Treatment Options for Kidney Disease

Choosing a treatment for kidney disease is a big decision. Knowing about all of the options can help you feel more in control and help you make the right choice of treatment for you and your family. You should weigh your options carefully and give a lot of thought to your current lifestyle when choosing the right treatment for you.

When the kidneys fail, treatment is needed to filter out wastes and extra fluid from the bloodstream. Dialysis treatments clean the blood using a dialysis solution. There are two different types of dialysis that can do this: **hemodialysis** and **peritoneal dialysis**. Let's look at their differences...

Hemodialysis

Hemodialysis cleans the blood using a special filter called a dialyzer. Inside the dialyzer are thousands of hollow fibers, like straws, that are punctured with millions of tiny holes.

During hemodialysis treatment, blood moves through the inside of the dialyzer fibers (straws) and dialysate (dialysis solution) flows around the outside of these straws. Wastes and extra water go through the tiny holes of the straws, into the dialysate and are thrown away. Blood cells and proteins that are needed, go back to the body.

Hemodialysis is usually done 3 times per week, in the dialysis unit, for 3 to 4 hours each treatment. The longer the hemodialysis treatment, the more waste is removed and the better patients feel. Your doctor prescribes the amount of hemodialysis treatment time needed.

Normally, treatments are painless. However, if there is a lot of fluid to remove, painful cramping, nausea and vomiting can occur.

A special vascular access is needed where the blood leaves the body to be cleaned. Two needles are placed in this vascular access each treatment. One needle takes the blood out of the body to be cleansed. The second needle carries the clean blood back into the body.

There are 3 main types of vascular access available:

1. Fistula - an artery and a vein in the arm are surgically hooked together. A fistula is the best type of access because it lasts longer, gets infected less and is less likely to clot.

2. Graft - an artificial vein is surgically inserted in the arm, leg or chest and connected to an artery and a vein.
3. Catheter - a plastic tube surgically placed into a large vein in the chest, neck or groin, visible on the outside of the skin. There is a high risk of infection with catheters, so they should only be used temporarily.

Home Hemodialysis

Hemodialysis can be done at home. Special training is done by a nurse in the dialysis unit for about 6 weeks. Only certain dialysis centers offer home hemodialysis training. People who do home hemodialysis need to have a partner to help with the treatments. The partner is also trained. Special plumbing, wiring and water are placed in the home that is needed for the treatments. Storage space for supplies is also needed.

Home hemodialysis treatments are usually done 3 times per week for 3 to 4 hours per treatment. Patients who do home hemodialysis like the freedom of choosing their own schedules and being in charge of their treatments.

Nocturnal Home Hemodialysis

Nocturnal home hemodialysis is done at night, while the patient is asleep. This form of home hemodialysis can be done by either the patient or a partner. It is done 6 to 7 nights per week. The length of the dialysis treatment can last as long as the patient wants to sleep, 5 to 12 hours, with 8 hours being the average. The dialysis treatment can be monitored by hospital staff by telephone modem or internet. Most problems arising are minor and can be resolved quickly by the patient.

Nocturnal home hemodialysis is long and frequent, so it offers high doses of dialysis. Generally, all symptoms associated with kidney failure improve or disappear. Patients report feeling more energetic, improved appetites and less nausea. There are fewer complaints of itching or restless leg syndrome.

There are few dietary restrictions. Removal of phosphate has been so much better that many patients no longer need calcium pills or phosphate binders. Restrictions on dairy products, nuts and colas are more flexible. Since dialysis is done almost every night, there is no limit to the amount of water patients can drink or salt they eat. EPO doses also decrease in most patients.

Daily Home Hemodialysis

Patients who use daily home hemodialysis do a short treatment, 2 hours or less, 5 to 6 days per week. Since the blood is cleaned almost every day, daily home hemodialysis may be gentler on the body. Since the treatments are short, it is easier to fit into an evening schedule.

Peritoneal Dialysis

Peritoneal dialysis uses part of the body as a blood cleaning filter called the peritoneal membrane. It does not have to use a machine. The peritoneal membrane lines the abdominal cavity (peritoneum) and holds the internal organs. In peritoneal dialysis, the abdominal cavity is filled with a special dialysis fluid called dialysate. Wastes and extra fluid in the blood slowly flow into the dialysate inside the abdominal cavity. After a few hours, the used dialysate is drained out of the abdominal cavity and fresh dialysate put back in.

A soft, plastic tube called a catheter is surgically inserted into the abdomen, just below the belly button. Dialysate goes into the abdominal cavity through the catheter. The catheter stays in the body all the time and can be seen from the outside. It is covered when it is not being used.

Draining out the used dialysate and putting fresh dialysate back in is called an exchange. This exchange is painless. Patients are trained by a nurse to do exchanges themselves at home. Exchanges must be done carefully to prevent infections. These exchanges can also be done at work or while traveling.

Because dialysis takes place all the time with peritoneal dialysis, patients are able to eat more of the foods that they like. Food and fluid limits are as strict.

There are two types of peritoneal dialysis:

1. CAPD (Continuous Ambulatory Peritoneal Dialysis) – dialysis exchanges are done by hand using special tubing and bags of special fluid. CAPD exchanges are done 3 to 5 times every day. Each exchange takes about 30 minutes.
2. CCPD (Continuous Cycling Peritoneal Dialysis) – uses a machine called a cycler to do lots of exchanges while the patient sleeps. The cycler fits into a suitcase for traveling.

To learn more about home dialysis options, visit Home Dialysis Central at www.homedialysis.org.

Transplant

A kidney transplant is when a kidney of another person is surgically placed inside the lower abdomen of the patient with kidney failure. It requires major surgery. The new kidney must match the blood and tissue type of the patient's body who needs it. If it does not match, the body will reject the kidney and the patient will become sick. Matching blood and tissue types is done using blood tests. The patient and the donor must discuss the transplant in detail with the transplant surgeon and the social worker. Medicine must be taken by the person receiving

the transplant every day after the surgery to help prevent rejection. If the medicine is not taken as prescribed, the kidney will be rejected. Rejection can occur at any time, even years after the transplant.

There are 3 types of kidney transplants:

1. Living relative
2. Living non-relative
3. Deceased donor (cadaver)

Someone who wants a deceased donor kidney can be placed on the United Network of Organ Sharing (UNOS) transplant waiting list. When a kidney comes available, 2 or 3 patients who are a match will be called. Blood tests and exams are done to see who will get the kidney. Some people wait weeks for a kidney, others wait months or years. 50% of all patients receiving transplants do very well.

To learn more about transplant visit the UNOS website at www.unos.org.

No Treatment

For certain severely ill people, not treating kidney disease may be an option. It is not encouraged, but the option exists. It is important for patients to talk to their doctors, social workers and their families about their medical condition and their treatment options.

Conclusion

Now that you know all of the treatment options, discuss these options with your physician, social worker, dialysis nurses and your family. Take the time to make the right choice for you. Ask your doctor which treatment options would work well for you. Use what you learn to live well with kidney disease and have a better quality of life.

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