

Learning About Peer Mentoring

End Stage Renal Disease Overview





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Part 1: How the Kidneys Work

The body has two kidneys. Each one is about the size of a fist. The kidneys are located on the right and left sides of the body, just below the rib cage. Although the kidneys are very small, they play a large role in keeping the body in balance.

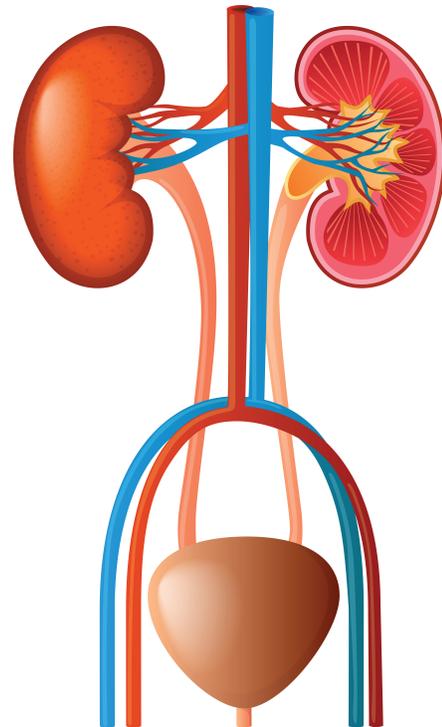
Kidneys have about a million tiny filters. These filters remove waste products and fluid. This happens as the blood passes through the kidneys. The waste and fluid leave the body as urine.

Here's what the kidneys do:

- Remove extra fluid.
- Remove waste products, like those from foods and medicines.
- Balance calcium and phosphorus.
- Control blood pressure.
- Assist with making red blood cells.
- Activate Vitamin D, needed for healthy bones.

The filters in the kidneys may become damaged. If this happens, the waste products and water build up in the body. The person may feel sick.

The kidneys may stop working. Then the person will need to get dialysis to replace the function of the kidneys. Or the person could get a kidney transplant.





Part 2: Causes of Kidney Disease

A disease or condition can cause the kidneys not to work as well as they should. This is called kidney disease.

Or the kidneys could stop working. This is called kidney failure. Another name for kidney failure is end stage renal disease.

Kidney disease and kidney failure can develop over several months or years.

Causes of Kidney Disease

What causes the kidneys to stop working as they should?

Diabetes and **high blood pressure** are the most common causes of kidney disease.

Other causes are:

- Attacks on the body by its own defense or immune system. This can happen with diseases such as lupus where the body's immune system attacks healthy parts of the body.
- Inflammation of the kidney's filters.
- Cysts on the kidney. Cysts are sacs that may be filled with liquid or other material.
- Blockage for a long time of the body's drainage system for urine.
- Kidney infections that happen again and again.

Renal is another word for kidney.

Renal disease = kidney disease



Part 3: End Stage Renal Disease

Stages of Kidney Disease

Kidney disease has five stages. Stage 1 is the beginning of kidney disease. As the person goes from Stage 1 to Stage 5, the kidneys can do less and less of the work they are supposed to do. Stage 5 is end stage renal disease. This means the end stage of the kidney's function, not the person's life.

Kidney disease takes time to develop into end stage renal disease. It can even take years. The length of time varies for each person. It may depend on the cause of the kidney disease and how the kidney disease is managed.

How the Kidneys Work in Each Stage of Disease
Stage 1. The kidneys can handle most of their work without any problems.
Stage 2. The kidneys start to show mild loss of function. Mild loss of kidney function is when kidneys are working at 60 to 89 percent.
Stage 3. The kidneys show mild to moderate loss of function. Moderate loss of kidney function is when kidneys are working at 45 to 59 percent.
Stage 4. Kidney function is severely decreased. The kidneys cannot work on their own.
Stage 5. The kidneys lose their ability to filter waste products and fluid. This usually requires dialysis or a kidney transplant to replace the function of the kidneys.

Decisions about the type of dialysis or a kidney transplant may occur at any stage of kidney disease. Some people do not make the decision until they are in Stage 5, especially if they are not seeing a kidney doctor.



Symptoms of Kidney Disease

A person has more and more symptoms as he or she moves from one stage to the next.

In the early stages, the person may not have any symptoms. Stage 5 is called kidney failure or end stage renal disease. This means the end stage of the kidney's function, not the person's life. The kidneys no longer work well enough to meet the body's needs, so a person will have many symptoms.

What a Person May Experience in Each Stage of Kidney Disease

Stage 1. Usually the person has no symptoms.

