DIABETIC KIDNEY DISEASE: WHAT IS IT AND HOW DO I MANAGE IT?

Kidney disease is a relatively common complication of diabetes, with high blood glucose and blood pressure damaging the glomerulus. This PIL educates patients about the disease and possible treatment options, encouraging them to make healthy lifestyle choices.

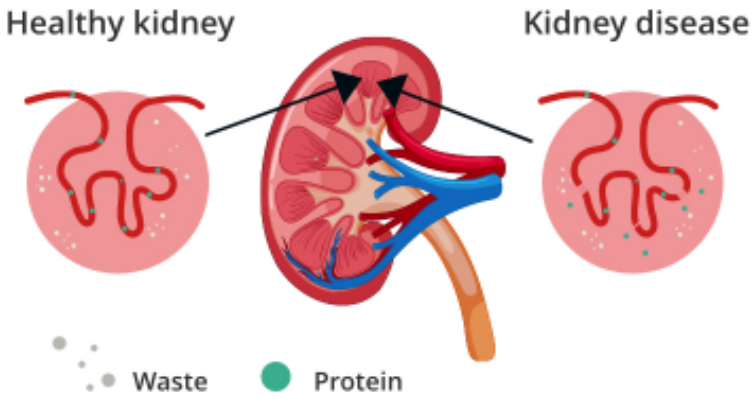
What do the kidneys do?

Your kidneys' job is to filter your blood. They remove extra fluid and waste products, moving them out of your body in your urine (pee). This filtering happens through tight coils of tiny blood vessels called the glomerulus.

What is diabetic kidney disease?

Having high blood glucose can damage the blood vessels in your kidneys, so they can't filter your blood as well as they should. This is what happens in diabetic kidney disease, usually developing slowly, over many years.

Because your kidneys aren't filtering your blood properly, abnormal levels of protein build up in your urine and then leave your body. At the same time, more water and salt stay in your body and waste materials build up in your blood.



What are the signs and symptoms of diabetic kidney disease?

In the early stages of kidney disease you won't usually have noticeable symptoms. In the later stages, you may notice symptoms like:

- Swollen ankles, feet and hands
- Blood in your pee
- Feeling really tired
- Being short of breath
- Feeling sick

Because symptoms usually only appear later, it's important that you're screened for kidney disease every year.

What causes diabetic kidney disease?

If high blood glucose levels damage the tiny blood vessels in your kidneys, they start to leak. The same happens if high blood pressure damages and narrows your blood vessels. These blood vessels are supposed to act as your kidneys' filter, so a leaky filter is a problem!

You may also be at higher risk of developing diabetic kidney disease if you:

- Have had diabetes for a long time
- Have a blood relative with diabetes
- Are African-Caribbean or Black African and over the age of 25
- Smoke
- Are overweight, especially around your middle
- Have other complications from diabetes, especially retinopathy (eye disease)

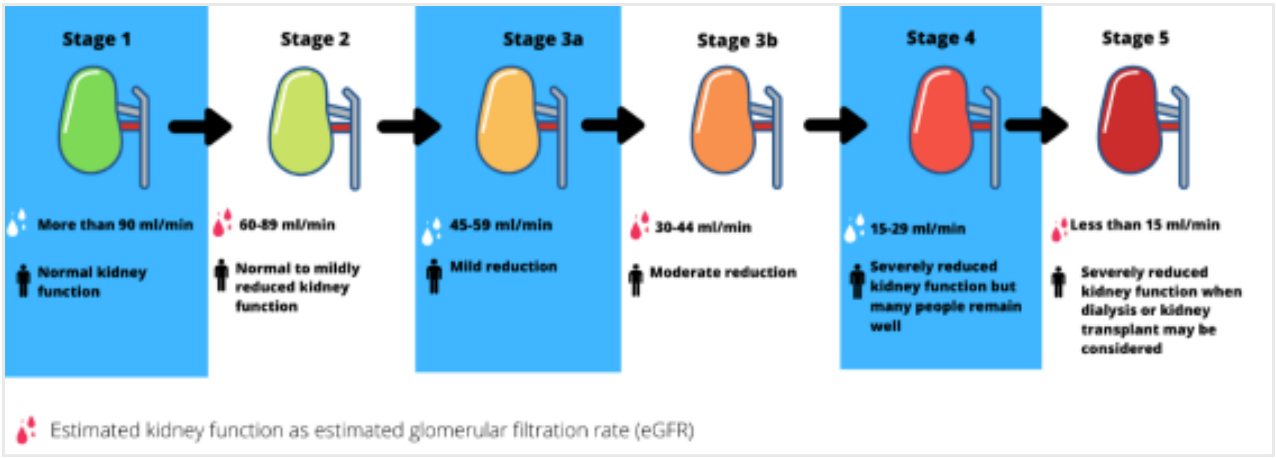
What are the screening tests for diabetic kidney disease?

