

National Kidney  
Foundation™

## Choosing A Treatment For Kidney Failure





If your doctor has said you may need dialysis or a kidney transplant soon, you are probably wondering how you can decide what the best choice is for you. This booklet provides general information to help you and your family make this decision. You should discuss the pros and cons of each treatment option with your family, doctor and your health care team. They will help you decide what is best for you.

### **What happens when your kidneys fail?**

Your kidneys normally remove wastes and excess fluid from your blood. When your kidneys are not working well, as a result of disease or injury, wastes and excess fluid can build up in your blood and make you sick. You may have the following symptoms:

- nausea
- trouble sleeping
- poor appetite
- fatigue
- hiccups
- dry, itchy skin

- weight loss
- cramping at night
- abnormal bleeding
- swelling
- anemia (low blood count)
- trouble breathing.

### **When is treatment needed?**

Your doctor will help you decide when you need to start treatment. This decision is based on:

- your medical condition
- how much kidney function you have left
- your nutritional health.

To help decide when you need to start treatment, your doctor should estimate your glomerular filtration rate, or GFR. This tells how much function your kidneys have. Your doctor can estimate your GFR from the results of a simple blood test for creatinine. If your GFR falls below 30, your doctor should give you information about the available treatments for kidney failure, which are: hemodialysis, peritoneal dialysis and kidney transplant. If your GFR is below 15, you will need to start one of these treatments soon.

### **How do I know which treatment is best for me?**

The two treatments for kidney failure are dialysis and kidney transplantation. Two different kinds of dialysis can be done—hemodialysis and peritoneal dialysis. Each type of treatment



has pros and cons. You will need to speak to your doctor and your family about which treatment is best for you.

The decision will be based on a number of factors including:

- your medical condition
- your lifestyle
- your personal preference.

No matter what treatment you choose, you need to make a commitment to follow your treatment plan. This involves:

- following your treatment schedule
- following your special diet
- taking all the medications prescribed for you.

## **What is hemodialysis?**

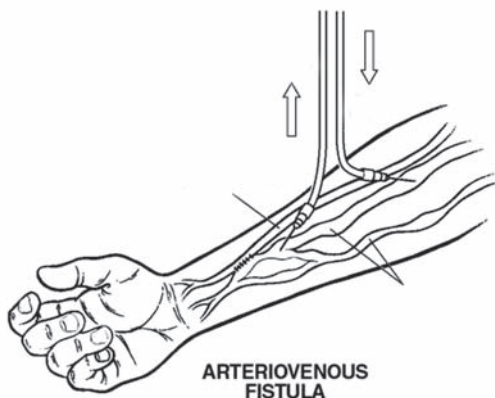
Hemodialysis is a treatment that cleanses your blood of the wastes and excess fluid that have built up. During hemodialysis, your blood travels through soft tubes to a dialysis machine where it goes through a special filter called a dialyzer, or an artificial kidney. As your blood is cleansed, it is returned to your bloodstream. Only a

small amount of blood is out of your body at any time. In order to be connected to the dialysis machine, you need to have an access, or entrance, to your bloodstream. (See next question, "What is an access?")

Hemodialysis treatments are usually done at a dialysis center, which may be located in a hospital or may be in a separate facility. Treatments are done three times a week, and each one lasts about three to five hours. Dialysis can also be done at home. With home hemodialysis, you and a care partner are trained to do all the steps of the procedure and you can schedule your treatments to fit your own schedule. (See National Kidney Foundation publications *Hemodialysis* and *Home Hemodialysis*.)

### **What is an access?**

For hemodialysis you need to have an access, or entrance, to your bloodstream.



There are three ways this can be done:

- a fistula
- a graft
- a catheter.

A fistula requires minor surgery to connect an artery and a nearby vein in your arm. A graft is made by minor surgery, using a piece of soft tubing to connect an artery and vein in your arm, or sometimes in your leg. When you have your dialysis treatment, two needles will be placed in your fistula or graft. These are connected to the soft tubes that go to the dialysis machine. Your blood flows out through one of these tubes and returns through the other. A third type of access, called a catheter, is made by inserting a soft tube into a vein, usually in your neck or upper chest.

