

Peritoneal Dialysis

An Introduction



Why is dialysis needed?

Your child may need dialysis if he or she is in kidney failure.

About kidney failure

The term kidney function is used to describe how well the kidneys are working – especially how they filter blood and make urine. In kidney failure, the level of kidney function is too low to support the body. This may happen suddenly or over a long time.

Acute renal failure: this happens when the kidney function gets worse over a short period of time. In severe cases children need dialysis for a few weeks or longer until their kidneys start working again.

Chronic renal failure: in some children kidney function gets worse over a long period of time. Chronic renal failure has five stages, and kidney failure happens in stage 5. It is also called end stage renal failure (ESRF) or established renal failure. Most children with stage 5 CKD need dialysis and/or a kidney transplant.



Peritoneal dialysis (**PD**) is one type of **renal replacement therapy**. This means it partly replaces the work of kidneys (“renal” meaning to do with the kidneys).

What dialysis can do?

Dialysis does the job normally done by the kidneys. It removes extra water and waste products from the blood. If these are not removed, they build up in the body and can cause illness and fluid overload (too much water in the body).

What dialysis cannot do?

Dialysis does not do everything that kidneys do – such as help keep bones healthy and make red blood cells. Your child will take medicines to help with this.

How does Peritoneal Dialysis work?

Peritoneal dialysis (PD) – using the peritoneum, which is the lining of the abdomen (tummy). A glucose based fluid is put into the abdomen, where it stays for a set amount of time while the peritoneum filters the blood. The used fluid is drained out of the body.

What happens during peritoneal dialysis?

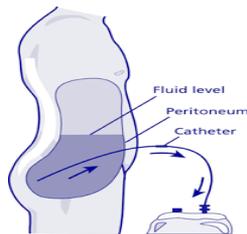
For each dialysis session, the patient is connected to the peritoneal dialysis equipment and the glucose based fluid is passed into and out of the body. Each time fluid passes in and is drained out from the body is called an exchange.

Each cycle consists of three phases; a fill, a dwell and a drain.

At home, this treatment happens during the night when your child is sleeping. A machine called a ‘Homechoice’ machine will be given to you. The machine sits beside your child’s bed. The machine works automatically once setup. Your child will have a number of cycles over a set number of hours. This will depend on your child’s blood results.



Homechoice Machine



Picture of catheter in abdomen and filling the Peritoneum with dialysis fluid

Preparing for dialysis

Your child will be admitted to hospital to have a dialysis catheter inserted.

A peritoneal catheter, a soft plastic tube, is inserted through the abdomen (tummy).

A small cut is made in the abdomen to make a small hole. A catheter is inserted through the hole into peritoneal cavity. Children usually stay in hospital for 2 to 4 days to allow time for healing.

What happens next?

- You will be asked to sign a consent form for the surgery.
- Screening skin swabs will be taken on your child to test for any skin infections.
 - Nose swabs will be taken on the parents/carers involved in doing the dialysis.
 - A bath and hair wash will be done on the morning of surgery.
 - Two intravenous antibiotics are given before going to theatre.
 - The procedure takes between one and two hours under general anesthetic. Your child will return from theatre with a dressing over the site.
 - The new catheter is flushed (this involves being attached to the dialysis machine and fluid being flushed in and out of the peritoneum) to help cleanse the peritoneum post-surgery.

Whether the catheter needs to be used straight away or during the following weeks or months will be decided depending on your child's level of renal function.

Before you are discharged home the nursing staff will explain how to look after the catheter (exit site care) and what to do if you have problems at home.

What happens during Training?

Your training will involve you and your child being admitted to the ward. We aim to complete planned training in 2-3 weeks.

During this time you will be expected to stay overnight so you can become confident caring for your child on dialysis.

For training purposes you will be expected to be available for teaching during the day. This may mean that you need to take time off work. The aim of this is to ensure that you have the opportunity to gain confidence and to learn the skills needed for performing peritoneal dialysis at home.

You will learn the following:

- How Dialysis works.
- Hand washing technique.
- Sterile non touch technique.
- How to program the machine.
- How to set up the home choice machine.
- Connecting your child to the machine.
- Disconnecting your child from the machine.
- Troubleshooting (what to do if the home choice machine alarms, and how to correct them).
- Drainage problems -reasons why and what to do.
- Exit Site Care - cleaning of the exit site and how to recognise a problem.
- Fluid balance - signs of fluid overload and dehydration.
- How to monitor and record your child's weight, blood pressure and temperature.
- Causes and signs of peritonitis/how to take a PD fluid specimen.

Supporting your child

Supporting your child on PD is a new experience which can be tiring for the child, parents and siblings. The multidisciplinary team are here to support you during this time while you adapt and adjust. If you have any concerns or need additional support, speak with your doctor or nurse.

Potential Problems	
Fluid Overload	Too much fluid in the body
Dehydration	Not enough fluid in the body
Hernias	A weakness in the tummy muscles
Peritonitis	An infection of the peritoneum
Poor Drainage	When the tube fails to drain enough fluid



Frequently asked questions

Does my child need to have dialysis every night and how long will it last?

Yes, most children will need to have dialysis every night. The programmes vary but usually last for 10 to 12 hours.

Do I have to tell my child's school?

The school will need to know that your child has dialysis and what they need to do if there is a problem with the dialysis catheter. It is possible for one of the dialysis nurses to go to your child's school and explain about their dialysis. We will also teach them what to do if there is a problem with the dialysis catheter or if your child feels unwell.

Can my child play sports?

We encourage children to carry on with their normal activities as much as possible. There will be some sports that we do not recommend. Please discuss this with us so that you can agree a safe plan for your child.

Can we still go on holiday?

When stable and established on dialysis, it is possible for your child to go on holiday in Ireland or abroad. This takes extra planning to organise dialysis fluid to be delivered to your destination. Please discuss this with us before you book your holiday.

Will dialysis hurt?

While your child is getting used to dialysis, usually in hospital, it can be a little uncomfortable. Your child will be given pain relief if this happens and the dialysis programme may be changed. Once your child is at home, the overnight dialysis should not be painful. However, if pain is a problem, please tell us.

How do I apply for financial support?

You will be automatically allocated a social worker who can provide information on benefits and other sources of financial support.

Useful Phone Numbers

Crumlin Hospital	Temple Street Hospital
Switch (01) 409 6100	Switch
Clinical Nurse Specialists 01 409 6803 / 01 409 6029 Via Switch Bleep 8766	Clinical Nurse Specialists
Nephro-urology ward - 01 409 6029	Michaels C Ward
Nephrology Registrar - Bleep 8852	Nephrology Registrar
Renal Dietician - Bleep 8764	Renal Dietician
Medical Social Worker - Bleep 8145	Medical Social Worker

Adapted by

Renal units in Our Lady's Children's Hospital Crumlin and Temple Street Children's University Hospital



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