

Kidney Replacement Treatment Options

Choosing What's Best for You

Introduction

When an individual hears that their kidneys are failing, and that some form of kidney replacement therapy is needed, it can be a lot to take in. This booklet is designed to provide basic information about the available options, and to provide additional resources that will help you decide the treatment option that is best for you. You are not alone in making a decision about treatment therapies. Every year more than 100,000 people in the U.S. receive the diagnosis that they need kidney replacement therapy. One thing to consider is that whatever you decide, you have the option of changing your decision at any time, and you can opt to try another treatment therapy. In other words, if the treatment you decide upon initially is not working well for you, you can choose to try a different therapy. You may also decide that you don't want treatment; and want, instead, to receive palliative care. Whatever path you choose, your physician and healthcare team can offer you support along the way.

There are many resources that are available to you to help you decide which therapy is best for you. For example, there are educational sessions, called Kidney Smart, that are offered locally. The internet also hosts a variety of educational material to help you decide, and the web addresses below are an example of many of the on-line resources that are available to you.

www.kidneyschool.org

www.kidneyfund.org

www.aakp.org

www.mydialysischoice.org

www.dialysisfinder.com

www.kidney.org

<http://ckddeisions.org/prepared-materials>

The National Kidney Foundation can also connect you with an individual "who's been there." You will be able to speak to a trained mentor who has kidney disease, and has been faced with choosing kidney replacement treatment options. The mentor can share their experiences with you, and offer support. To get connected, you can call 1-855-653-7337 (1-855-NKF-PEER) or you can email nkfpeers@kidney.org.

Kidney Replacement Treatment Options

When your kidneys fail, waste products and fluid accumulate in the body. The available treatment options to remove waste products and fluid are kidney transplant and dialysis. Dialysis

can be performed either at home or at an outpatient dialysis center. The following pages contain descriptions about kidney transplant and the various dialysis therapies that are available, along with the potential benefits and drawbacks of each therapy. There is also a table, which provides a brief comparison of the various treatment options.

Kidney Replacement Treatment Options

Kidney Transplant-surgery, requiring a hospital stay, during which a healthy donor kidney is placed in the body. The donor kidney may come from a living unrelated or related donor or from a deceased donor. After the hospital stay, frequent follow-up is done by the transplant staff at the hospital. Later on, follow-up is done at a doctor's office, with at least an annual visit back at the transplant hospital.

Reported Benefits of Kidney Transplant

- ✓ Freedom from dialysis and fewer diet restrictions
- ✓ Higher energy level & ability to lead a more active lifestyle
- ✓ Potential of longer life expectancy
- ✓ Treatment of choice, when appropriate

Potential Drawbacks of Kidney Transplant

- ✓ Usual risks associated with major surgery
- ✓ To prevent the body from rejecting the kidney, need to take immunosuppressant drugs, which may cause complications
- ✓ There may be a waiting list for a deceased donor
- ✓ The transplanted kidney may fail and dialysis will be needed

Peritoneal Dialysis (PD)-sterile fluid, called dialysate, flows via a catheter into the abdominal peritoneal cavity and dwells or remains there for a prescribed time, then is drained out. The surgical placement of the catheter can be done in an outpatient setting, and once placed, a portion of the catheter remains outside the body. Peritoneal dialysis usually preserves any remaining kidney function longer than hemodialysis. Individuals who choose PD are trained to perform peritoneal dialysis at home. Monthly follow-up occurs by visiting with the physician at an outpatient center. There are 2 types of peritoneal dialysis, as described below:

Continuous Ambulatory

Peritoneal Dialysis (CAPD)-gravity is used by hanging a bag of dialysate fluid high and letting it flow into the peritoneal cavity. After a prescribed amount of dwell time, the bag is placed down low to re-capture the fluid as it drains out.

Reported Benefits of CAPD

- ✓ Can be done anywhere by the patient, usually 3-5 times every day & avoids having to go to a dialysis center 3 times per week
- ✓ Machine-free and needle-free treatments
- ✓ There is more flexibility in deciding the schedule of exchanges that will work with personal lifestyle events
- ✓ Higher sense of well-being reported & less diet restrictions

Potential Drawbacks of CAPD

- ✓ Connecting the catheter to the PD dialysate bag must be done carefully to avoid infection of the peritoneum
- ✓ Potential to look and feel bloated while the dialysate is dwelling in the peritoneal cavity
- ✓ PD may cause weight gain
- ✓ There are no days off, as is done 7 days per week

Continuous Cycling Peritoneal

Dialysis (CCPD)-a machine is used to regulate the flow of fluid in and out of the peritoneal cavity.