A fistula should be considered the first choice for an access. Fistulas tend to last longer and have fewer problems such as infections and clotting. If you decide on hemodialysis as your form of treatment, your doctor will refer you to a special surgeon, called a vascular surgeon, at least six months before you will need to start dialysis. You need to be referred early because your fistula takes several months to enlarge and become ready for dialysis.

If your blood vessels are not strong enough for a fistula, your vascular surgeon may decide to give you a graft instead. Catheters are usually used as a temporary access, but they may sometimes be made permanent.

## What is peritoneal dialysis?

In peritoneal dialysis, your blood does not travel to a machine, but is cleaned inside your body. The lining of your abdomen (the peritoneum) acts as a natural filter. You pass a cleansing solution, called dialysate, into your abdomen (your belly) through a soft tube called a catheter. The catheter is placed during minor surgery. Wastes and excess fluid pass from your blood into the cleansing solution.

After several hours, you drain the used solution from your abdomen and refill with fresh cleansing solution to begin the process again. Removing the used solution and adding fresh solution takes about a half hour and is called an “exchange.” Peritoneal dialysis can be done at home, at work, at school or even during travel.

Many people who choose peritoneal dialysis feel it allows them greater flexibility. (See National Kidney Foundation publication *What You Need to Know About Peritoneal Dialysis*.)



## Are there different types of peritoneal dialysis?

Yes. The major ones are:

- Continuous Ambulatory Peritoneal Dialysis (CAPD)
- Continuous Cycling Peritoneal Dialysis (CCPD)
- Nighttime Intermittent Peritoneal Dialysis (NIPD).

With CAPD, you do the exchanges yourself four to six times a day. With CCPD, a machine called a cycler does the exchanges automatically while you sleep. However, if you do CCPD, you may also need to do one or two exchanges during the day to make sure enough wastes and excess fluid are being cleared from your blood. NIPD is similar to CCPD except that your abdomen remains dry during the day, and no daytime exchanges are done.

## Are there any new developments in dialysis?

Yes. Scientists are always seeking ways to improve dialysis treatment. Here are some newer methods of treatment:

**Daily Home Hemodialysis.** This involves more treatments each week for shorter periods. For example, patients might do six treatments weekly compared with the usual three. Each treatment would last about one and a half to two and a half hours, compared with the usual three to five hours.



### Home Nocturnal (Nighttime) Hemodialysis.

This involves long, slow blood flow treatments, which are done during the sleep hours. Nocturnal home hemodialysis is usually done for six to eight hours.

Studies show that these treatment methods have benefits such as:

- improved blood phosphorus levels
- better control of conditions like anemia and high blood pressure using less medication
- fewer problems during hemodialysis such as dizziness, headaches, nausea and vomiting.

**Hemofiltration.** This process has already been used in U.S. hospitals for treating acute kidney failure and in Europe for treating patients with chronic kidney failure. Hemofiltration is similar to hemodialysis in some ways. For example, you need to have an access to your bloodstream. In addition, your blood travels through soft tubes to a machine where it goes through a special filter before the cleansed blood is returned to your body. Hemofiltration uses a different process (filtration or convection) than standard hemodialysis, which uses diffusion as the cleansing process with little convection.

The advantages of hemofiltration include more stable blood pressure during and after treatment, resulting in greater comfort and fewer adverse effects for patients. In addition, hemofiltration is better at removing large wastes which can accumulate in the body and cause bone problems and joint pain. Hemofiltration



is often done daily for two to three hours and can be done at home or in a dialysis center. When done at home, you and an assistant are trained to do all the steps of the procedure and you can schedule your treatments to fit your needs.

If you have any questions about these treatments, speak to your doctor or the staff at your local dialysis center.

### **What is a kidney transplant?**

A kidney transplant is an operation that places a healthy kidney from another person into your body. The kidney may come from someone who has died or from a living donor who may be a close relative, a spouse or friend or someone who wished to donate a kidney to anyone in need of a transplant. Your new kidney will be placed in your lower abdomen and connected to your bladder and blood vessels.

