

Significance of Renal Dialysis

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EDITORIAL NOTE

Renal Dialysis is a clinical treatment that keeps patients from feeling torment during medical procedure. It permits individuals to have methods that lead to more advantageous and longer lives. Dialysis is the process of removing excess water, solutes, and toxins from the blood in people whose kidneys can no longer perform these functions naturally. There are two main types of dialysis. Both types filter your blood to rid your body of harmful wastes, extra salt, and water. Haemodialysis uses a machine. It is sometimes called an artificial kidney. You usually go to a special clinic for treatments several times a week. Peritoneal dialysis uses the lining of your abdomen, called the peritoneal membrane, to filter blood.

In detail about the types of dialysis

Hemodialysis is the most common type of dialysis. This process uses an artificial kidney (hemodialyzer) to remove waste and extra fluid from the blood. The blood is removed from the body and filtered through the artificial kidney. The filtered blood is then returned to the body with the help of a dialysis machine.

To get the blood to flow to the artificial kidney, doctor will perform surgery to create an entrance point (vascular access) into blood vessels. The three types of entrance points are:

- Arteriovenous (AV) fistula: This type connects an artery and a vein. It's the preferred option.
- AV graft: This type is a looped tube.
- Vascular access catheter: This may be inserted into the large vein in your neck.

Both the AV fistula and AV graft are designed for long-term dialysis treatments. People who receive AV fistulas are healed and ready to begin hemodialysis two to three months after their surgery. People who receive AV grafts are ready in two to three weeks. Catheters are designed for short-term or temporary use. Hemodialysis treatments usually last three to five hours and are performed three times per week. However, hemodialysis treatment can also be completed in shorter, more frequent sessions.

Most hemodialysis treatments are performed at a hospital, doctor's office, or dialysis center. The length of treatment depends on your body size, the amount of waste in your body, and the current state of your health. After you've been on hemodialysis for an extended period of time, your doctor may feel that you're ready to give yourself dialysis treatments at home. This option is more common for people who need long-term treatment.

Peritoneal dialysis

Peritoneal dialysis involves surgery to implant a peritoneal dialysis (PD) catheter into your abdomen. The catheter helps filter your blood through the peritoneum, a membrane in your abdomen. During treatment, a special fluid

called dialysate flows into the peritoneum. The dialysate absorbs waste. Once the dialysate draws waste out of the bloodstream, it's drained from your abdomen. This process takes a few hours and needs to be repeated four to six times per day. However, the exchange of fluids can be performed while you're sleeping or awake.

There are numerous different types of peritoneal dialysis. The main ones are:

- Continuous ambulatory peritoneal dialysis (CAPD). In CAPD, your abdomen is filled and drained multiple times each day. This method doesn't require a machine and must be performed while awake.
- Continuous cycling peritoneal dialysis (CCPD). CCPD uses a machine to cycle the fluid in and out of your abdomen. It's usually done at night while you sleep.
- Intermittent peritoneal dialysis (IPD). This treatment is usually performed in the hospital, though it may be performed at home. It uses the same machine as CCPD, but the process takes longer.

Continuous renal replacement therapy (CRRT)

This therapy is used primarily in the intensive care unit for people with acute kidney failure. It's also known as hemofiltration. A machine passes the blood through tubing. A filter then removes waste products and water. The blood is returned to the body, along with replacement fluid. This procedure is performed 12 to 24 hours a day, generally every day.