

Basic Facts About Kidney Disease and Treatment

Kidneys perform **crucial functions**. When kidneys fail, the blood must be regularly cleansed of toxins and extra fluids by using either an artificial kidney (**hemodialysis**), by introducing a cleansing solution into the abdomen (**peritoneal dialysis**), or by using a healthy donated kidney (**kidney transplant**). With appropriate intervention, patients with complete failure of their kidneys can live full, productive lives. **If individuals with kidney failure do not receive dialysis or a transplant they will die.**

Here are some basic facts:

- **Hemodialysis**—the use of an artificial kidney
- **Peritoneal dialysis**—introduction of a cleansing solution into the abdomen
- **Kidney transplant**—replacing the failed kidney with a donated one

Hemodialysis (HD)—Cleansing a patient's blood of harmful toxins and excess fluids through use of an artificial kidney (dialyzer) and hemodialysis machine

- Hemodialysis must be performed at least 3 times a week for duration of 3–4 hours.
- Specially trained personnel, electricity and water (that has had all harmful substances such as chlorine, aluminum, fluoride, and bacteria removed) are required for treatment.
- Most dialysis clinics do not have emergency generators, so during a time of electrical loss, restoration is crucial—otherwise hospitals providing dialysis service may become overrun.
- Many patients receive treatment at home. Emergency restoration of electricity during times of power outage is critical. Home patients are encouraged to notify their utility suppliers of their status as home dialysis patients.

Peritoneal Dialysis (PD)—Cleaning the blood by placing a catheter into the peritoneal cavity surrounding the intestines

- The peritoneal membrane acts as a filter as the dialysate solution flows through the catheter and removes toxins from the blood where it is then drained and discarded.
- An average of 4–6 fluid exchanges are required each day or for 8 hours overnight.
- While some PD techniques use machines and electricity, in an emergency situation treatment can be performed manually.

Kidney Transplantation—Replacement of a failed kidney with a healthy kidney given from either a deceased or living donor

- Specialized medication is required to prevent the body's rejection of the new kidney.
- Transplant recipients at a high risk for infection due their medication weakening the body's ability to fight them off.