The transplant operation takes about three hours and you will be in the hospital for about five to seven days. After the transplant, you will need to take special medications to prevent your body from rejecting the new kidney. You

will have to take these medications as long as you have the transplant. Many patients want to have a transplant because it gives them more freedom, allows for a less restricted diet and eliminates the need for dialysis.

### **Could I get a transplant before going on dialysis?**

Possibly. This depends on whether your health care team feels a transplant is right for you. Your doctor will refer you to a transplant center for tests. If a family member or friend is willing to donate a kidney, the tests can be started right away, and if there is a “match” in blood and tissue types, surgery can be scheduled. However, if you do not have a living donor, you will need to be on a waiting list until a kidney from a suitably matched deceased donor becomes available. In the meantime, you can receive dialysis treatments. (See National Kidney Foundation publications *Kidney Transplant*.)

### **If I choose one treatment, will I always have to stick to it?**

Not necessarily. If you start on one type of treatment and then feel you would like to try something else, speak to your doctor about the possibility of changing.



### **Will my diet have to change?**

Yes. The type of diet you follow will depend on the treatment you receive. Your dialysis or transplant center will have a dietitian who will help you plan your diet to make sure you are getting the right amount of protein, calories, vitamins, minerals and fluid. The dietitian will help you develop a diet plan you can follow. (See National Kidney Foundation publications *Nutrition and Hemodialysis*, *Nutrition and Peritoneal Dialysis*, and *Nutrition and Transplantation*.)

### **Will I need to take special medications?**

The medications you will need depend on the type of treatment you choose. If you are on dialysis, you may need to take the following:

- Phosphate binders are medications that keep your bones strong by helping your body to keep the right balance of two important minerals, calcium and phosphorus.
- A special prescription form of vitamin D also helps to keep your bones healthy.

- A hormone called erythropoietin (EPO) treats anemia (low blood count) by helping your body make red blood cells. As a result, you will feel less tired and have more energy.
- Iron supplements are usually needed to work with EPO to help treat anemia.
- Certain vitamin and mineral supplements may be needed to replace those you may not be getting in your diet or may be losing during dialysis. Your dietitian will tell you which ones you need to take.

If you have a transplant, you will need to take anti-rejection medications to help prevent your body from rejecting the new kidney. These may include a steroid and some other medications that suppress your body's immune system.

### **Will I feel better when I start treatment?**

Once you get used to your treatment, you should begin to feel better. The dialysis treatments or new kidney will take over the work of your diseased kidneys and remove wastes and excess fluid from your body.

Part of the reason why you are feeling so tired may be because of anemia. Treatment to correct anemia will help you to feel stronger and have more energy. If you have a transplant, your new kidney should make EPO and this will correct anemia. (For more information,

see National Kidney Foundation publication *What You Need to Know About Anemia and Chronic Kidney Disease*.)

### **How long can I live on dialysis?**

Now that we know more about how to care for people with kidney failure, they live longer and have more productive lives. Your overall health and how well you follow your treatment plan are important in how well you do. If you choose dialysis as your form of treatment, it is important to get the right amount of dialysis. Studies have shown that dialysis patients do better and live longer when they get enough treatment. Your dialysis care team can measure how much dialysis you receive. This should be done on a regular basis to make sure treatments are cleaning enough wastes out of your blood.

### **Can exercise help me?**

Yes. Exercise can help you feel stronger and improve your overall well-being. Some dialysis patients begin an exercise program by riding a stationary bike during



their treatments. Walking and swimming are also good ways to exercise. You should speak to your doctor about an exercise program that is right for you. (See the National Kidney Foundation publication *Staying Fit With Chronic Kidney Disease*.)

### **Can I still work if I am on dialysis or have had a transplant?**

Yes. It is possible to work on dialysis or after a transplant. Returning to work may help you to feel better about yourself. If you are an in-center dialysis patient, the staff at your center may be able to arrange your treatments to fit your work schedule. If you do home dialysis, you can fit your treatments into your own schedule. (See the National Kidney Foundation publication *Working With Kidney Disease: Rehabilitation and Employment*.)

### **What insurance coverage is available?**

Dialysis treatments and kidney transplants are covered in many cases by the Federal government, through Medicare. This program pays for many of the costs of these treatments, no matter how old you are. You qualify for this coverage if:

- You have worked long enough to be insured under Social Security or you have a spouse, parent, or son or daughter who has.



