# Hemodialysis and Peritoneal Dialysis

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HEALTH • EDUCATION • RESEARCH صحة • تعليم • بحوث
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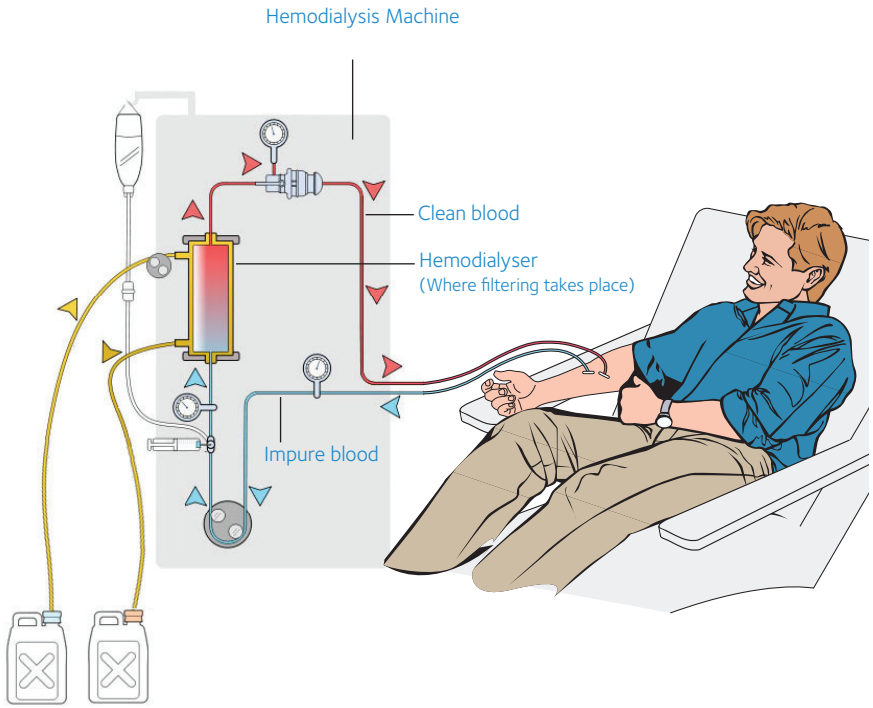
Healthy kidneys clean your blood by removing excess fluid, minerals, and wastes. They also produce hormones that keep your bones strong and your blood healthy. When your kidneys fail, harmful wastes build up in your body, your blood pressure may rise, and your body may retain excess fluid and not make enough red blood cells. When this happens, you need treatment to replace the work of your failed kidneys.

## Hemodialysis (HD)




**How does Hemodialysis work?**
In Hemodialysis, your blood is allowed to flow through a special filter that removes wastes and extra fluids. The clean blood is then returned to your body. Removing the harmful wastes, extra salt and fluids, helps control your blood pressure to keep the proper balance of chemicals like potassium and sodium in your body. It also corrects the acidosis associated with the kidney disease.

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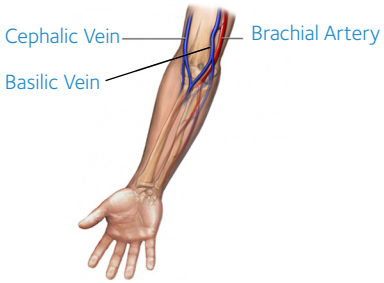
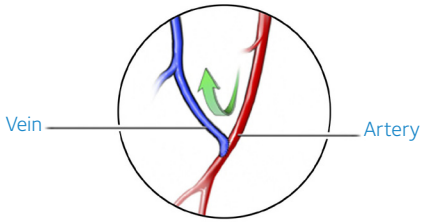
## Getting Your Permanent Vascular Access Ready :

One important step before starting hemodialysis is preparing a vascular access.

**Types of vascular access:**

**1. A-V Fistula**

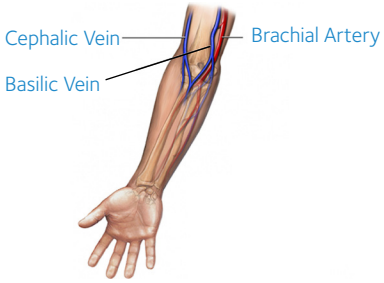


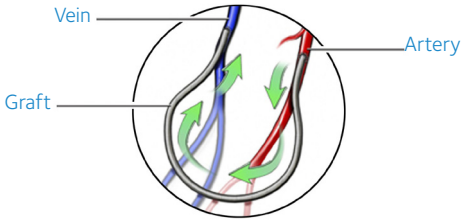




Arteriovenous Anastomosis

A-V fistula should be prepared few months before you start dialysis. The surgeon will create a connection between an artery to a vein.

