

Peritoneal dialysis

What is peritoneal dialysis?

Peritoneal dialysis (PD) became an alternative to haemodialysis in the 1980s. Many patients prefer the independence it brings. Since you don't have to have dialysis sessions at a dialysis unit, you can give yourself treatments at home, at work or on holiday. But this independence makes it especially important that you work closely with your healthcare team: your GP, nephrologist (kidney doctor), dialysis nurse, dialysis technician, dietitian and social worker. By learning about your treatment, you can work with your healthcare team to give yourself the best possible results – and you can lead a full, active life.

What healthy kidneys do

Healthy kidneys clean your blood by removing excess fluid (and salt) and wastes. They also make hormones which keep your bones strong and your blood healthy. When chronic kidney disease (CKD) is advanced (Stage 4, blood creatinine level over 400µmol/L), your kidneys are failing and harmful wastes build up in your body, your blood pressure may rise, and your body may retain excess fluid, leading to ankle swelling and shortness of breath (water in the lungs). When this happens, you will need treatment to replace the work of your failed kidneys.

What PD does

In PD, a soft tube called a catheter is used to fill your abdomen with a cleansing liquid called 'dialysis solution'. Your abdominal cavity is lined with a membrane (layer) called the peritoneum. The waste products and extra fluid (and salt) pass through the peritoneum from your blood into the dialysis solution, attracted by its high sugar (dextrose) content. They then leave your body when the dialysis solution is drained. This used solution is thrown away.

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 is four exchanges a day, each with a dwell time of 4–8 hours. One form of PD, continuous ambulatory peritoneal dialysis (CAPD), doesn't require a machine and it is possible to walk around with the dialysis solution in your abdomen. Another

form of PD, automated peritoneal dialysis (APD), requires a machine to fill and drain your abdomen; performing three to five exchanges during the night while you sleep; the process lasting 8–10 hours.

Preparing for PD – catheter insertion

Whether you choose CAPD or APD, you will need an operation to have a soft catheter placed in your abdomen. The catheter is the tube that carries the dialysis solution into and out of your abdomen. The catheter is then 'rested' for two weeks. This break-in period lets your body build up scar tissue that will hold the catheter in place.

Peritonitis

Infection – especially peritonitis, an infection of the peritoneum – is the most common problem for people on PD. Your nurse will show you how to keep your catheter bacteria-free to avoid this problem.

Tests to check your PD is working

If you are well, your nephrologist should measure the effectiveness of the PD with blood tests (including urea and creatinine) at least every three months. Ask to see them. It's your health. Another test (usually done once) – the peritoneal equilibration test (PET) – is used to see what type of PD is best for you.

Compliance

A drawback with PD is that some patients sometimes don't perform all of their prescribed exchanges.

They either skip exchanges or sometimes skip entire treatment days when using APD. This may be OK occasionally, but is not recommended on a regular basis.