- You already receive Social Security benefits.

The staff at your Social Security office or the social worker at your treatment center can help you apply for Medicare. Private insurance often pays for what Medicare does not cover. If you have insurance through an employer, this may pay for most or all of the cost of treatment at the start. If your income and assets are below a certain amount, you may qualify for Medicaid, which may cover your treatment if you do not qualify for Medicare. To apply for Medicaid, talk with your social worker or contact your local health department. If you or your family member is in the military or retired from military service, you should contact your local Veterans Administration office for information about TRICARE (formerly called CHAMPUS) coverage or veteran's benefits. Some states have state kidney programs to help with some costs of treatment. Talk to your social worker to find out if your state has a program and if it can help you.

You may also qualify for financial benefits through Social Security Income (SSI) or Social Security Disability Income (SSDI).



To find out if you qualify for this assistance, speak to your social worker or call your local Social Security office.

### **What adjustments will I have to make?**

The biggest adjustments are getting used to routine dialysis treatments, following your diet and taking all your medications. If you have had a transplant, you will have to get used to taking all your anti-rejection medications exactly as ordered by your doctor. The health care team (social workers, dietitians, doctors, nurses, technicians and other staff) are trained to help you make these adjustments and to instruct you in all areas of your care.

### **How can my family and I cope with kidney disease?**

You and your family may have difficulty accepting the changes in your lives caused by kidney disease. Kidney disease is a lot to handle. You may have feelings of frustration, guilt, denial, anger and depression. You and your family may find it helpful to share your questions and concerns with each other and with people who are willing to offer support. These can include close friends and members of the health care team. The social worker at your dialysis center is trained to provide counseling to help you make the needed adjustments.

(See National Kidney Foundation publication *Coping Effectively: A Guide for Patients and Their Families.*)

If you have more questions, you should speak to your doctor. You may also be interested in some of the following resources available from the National Kidney Foundation:

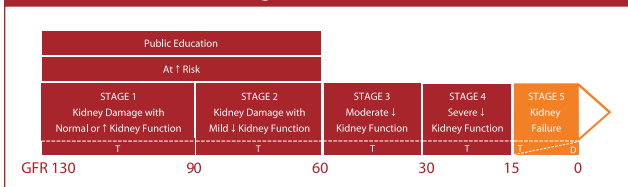
- *Dining Out With Confidence: A Guide for Kidney Patients*
- *Nutrition and Hemodialysis*
- *Nutrition and Peritoneal Dialysis*
- *Nutrition and Transplantation*
- *Nutrition and Chronic Kidney Disease*
- *What You Need to Know About Hemodialysis*
- *What You Need to Know About Peritoneal Dialysis*
- *What You Need to Know About Your Access*
- *Home Hemodialysis*
- *Kidney Transplant*
- *What You Need to Know About Anemia and Chronic Kidney Disease*
- *Coping Effectively: A Guide for Patients and Their Families*
- *Staying Fit With Chronic Kidney Disease*
- *Working With Kidney Disease: Rehabilitation and Employment*

For Family Members:

- *Are You At Increased Risk for Chronic Kidney Disease?*
- *What You Need to Know About Urinalysis*
- *NKF Family Focus – a quarterly newspaper for dialysis patients and their families*
- *Transplant Chronicles – a newsletter for transplant recipients and their families.*

More than 20 million Americans—one in nine adults—have chronic kidney disease, and most don't even know it. More than 20 million others are at increased risk. The National Kidney Foundation, a major voluntary health organization, seeks to prevent kidney and urinary tract diseases, improve the health and well-being of individuals and families affected by these diseases, and increase the availability of all organs for transplantation. Through its 47 affiliates nationwide, the foundation conducts programs in research, professional education, patient and community services, public education and organ donation. The work of the National Kidney Foundation is funded by public donations.

## Education Along the Continuum of Care



This arrow illustrates the potential scope of content for KLS resources. Lightshaded boxes indicate the scope of content targeted in this resource. GFR = Glomerular Filtration Rate; T = Kidney Transplant; D = Dialysis

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