Chronic Kidney Disease – A Patient's Guide

What is chronic kidney disease (CKD)?

Chronic kidney disease is a medical term used to describe impaired kidney function over a long period of time. CKD should not be confused or used interchangeably with the term kidney failure, the two are not the same.

Chronic kidney disease is estimated to be present within 1 in 10 adults, making it a common problem, particularly as you grow older. The purpose of this resource is to help you gain a greater understanding of CKD and the ways in which both yourself and healthcare professionals can help you to take care of your kidneys.

To understand what CKD is, first it's helpful to know what each part of the phrase means. Chronic means that the disease has been present for at least 3 months. Due to various conditions (as outlined below), the kidneys have a reduced function which over time can lead to an increased risk of developing cardiovascular disease such as heart attacks and strokes.

The kidneys are the hardest working organ in your body receiving 25% of blood from every heartbeat and filtering your blood up to 40 times a day. Their main functions are:

- Disposing of the body's waste products and medications
- Controlling the amount of fluid and salts within your body
- Contributes to bone health and red blood cell production
- Helps to regulate your blood pressure

It is important to remember that it is very rare for chronic kidney disease to progress to more severe stages, particularly if you make and maintain lifestyle modifications and follow the advice given by your healthcare provider.

Risk Factors of CKD:

Below you will see a list of the most common conditions and factors which can increase your risk of developing chronic kidney disease. Please note that the list is not exhaustive.

- Diabetes
- High blood pressure
- Heart disease
- Smoking
- History of acute kidney injury (a rapid reduction in kidney function, often occurs when someone is quite poorly) or recurrent kidney infections (otherwise known as pyelonephritis)
- Inherited conditions such as polycystic kidney disease
- Structural abnormalities of the kidneys or urinary tract
- Obstructive causes such as an enlarged prostate
- Gout
- Family history of end-stage renal disease or inherited kidney problems

How is CKD diagnosed?

Chronic kidney disease is often asymptomatic in the early stages meaning that often you will not realise you have an impaired kidney function. If your CKD is more advanced, you may experience the following symptoms:

- Passing urine more; particularly at night
- Itchy skin
- Muscle cramps
- Swelling of the hands or feet
- Changes in skin colour
- Non-specific symptoms such as tiredness, loss of appetite, nausea, vomiting, sleep disturbances

If you have some of the above risk factors, then we will test you for chronic kidney disease. To carry out the tests we will require a urine sample and a blood test from you.

Within the blood test, we estimate the amount of blood that your kidneys filter every minute – this is referred to as the glomerular filtration rate (eGFR). A "normal" eGFR is considered to be above >90. It is important to bear in mind that as you grow older, your eGFR often decreases with age so those in their 80s may have eGFRs of 40-50 but this does not necessarily mean that they have chronic kidney disease.

A good way of seeing if there is any damage within your kidneys alongside measuring eGFR, is to use a urine sample to measure how much protein your kidneys are leaking – you may see this value referred to as the albumin creatinine ratio (ACR). The higher the value, the more damage there is.

Stages of CKD

Once the tests have confirmed a diagnosis of chronic kidney disease, the results of the tests can be used to determine how impaired your kidney function is. This classification of CKD helps guide and inform ongoing management, in particular when a referral to a specialist is required.

Chronic kidney disease can be broadly classified into five categories ranging from one to five. Stage five is the most severe form of CKD and it is at this point that you are considered to have established kidney failure and will be referred to the specialist to discuss further management. It is important to note that developing kidney failure is rare.

Management

Once a diagnosis of chronic kidney disease has been confirmed, you may require further investigations in order to identify a cause for your impaired

kidney function. However more often than not once a diagnosis has been made, the focus will be placed on to how to keep you and your kidneys healthy.

The vast majority of those that have chronic kidney disease are managed within general practice. However, there may be some cases where a referral to a specialist is required hence why it is important to ensure you actively engage with ongoing monitoring for your kidneys.

Once a cause has been established, your clinician will discuss with you how often you should undergo ongoing monitoring (a blood test and urine sample) to check how stable your chronic kidney disease is. You may already have ongoing monitoring already set up in routine appointments if you attend diabetic check-ups for instance.

Lifestyle changes:

There are several ways in which you can help to look after your kidneys as follows:

- Stop smoking – if you want additional support with this, please contact us so we can signpost you to the appropriate resources.
- Maintaining a balanced diet – eating a healthy, varied diet helps not just with your kidneys but your general overall health. If you have severe CKD, you may be referred to a renal dietician who will give you more specific advice on which foods to be cautious with. Please do not make any drastic changes to your diet without consulting with your clinician first.
- Non-prescribed medications - Some over-the-counter medications that you can buy in supermarkets or pharmacies can contribute to impaired kidney function such as ibuprofen. Always consult with a

pharmacist/clinician before commencing a new medication to make sure it is safe to take

Blood Pressure

High blood pressure, also referred to as hypertension, can cause damage to your blood vessels. The long-term consequences of high blood pressure can present in various ways from heart disease to strokes to impaired kidney function. The ideal blood pressure target is generally considered to be 140 mmHg/90 mmHg and under however this figure can vary depending on various factors. For example, if you have diabetes we try to aim for a lower blood pressure target.

Your clinician will consider what your average clinic and home blood pressure readings are alongside your degree of kidney impairment and recent blood tests in order to make an informed and safe decision on which blood pressure medication to start, if any.

Once you are commenced on a blood pressure medication, the dose may be gradually increased over time to achieve the ideal blood pressure. Any potential dose changes will be done slowly and with caution to avoid any potential side effects.

"Sick Day" Rule

You may have heard of this rule if you have diabetes or are taking long term steroids. Similar to these indications, it is also important to follow a similar approach if you have been diagnosed with chronic kidney disease.

If you become suddenly unwell with vomiting, diarrhoea or have symptoms of a severe infection such as a fever, you should consult with your clinician on whether you should temporarily stop taking certain medications.

Medications such as some blood pressure tablets, “water” tablets and ibuprofen and similar pain relief are all examples of which medications your clinician may advise you to stop taking when you become unwell.

Anaemia

During routine monitoring of your chronic kidney disease, it may be identified that you have anaemia. Anaemia is the medical term used to describe when you do not have enough red blood cells circulating around your body.

If a blood test has confirmed that you are anaemic, your clinician will carry out an in-depth history and examination followed by relevant investigations to determine what is the most likely cause.

If the underlying cause of your anaemia is thought to be chronic kidney disease, you may be commenced on medication which helps stimulate production of red blood cells.

Next steps

It is important to know why we as healthcare professionals are interested in helping you manage your chronic kidney disease.

Firstly, it should be acknowledged that most people who have chronic kidney disease carry on with their day-to-day life without noticing any symptoms. Despite this, the condition may result in causing you to develop other health issues such as heart problems. We are invested in helping you to understand and look after your kidney health because we want to reduce your risk of developing further long-term complications such as cardiovascular disease, increased risk of developing an acute kidney injury and ultimately to prevent the progression of chronic kidney disease.

If this resource has raised some questions or worries about your kidneys, please feel free to get in touch with us and we are more than happy to discuss these with you.

References:

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