Reported Benefits of CCPD

- ✓ Same as CAPD, except that CCPD is done at home by the patient for 8-10 hours, and usually while sleeping. Travel is possible as the machine is small enough to be transported.

Potential Drawbacks of CCPD

- ✓ Same as CAPD, except that the cyclor machine does the exchanges
- ✓ Movement is somewhat limited while connected to the cyclor.

Hemodialysis-2 needles are placed in a vascular access and connected to a machine. One needle allows the blood to be pumped outside the body and through a filter to remove waste and excess fluid. The second needle allows the filtered blood to be pumped back into the body. Surgical placement of the vascular access is done in an outpatient setting and the access is usually placed in the arm. Follow-up occurs at the dialysis center several times per month by the physician, and/or a nurse practitioner. There are 3 types of hemodialysis, as described below:

Home Hemodialysis

Reported Benefits of Home Hemodialysis

- ✓ Done at home and there are fewer diet restrictions and fewer blood pressure medications may be needed
- ✓ Higher energy levels and sense of well-being is reported
- ✓ More independence, as the patient can adjust the scheduling of the treatments and travel is possible since the machine is small enough to be transported

Potential Drawbacks of Home Hemodialysis

- ✓ Requires a partner (usually a family member) to perform the treatment. Both the partner and patient are trained on needle insertion and how to handle potential treatment complications
- ✓ Treatments are more frequent than in-center (usually 4-6 days per week)
- ✓ The patient or the partner has to spend time setting up the machine and cleaning it after treatments

Nocturnal Hemodialysis

Reported Benefits of Nocturnal Hemodialysis

- ✓ Is done by healthcare personnel at a dialysis center while sleeping
- ✓ Higher energy, less diet restrictions, less blood pressure medications may be needed & less problems removing fluid build-up
- ✓ More independence since days are free
- ✓ There is a “break” from dialysis 4 days per week

Potential Drawbacks of Nocturnal Dialysis

- ✓ Not available at all dialysis units and there may be a waiting list at units that do offer nocturnal dialysis
- ✓ Treatments are done for 6 or more hours
- ✓ Travel is possible, but must make arrangements well in advance to get treatments at the travel destination

In-Center Hemodialysis

Reported Benefits of In-Center Hemodialysis

- ✓ Is done by healthcare personnel at a dialysis center for 4-5 hours, 3 times per week
- ✓ Potential to socialize with other kidney patients
- ✓ There is a “break” from dialysis 4 days per week

Potential Drawbacks of In-Center Hemodialysis

- ✓ Less flexibility and independence, because the treatments are done per the dialysis center’s schedule
- ✓ Has the most restrictive diet and fluid restrictions
- ✓ Travel is possible, but must make arrangements well in advance
- ✓ There may be more prescribed medicines to take (and pay for)
- ✓ Feeling fatigued after treatments is more likely

Quick Comparison of Kidney Replacement Therapies									
Kidney Replacement Therapy	Freedom From Dialysis	Number Of Treatment Days Per Week	Can Be Done At Home	Allows For Flexible Schedule	Allows For Ease When Traveling	Higher Energy Levels Are Possible	Fewer Medications Are Needed	Fewer Diet Restrictions	Needle - Free Treatments
Kidney Transplant	Yes	None	N/A-no treatments	Yes	Yes	Yes	No	Yes	N/A-no treatments
CAPD (Continuous Ambulatory Peritoneal Dialysis)	No	7	Any-where	Yes	Yes	Yes	No	Yes	Yes
CCPD (Continuous Cycling Peritoneal Dialysis)	No	7	Yes	Yes	Yes	Yes	No	Yes	Yes
Home Hemodialysis	No	4-6	Yes	Yes	Yes	Yes	Yes	Yes	No
Nocturnal Hemodialysis	No	3	No	No	No	Yes	Yes	Yes	No
In-Center Hemodialysis	No	3	No	No	No	Fatigue after dialysis	No	No	No

Dialysis Centers

Mid-Atlantic Nephrology Associates, P.A. (MANA) physicians have privileges at several dialysis centers in and around the Baltimore metropolitan area, and nearby communities. The list found on the next two pages displays the dialysis centers where MANA physicians follow both peritoneal and hemodialysis patients. The list is sorted by zip code. Patients have the absolute right to choose their health care providers, and may elect to get treatment at a center, not visited by MANA physicians. While the list on the next two pages displays only the centers that MANA physicians visit, you can easily find all the centers within a zip code by visiting www.dialysisfinder.com. If you elect to choose a center, not visited by MANA physicians, we will help you transition your care to the kidney specialist at the center of your choice.