**2. A-V Graft**




Arteriovenous Graft

If you have small veins that would not develop properly into a fistula, you can get a vascular access that connects an artery to a vein using a synthetic tube, or graft, implanted under the skin in your arm. A graft does not need to develop as a fistula does, so it can be used sooner after placement, often within two or three weeks.

Compared with properly formed fistulas, grafts may have problems with clotting and infection.



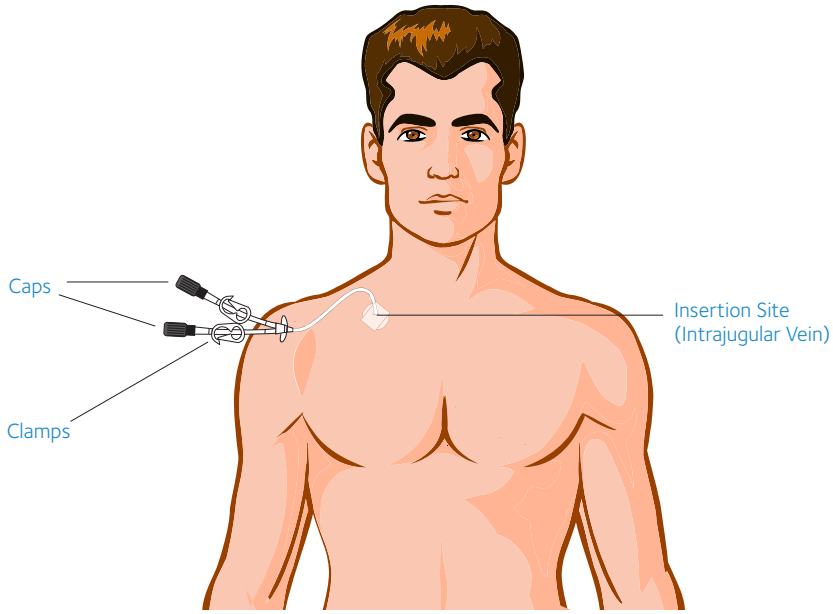
**How should I take care of my vascular access?**

You can take several steps to protect your access:

- Don't let anyone take blood samples from your access
- Keep it clean at all time
- Use your access site only for dialysis
- Don't let anyone put a blood pressure cuff on your access arm
- Don't wear jewelry or tight clothes over your access site
- Don't sleep with your access arm under your head or body
- Check the pulse in your access arm every day
- Don't lift heavy objects or put pressure on your access arm

**What is temporary access?**

If your kidney disease has progressed quickly, you may need to use a venous catheter as a temporary access.




A catheter is a tube inserted into a vein in your neck, chest, or leg near the groin. Catheters are not ideal for permanent access. They can clot, become infected, and cause narrowing of the veins in which they are placed.

**How should I take care of my catheter?**

- Keep catheter dressing clean and dry
- Make sure the area of access is cleaned and the dressing is changed by your care team at each dialysis session treatment
- Never open your catheter to the air

**How long will each hemodialysis treatment last?**

Hemodialysis treatments usually last about four hours, and they are done three times a week. Your doctor will give you a prescription that tells you how much treatment you need.

**Can dialysis cure my kidney disease?**

No. Dialysis is a type of renal replacement therapy. In cases of acute kidney injury, dialysis may be needed for a short time until the kidneys get better. However, in cases of chronic kidney disease, when the kidneys reach the end stage, the patient will need dialysis for the rest of their life unless they are able to receive a kidney transplant.

**Will I be uncomfortable on Hemodialysis?**

When you begin hemodialysis, the needles put in your fistula or graft may be uncomfortable. Most patients get used to this in time. Symptoms like cramps, headaches, nausea or dizziness are not common, but if you do have any of them, ask your dialysis care team.

**How to improve the quality of life?**

- You can help yourself by following your diet and fluid allowances. The need to remove too much fluid during dialysis is one of the things that may make you feel uncomfortable during your treatment.
- When you start hemodialysis your diet will change. The dietitian will help you learn about the diet and fluid intake.
- Follow and take your medication on time
- Do some exercise as recommended by your doctor

**Can dialysis patients travel?**

Yes. Dialysis centers are available in most countries. You have to arrange space before traveling.

