

## Key Concepts for Kidney Disease Education: Concept 1

**1. Talk to patients about the kidneys, diabetic kidney disease (DKD), and their risk.**

Often patients do not have a good understanding of how their kidneys function and of their risk for DKD.

**What do the kidneys do?** *You have two kidneys. They are bean-shaped, and about the size of a fist. They are located in the middle of your back, on the left and right of your spine. Each kidney contains about a million tiny filters made up of blood vessels. The kidneys' main job is to filter your blood, removing waste and extra water to make urine. The kidneys also help control blood pressure and make hormones that your body needs to stay healthy.*

**What is DKD?** *DKD happens when diabetes damages the blood vessels in the kidneys and the kidneys do not filter blood as well as they used to. Usually, this damage happens slowly, over many years. As more and more filters are damaged, the kidneys eventually are unable to keep the body healthy—at which point either dialysis or a kidney transplant is needed.*

**Why am I at risk?** *You are at risk because you have diabetes. Diabetes is the leading cause of kidney disease and kidney failure. You may also be at risk if you have high blood pressure.*

**How can I reduce my risk?** *The steps you take to manage your diabetes also help protect your kidneys. This includes monitoring your blood glucose according to the recommended schedule and monitoring your blood pressure (keep it below 130/80 mmHg). You also need to eat healthy and be active. It is very important to get your kidneys checked at least once a year.*

## Key Concepts for Kidney Disease Education: Concept 2

**2. Communicate the importance of testing and how kidney disease is diagnosed.** This can empower patients to become more active in monitoring their kidney health.

**What are the symptoms of kidney disease?** *Kidney disease is often called a “silent” disease because most people have no symptoms until their kidneys are about to fail. The only way to know if you have kidney disease is to get tested. The sooner kidney disease is found, the sooner you can take steps to begin treatment and keep your kidneys healthier longer.*

**How do you check for kidney disease?** *A blood test and a urine test are used to find kidney disease. Because you have diabetes, you should get these tests **every year**.<sup>1</sup>*

- **GFR** – A blood test measures how much blood your kidneys filter each minute, which is known as your GFR (glomerular filtration rate). This shows how well your kidneys are working. A GFR of 60 or higher is in the normal range. A GFR below 60 may mean you have kidney disease. You can’t raise your GFR, but you can try to keep it from going lower.
- **Urine Protein** – A urine test checks for protein in your urine, which can be a sign of kidney disease. Protein can leak into the urine when the filters in the kidneys are damaged. This test has several different names, including a check for “proteinuria,” “albuminuria,” or “microalbuminuria.” It can also be called a “urine albumin-to-creatinine ratio.”

Read NKDEP’s Quick Reference on GFR and UACR:

[http://www.nkdep.nih.gov/resources/uacr\\_gfr\\_quickreference.htm](http://www.nkdep.nih.gov/resources/uacr_gfr_quickreference.htm).

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<sup>1</sup> ADA recommends annual testing in patients who have type 2 diabetes and who have had type 1 diabetes for five years or more.

### Key Concepts for Kidney Disease Education: Concept 3

**3. Explain the progressive nature of diabetic kidney disease (DKD) and the basics of treatment.** Patients should understand that kidney damage is irreversible but that treatment can help delay or prevent kidney failure. The treatments are similar to those of diabetes and its complications.

**Can kidney disease get better?** *DKD is a progressive disease, which means it will not get better and is likely to get worse. The damage in the kidneys tends to be permanent and can't be undone. Treatment for DKD helps slow kidney disease and keep the kidneys healthier longer.*

**What type of diet and lifestyle changes do I need to make?** *Eating healthy, being active, and limiting use of salt can help keep the kidneys healthier longer. Following a personalized diet developed by a nutrition professional is also important.*

**Are there medications for kidney disease?** *Your health care provider will figure out which medications you should take to manage your diabetes, lower your blood pressure, and protect your kidneys. Two types of blood pressure medications—ACE inhibitors and ARBs—have been shown to slow kidney disease and delay kidney failure, even in people who do not have high blood pressure. Many people need to take two or more medications to keep their blood pressure below recommended levels (130/80 mmHg). A diuretic (water pill) is often necessary.*

## Key Concepts for Kidney Disease Education: Concept 4

**4. Begin speaking to patients with diabetic kidney disease (DKD) about dialysis and transplantation.** Patients who develop kidney failure benefit from early education about dialysis and transplantation. Early education gives them time to process the information and prepare both psychologically and physically, e.g., vascular access preparation and transplantation evaluation.

**Will I ever need dialysis?** *With proper diabetes management and blood pressure monitoring, you may never need dialysis or, at least, not for a long time. But, if you progress to kidney failure (sometimes called end-stage renal disease, or ESRD), we will need to find a treatment that can replace the job of your kidneys.*

**What is dialysis?** *Dialysis replaces the work your kidneys do by filtering waste and water from your blood. There are two forms of dialysis. In **hemodialysis**, blood is run through an external filter and the clean blood is returned to the body. Hemodialysis is usually done at a dialysis center three times a week. **Peritoneal dialysis** uses the lining of your abdominal cavity (the space in your body that holds organs like the stomach, intestines, and liver) to filter your blood. This kind of dialysis is needed daily but it can be done at home, while you sleep.*

**Is kidney transplant an option?** *Some people with kidney failure may be able to receive a kidney transplant. The donated kidney can come from an anonymous donor who has recently died, or from a living person—a relative, spouse, or friend. A kidney transplant is a treatment—not a cure. You will need to see your health care provider regularly and take medications as long as you have the transplant.*