



Exploring & Choosing Your Treatment for Kidney Failure: Dialysis Options & Transplantation

When kidney failure occurs, treatment is necessary to replace the work that your kidneys normally do. These functions include getting rid of waste products and excess fluid, regulating blood pressure, maintaining healthy bones and creating red blood cells. Treatment choices include the following:

Kidney Transplant ----- From a Living Donor or a Deceased Donor

Hemodialysis (HD)----- Home hemodialysis or In-Center Hemodialysis including Nocturnal HD

Peritoneal Dialysis (PD)----- CAPD (Ambulatory) or CCPD (Cycler)

The Key: Planning Ahead is Best!

It is best to **plan ahead** when you have advanced CKD (Chronic Kidney Disease) to select the treatment that **best** matches your lifestyle and medical condition. Your kidney doctor (nephrologist) will likely address this issue when your GFR (percentage of kidney function) reaches around 20 to 25% or lower. Let's look at all the available treatment options to help you make the best decision for you and your family:

Kidney Transplant:

A kidney transplant is a surgical treatment choice for patients with advanced kidney disease. One donated kidney is placed in the patients' abdomen (lower belly) and does the work of the two failed kidneys. The patient's kidneys are not removed during the transplant operation unless there is a medical condition which requires it.

There are two sources for a kidney transplant: a **living donor kidney** given by a family member, friend, or another donor or a **deceased donor kidney** (in which the donor has died and the family has agreed to donate his/her organs). Regardless of the type of donor, the patient must go through a thorough medical evaluation to be sure you are healthy enough for this surgery. This evaluation process can take several months to complete so it needs to start early before you need dialysis. You will not be listed on the kidney transplant waiting list until the entire evaluation is completed and you have been approved for a kidney transplant. Your GFR (percentage of kidney function) must be 20% or less to be placed on the waiting list.

If you know of someone who may be interested in being a living donor, this person must also go through an extensive evaluation to be sure they are healthy enough to give you a kidney. If a person has diabetes, high blood pressure or a history of cancer, they cannot be a living donor for you. The advantage of a living donor kidney transplant is that this surgery can be planned and there is no long waiting time for a kidney. If you have a suitable living donor and we plan ahead, you may be able to receive a kidney transplant before you need to start dialysis. This is called a “**pre-emptive transplant**” and is the preferred situation if possible. If you do not have a suitable living donor available, you will be placed on the deceased donor transplant waiting list. The average waiting time for a deceased donor kidney in this area is 5 to 6 years.

Overall, the main advantage of a kidney transplant is that it allows the patient to live a more normal life without dialysis and with more freedom. There is a higher chance of living a longer life too. The disadvantage of transplantation is that it requires major surgery and the need to take anti-rejection medications for the rest of your life or life of the kidney. These medicines make you at higher risk to get an infection. There is always a chance of rejection of the kidney despite taking anti-rejection medications.

At UNC, a kidney doctor or your health care provider will need to make a referral for you to be evaluated for a kidney transplant. You will then be contacted by the UNC Kidney Transplant Team to schedule your attendance at a kidney transplant orientation class held at UNC Hospitals in Chapel Hill. That is your first step of the process. After you attend this class, you will be scheduled for doctor appointments to begin your transplant evaluation to see if you are a good candidate for this treatment option.

Although we try to plan ahead, you may still need to start on dialysis before a kidney transplant can be done. Due to your medical condition or other reasons, you may not be a suitable candidate for a transplant. Or you may not be interested in the transplant option. If this is the case, you will need to select the dialysis treatment option you would prefer – the type that is best for you, your family and your medical condition. In some cases, your kidney doctor (nephrologist) will recommend the treatment option that he or she feels would be best for you and your situation.

Deciding on Your Dialysis Treatment Choice:

To decide what type of dialysis you would prefer, consider these questions:

1. Would you rather receive dialysis at home, be more involved with your therapy and perform your own dialysis after receiving special training?

If so, you have two choices:

Peritoneal Dialysis (PD for short) or Home Hemodialysis

2. Or would you rather go to a dialysis center three times each week and receive your therapy there by trained professionals? Then, **In-center Hemodialysis** would be your best treatment option.

Hemodialysis:

Hemodialysis is a term that means to “filter the blood.” A dialysis machine is used to run a few ounces of blood through a special filter for removal of waste products and excess fluid. The blood is filtered continuously over a 3-5 hour period, depending on severity of kidney failure. The blood never leaves the patient’s body completely, only a few ounces at a time. In-center hemodialysis typically occurs three times each week on a Monday-Wednesday-Friday schedule or a Tuesday-Thursday-Saturday schedule at a local dialysis center. Most patients are awake during the procedure, or they may nap, watch TV, read a book or other lap type hobbies.

If you consider home hemodialysis as a treatment option, you will need a partner available to help with this treatment. You will be trained how to perform this treatment by dialysis nurses during a special home training time period. These nurses will be available after your training to answer your questions.

