Peritoneal Dialysis
Patient Instructions

Dialysis can be done using a machine outside of the body (*hemodialysis*). Or, it can be done inside the body (*peritoneal dialysis*). The word "peritoneal" refers to the lining or membrane of the belly (*abdominal cavity*). The peritoneal membrane is a thin, plastic-like lining inside the belly that covers the organs and fits in the abdominal or peritoneal cavity, such as the stomach, liver and the kidneys. This lining works like a filter. It will allow certain things to pass from your blood through the lining and into a special solution that has been placed into your belly. In this type of dialysis, the peritoneum is used to help clean the blood.

If you need dialysis, your kidneys are not working right. Healthy kidneys take out extra water and waste products, which becomes urine. When the kidneys do not do this, serious problems can develop. The waste and water build up in the blood. Your hands and feet might swell. You may feel tired, weak or sick to your stomach. Also, your blood pressure may rise. If not treated, you could die. Dialysis is a treatment that does the work that your kidneys would do if they were healthy.

- It cleans your blood.
- It will make sure your body has the right amount of certain chemicals that it needs. They include potassium, sodium and bicarbonate.
- It will help control your blood pressure.

UNDERSTANDING PERITONEAL DIALYSIS

- Here is how peritoneal dialysis works:
  - First, you will have surgery to put a soft plastic tube (*catheter*) into your belly (*abdomen*). This will allow you to easily connect yourself to special tubing, which will then let a special dialysis solution to be placed into your abdomen.
  - For each treatment, you will need at least one bag of dialysis solution (a liquid called dialysate). It is a mix of water that is pure and free of germs (*sterile*), sugar (*dextrose*) and the nutrients and minerals found in your blood. Sometimes, more than one bag is needed to get the right amount of fluid for your abdomen. Your caregiver will explain what size and how many bags you will need.
  - The dialysate is slowly put through the catheter to fill the abdomen (called the peritoneal cavity). This dialysate will need to stay in your body for 3-4 hours. This is known as the *dwell time*.
  - The solution is working to clean the blood and remove wastes from your body. At the end of this time, the solution is drained from your body through tubing into an empty bag. It is then replaced with a fresh dialysate.
  - The draining and replacing of the dialysate is called an exchange or cycle. The catheter is capped after each exchange. Once the solution is in your body, you are then free to do whatever you would like until the next exchange. Most people will need to do 4-5 exchanges each day.
- There are two different methods that can be used.
  - **Continuous ambulatory peritoneal dialysis (CAPD)**: You put the solution into your abdomen, cap your catheter and then go about your day. Several hours later, you reconnect to a tubing set up, drain out the solution and then put more solution in. This is done several times a day. No machine is needed.
  - **Continuous cycler-assisted peritoneal dialysis (CCPD)**: A machine is used, which fills the abdomen with dialysate and then drains it. This happens several times. It usually is done at night while you are sleeping. When you wake up, you can disconnect from the machine and are free to go to go about your day.

PREPARING FOR EXCHANGES

- Discuss the details of the procedure with your caregivers. You will be working with a nurse who is specially trained in doing dialysis. Make sure you understand:

- How to do an exchange.
- How much solution you need.
- What type of solution you will need.
- How often you should do an exchange. Ask:
  1. How many times each day?
  2. When? At meals? At bedtime?

- Always keep the dialysate bags and other supplies in a cool, clean and dry place.
- Keeping everything clean is very important.
  - The catheter and its cap must be free from germs (*sterile*)
  - The adapter also must be sterile. It attaches the dialysis bag and tubing to the catheter.
  - Clean the area of your body around the catheter every day. Use a chemical that fights infection (*antiseptic*).
  - Wash your hands thoroughly before starting an exchange.
  - You may be taught to wear a mask to cover your nose and mouth. This makes infection less likely to happen.
  - You may be taught to close doors, windows and turn off any fans before doing an exchange.
- Check the dialysate bag very carefully.
  - Make sure it is the right size bag for you. This information is on the label.
  - Also, make sure it is the right mixture. For some people, the dialysate contents vary. For instance, the mixture might be a stronger solution for overnight.
  - Check the expiration date (the last date you can use the bag). It also is on the label. If the date has gone by, throw away the bag.
  - The solution should be clear. You should be able to see any writing on the side of the bag clearly through the solution. **Do not** use a cloudy solution.
  - Gently squeeze the bag to make sure there are no leaks.
- Use a dry heating pad to warm the dialysate in the bag. Leave the cover on the bag while you do this.
  - This is for comfort. You can skip this step if you want.
  - Never place the bag of solution under warm or hot water. Water from a faucet is not sterile and could cause germs to get into the bag. Infection could then result.