Dialysis Center Name	Address	City, State	Zip	Phone Number	Supports Home Dialysis	Supports Outpatient Hemodialysis
US Renal Care - CHESAPEAKE	305 College Pkwy.	Arnold, MD	21012	(410) 431-5106	No	Yes
ELLCOTT CITY	3419 Plum Tree Dr. Suites 103-106	Ellicott City, MD	21042	(410) 750-8426	No	Yes
ELLCOTT KIDNEY CENTER	3000 N. Ridge Rd., Suite A	Ellicott City, MD	21043	(410) 465-0273	No	Yes
DaVita - CEDAR LANE	6334 Cedar Lane	Columbia, MD	21044	(410) 531-5390	No	Yes
DaVita - HOWARD COUNTY	5999 Harpers Farm Rd., Suite E-110	Columbia, MD	21044	(410) 997-4244	No	Yes
DaVita - GLEN BURNIE	6934 Aviation Blvd. Suite K	Glen Burnie, MD	21061	(410) 553-6951	No	Yes
IDF - ARUNDEL CENTER	804 Landmark Dr. Suite 112	Glen Burnie, MD	21061	(410) 768-5722	Yes	Yes
KIDNEY HOME CENTER II	6934 Aviation Blvd., Suite H	Glen Burnie, MD	21061	(410) 760-4976	Yes	No
DaVita ODENTON	1360 Blair Drive Suite L	Odenton, MD	21113	(410) 674-3918	No	Yes
FMC - ODENTON	1105 Annapolis Rd.	Odenton, MD	21113	(410) 672-8024	No	Yes
DaVita - OWINGS MILLS	11221 Dolfield Blvd., Suite 118	Owings Mills, MD	21117	(410) 363-2019	No	Yes
DaVita PASADENA	8037A Governor Ritchie Highway	Pasadena, MD	21122	(410) 590-4615	Yes	Yes
DaVita BALTIMORE COUNTY	3689 A Offutt Road	Randallstown, MD	21133	(410) 922-2475	No	Yes
FMC PATAPSCO VALLEY	9109 Liberty Rd.	Randallstown, MD	21133	(410) 655-1076	No	Yes
DaVita CARROLL COUNTY	193 Stoner Avenue Suite 120	Westminster, MD	21157	(410) 871-1762	No	Yes
DaVita - MERCY	315 N. Calvert St. Suite 300	Baltimore, MD	21202	(410) 332-1122	No	Yes

Dialysis Center Name	Address	City, State	Zip	Phone Number	Supports Home Dialysis	Supports Outpatient Hemodialysis
KIDNEY HOME CENTER III	200 St. Paul Place Suite 5	Baltimore, MD	21202	(410) 244-6251	Yes	No
DaVita DULANEY-TOWSON	113 West Rd.	Towson, MD	21204	(410) 825-3690	No	Yes
FMC PIKESVILLE	115 McHenry Ave., Bedford Sq. 2 Suite D	Pikesville, MD	21208	(410) 484-3127	No	Yes
FUTURECARE COURTLAND GARDENS	7920 Scotts Level Rd.	Baltimore, MD	21208	(443) 426-5108	No	Yes
DaVita - FALLS ROAD	1423 Clarkview Rd. Suite 500	Baltimore, MD	21209	(410) 828-4643	No	Yes
FMC CROSS KEYS	2 Hamill Road Suite 200	Baltimore, MD	21210	(410) 323-4568	No	Yes
DaVita - BERTHA SIRK	5820 York Rd. Suite 10	Baltimore, MD	21212	(410) 532-9311	No	Yes
DaVita - HARFORD ROAD	5800 Harford Rd.	Baltimore, MD	21214	(410) 444-1544	Yes	Yes
DaVita-GREENSPRING	4701 Mt. Hope Dr. Suite C	Baltimore, MD	21215	(410) 585-0467	No	Yes
DaVita PIKESVILLE DIALYSIS	6609 Reisterstown Rd. Suite 100	Baltimore, MD	21215	(410) 358-1745	No	Yes
DaVita- SETON DRIVE	4800 Seton Dr.	Baltimore, MD	21215	(410) 585-0446	No	Yes
DaVita- 25TH STREET DIALYSIS INC	920 E. 25th St.	Baltimore, MD	21218	(410) 235-1611	No	Yes
UNION MEMORIAL HOSPITAL DIALYSIS UNIT	201 E. University Pkwy.	Baltimore, MD	21218	(410) 554-4535	No	Yes
US Renal Care - NORTH BALTIMORE	2700 N. Charles St.	Baltimore, MD	21218	(410) 243-4193	No	Yes
DaVita - WHITE SQUARE	1 Nashua Ct. Suite E	Baltimore, MD	21221	(410) 687-5580	Yes	Yes
DaVita - DUNDALK	14 Commerce St.	Dundalk, MD	21222	(410) 284-9000	No	Yes
FMC-DUNDALK	1107 N. Point Blvd. Suite 201	Dundalk, MD	21224	(410) 288-2010	No	Yes

