What is an umbilical catheter? A catheter [KATH-i-ter] is a thin tube that is placed in the body in order to draw out blood to be used for testing or to allow fluids and medicines to be given. This device serves as an open passage that allows doctors and nurses to perform these functions as needed.

An umbilical catheter is inserted into the umbilical cord in one of two ways; either into a vein (called an umbilical venous catheter or UVC) or into an artery (called an umbilical arterial catheter or UAC).

While in the womb, the blood vessels in the umbilical cord served as the highways through which the baby exchanged blood, oxygen, and nutrients with the mother’s placenta. These vessels shrivel up after birth, but can remain open for a few days after birth. The umbilical cord may be used for this type of catheter because the blood vessels in the arms and legs of premature babies are so tiny.

Why does my baby need a catheter? Babies born premature or with health problems may need an umbilical catheter to allow the baby to receive fluids and medicines as needed. It is also used to provide blood transfusions if needed, and to withdraw blood for testing, as premature babies do not have much blood to spare. The catheter also may be used to provide nutrients until the baby is ready to feed by mouth or through a tube placed in the nose or mouth. Once the UAC is in place, it provides access to draw blood for tests without pain to the baby.

How is the catheter placed? The soft, thin tube is placed into the umbilical cord.

Will this cause pain in my baby? No. Unlike other parts of the body, there are no nerves in the umbilical cord to transmit pain signals. The cord is made up of a jelly-like substance with three blood vessels (one vein and two arteries) running through it.

Premature babies do not have much blood to spare. The entire blood supply of a 2.2 pound (1,000 grams) baby is about 3 to 3.5 ounces. That’s about the same as six tablespoons of liquid.
When can the catheter be removed? In most cases, the UVC/UAC is used 7 days or less. Current guidelines* suggest that UVC/UACs should remain in place no longer than 14 days except when needed. If your baby still is in need of a catheter after the UVC/UAC is removed, doctors may use either a short line inserted into a vein in the arm or leg (called a peripheral catheter) or may use a peripherally inserted central catheter (PICC line), which is a longer line. The choice of line depends on your baby’s unique needs.

Are there any risks with a UVC/UAC? Yes. Risk for infection is the biggest problem with any device placed into the body. Please read the topic titled About infections, for in-depth detail about infections and the steps taken to help prevent them. Other problems that may occur with a UVC/UAC include blood clots that block the blood vessel, bleeding from the blood vessel, or spasm of the blood vessel.

What can parents do? You can play a key role by taking an active part in your baby’s care. For any baby in the neonatal intensive care unit (NICU), taking steps to help prevent infections is a vital role. This can help reduce the risk for infection of the UVC/UAC. As an active partner in your baby’s care, talk to your baby’s doctors and nurses about your questions. In a complex area that is so new to you, the questions in the box at the top right can help you get started.