



## Patient Information

### Chronic Kidney Disease and Diabetes

Chronic kidney disease (CKD) means that your kidneys are not working as well as they are supposed to.

The main functions of the kidneys are:

- To remove the waste products from bloodstream (excreted in the urine)
- To control blood pressure
- To produce hormones and chemicals needed to create red blood cells (help in formation of blood)
- To keep various salts and chemicals in the blood at the right level

When kidneys become diseased or damaged its functions can be affected at various levels.

#### **How does Diabetes affect your kidneys?**

Diabetes increases the risk of CKD because high blood glucose levels over time damage small blood vessels feeding the filtering structures in the kidneys; therefore affecting functions of the kidneys.

The first sign of CKD is microalbuminuria, which means the kidneys are not filtering well and start leaking protein into the urine. If Diabetes is not well controlled the kidney function would continue to deteriorate over a period and might result in end stage renal failure needing Dialysis or renal transplant.

Kidney damage also causes high blood pressure and affects the cardiovascular system. Therefore people with CKD have an increased risk of developing heart disease or a stroke.

#### **How is CKD diagnosed?**

A simple blood test can be done to check the function of your kidneys by calculating the estimated glomerular filtration rate (eGFR). A normal eGFR is more than 90 mL/minute in a person with healthy kidneys. As the kidneys become more damaged, the volume of blood they are able to clean is reduced and the eGFR drops.



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A urine test is commonly used to detect certain substances such as albumin and protein in urine. These are the indicators of possible early damage to the structure of the kidneys. These substances are not present in the urine of people with healthy kidneys.

## What can you do to prevent or manage CKD?

Everybody with diabetes must have regular diabetic reviews at least annually, usually with your GP or practice nurse.

You are unlikely to feel unwell or have any symptoms with mild to moderate CKD.

- Lethargy
- Loss of appetite
- Weight loss
- Muscles cramp
- Dry itchy skin
- Swelling of hands and feet
- Looking pale due to anaemia and shortness of breath

All of these can be signs a of severe CKD.

As most people with CKD do not experience any symptoms in the beginning it is important to have regular blood and urine tests to check your kidney function and manage CKD progression.

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

- Maintain good blood glucose control; agree the right target and treatment for you with your doctor or nurse
- Maintain your blood pressure control; if you have kidney damage a target of 130/80 or less is recommended for most people. Discuss this with your doctor or nurse
- Maintain your cholesterol level within a healthy range agreed with your doctor or nurse
- Stop smoking
- Eat healthily and watch your salt intake
- Keep active
- Lose weight if you are overweight
- If you are diagnosed with high levels of protein in your urine, you may be considered for medication such as ACE inhibitors. This medication reduces



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the risk of cardiovascular disease and can prevent further worsening of kidney function. Your GP will also review your current medication as certain medicines can affect the kidneys and can make CKD worse.

## Useful resources

Diabetes UK: [www.diabetes.org.uk](http://www.diabetes.org.uk)  
Swindon Diabetes : [www.swindondiabetes.co.uk](http://www.swindondiabetes.co.uk)  
[www.patient.co.uk](http://www.patient.co.uk)  
National kidney federation: [www.kidney.org.uk](http://www.kidney.org.uk)

## Other information

There is a wealth of information on Diabetes available on the internet. If you would like to find out more about your diabetes, your medication, or local services that could help you improve your diabetes, we recommend: [www.swindondiabetes.co.uk](http://www.swindondiabetes.co.uk).

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**This information sheet is available to order in other languages and formats. If you would like a copy, please contact us on 01793 604031 or email [patient.information@gwh.nhs.uk](mailto:patient.information@gwh.nhs.uk)**

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