

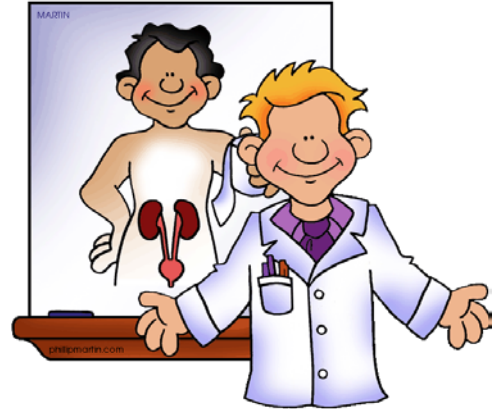
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Kidney Disease

What do the kidneys do?

The kidneys are 2 bean-shaped organs about the size of your fist. They're located just below the ribs towards your back. They filter waste from your blood and remove this waste through the urine. The kidneys also regulate how much fluid, salt, and electrolytes are in your body to keep everything in balance. The kidneys are important in controlling blood pressure and blood sugar.



What is kidney disease?

Chronic kidney disease (also called nephropathy or renal disease) is a serious long term health problem that develops more often in people with poorly controlled diabetes. Kidney disease prevents the body from removing waste properly, which can cause toxins to build up in the blood.

How does diabetes affect the kidneys?

Over the long term, high blood sugar and/or high blood pressure can damage the tiny blood vessels in the kidneys. This damage makes it harder for the kidneys to filter waste from the blood. Damage to the kidneys can cause a type of protein (called albumin) to spill into the urine instead of being taken back into the blood stream.

Having small amounts of protein in the urine is called microalbuminuria. This is an early sign of damage to the kidneys. If kidney damage gets worse and more protein is found in the urine, it's called proteinuria. Without treatment, kidney damage will get worse and the kidneys may eventually fail. This is called End Stage Renal Disease (ESRD). With ESRD, the only treatments available are dialysis, kidney transplant, or conservative care.

Diabetes can damage the nerves that tell you when your bladder is full. Over time, the pressure from a full bladder can damage your kidneys. If urine stays in your bladder for longer periods of time, this may put you at a higher risk of getting a urinary tract infection.

How common is kidney disease in diabetes?

As many as 50% of people with diabetes may show some signs of kidney damage in their lifetime. But good diabetes management and regular screening can prevent or delay the loss of kidney function.

What are symptoms of advanced kidney disease?

Most people don't know they have kidney disease in the early stages. Symptoms of advanced kidney disease may include:

- Swelling of the feet, ankles, or legs (edema)
- Poor appetite
- Poor energy
- Nausea and/or vomiting
- Confusion or trouble thinking
- Problems controlling blood pressure
- Abnormal blood chemistry (electrolytes and salts), such as potassium
- Anemia (not having enough red blood cells)
- Brittle bones (caused by abnormal phosphorus and calcium levels)

When and how should people be screened for kidney disease?

Since most people don't feel any symptoms in the early stages of kidney disease, people with diabetes should be screened regularly to find kidney problems as early as possible. Blood and urine tests are the only ways to know if kidney disease has started. Most people are screened once a year by having these 2 tests:

1) Albumin/Creatinine Ratio (Urine ACR) test. This test checks for protein in the urine. The target number for most people with diabetes is less than 2.0 mg/mmol.

2) Estimated Glomerular Filtration Rate (eGFR) blood test. This test measures how well the kidneys are filtering the blood. A result of less than 60 mL/min/1.73m² could mean you have kidney disease.

If you have kidney disease, you may need to have these tests more than once a year.

Can people with kidney disease keep taking their regular medicines?

The medicines you take may need to be adjusted when your kidneys aren't working properly. You may need to stop taking some medicines, especially when you're sick. Please talk to your healthcare provider about what to do when you're sick. Make sure your healthcare provider knows all the medicines you're taking including supplements.

When can seeing a specialist help?

Seeing a specialist is a good idea for people with severe kidney disease, or people who cannot get their blood pressure, blood sugar, or cholesterol under control, even with help from their healthcare provider.

How can I prevent kidney disease from starting or getting worse?

- Keep your blood sugar within target range. Check with your healthcare team for your personal targets.
- Keep your blood pressure within target range. For most people with diabetes, the goal is below 130/80 mmHg.
- If you smoke, try to quit.
- Take your medicines as prescribed. Your doctor may prescribe an ACEi (angiotensin converting enzyme inhibitor) or an ARB (angiotensin receptor blocker) to help manage your blood pressure and try to keep the kidneys from leaking protein.
- Have your cholesterol checked once a year and keep it within target range. An LDL-cholesterol of less than 2.0 mmol/L is the goal for most people with diabetes.
- Follow a healthy meal plan. Ask your healthcare provider about guidelines for salt and protein intake.
- Exercise regularly.
- Avoid medicines that are known to damage the kidneys such as Ibuprofen, Motrin[®], Advil[®], Naproxen, Aleve[®], aspirin, diclofenac, or Voltaren[®], and some antibiotics.

To learn more, visit Diabetes Canada at:

www.diabetes.ca/diabetes-and-you/complications/kidney-disease