

Chronic Kidney Disease and Diabetes

Information and advice for patients

Diabetes Centre

Introduction

This leaflet gives information about chronic kidney disease (CKD) and diabetes.

Its aim is to improve knowledge and understanding about CKD in order for you to make informed choices about your lifestyle and treatment options.

What is CKD?

You have CKD when there are abnormalities of either blood or urine tests that are used to measure your kidney function. In the majority of people with CKD, the kidneys are working well enough to keep them healthy, but most will require increased monitoring of their kidney function and other things such as blood pressure and diabetes control.

Having CKD can put you at a higher risk of developing problems with your blood vessels (cardiovascular disease) which can cause an increased risk of heart attack and stroke. Your doctor will make sure that you have the right treatment to keep the risk of your developing these complications as low as possible.

A small number of people with CKD can go on to develop kidney failure which may require dialysis or transplantation. If you are at risk of this you will be referred to a kidney specialist (nephrologist).

What are the causes of CKD?

The three most common causes of CKD are high blood pressure, diabetes and ageing kidneys. Other causes are infections, blockages such as kidney stones, some medicines and other medical conditions.

How is chronic kidney disease detected?

Chronic kidney disease takes many years to develop. When people start to develop kidney disease, they will have small amounts of protein called albumin leaked into their urine which is usually not the case in people with normal kidneys. This is the first stage of the disease and is termed microalbuminuria. This process is painless and detectable by urine testing. This test is called ACR (albumin creatinine ratio) and will be carried out regularly (at least yearly) either in your GP practice or in the hospital. Blood tests to measure how well your kidneys are working are also measured.

If you are found to have an abnormal kidney function, you may need to have more tests such as:

- Additional special blood tests,
- Ultrasound scan of the kidneys, and

Chronic Kidney Disease and Diabetes

Information and advice for patients

Diabetes Centre

- Sometimes it may be necessary to take a small sample of the kidney tissue. This is called a kidney biopsy. If this is needed, you will be referred to the specialist kidney doctor who will see you either at City Hospital or the University Hospital (formally Queen Elizabeth Hospital).

How is CKD monitored?

In most people kidney function will stay steady over time. However, some may have a steady decline over time. A urine and a blood test will be carried out yearly either in the hospital clinic (Diabetes/Renal Clinic) or at you GP surgery.

The urine test should be an early morning sample (first urine in the morning).

Your blood pressure (BP) will also be monitored at clinic visits and you may also be asked if you would like to monitor BP at home. Your diabetes control will be checked regularly by measuring your HbA1C (Overtime, glucose in your blood slowly attaches to a protein called Haemoglobin. This is called glycosylated Haemoglobin or HbA1C. The higher the blood glucose levels are, the higher the HbA1c will be.) so that the doctors can gain insights into your overall diabetes control over the past three months. Information provided by your home blood glucose measurements is also very useful. It is important to bring your blood glucose meter and your home glucose diary to all your appointments.

How common is CKD?

Around one in seven adults have CKD. For the majority of people CKD is mild. Some people with CKD require regular monitoring, this is especially important for people who have diabetes and CKD. CKD is ten times more common in people with diabetes when they are from Black and Asian backgrounds.

How can diabetes cause chronic kidney disease?

The kidney can be affected in three different ways by diabetes and most people have a combination of these factors:

1. Diabetic nephropathy – damage to the microscopic filters in the kidneys caused by high blood glucose levels over long periods of time.
2. Reno-vascular disease- the artery to the kidney becomes partially blocked causing damage to the kidney.
3. High blood pressure (hypertension) – causes damage to the small blood vessels in the kidneys, high blood pressure can also be both a cause and consequence of kidney disease as the kidneys play a major role in controlling blood pressure.

Chronic Kidney Disease and Diabetes

Information and advice for patients

Diabetes Centre

How to manage your diabetic kidney disease?

Quit smoking

Smoking is very bad for people with diabetes and kidney disease as it can cause blockage to the kidneys' arteries. There are many ways to stop smoking and you can access NHS support either via your hospital / GP or by calling the NHS Smoking Helpline (08001690169).