Stage 2. A person might not have any symptoms. Some typical signs include protein in the urine, swelling of the legs and feet, and high blood pressure.

Stage 3. A person may have signs of illness, such as bone disease, low red blood cell count, or weakness.

Stage 4. A person may have dizziness, weakness, and nausea.

Stage 5. A person may experience:

- Loss of appetite
- Dry, itchy skin
- Trouble breathing
- Not as much urine leaving the body
- Feeling tired
- Nausea
- Sleep problems
- Swelling of the feet and ankles
- Feeling thirsty a lot
- Painful muscle cramps, such as in the legs



Part 4: The Basics of Vascular Access

When the kidneys stop working, dialysis or a kidney transplant is needed.

Hemodialysis is one type of dialysis. Blood is pumped out of the body to a machine that acts as a kidney. The machine cleans the blood. The blood is returned to the body after it is cleaned.

The machine must connect to the body's blood system. A vascular access is what is used to connect the machine to a person's circulatory system.

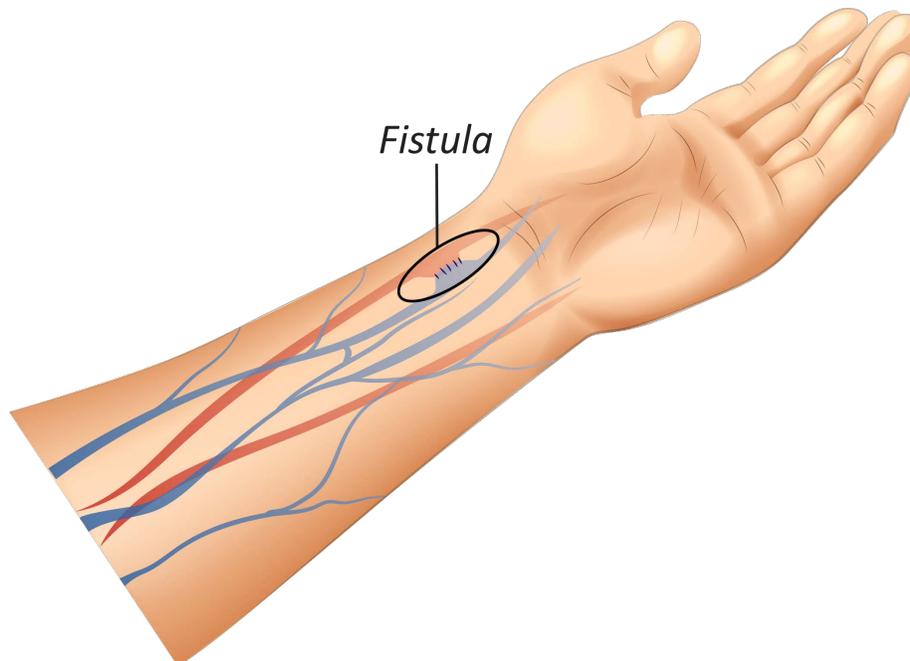
***Circulatory system =
blood system***

Hemodialysis treatments are usually needed at least three times a week to clean the blood and remove extra fluid. Hemodialysis can be done at home or at a dialysis center.

There are three types of vascular accesses:

1. Fistula

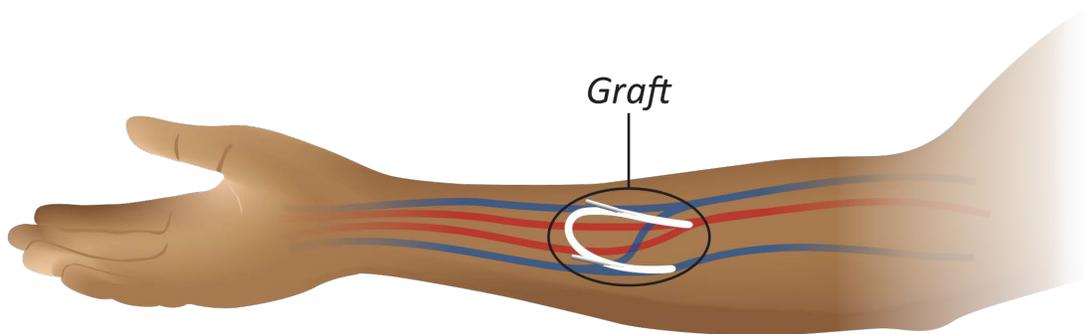
For this type, a person's own vein is connected to an artery. This forms the fistula.