PERFORMING AN EXCHANGE

- For **continuous ambulatory dialysis**:
  - Attach the dialysis bag and tubing to your catheter. Hang the bag so that gravity (the natural downward pull) draws the solution down and into your abdomen once the clamps are opened. This should take about 10 minutes.
  - Remove the bag and tubing from the catheter.Cap the catheter.
  - The solution stays in the abdomen for 3-4 hours (*dwell time*). The solution is working to clean the blood and remove wastes from your body.
  - When you are ready to drain the solution for another exchange, take the cap off the catheter. Then, attach the catheter to tubing, which is attached to an empty bag. Place this empty bag below the abdomen or on the floor or stool and undo the clamps.
  - Gravity helps pull the fluid out of the abdomen and into the bag. The fluid in the bag may look yellow and clear, like urine. It usually takes about 20 minutes to drain the fluid out of the abdomen.
  - When the solution has drained, start the process again by infusing a new bag of dialysate and then capping the catheter.
  - This should continue until you have used all of the solution that you are to use each day.
  - Sometimes, a small machine is used overnight. It is called a mini-cycler. This is done if the body cannot go all night without an exchange. The machine lets you sleep without having to get up and do an exchange.
- For **continuous cycler-assisted dialysis**:
  - You will be taught how to set up or program your machine.

- When you are ready for bed, put the dialysate bags onto the cycler machine. Put on exactly the number of bags that your caregiver said to use.
- Connect your catheter to the machine and turn the cycler machine on.
- Overnight, the cycler will do several exchanges. It often does three to five, sometimes more.
- Solution that is in your abdomen in the morning will stay during the day. The machine is set to make the daytime solution stronger, if that is needed.
- In the morning, you will disconnect from the machine and cap your catheter and go about your day.
- Sometimes, an extra exchange is done during the day. This may be needed to remove excess waste or fluid.

IMPORTANT REMINDERS

- You will need to follow a very strict schedule. Every step of the dialysis procedure must be done every day. Sometimes, several times a day. Altogether, this might take an extra 2 hours or more. However, you must stick to the routine. **Do not** skip a day. **Do not** skip a procedure.
  - Some people find it helpful to work with a counselor or social worker in addition to the renal (kidney) nurse. They can help you figure out how to change your daily routine to fit in the dialysis sessions.
- You may need to change your diet. Ask your caregiver for advice, or talk with a nutritionist about what you should and should not eat.
- You will need to weigh yourself every day and keep track of what your weight is.
- You may be taught how to check your blood pressure before every exchange. Your blood pressure reading will help determine what type of solution to use. If your blood pressure is too high, you may need a stronger solution.

RISKS AND COMPLICATIONS

Possible problems vary, depending on the method you use. Your overall health also can have an effect. Problems that could develop because of dialysis include:

- Infection. This is the most common problem. It could occur:
  - In the peritoneum. This is called peritonitis.
  - Around the catheter.
- Weight gain. The dialysate contains a type of sugar known as dextrose. Dextrose has a lot of calories. The body takes in several hundred calories from this sugar each day.
- Weakened muscles in the abdomen. This can result from all of the fluid that your body has to hold in the abdomen.
- Catheter replacement. Sometimes, a new one has to be put in.
- Change in dialysis method. Due to some complications, you may need to change to hemodialysis for a short time and have your dialysis done at a center.
- Trouble adjusting to your new lifestyle. In some people, this leads to depression.
- Sleep problems.
- Dialysis-related amyloidosis. This sometimes occurs after 5 years of dialysis. Protein builds up in the blood. This can cause painful deposits on bones, joints and tendons (which connect muscle to bone). Or, it can cause hollow spots in bones that make them more likely to break.
- Excess fluid. Your body may absorb too much of the fluid that is held in the abdomen. This can lead to heart or lung problems.

SEEK MEDICAL CARE IF:

- You have any problems with an exchange.
- The area around the catheter becomes red or painful.
- The catheter seems loose, or it feels like it is coming out.
- A bag of dialysate looks cloudy. Or, the liquid is an unusual color.
- Abdominal pain or discomfort.
- You feel sick to your stomach (*nauseous*) or throw up (*vomit*).

- You develop a fever of more than 100.5º F (38.1º C).

SEEK IMMEDIATE MEDICAL CARE IF:

- You develop a fever of more than 102.0º F (38.9º C).

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