Patient education: Peritoneal dialysis (The Basics)

Written by the doctors and editors at UpToDate

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What is peritoneal dialysis?

This is a treatment for kidney failure. Normally, the kidneys filter blood, remove waste, and remove excess salt and water (figure 1). Kidney failure, also called "end-stage kidney disease," is when the kidneys mostly or completely stop working.

Peritoneal dialysis is a procedure that involves piping a special fluid into the belly. This fluid collects waste and excess salt and water from blood. Then, the used fluid drains out of the belly.

Where will I do peritoneal dialysis?

You will do peritoneal dialysis at your home. You need to do it every day.

When will I start peritoneal dialysis?

You and your doctor will decide the right time for you to start. It depends partly on how well your kidneys work, and your symptoms and overall health. Your doctor will do blood tests to check how well your kidneys are working.

Before you start peritoneal dialysis, you need surgery to create a way for the fluid to get in and out of your belly. The doctor will put a thin tube (called a "catheter") in your belly. One end of the tube stays in your belly. The other end stays outside of your body. It takes about 2 weeks for your body to heal with the tube in it before you can start dialysis.

You will also need to learn how to do peritoneal dialysis. A nurse will teach you or a family member (if they will do it) how to set up and use the equipment.

What happens during peritoneal dialysis?

- You hook up your belly tube to the dialysis tubing (figure 2).
- You pipe clean fluid into your belly.
- The fluid stays there for a certain amount of time. When the fluid is in your belly, it's called a "dwell." During a dwell, your belly might feel full or bloated, but it shouldn't hurt.
- After the dwell, you drain the used fluid out of your belly and throw it away. Then, you refill your belly with clean fluid. Each time you drain the used fluid and refill your belly with clean fluid, it's called an "exchange."

Follow all your doctor's instructions about each exchange and dwell.

How often will I do peritoneal dialysis, and how long does it take?

Your schedule will depend on the type of peritoneal dialysis. There are 2 types:

- Continuous ambulatory peritoneal dialysis, or "CAPD" – People on CAPD usually do 3 to 5 exchanges during the day and then sleep with a dwell overnight. Each daytime exchange takes about 30 to 40 minutes.
- Automated peritoneal dialysis, or "APD" – People on APD use a machine (called a "cycler") to do multiple overnight exchanges while they sleep.

Most people can choose which type of peritoneal dialysis to have. Talk with your doctor about which type is best for you.

What problems can happen with peritoneal dialysis?

Problems can include:

- Infection of the skin around the tube – Treatment usually includes antibiotic medicines or creams.
- Infection inside the belly, called "peritonitis" – Treatment usually includes antibiotics that go into the belly with the dialysis fluid.
- Hernia – This is when a belly muscle becomes weak. It causes an area of the belly to bulge out. It usually doesn't hurt. It is treated with surgery.

What else I should do?

You should:

- Weigh yourself every day – Your weight can help tell you if your dialysis treatment needs to be changed.
- Take care of your skin around the tube – Every 1 to 2 days, wash the area carefully, pat it dry, and put an antibiotic cream on it. Keep it covered with gauze and tape. Tell your doctor or nurse if you injure the area or if the tube moves out of place.
- Follow a special diet – You might need to limit how much fluid you drink and eat. You might also need to avoid foods with a lot of sodium, potassium, and phosphorous. These are minerals that can build up in your body if you have kidney problems.

When should I call the doctor?

Call your doctor or nurse if:

- You have symptoms of infection inside the belly or around the tube – These include fever, chills, belly pain, the fluid that drains from your belly looking cloudy, or redness, drainage, warmth, or pain over the access.
- Part of your belly bulges out.
- The dialysis fluid is not draining or will not go into the tube.

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Patient education: Chronic kidney disease (The Basics)
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Patient education: How to weigh yourself (The Basics)
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Patient education: Peritoneal dialysis (Beyond the Basics)
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Patient education: Dialysis or kidney transplantation — which is right for me? (Beyond the Basics)

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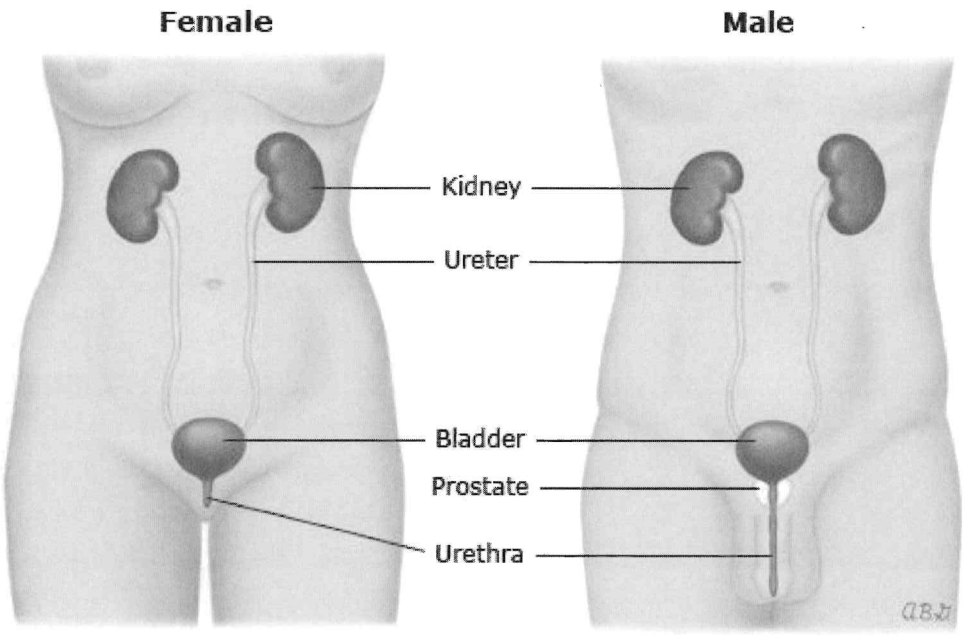
GRAPHICS

