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Umbilical Vein Catheter and Umbilical Artery Catheter: Information for Parents

After delivery, a baby is separated from his or her mom by clamping, then cutting, the umbilical (navel) cord. The cord typically has two arteries and one vein that are easily accessible, providing quick access to the central circulation and are used frequently when infants are born early or sick. These lines will keep your baby from needing a regular intravenous (IV) line for several days and decrease the number of times they have their skin poked. Umbilical lines are inserted by a physician or neonatal nurse practitioner (NNP). The physician or NNP will explain the risks and benefits of the procedure.

# Umbilical Artery Catheter

An umbilical artery catheter (UAC) is placed in the artery of your baby’s umbilical or navel cord. This catheter is used to obtain frequent blood samples and monitoring of your baby’s blood pressure. Blood samples are necessary to help the medical team determine how well your baby’s lungs and other body organs are functioning. Blood is drawn directly from this line, alleviating the need to do heel sticks on your baby. UACs optimally are in place no longer than 5–7 days. If your baby still needs blood pressure monitoring or blood samples, an arterial line may be inserted in his or her ankle or wrist.

A UAC line usually is placed right after delivery or right after transport and admission to the referring hospital, and typically at the same time as an umbilical venous catheter (UVC) is placed. Once the lines are in place, an X ray is done to make sure the lines are in the correct position before they are used. The lines are then held in place with suture (like string) and secured to the infant’s abdomen (see picture).

# Umbilical Venous Catheters

An umbilical venous catheter (UVC) is placed in the vein of your baby’s umbilical or navel cord. This catheter is used to give your baby IV nutrition (nutrition given in the vein) or medications. The line typically remains in place for 7–10 days. If your baby still needs IV nutrition, either a peripherally inserted central catheter (PICC) or regular IV will be inserted. The UVC usually is inserted with a UAC right after delivery or transport. There are times when a UVC will be placed after the baby is a few days old when access to a big vein is needed. In this case, the provider caring for your baby will explain the reason for the line and get your approval.

When the proper position of both catheters is confirmed by the X ray, the lines will be sutured in place or secured to the infant’s abdomen.



# Possible Complications

Complications may include infection, formation of blood clot (thromboembolism) on the tip of the line, or the line moving in or out of position. Because of these possible complications, the nurse will watch your baby closely. The lines are placed with a sterile (without germs) technique to decrease the risk of infection. Fluids going in both UVC and UAC lines will contain a medicine called heparin, which prevents the formation of blood clots. Finally, the nursing staff will closely monitor the catheters for any potential issues. All umbilical lines will be discontinued as soon as they are no longer needed.