**Can dialysis patients continue to work?**

Yes. Many dialysis patients continue to work or return to work after they have become used to dialysis. You may need to change your duties if your job has a lot of physical labor (heavy lifting, digging, etc).



## Peritoneal Dialysis (PD)

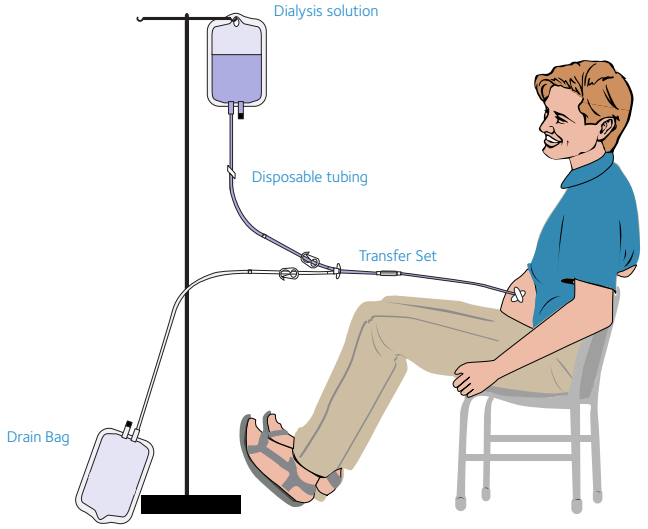
**How does PD work?**

In PD, a soft tube called a catheter is used to fill your abdomen with a cleansing liquid called dialysis solution. The walls of your abdominal cavity are lined with a membrane called the peritoneum, which allows waste products and extra fluid to pass from your blood into the dialysis solution.

These wastes and fluid then leave your body when the dialysis solution is drained. The process of draining and filling is called an exchange and takes about 30-40 minutes. The period the dialysis solution is in your abdomen is called the dwell time. A typical schedule calls for four exchanges a day, each with a dwell time of four to six hour hours.

**Types of PD**

**1. Continuous Ambulatory Peritoneal Dialysis (CAPD) Manual:**




If you choose CAPD, you'll fill a fresh bag of dialysis solution into your abdomen. After four to six, or more, hours of dwell time, you will drain the solution, which now contains wastes, into the bag. You then repeat the cycle with a fresh bag of solution. Your doctor will prescribe the number of exchanges you will need, typically four exchanges/day. During an exchange, you can read, talk, watch television, or sleep.

**2. Automated Peritoneal Dialysis (APD) Machine:**

APD uses an automated cycler to perform three to five exchanges during the night while you sleep. APD performs exchanges overnight, while you sleep.

**Which type is better?**

The type of PD will depend on many factors: like the peritoneal membrane type; the dialysis efficiency; and patient's preference. Work with your healthcare team to find the best schedule and techniques to meet your lifestyle and health needs.

You may start with one type of PD and switch to another, or you may find that a combination of automated and non automated exchanges suits you best.

**Preventing the infection**

Infection is aproblem for people on PD. Your healthcare team will show you how to keep your catheter bacteria-free to avoid peritonitis, (infection of the peritoneum).

You should follow your healthcare teams' instructions carefully, but here are some general rules:

- Store supplies in a cool, clean, dry place
- Inspect each bag of solution for signs of contamination before you use it
- Find a clean, dry, well-lit space to perform your exchanges
- Wash your hands every time you need to handle your catheter
- Clean the exit site with antiseptic every day
- Clean the area before and after dialysis



Hand washing is very important before and after the procedure.

**How diet can help**

Eating the right foods can help improve your dialysis and your health. You may have chosen PD over hemodialysis because the diet is less restrictive. You still need to be very careful about the foods you eat.

However, because Dialysis (HD, PD) is much less efficient than working kidneys, follow the dietitian's advice closely to get the most from your dialysis treatments.

**Advantages of Peritoneal Dialysis:**

- Can be done at home / at work
- Gentle dialysis as it is done every day
- Control over your own schedule / more flexible
- Dialysis clinic visit only once a month
- Preserves kidney function
- Less restricted diet
- Better blood pressure control
- No needles required
- Easy travel
- Better result after kidney transplantation
- Lower risk for hepatitis