Maintaining a healthy weight

This is important as it has been shown to help slow down the progression of CKD. When you attend the Diabetes/Renal clinic, your weight and body mass index (BMI) will be measured. If you are overweight, our clinical staff will give support and advice on healthy eating and weight loss.

Healthy eating and physical activity

Even if you have a normal weight (BMI 20-25) you may still benefit from making small changes in your diet, such as, eating foods low in saturated fat and salt, high in fibre and increase intake of vegetables and fruit. Physical activities, such as walking, help to reduce blood glucose levels, blood pressure and cholesterol levels. Exercise also reduces your risk of heart attack and stroke and strengthens bones. We recommend that you aim for 30 minutes of physical activity five days a week. You can learn more about managing your diet and weight through our X-PERT diabetes education course. (You can find more information about this course at the end of this leaflet)

Managing your blood glucose level

This is extremely important as good blood glucose level (in the range of 4 to 7 mmol/l before meals and no higher than 8.5 mmol/l two hours after meals) has been proved to slow down the progression of CKD. If you have not already had a blood glucose meter, and are required to check your blood glucose, a nurse, doctor or health care support worker will give you one when you attend the clinic and you will be advised about how often you need to test. You will be asked to bring these results to all your clinic appointments.

Managing your blood pressure

Controlling your blood pressure (BP) less than 130/80mmHg is important to prevent worsening of your kidney disease. The hospital and your GP can loan out electronic BP machines for you to monitor your BP at home. You will be advised on how often you need to measure your BP and how to send the results by text message. We can give you feedback on your BP readings in-between clinic visits via this system which is called Florence Telehealth.

Managing your cholesterol level

Lowering your cholesterol to levels ≤ 4.0 mmol/l will help your kidney function better and

Chronic Kidney Disease and Diabetes

Information and advice for patients

Diabetes Centre

prevent heart problems. In order to help you achieve this, you may be offered cholesterol-lowering medications as part of your management plan.

Taking medications

There are several medications which may be prescribed by your doctor such as:

- Diabetes medications (e.g. tablets and/or injections);
- Blood pressure tablets (usually one or more tablets may be needed to lower the blood pressure); and
- Cholesterol lowering drugs, such as (statins) may also be of benefit.

It is important that you take them regularly and report any problems or side effects you may have. There are also medications that you should not take - you should always mention that you have kidney disease when being prescribed any new medications or when buying over the counter medications from a pharmacist. Anti-inflammatory tablets such as Ibuprofen, Nurofen or Aspirin can be a problem.

Further information

Diabetes UK

Tel: 0207424100 Website: www.diabetes.org.uk

British Kidney Patient Association

Tel: 01420541424

Website: www.britishkidney-pa.co.uk

NHS Choices

Website: www.nhs.uk/

Kidney Research UK

Tel: 08453001499

Website: www.kidneyresearch.org/kidneyhealth

NHS Smoking Helpline

Tel: 08001690169

Website: www.nhs.uk/smokefree

Florence telehealth

www.getflorence.co.uk

Chronic Kidney Disease and Diabetes

Information and advice for patients

Diabetes Centre

X PERT Health

www.xperthealth.org.uk

Local Services

Diabetes X PERT programme is a structured education for people with Type 2 diabetes in Sandwell and West Birmingham Hospitals NHS Trust.

Tel: 0121 507 3642 or email Alison Lees (administrator) at alison.lees@nhs.net for more information.

Sources used for the information in this leaflet

- Gosmanov AR¹, Wall BM, Gosmanova EO, Diagnosis and treatment of diabetic kidney disease. *Am J Med Sci* 2014;347(5):406-13, 2014
- National Institute for Health and Care Excellence (NICE), Type 2 diabetes: The management of type 2 diabetes, Clinical Guidance 87, 2009

If you would like to suggest any amendments or improvements to this leaflet please contact the communications department on 0121 507 5303 or email: swb-tr.swbh-gm-patient-information@nhs.net



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