Another type of hemodialysis, nocturnal hemodialysis, is performed while you sleep and can be either done in-center or at home. In-center nocturnal dialysis is usually done three times per week for 6-8 hours. Those who perform nocturnal dialysis at home usually dialyze 5-6 days per week. People receiving nocturnal dialysis, regardless of location, have a higher dose of dialysis and report feeling more energy, less episodes of leg cramps and less nausea. Other benefits can be better blood pressure control and less dietary and fluid restrictions than conventional hemodialysis.

Peritoneal Dialysis or PD:

Like hemodialysis, peritoneal dialysis removes waste products and excess fluid from the body. It does this in a different way - by using the lining of your abdomen or belly, the peritoneal membrane. This therapy is performed every day by the patient or a family member in the comfort of the patient's home. This is how it works: Peritoneal dialysis (PD) solution, a special fluid containing minerals and sugars, is drained into the abdomen through a special tube called a PD catheter. The PD fluid is allowed to stay (dwell) in the abdomen for a short period of time, and then the clamp is opened and the fluid is allowed to drain out of the abdomen. This is called an "exchange." Several exchanges are required daily.

You may be taught how to operate a special machine called a PD cycler that can be set up at home and used to perform these exchanges while you sleep so you can be free (off of dialysis) during the daytime hours. The patient is taught how to do these exchanges by a PD nurse at the dialysis unit during a special home training time period. After this training, a PD nurse will be available to answer any questions or help with any issues or problems that arise.

Preparing for Hemodialysis or PD: What is an Access?

In order to start on either hemodialysis or PD, you will need an access, a way for the dialysis treatment to be delivered. For hemodialysis, an access to your bloodstream will need to be created. This is called a **vascular access** since it involves blood. There are two main types of permanent vascular access called a fistula and a graft. Both require an operation or surgery, usually done as an outpatient. A surgeon makes a fistula by using your own blood vessels and connecting an artery and a vein under your skin in the lower part of your arm. A graft is made by using a synthetic tube to connect an artery and a vein in your arm.

A vascular access for hemodialysis should be placed several months before it is time to start on dialysis to allow plenty of time for healing and to set up the right amount of blood flow for the dialysis machine. So, it is best for you to plan ahead to get an access before dialysis is needed. If this is not done ahead of time or an emergency situation with more sudden kidney failure occurs, a dialysis catheter will need to be placed in the neck so that dialysis can be started. This is a temporary catheter used for hemodialysis until a permanent vascular access (fistula or graft) can be created and ready for use.

The first step in getting a vascular access is having a special study called vein mapping. You will receive an ultrasound study (that uses sound waves and no dye) in the Peripheral Vascular Lab to look at the blood flow in your blood vessels (arteries and

veins) in your arms. You will then be scheduled to see a Vascular or Transplant surgeon at UNC to discuss the results of this study and to plan for your vascular access surgery.

With peritoneal dialysis (PD), an access also needs to be placed well in advance of needing to start on this treatment. This access is called a Peritoneal Dialysis or PD catheter. This catheter is placed by a Transplant or Vascular surgeon during an outpatient operation or surgery. A few weeks are needed for healing before the catheter can be used for PD so it is best to plan ahead if you are considering PD as your treatment choice.

Deciding Not to Start Treatment for CKD:

Patients have the right to decide what kind of treatment they want for their CKD. For most patients, choosing dialysis or a kidney transplant will improve their quality of life. Other patients may view treatment for CKD as prolonging their life unnecessarily. This is especially true for those who suffer from other serious ailments.

Deciding not to treat CKD is a decision that should be made after careful discussion with your kidney doctor and your family members. You should understand that the patient who needs dialysis and chooses not to accept treatment will ultimately die. How long it will take depends on the patient's medical condition and kidney function. It may take a few days, several weeks or even months. Death from kidney failure is usually painless. The nephrologist will prescribe medications to make the patient as comfortable as possible. Hospice can also be involved in the patient's care.

If the patient decides not to undergo treatment for CKD, an Advance Directive (Living Will) should be completed. It should detail the patients' wishes for end of life treatment. A Power of Attorney should be appointed to execute the Advance Directive. The Power of Attorney should be someone willing to carry out the patient's wishes when the patient is unable to.

Resources - Web Sites & Videos:

UNC Kidney Center: www.unckidneycenter.org

See “Kidney Health Library” for Medication and Nutrition information

American Association of Kidney Patients: www.aakp.org or 1-800-749-2257

*Be sure to check out “AAKP My Health” at www.aakp.org/my-health/

National Kidney Disease Education Program

www.nkdep.nih.gov

1-866-4 KIDNEY (1-866-454-3639)

National Kidney Foundation

www.kidney.org

1-800-622-9010

YouTube Videos:

<http://www.youtube.com/ikankidney>