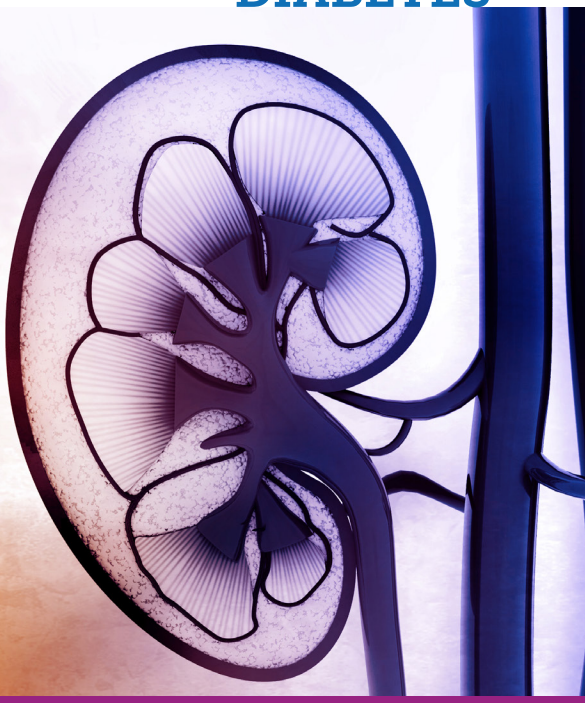
YOU AND YOUR BODY

t·r·e·n·d™ DIABETES

DIABETES AND YOUR KIDNEYS



WHY IS THIS LEAFLET FOR YOU?

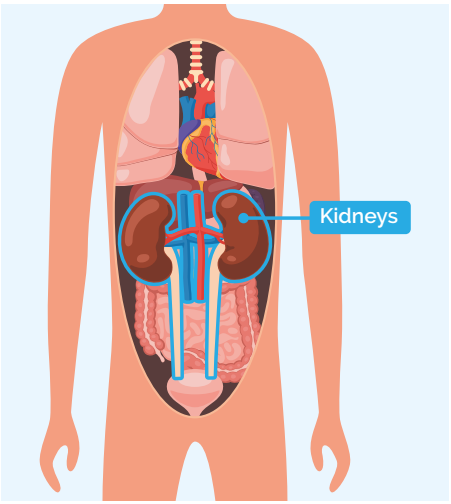
This leaflet is about your kidneys and chronic kidney disease (CKD). This is a complication that can occur in some people with diabetes. It explains how you can reduce your risk of developing CKD, or slow its progression if you already have kidney damage. This leaflet contains important information on:

- What is CKD and how is it tested?
- How does diabetes affect your kidneys?
- Looking after your kidneys
- Declining kidney function and your diabetes treatment
- Key points and useful resources

WHAT IS CKD?

Kidneys are bean-shaped organs located at the back of the body, below the ribcage. Blood constantly flows through the kidneys where it is filtered and cleaned.

- Kidneys remove excess water and the end products from what we eat and drink, and from medications we take, to produce urine.
- The kidneys also help to control blood pressure.
- They produce hormones and chemicals needed in producing red blood cells and keeping bones healthy.



When kidneys become damaged, they are less able to remove waste material and excess water from the blood. This damage develops gradually over years, which is why it is called chronic kidney disease or CKD. It can range from a mild condition with no symptoms at all, to a very serious condition requiring dialysis or a kidney transplant. CKD is very common but less than 1 in 10 people who develop the condition may need dialysis or a transplant.

HOW IS IT TESTED?

Blood tests are used to show how well your kidneys are working by calculating the estimated glomerular filtration rate (eGFR), which is how much blood your kidneys can filter every minute. This is more than 90 mL/minute in a young person with healthy kidneys. eGFR is used to grade the level of any CKD you may have.

As the kidneys become more damaged, the amount of blood they are able to filter is reduced and the eGFR drops from over 90 to less than 15 mL/minute in end stage renal (kidney) disease.

Protein and blood do not usually appear in the urine produced by healthy kidneys. Urine tests to detect these substances show early damage to the structure of the kidneys.

It is very important to take a urine sample with you when you attend your diabetes review.

