

Central Venous Catheterization Information Sheet

General indications for the procedure:

Central venous catheterization is a procedure where a plastic catheter is placed into a large blood vessel to allow the delivery of critical care to acutely ill patients. Specific indications for the use of central lines include monitoring of the central venous pressure in acutely ill patients to quantify fluid balance and deliver drugs that are prone to causing vein irritation in peripheral veins (including calcium chloride, chemotherapy, hypertonic saline, potassium chloride, amiodarone and vasopressors). Central lines also facilitate the delivery of intravenous therapy (blood, medication, hydration) when peripheral access is not possible.

Description of Procedure:

The skin is cleansed, and local anesthetic is applied if required. The location of the vein is then identified by landmarks or with the use of a small ultrasound device. A hollow needle is advanced through the skin until venous blood is aspirated. A blunt guidewire is passed through the needle, and the needle is then removed. A dilating device may be passed over the guidewire to slightly enlarge the tract, and the central line itself is then passed over the guidewire into the vein and the guidewire is then removed. All the lumens of the line are aspirated (to ensure that they are all positioned inside the vein) and flushed with normal saline.

Risks of the Procedure:

The most common complication is failure to place the line which occurs 10% of the time. Other less common complications are infections, which can be treated by line removal and antibiotics, and pneumothorax (air leak from the lung causing the lung to collapse), which is treated by placement of a small tube to expand the lung. Rare complications are hemothorax (blood leaking into the chest cavity), irregular heart rhythms, and cardiac arrest.

Procedure Alternatives, if any:

Placement of smaller catheters into blood vessels in the arms.

Probable Consequences of Refusing Procedure:

Inadequate ability to deliver life sustaining medications.

Person(s) Performing the Procedure:

The key portions of the procedure will be performed by a physician who is a member of the medical staff of Rush University Medical Center and/or resident/fellow who is observed by a physician who is a member of the medical staff. Residents/Fellows are licensed physicians in approved residency training or post residency training programs. Parts of the procedure which they perform will be based on their level of competency.