

Preparing for Hemodialysis

"If you have selected hemodialysis as a treatment choice for your kidney disease, this information sheet helps you prepare to begin hemodialysis."

Access Surgery

During hemodialysis, about 1 ½ cups of blood must flow through the artificial kidney (dialyzer) every minute of your treatment to remove wastes and excess fluid. Such high blood flow rates cannot be obtained from a superficial vein. Only arteries carry enough blood to do dialysis, but arteries lie deeper within the body and are therefore not easily accessed. Vascular surgeons help overcome this dilemma by creating a vascular access. This outpatient surgical procedure creates a connection between an artery and a vein through an arterio-venous fistula (AV fistula) or an arterio-venous graft (AV graft). Dialysis needles can then be inserted into the access to remove blood, send it through the dialyzer and return the cleaned blood to the body. The access procedure is typically performed several weeks or months in advance to allow time for your access to heal before beginning treatment. In most cases, the procedure will be performed on an outpatient basis.

Access Types

There are three main access types used with hemodialysis:

- **Primary AV Fistula** – Preferred type of access. Involves creating a direct connection between an artery and a vein, usually in the lower or upper arm. As arterial blood flows through the connection into the vein, the vein slowly enlarges and becomes big and tough enough to be used for hemodialysis
- **Synthetic AV Graft** – A graft (small soft tubing similar to the size of a straw, but much more flexible) is placed underneath the skin in the arm or upper leg. One end of the graft is connected to an artery, the other end to a vein. Arterial blood will then flow through this graft and into the vein. The dialysis needles are inserted into this synthetic graft. Grafts are placed when a patient's veins cannot support a fistula.
- **Central venous catheter** – Used when dialysis is needed immediately and the patient does not already have an access. The catheter is placed into a large vein such as the jugular vein in the neck and its tip rests in the right atrium of the heart. Recommended for temporary use only, or when a fistula or graft cannot be used. It is important to learn all you can about the access choices to find the one that best fits your needs.



Preparing for Hemodialysis

"It is important to work with your entire dialysis care team to feel your best and enjoy the best quality of life."

Working with Your Dietitian

With hemodialysis, some nutrients may be lost during the dialysis process. You will need to work with a dietitian to make sure you get the right balance of nutrients. Fluid control is important with hemodialysis. It is important to follow the limits and allowances that your dietitian provides for you. You may also need to watch your salt (sodium), potassium, and phosphorus intake. When you start hemodialysis, your diet will change from your pre-dialysis diet. Your dietitian will work closely with you to develop a plan that is best for you based on your lab work and kidney function.

Maintenance Care

During the time between hemodialysis treatments, extra fluid and waste products can build up in your blood (depending on your kidney function). Care must be taken to watch your diet and fluid intake.

Your care team will monitor this closely by:

- Regular blood tests
- Body weight monitoring
- Access cleaning and monitoring

Working with Your Care Team

It is important to work with your entire dialysis care team to feel your best and enjoy the best quality of life. Your kidney doctor (nephrologist), dialysis nurse, dietitian, and social worker are all here to support you. Your immediate family or perhaps your closest friends are also an important part of your care team. In addition to providing support, they may be able to help with your dialysis schedule and your responsibilities so that you can enjoy your time together.

Adjusting Your Routine

Your dialysis center treatments will usually take place three times a week. It's important to plan for these appointments around your commitments to work, family, and yourself. Be sure to include personal downtime for stress management to deal with the transition and help you keep a positive outlook. Many patients enjoy the social aspect of in-center dialysis, but you can also use the dialysis time for other activities such as reading, doing crossword or Sudoku puzzles, watching TV or resting.

