

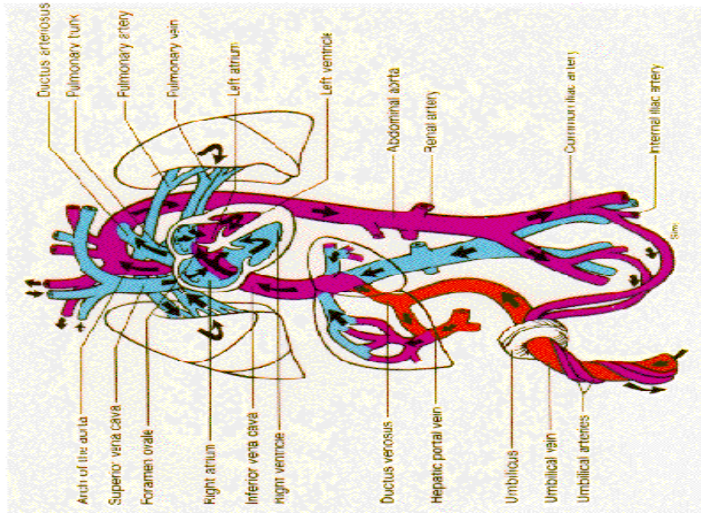


Umbilical Catheters

An Educational Brochure for Staff

Post Test

1. Draw in red the correct placement of a UAC.
Draw in Blue the correct placement of a UVC.



2. What are two possible complications secondary to UAC placement.

- a. _____
- b. _____

3. What three groups of drugs are ONLY to be given via UAC in extreme emergencies?

- a. _____
- b. _____
- c. _____

4. The minimum flow rate via umbilical catheters is...

- a. 5 cc/hour
- b. 1 cc/hour
- c. 1.5 cc/hour
- d. 0.1 cc/hour

5. Based on the diagram in question number one, when examining an x-ray to confirm proper placement of umbilical catheters in an infant with normal anatomy the UAC will be visualized to the left of the UVC catheter.

TRUE

FALSE

6. Umbilical catheters need to be calibrated a minimum of _____ and prn.

- a. Q 8 hours
- b. Q 1 hour
- c. Q 24 hours
- d. Q 12 hours

7. Before infusing any fluid other than Normal Saline with 1/2 unit Heparin/cc through umbilical catheters what must be obtained?

Facts about ... Umbilical Catheters

1. Utilized in moderately to severely ill infants and extremely low birth weight infants.
2. Complications include infection, (No attempt should be made to advance a catheter once it is sutured into place), thrombosis (medications and flushes should be administered slowly to avoid vessel trauma and therefore thrombosis formation), embolism, vasospasm, vessel perforation, hemorrhage, GastroIntestinal, renal, and limb damage.
3. Calibrate Q12 hours and PRN if reading questionable.
4. Placement should be confirmed by x-ray prior to medication or fluid administration other than Normal Saline.
5. Diapering is permitted. Assess buttocks, legs and toes with vital signs, report blanching, decreased perfusion, or color change (cath toes) to MDs.
6. Chart any umbilical line care and cord status every shift and chart on nursing flow sheet
7. Chart the cm mark at skin level of catheter on nursing flow sheet

Umbilical Arterial Catheters

1. Indications are for frequent arterial blood gas monitoring, continuous arterial blood pressure monitoring, infusion of I.V. fluids, colloids, etc., and to provide access for exchange transfusions.
2. Typically a 3.5 Fr single lumen catheter for infants <1.2 kg and 5Fr for infants >1.2 kg (please note the cm insertion mark at the level of the abdomen with initial assessment of each shift and note on nursing flow sheet
3. The tip of the catheter should lie above the diaphragm between T6 – T9.
4. Wt. (kg) x 3 + 9 = length of umbilical stump = distance catheter should be inserted.
5. May be utilized for continuous or bolus infusion. HAL may be infused if no other access available. Typically only Normal Saline or ½ NS with ½ unit heparin/cc is infused at a minimum of 1cc/hour.

8. UACs are not Hep locked

9. Vigilant observation for AIR is paramount, treat these lines similar to atrial lines.
10. Medications contraindicated to give via UAC, but may be given in extreme emergencies with and MD order Include vasopressors (dopamine, dobutamine, Epinephrine), PGE, Indomethacin, Anticonvulsants (Dilantin, Phenobarbital, Nembutal).

Umbilical Venous Catheters

1. Indications are for immediate access for I.V. Fluids, emergency medications, exchange transfusion, and/or continuous measurement of CVP.
2. Both single and double lumen 3.5Fr and 5Fr catheters are utilized. 3.5Fr catheters are reserved for extremely low birth weight infants. Double lumen is the catheter of choice.
3. The distance to insert the catheter is determined by
 - a. $3 \times \text{wt in kg} + 9$ + 1cm
4. The correct position is for the tip of the catheter to be 0.5-1 cm above the diaphragm.
5. The primary port of the UVC should be transduced and utilized for maintenance fluids and boluses. This line should not be heparin locked.
6. The minimum flow rate is 1 cc/hour with ½ unit heparin/cc.
7. Care should be taken not to rapidly infuse medications to prevent possible thrombus formation.
8. The second line of the UVC is typically utilized for ionotropes or narcotic drips. DO NOT OBSTRUCT FLOW TO THIS LINE BY PLACING TRANSDUCER TO MONITOR PRESSURES. This line may be heparin locked if not utilized for continuous infusions.
9. Check with pharmacy for drug compatibilities before infusion of multiple drugs.

Removal of Umbilical Catheters

1. Gather suture removal kit containing sterile scissors and forceps, and povidone-iodine bullet.
2. Determine length of catheter to be removed
3. Turn off I.V. fluids to that catheter or change to another catheter.
4. Clean insertion site with povidone-iodine, let dry. Rinse with normal saline on a 2 x 2.
5. Cut and remove suture. Notify MD if unable to remove suture. Withdraw catheter slowly. When near the tip have 4 x 4 to apply slight pressure, by firmly pressing fingers together at base of umbilicus until bleeding is stopped.
6. Call MD for continuous bleeding, changes in vital signs, or inability to remove suture from umbilical stump.
7. If any suspected sepsis, send tip of catheter for culture.
8. Keep infant supine for one hour post catheter removal to observe for bleeding.
9. Document on nurses notes time of catheter removal, suture, and any blood lost or changes in vital signs.