

# Treatment of Permanent Kidney Failure

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## What is end-stage kidney failure?

Many kidney disorders progress to permanent or end-stage failure of the kidneys, sometimes called end-stage renal disease (ESRD for short). When

kidney function is 20-30% of normal, planning should begin to replace kidney function with a form of dialysis or with a transplant.

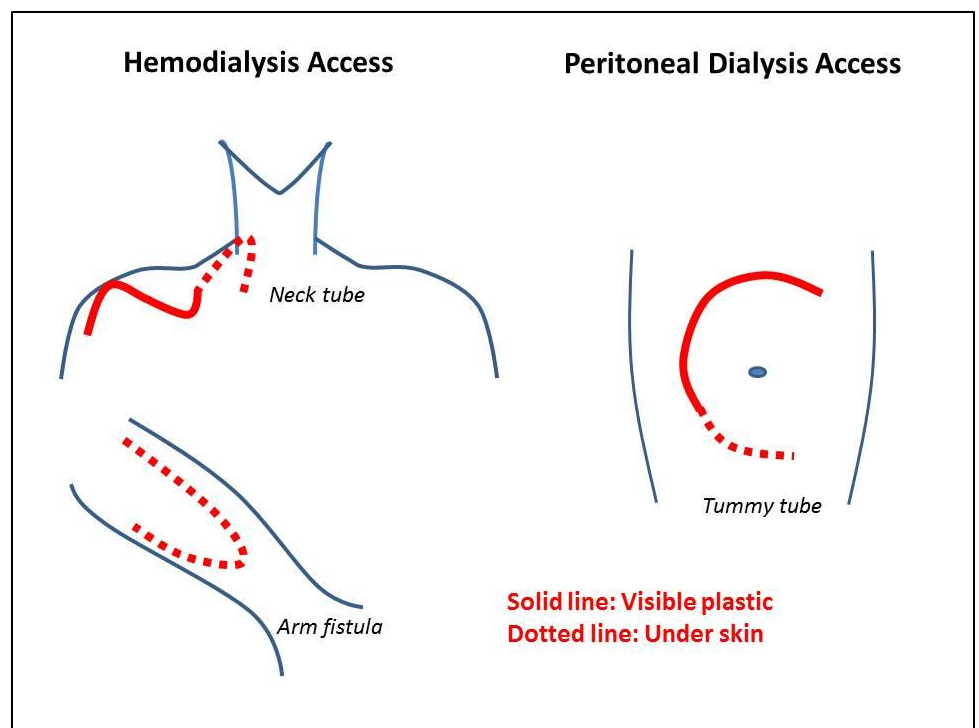
## What is dialysis?

Dialysis treatment removes excess fluid and chemicals from the blood, things the kidney would ordinarily remove. These include sodium, potassium, magnesium, phosphorus, and acid. There are two common forms of dialysis: Hemodialysis and peritoneal dialysis.

**Hemodialysis:** The patient has a large intravenous catheter (plastic tube) in the neck or a connection between an artery and a vein in their forearm from which blood can be withdrawn, run through the dialysis machine, and then returned to the patient. This treatment usually requires 3 sessions each week for 3 to 4 hours each session.

**Peritoneal dialysis:** The patient has a catheter (plastic tube) inserted into the space in the abdomen around the bowels. Tiny blood vessels in this area will filter out the same chemicals when fluid is put in and out of the space. A cyclor

machine can be used to fill and drain fluid several times overnight while the patient sleeps. This type of dialysis can be done at home every night, requiring a monthly visit to the dialysis unit.



## What is transplantation?

Ultimately every child with permanent kidney failure should be considered for a kidney transplant. This procedure involves removing a kidney from someone who has died or a health person who volunteers, most often a relative of the child. The kidney is surgically attached to the bladder and blood vessels of the child, giving them a new kidney.

Kidney transplant does not cure kidney failure. It does give children a better quality of life than dialysis, although it comes with another set of problems and medications.

Unless the donor is an identical twin, the transplanted patient requires medications to keep the immune system from rejecting the new kidney. These medications will also make the patient more susceptible to a variety of infections, especially with viruses. Medicines to prevent these infections may be needed as well. All of these medications have side effects. Some can be toxic to the new kidney. Monitoring of blood and urine tests is required as long as the kidney transplant functions.