HOW DOES DIABETES AFFECT YOUR KIDNEYS?

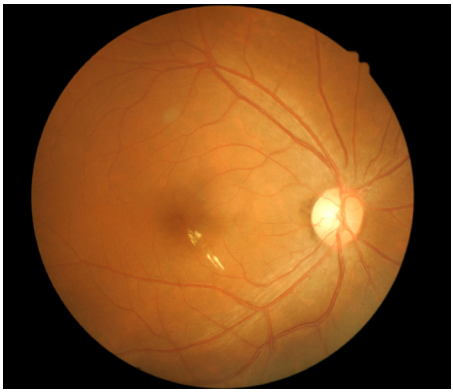
Diabetes increases the risk of CKD because:

- High glucose levels over time damage the small blood vessels in the kidney.
- High blood pressure causes structural damage to the kidney.
- Having diabetes for a long time increases your risk.

High blood pressure causes kidney damage but also kidney damage causes high blood pressure. CKD therefore increases the risk of heart attacks and strokes. Having diabetes means you may have a higher risk of heart disease and stroke than someone without diabetes, especially if you are overweight and smoke.

You will need regular foot checks and know how to look after your feet because foot problems are more common in people with diabetes and CKD.

Make sure you attend retinopathy screening when invited as damage to the back of the eyes (the retina) often occurs in combination with diabetes and kidney damage.



Progressive CKD can increase your risk of hypoglycaemia/'hypos' (low glucose levels) if you inject insulin or take certain diabetes tablets. (See your pharmacist if you are not sure if your tablets can cause 'hypos').

LOOKING AFTER YOUR KIDNEYS

Everybody with diabetes should have an annual diabetes review, usually with your GP or practice nurse. Tiredness, poor appetite, nausea, swelling of hands and feet, and shortness of breath can be signs and symptoms of advanced CKD. However, most people with CKD do not have any symptoms. Therefore, regular blood and urine tests to check if your kidneys are working correctly are essential to diagnose and track CKD progression.

Things you can do to reduce the risk of further kidney damage, or to slow down damage progression are:

Keep your blood pressure in control: if you have kidney damage, a target of 130/80 mm Hg or less is recommended for most people, but discuss this with your doctor or nurse

Agree the right HbA1c target for you with your doctor or nurse, and follow your treatment plan as prescribed

Keep your cholesterol level within a healthy range agreed with your doctor or nurse

Lose weight if you are overweight

Keep active

Stop smoking

Eat healthily and watch your salt intake

DECLINING KIDNEY FUNCTION AND YOUR DIABETES TREATMENT

As CKD progresses, the kidneys filter the blood at a slower and less efficient rate. This may mean the effects of tablets and injections are prolonged as they remain in the body for longer. Your doctor or nurse may advise you to:

Stop the medication: This does not mean the medication has caused kidney damage, but if it accumulates in the body, it could make you unwell.

Some medications do not work if the kidneys are damaged

Reduce the dose: The medication stays in your body for longer so less is needed to have the same effect.

Insulin and some tablets can cause hypoglycaemia or 'hypos' (low glucose). If they are not cleared from the body correctly, there is an increased risk of 'hypos'.

Change of treatment: Some treatments are removed by other means than the kidney. Therefore they can be used when the kidneys are damaged. Some have a shorter duration of action so are less likely to accumulate in the blood.

The number of insulin injections as well as the doses may be reduced.

THINGS TO REMEMBER:

- Attend your diabetes reviews including retinopathy screening and remember to take your urine sample with you.
- Ensure you have an annual foot check.
- If you smoke, get help to stop.
- Eat healthily and watch your salt intake.
- Take medications as prescribed.
- Be aware medications may need stopping or the dose reduced as kidney function reduces.
- If you use insulin or tablets that can cause low glucose levels, make sure you know how to recognise and treat 'hypos'.

USEFUL RESOURCES:

Trend Diabetes: www.trenddiabetes.online
Diabetes UK: www.diabetes.org.uk
Diabetes UK: 0345 123 2399
National Kidney Federation: www.kidney.org.uk
British Kidney Patient Association: www.britishkidney-pa.co.uk

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