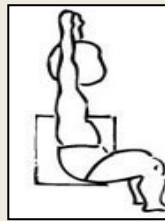


**If dorsal decubitus required:** bring arm with PICC slightly anterior and flex elbow; raise other arm straight up next to head

**LEG**

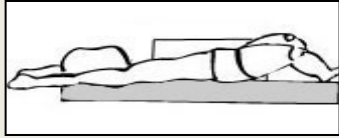


**AP:** natural frog-leg position



**Lateral:** flex both hips and knees at 90°

**NICU: Key Points for Use of Central Catheters (PICC, CVL, Umbilical)**



**If dorsal decubitus  
required:** lower limbs in  
natural frog-leg position