

Fact sheet

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Peritoneal Dialysis — A Treatment Option

What is dialysis?

Dialysis or a kidney transplant is needed when your kidneys have stopped working. A sudden drop in kidney function is called acute kidney failure. It is often short lived and seldom means you will stay on dialysis. More often kidney function worsens over a number of years (called chronic kidney disease) until there is less than 10% function left. This is when permanent dialysis or a kidney transplant is needed. Your doctor will tell you when it is time to start treatment.

Dialysis is a treatment for kidney failure that removes waste products and extra water from the blood by filtering the blood through a special membrane to remove waste products. Dialysis can be performed at home or at special centre. There are two forms of dialysis — haemodialysis (home or centre) and peritoneal dialysis (home).

See *Home Haemodialysis* or *Haemodialysis* fact sheet for more information about haemodialysis.

What is peritoneal dialysis (PD)?

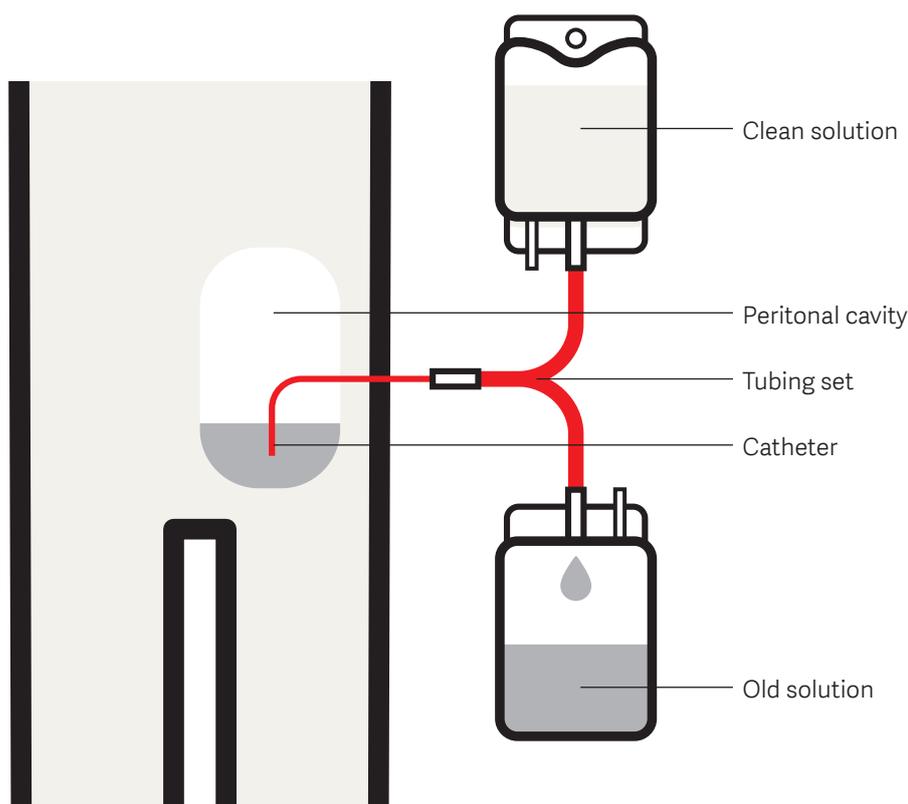
Peritoneal dialysis replaces some of your lost kidney function. It is usually performed at home by yourself and a family member can be trained to help you. Short term training is needed, and this is organised by your health care team.

Peritoneal dialysis occurs inside your body using the peritoneal membrane as a filter. This membrane lines your peritoneal (abdominal) cavity, covering organs such as your stomach, liver, spleen and intestines. It has a fine layer of tissue with a rich blood supply. During peritoneal dialysis, the membrane is used to filter waste products and extra fluid from your blood. A special peritoneal catheter is used to transfer dialysis fluid into and out of the peritoneal cavity.

What is a peritoneal catheter?

A peritoneal dialysis catheter is a soft, flexible plastic tube about 0.5 cm in diameter. The catheter is put into your body during a small operation. Your skin heals around the tube. It stays in your body for as long as dialysis is needed. Some of the catheter is on the outside of your abdomen (belly). This catheter is used to move dialysis fluid (dialysate), a special fluid that helps to clean your blood, to be moved in and out of your body painlessly.

The tube is usually below and to one side of your navel. The place where the tube comes out of your belly is called the 'exit site'. You and your health care team will decide on the best location for the catheter. The tubing can be worn comfortably and easily hidden under clothing. You are taught to look after the exit site as part of your daily routine and care must be taken to avoid infection. The catheter may seem strange at first but most people become used to them quickly.