Figure 1: **Anatomy of the urinary tract in adults**



Urine is made by the kidneys. It passes from the kidneys into the bladder through 2 tubes called the "ureters." Then, it leaves the bladder through another tube called the "urethra."

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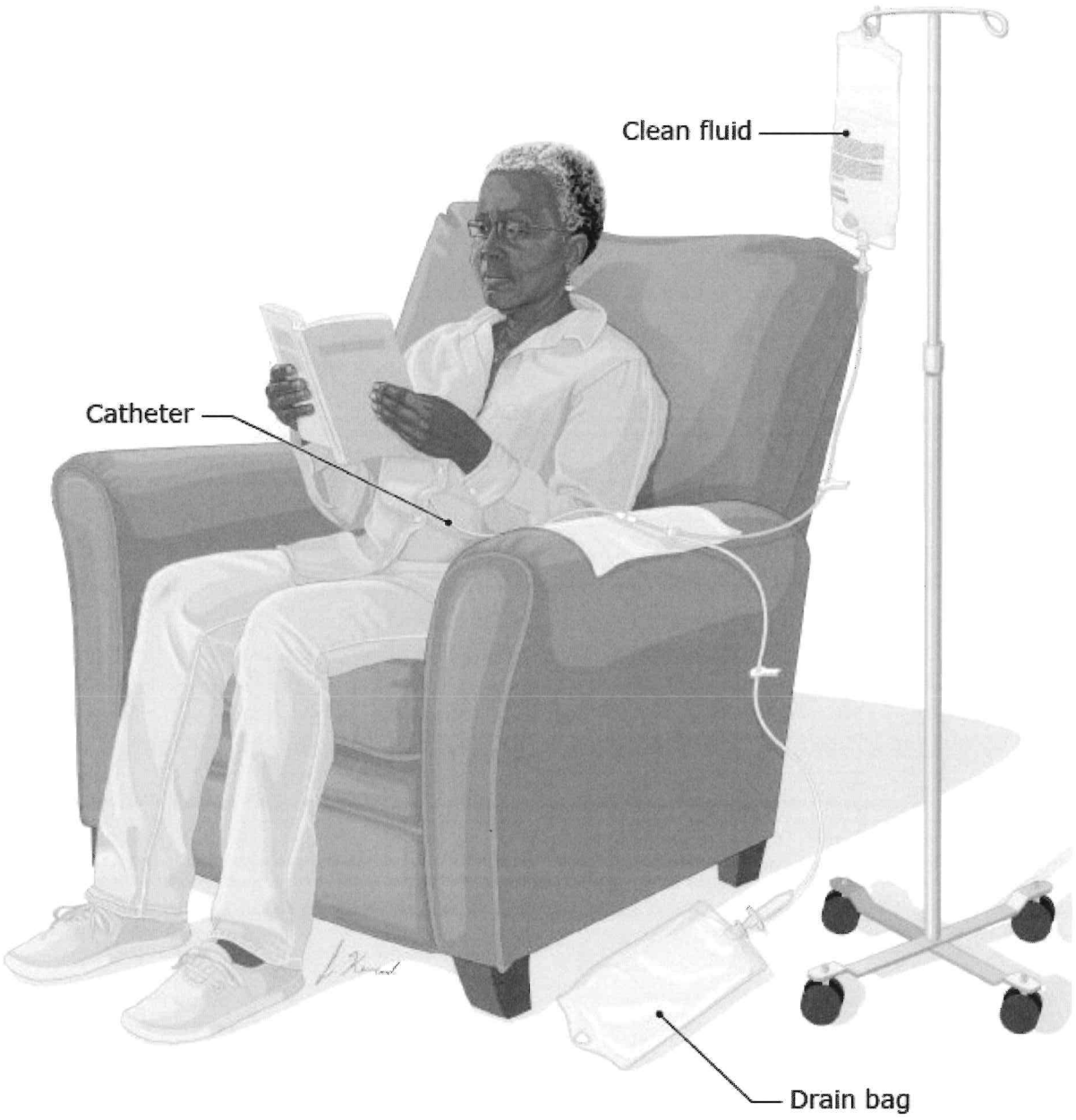
Figure 2: **Peritoneal dialysis**



This drawing shows a person having peritoneal dialysis. The dialysis fluid (fresh dialysis solution) flows into the person's belly. It stays there for a certain amount of time, and then it drains out into the drain bag. The "transfer set" is the tubing that connects a thin tube (catheter) in the person's belly to the dialysis equipment.

Graphic 71539 Version 8.0