

Introduction

If your kidneys are failing, and you are not expecting to have a transplant right away, you will usually be offered a choice of treatments. These treatments are different forms of 'dialysis'.

During dialysis, the waste products and water that would normally be excreted in urine are filtered from the blood. They pass into a fluid called the 'dialysate'. The dialysate is a solution of electrolytes (salts) and glucose. The electrolytes pass across the filter to keep the right level in the blood.

This leaflet gives a brief description of the different types of dialysis. The staff at your hospital will give you more information and answer any questions you have.

Peritoneal Dialysis (PD)

In PD, the waste products and water are filtered through the 'peritoneal membrane'. This is the lining of the peritoneal cavity which holds your abdominal organs. It can be used for dialysis because it has a good supply of blood and the cavity can be filled with dialysate.

If you choose PD, you will need a small operation to have a soft plastic tube inserted in your abdomen. Dialysate is passed through this tube to fill the peritoneal cavity. It is left in place to collect the waste products from your blood, and then drained out. This is called the 'dwell'.

Draining out the dialysate and refilling the cavity is called an 'exchange'. You will need several exchanges each day to get rid of all the waste products. The exchanges have to be carried out in a clean, safe place.

The different types of PD are:

- **CAPD (Continuous Ambulatory PD):**
In CAPD you will usually make four exchanges a day using bags of fluid warmed to body temperature. During the dwell time between exchanges you can move about as normal.
- **APD (Automated PD):** In APD, a machine warms the fluid and makes exchanges at night while you are asleep.

As far as we know, there is no reason to prefer either **CAPD** or **APD** when you first start dialysis. When you have been on PD for several months, the staff will usually check your peritoneal 'transport type'. This measurement shows how quickly waste products can pass through your peritoneal membrane and how easily excess water can be removed from your body. If you are a 'slow transporter', the longer dwells in CAPD may be best for you.

With training, most patients can carry out PD on their own or with help from a family member. Patients who need assistance with PD, but don't have anyone at home to help, may be offered **aCAPD** or **aAPD**. In assisted **CAPD** or **APD**, the dialysis unit sends someone to the patient's home to help with the exchanges.



What modality of dialysis should I choose?

Dialysis modality selection:
Clinical advice from the European Renal
Best Practice (ERBP) Advisory Board

Haemodialysis (HD)

In HD, waste products and excess fluid are filtered through an artificial membrane in a device called a 'dialyser'.

If you choose HD, you will usually have an operation to create a special blood vessel in your arm called a fistula. Blood is taken from this vessel and returned when it has been filtered. This process is controlled by a dialysis machine. If your kidneys are no longer able to remove waste products from your blood, you will usually need to be connected to a dialysis machine for at least 4 hours, 3 times each week.

The different types of HD are:

- **Hospital HD:** This is where the machine is in a hospital dialysis unit. The treatment is carried out by nurses. Doctors are available if you have a medical problem during dialysis.
- **Satellite Unit HD:** This is where the machine is in small unit away from the main hospital. Satellite units allow patients to have HD closer to home when they are comfortable on dialysis. Patients are often encouraged to share the management of their treatment with the nurses.
- **HHD (Home HD):** This is where the machine is installed in your home. You are taught how to carry out HD on your own or with a carer. On HHD, you can dialyse at times that suit you and have treatment more often if you need to.

- **NHD (Nocturnal HD):** In NHD, like APD, the machine carries out your treatment while you are asleep. This means you can have longer HD sessions but keep your days free. NHD is usually done at home, but some hospitals provide it.

Is HD or PD the best treatment to start on?

As far as we know, HD and PD work equally well. Sometimes there is a reason why you can't have PD, such as problems following abdominal surgery. Otherwise you should be able to choose the type of dialysis that you think will be best for your lifestyle. This is the same for patients with a kidney transplant that is failing.

The staff at your hospital should tell you about the treatment options that are available for you. You may have the option to have a transplant instead of dialysis. For this you must be well enough for surgery and able to take the anti-rejection drugs.

Do I need to change my dialysis treatment?

If you had to start dialysis unexpectedly you will usually start on hospital HD, but with a temporary catheter to take blood to the machine. As soon as you are well enough, you should discuss the options for PD.

If you are on hospital or satellite HD and feel you could manage your own treatment, you should ask about home HD. Patients who start on aCAPD or aAPD often find that they can take over their care after a while.

The staff at your hospital will try to make sure that you can have the type of dialysis you prefer. However, sometimes your doctor will recommend that you change modality to protect your health.

Changes in your peritoneal transport type (see above) may mean you need to switch from CAPD to APD or vice versa.

These are some reasons why it may be best for you to switch from **HD to PD**:

- 'Haemodynamic instability': Problems with low blood pressure during HD that cannot be resolved. Patients who can't tolerate the rapid changes that occur in 4 hour HD sessions may do better on PD (or on home HD where longer or more frequent sessions are possible).
- Difficulties in creating a fistula.
- Ascites (fluid in the abdominal cavity).

These are some reasons why it may be best for you to switch from **PD to HD**:

- Inability of the peritoneal membrane to filter enough waste products and water to prevent symptoms of kidney failure.
- Frequent infection of the membrane.
- Changes in your lifestyle that mean you cannot carry out exchanges regularly.
- Further loss of your kidney function
- Surgery on your abdomen.
- 'Sclerosing peritonitis': This is a rare complication of PD where a thick membrane forms around the bowel.