How does PD work?

The PD cycle once established is: drain, fill, dwell. Each time this cycle is repeated, it is called 'an exchange'. Your catheter is carefully connected by you to tubing connected to a new bag of dialysate. The dialysate contains glucose (a type of sugar) but also contains substances that are similar to those in your blood. This tubing also connects to a drain bag.

Drain: First you drain out the old dialysate which has been in the peritoneal cavity for the last 4–8 hours.

Fill: Your peritoneal cavity is filled with the new dialysate.

Dwell: You disconnect from the tubing and bags. The dialysate remains in your cavity for a period of time.

Waste and extra fluid are drawn out of the blood vessels and through your membrane into the dialysate during this time.

Why are there different types of PD?

The different types of PD suit different lifestyles. Peritoneal membranes are also different and one type may suit your peritoneal membrane better. Special tests once you are on PD can tell the health care team which type is best for you. The two types of PD are known as — Continuous Ambulatory Peritoneal Dialysis and Automated Peritoneal Dialysis.

Continuous Ambulatory Peritoneal Dialysis (CAPD)

With CAPD you always have dialysate in your body so your blood is constantly being cleaned. Four exchanges are usually done each day. Each exchange takes about 30 minutes and can be done almost anywhere, with a few sensible precautions. In between exchanges you are free to go about your daily activities. Overnight you have a long dwell whilst you sleep. Exchanges are typically done on waking, at lunch time, at tea-time and prior to going to bed. Some flexibility is available for busy days.

CAPD works by gravity. When the drain bag is placed at floor level the fluid drains out. By raising the new dialysate bag above shoulder level, the new dialysate flows into your peritoneal cavity.

Automated Peritoneal Dialysis (APD)

During APD a machine called a cycler does exchanges for you. Each night your catheter is attached to the tubing of the cycler. It does several exchanges, moving the dialysate in and out of your body while you are asleep. APD is done every night and usually takes between 8–10 hours. During the day dialysate is usually left in your body so that dialysis continues. In the evening the dialysate is drained out automatically by the cycler.

How do I learn to do PD?

Once the catheter is healed (which usually takes a couple of weeks) you can train to do the exchanges at home. Specialised nurses at the training centres will organise training dates and times with you. Good training is important to make sure you can do the dialysis safely. You should allow one week to focus on training. Another person can do some training with you if they will be supporting you at home.

During training you will learn to:

- perform the exchanges
- care for your exit site
- manage your general health
- manage any problems with the dialysis
- order and look after your supplies

When you go home you should allow a week to settle into your new routine.

Once you are performing PD at home your supplies will be delivered once a month into the storage space that you choose. You will need a space about the size of a double wardrobe. PD exchanges can be performed anywhere in the house including your bedroom. The training staff will continue to monitor your health, be available for any problems, and will see you regularly either at clinics or in your own home.

Making a dialysis choice

The choice between types of dialysis depends on factors such as your age, health and lifestyle. The benefits and drawbacks of each type need to be discussed with your health team and family. The best option is to choose a home modality of dialysis if you are able to. If choosing PD then many people start on CAPD and then transfer to APD once their body has got used to dialysis.

There are many benefits of using PD, including:

- freedom to travel with a little organization
- flexible dialysis in your own home
- control over your life-style
- an easy technique that can be learnt by most people in one week
- a gentle dialysis that operates all day
- most people have no diet restrictions and very few fluid restrictions

What are the main difficulties on PD?

- Peritonitis is an infection that can occur if bugs get into your peritoneum. Careful hand washing is the best prevention. Treatment is by putting antibiotics into the dialysate bags. The same as a chest infection most peritonitis can be cured if treated quickly.
- Exit site infection is an infection around the tube. Looking after your catheter carefully can prevent this. Antibiotics are the usual treatment.

For more information about kidney or urinary health, please contact our free call Kidney Health Information Service (KHIS) on 1800 454 363.

Or visit our website kidney.org.au to access free health literature.

This is intended as a general introduction to this topic and is not meant to substitute for your doctor's or Health Professional's advice. All care is taken to ensure that the information is relevant to the reader and applicable to each state in Australia. It should be noted that Kidney Health Australia recognises that each person's experience is individual and that variations do occur in treatment and management due to personal circumstances, the health professional and the state one lives in. Should you require further information always consult your doctor or health professional.



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