If you've got diabetes, you should have your blood and urine checked at least once a year to see how well your kidneys are working.

There are 2 main tests that can pick up signs of diabetic kidney disease:

- **Urine test (ACR):** This test, called the albumin-to-creatinine ratio (ACR), looks for signs that protein is leaking into your urine.
- **Blood test (eGFR):** The result of a test that measures the amount of creatinine (a waste product) in your blood is combined with other information (such as your age, sex and ethnicity). The results are used to estimate how much blood your kidneys filter each minute – your estimated glomerular filtration rate (eGFR). The eGFR shows how well your kidneys are working.

What are the stages of diabetic kidney disease?



How is diabetic kidney disease treated?

The treatment you'll be offered depends on what stage your kidney disease is at, but whatever the stage, it's extremely important to protect your kidneys from further damage:

Know your blood glucose and blood pressure – and keep them within range:

- **Blood glucose**: Your healthcare practitioner may set specific blood glucose targets for you, but they're likely to

be 5 to 7 mmol/l when you wake up, before eating, and 4 to 7 mmol/l before meals at other times of the day. A blood test called the HbA1c will show your average glucose level over the past few weeks. Aim for around 48 mmol/l or 6.5%

• **Blood pressure:** It's especially important to keep your blood pressure under control. Your healthcare practitioner can take a blood pressure reading or you can buy a monitor to do it yourself. Aim for less than 130/80 mmHg when sitting quietly

Take regular exercise: Check with your healthcare practitioner before you begin, but aim for at least 150 minutes of moderate-intensity activity a week, e.g. walking or cycling

Eat a healthy, balanced diet: Cut down on salt, fat and sugar and follow your healthcare practitioner's dietary advice. Visit the National Kidney Foundation of South Africa's website for lots of tips on what to eat

Stop smoking

Lose weight if you're overweight

Don't drink more than 14 alcohol units a week (visit Aware.org for information about what a unit of alcohol is)

Attend your healthcare appointments

Medication

You may be offered tablets to help control your blood pressure. They stop your blood vessels from narrowing too much, helping to protect your kidneys from further damage.

Treatment for late-stage kidney disease

If you develop late-stage kidney disease and your kidneys stop working altogether, you may be able to have dialysis or a kidney transplant:

• **Dialysis** involves passing your blood through a tube into an external machine that filters it, before it's passed back into your body by another tube: the machine does your kidneys' job by filtering your blood for you. Dialysis is usually done 3 days a week and takes about 4 hours each time. It's usually done at hospital, but can sometimes be done at home.

• **In a kidney transplant**, your damaged kidney is taken out and someone else's working kidney is put into your body instead. This is a major surgical procedure and requires very careful planning – it's not a cure or a 'quick fix'. Doctors have to find a donor whose kidney matches yours as closely as possible and then your new kidney requires a lifetime of care, including taking daily anti-rejection medication to make sure your body doesn't attack it because it doesn't recognise it as being part of you.

When should I contact my doctor?

If you have dehydration, vomiting or diarrhoea, seek medical advice straight away as some of your medication may need to be stopped urgently. Also, always tell your pharmacist about your condition as some over-the-counter drugs may no longer be safe for you to use because of your reduced kidney function.

Where can I find out more? | Websites

• National Kidney Foundation of South Africa
• The Cape Kidney Association
• Diabetes South Africa
• National Institute of Diabetes and Digestive and Kidney Diseases (US)