Dialysis Center Name	Address	City, State	Zip	Phone Number	Supports Home Dialysis	Supports Outpatient Hemodialysis
DaVita - CATONSVILLE	1581 Sulphur Spring Rd., Suite 112	Baltimore, MD	21227	(410) 242-7766	No	Yes
DaVita - CATONSVILLE NORTH	5401 Baltimore National Pike	Baltimore, MD	21229	(410) 869-4618	No	Yes
US Renal Care - WEST BALTIMORE	22 S. Athol Ave.	Baltimore, MD	21229	(410) 947-3227	No	Yes
FMC-WHITE MARSH	8013 Corporate Dr. Suite 3K	Nottingham, MD	21236	(410) 931-2478	No	Yes
GOOD SAMARITAN HOSPITAL	5601 Loch Raven Blvd.	Baltimore, MD	21239	(443) 444-4095	No	Yes
DaVita WINDSOR	2707 N. Rolling Rd., Suite 104-105	Baltimore, MD	21244	(410) 944-2649	No	Yes
KIDNEY HOME CENTER I	2245 Rolling Run Dr., Suite 3	Baltimore, MD	21244	(410) 265-6515	Yes	No
DaVita NORTHWEST	2245 Rolling Run Dr., Suite 1	Baltimore, MD	21244	(410) 265-0158	No	Yes

Hemodialysis Blood Access

For individuals choosing hemodialysis, an “access” is needed in order to pump the blood from the body to the hemodialysis machine, and then back to the body. There are 3 types of accesses that are commonly used for hemodialysis, as follows:

1. Arteriovenous fistula, or AVF, which requires a surgical procedure to enhance the blood flow through a vein to support the hemodialysis process;
2. Arteriovenous graft, or AVG, which may be indicated if a vein cannot be enhanced enough to support hemodialysis. An AVG requires a surgical procedure, during which a synthetic vessel is placed to support the hemodialysis process; and
3. Central venous catheter-is usually a temporary option, which is used while waiting for either an AVF or AVG to be ready for hemodialysis. A central venous catheter is flexible tubing, similar to an IV, which is placed in a vein that is large enough to support the hemodialysis process. The catheter is then removed when either the AVF or AVG is ready to be used.

The surgical procedures for an access to be in place can be done in an outpatient or a hospital setting. Your kidney doctor can help you with finding a doctor that can place the access.

Next Steps

You are not alone in needing kidney replacement therapy. More than 600,000 Americans are living on kidney replacement therapy. It may be overwhelming trying to understand the different treatment therapies that are available. Your physician and healthcare team can answer questions, or provide additional information as you decide what best fits your lifestyle and goals. The on-line resources, which are listed again below, can be helpful in providing more detailed information about each treatment option. Many of the on-line resources offer videos featuring individuals living on the various treatment therapies. Remember too that you can connect to someone “who’s been there,” by calling 1-855-653-7337 (1-855-NKF-PEER) or by emailing nkfpeers@kidney.org.

You can choose the treatment that’s best for you, and you are not limited to one choice indefinitely. When you’ve decided, your physician and healthcare team will help you with any appropriate next steps.

www.kidneyschool.org

www.kidneyfund.org

www.aakp.org

www.mydialysischoice.org

www.dialysisfinder.com

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