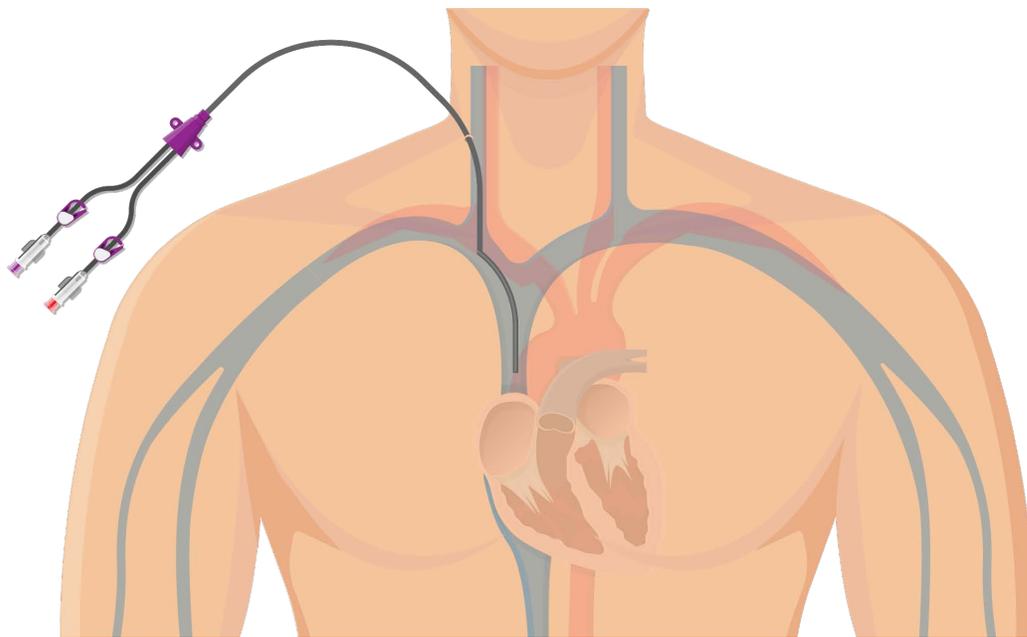
2. Graft

An artificial material is placed under the skin. The material connects a vein to an artery.



3. Central Venous Catheter

A flexible tube is inserted through the skin in the neck or chest. The tube is placed into a large vein and ends in the heart.





The Three Choices for Access

Many individuals getting hemodialysis will need a permanent vascular access at some point. Some people may need more than one.

A fistula or a graft is a permanent access. A person needs surgery to get one. A fistula or a graft can last a long time and can be used over and over again.

A person may be able to keep a fistula the longest of the three options. Also, a fistula does not have as many problems connected with it as a graft or a catheter does. A person with a fistula may not have as many infections as someone with a graft or a catheter. And a person with a fistula may not have to go to the hospital as often.

A fistula does not have as many problems as a graft or a catheter.

In most cases, a catheter is only temporary. A catheter does not last as long as a fistula or a graft. A catheter also has a higher risk of infection. A person with a catheter may also experience:

- More stays in the hospital.
- Longer treatment times.
- Not being able to shower without a special covering.
- More clotting in the catheter than in other types of access.
- Risk of destroying an important vein that the catheter is in.

People getting hemodialysis should know about a catheter, a fistula, and a graft. Then they can participate in decisions about which vascular access to get.



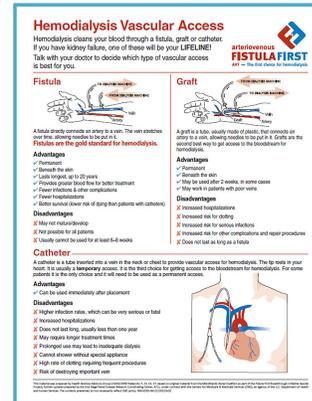
Part 5: Resources

Here are two resources with more information about vascular access. These may empower you to make an informed decision about which access to get.

1. Hemodialysis Vascular Access

This flyer explains how a fistula, a graft, and a catheter are created. It also includes facts to consider about each one.

You can read this to learn about vascular access. You can see the advantages and disadvantages of each type.



2. Questions or Concerns about a Permanent Access? Let's Talk!

This booklet offers guidance on permanent access.

You can learn about the importance of a permanent access. You can also read answers to common questions and concerns. This may help you to take an active part in your own healthcare.

Where to Find the Resources on Vascular Access

You will find these resources by going to the home page of this program. Click on the Resource button to find the links. Check to see if your dialysis facility can help print these for you.

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