



## KIDNEY AWARENESS

Kidneys do many essential tasks to keep us healthy. The main job of your kidneys is to remove toxins and excess water from your blood. Kidneys also help to control your blood pressure, produce red blood cells and keep your bones healthy.

Your kidneys are located deep in the abdomen, beneath the rib cage. Each is roughly the size of your fist. They control the blood stream levels of many minerals and molecules, including sodium and potassium. They also help to control blood acidity. Every day your kidneys carefully control the salt and water in your body so that your blood pressure remains the same.

### DID YOU KNOW?

Kidneys:

- Make urine
- Remove wastes and extra fluid from your blood
- Control your body's chemical balance
- Help control your blood pressure
- Help keep your bones healthy
- Help you make red blood cells



### WHAT IS CHRONIC KIDNEY DISEASE?

Chronic kidney disease (CKD) is a progressive loss in kidney function over a period of months or years. Each of your kidneys has about a million tiny filters, called nephrons. If nephrons are damaged, they stop working. For a while, healthy nephrons can take on the extra work. But if the damage continues, more and more nephrons shut down. After a certain point, the nephrons that are left cannot filter your blood well enough to keep you healthy.

When kidney function falls below a certain point, it is called kidney failure. Kidney failure affects your whole body, and can make you feel very ill. Untreated kidney failure can be life-threatening.

### CAUSES OF CKD

High blood pressure (hypertension) and diabetes are the most common causes of kidney disease. High blood pressure causes just over a quarter of all cases of kidney failure. Diabetes has been established as the cause of around one-third of all cases and is the most common cause of End-Stage Renal Disease (ESRD) in most developed countries.

Other less common conditions include inflammation (glomerulonephritis) or infections (pyelonephritis).

Sometimes CKD is inherited (such as polycystic disease) or the result of longstanding blockage to the urinary system (such as enlarged prostate or kidney stones).

## DIALYSIS

Healthy kidneys clean blood and remove extra fluid in the form of urine. Dialysis replaces the blood cleaning functions when kidneys no longer work. There are two types of dialysis: hemodialysis and peritoneal dialysis.

In **hemodialysis**, your blood is pumped through a dialysis machine to remove waste products and excess fluids. You are connected to the dialysis machine through a needle in a vein that is surgically enlarged (vascular access) or through a temporary plastic catheter placed in a vein. This allows blood to be removed from the body, circulate through the dialysis machine for cleansing, and then return to the body. Hemodialysis can be done at a dialysis center or at home. When done in a center, it is generally done three times a week and takes between three and five hours per session. Home dialysis is generally done three to seven times per week and takes between three and ten hours per session (often while sleeping).

**Peritoneal dialysis** is another form of dialysis used to remove waste products and excess water. It works on the same principle as hemodialysis, but your blood is cleaned while still inside your body rather than in a machine by adding clean fluid to your abdomen, letting it accumulate waste products from the blood and then draining it out. It is typically done at home. Some patients can perform peritoneal dialysis continuously while going about normal daily activities (continuous ambulatory peritoneal dialysis, CAPD)

**Talk to your healthcare team if you would like more information about dialysis at home.**

## KIDNEY TRANSPLANTATION

A kidney transplant is an operation to place a healthy (donor) kidney in your body to perform the functions your own diseased kidneys can no longer perform.

Kidney transplantation is considered the best treatment for many people with severe CKD because quality of life and survival are often better than in people who use dialysis. However, there is a shortage of organs available for donation. Many people who are candidates for kidney transplantation are put on a transplant waiting list and require dialysis until an organ is available.

A kidney can come from a living relative, a living unrelated person, or from a person who has died (deceased or cadaver donor). Only one kidney is required to survive. In general, organs from living donors function better and for longer periods of time than those from donors who are deceased.

Overall, transplant success rates are very good. Transplants from deceased donors have an 85 to 90% success rate for the first year. That means that after one year, 85 to 90 out of every 100 transplanted kidneys are still functioning. Live donor transplants have a 90 to 95% success rate. Long-term success is good for people of all ages.