



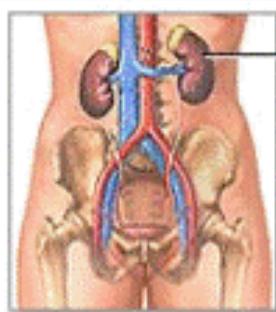
# Chronic Kidney Disease (CKD)

Patient Information Leaflet

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## What do Kidneys do and where are they?

Most people have two kidneys, each the size of a fist. They lie to either side of the back bone just below the ribs in the abdomen.



Kidney

Kidneys perform a number of vital tasks. The most important is the production of urine; this is how the kidney excretes waste and toxins and regulates the amount of fluid within the body.

About a quarter of the blood from every heartbeat passes through the kidneys, which filters and cleans our entire blood volume about 35 times per day.

While filtering toxins, kidneys must retain necessary substances like protein and blood. Until kidney function has deteriorated significantly sometimes to less than 10%, you do not usually feel unwell.

## Functions of the Kidney

- Acts as a filter system.
- Gets rid of waste products.
- Balances the body's fluid content.
- Produces hormones that control blood pressure.

- Produces the hormone Erythropoietin to help make red blood cells.
- Activates vitamin D to maintain healthy bones.

## What is Chronic Kidney Disease (CKD)?

Chronic Kidney Disease (CKD) is a general term used to describe patients whose kidneys are damaged and no longer function at 100%.

CKD may range from a small deterioration through to severe failure of all the functions.

Kidney damage may occur as a result of any of the many diseases that can affect the kidney and so sometimes what has caused kidney damage may not be clear.

After the age of 20-30, your kidneys' will naturally lose about 1% function per year. This is similar to the aging effect that can be seen in the wrinkling of the skin.

About one in every ten people has some abnormality in the kidneys. The majority of this is related to age. Only a very few people develop serious damage to their kidneys which is called kidney failure.

People may live without problems or symptoms for many years with damaged kidneys. However if kidney function drops to less than 5-10%, you will require support in the form of dialysis or a transplant.

The kidneys are vital organs for life.

## What tests will I need?

Kidney function can be measured in a number of ways.

- Blood tests can measure the levels of waste products that build up in the blood if the kidneys are not working properly.
- Urine tests for protein and blood can indicate leakage due to kidney damage.
- Occasionally you may be sent to the hospital for X-rays or ultrasound scans of your kidneys.

These tests will help to show your doctor if you have a kidney problem and how severe the problem is.

Your doctor or nurse may tell you about the eGFR (estimated Glomerular Filtration Rate) of your kidneys. This is a rough representation of the % function of your kidneys.

Some types of CKD can be treated or cured and you may need a kidney biopsy to help determine this. A biopsy means that a tiny piece of your kidney is taken via a needle while you are under local anaesthetic. This sample is then sent for further testing.

## Do I need to be seen at the hospital?

Not everyone with CKD needs to be seen at the hospital by a specialist. It is only if your kidney function deteriorates that you need to be seen by a Consultant Nephrologist (kidney doctor).

## What can I do to stop my Kidneys getting worse?

There are many simple things that can be done to stop your kidney function from deteriorating.

### • **Stop smoking**

Smoking is a risk factor for making CKD. Evidence suggests that stopping smoking reduces the rate of loss of kidney function.

### • **Do more exercise**

Maintaining a healthy weight helps to reduce your blood pressure and reducing your blood pressure reduces the rate loss of kidney function.

### • **Relax**

High blood pressure increases the strain on damaged kidneys and can make your kidney function worse.

### • **Don't drink as much.**

Too much alcohol is associated with high blood pressure and lowering your blood pressure helps your kidneys.

### • **Control your blood sugar**

If you are a diabetic, controlling your blood sugar can help to slow down CKD.

### • **Take all your medication**

Taking your prescribed medication regularly as instructed by your clinician will help you to ensure your kidney function does not deteriorate.

Kidney disease places you at an increased risk of heart attacks, strokes and other diseases of the arteries. It is important that you look after yourself in order to minimize the risk of these problems.

## What happens now?

Your doctor will tell you if you need to be seen by the Consultant at the hospital. If not your kidney disease will be managed by your General Practitioner (GP) and the Practice Nurse.

Your blood will be tested at regular intervals and you will be asked for a sample of urine for testing.

If there are no problems you will be asked for another review, your doctor or nurse will let you know when this will be.

If there is a problem you will be sent for review at the hospital. You may only have to be seen at the hospital once or twice and then returned to the care of your GP.

However, your Consultant may wish to review your progress in follow up appointments. Your Consultant will discuss this with you when they see you.

### Review of the key points

- Kidneys have a number of important functions.
- In Chronic Kidney Disease (CKD) the kidneys are damaged so that they are not able to function properly.
- CKD is common within the population.
- Most people with CKD do not progress to end stage kidney failure.
- Chronic kidney disease can be treated very well by your GP and Practice Nurse.
- CKD can be treated by taking all your prescribed medication and having a healthy lifestyle.
- Controlling blood pressure and blood sugar levels are important to ensure kidney problems do not get worse.

## Stages of Chronic Kidney Disease (CKD)

Stage	GFR*	Description
1	90+	Normal kidney function but urine findings or structural abnormalities or genetic trait point to kidney disease.
2	60-89	Mildly reduced kidney function, and other findings (as for stage 1) point to kidney disease.
3	30-59	Moderately reduced kidney function.
4	15-29	Severely reduced kidney function.
5	<15	Very severe, or <b>end stage</b> kidney failure (sometimes called <b>established renal failure</b> )

\*All GFR values are normalized to an average surface area (size) of 1.73m<sup>2</sup>

### Diet and fluids in chronic kidney disease

#### Why is diet important?

When your kidneys are not working well a build up of waste products and fluid can occur in your body.

By eating the right foods and following the advice in this leaflet it can help to prevent a build up of these waste products and help control your blood pressure.

#### What are the main dietary points?

In normal circumstances you do not need any diet or fluid restriction other than a usual healthy diet. Your doctor will advise you if you require specific restriction and you will be referred to the dietician for further advice.

## Weight

Try to keep to a healthy weight or Body Mass Index (BMI – ideal 20-25kg/m<sup>2</sup>). If you are overweight this can increase your blood pressure.

## Salt

Too much salt in your diet can increase your blood pressure. Salt can also make you thirsty.

If you are on a fluid restriction this can make it harder for you to keep to your fluid allowance.

Try to use less salt in your diet and limit processing foods (high in salt)

- **Do not** add salt when cooking
- **Do not** add salt at the table
- **Do not** use flavoured salts, e.g. garlic salt or rock salt.
- **Do not** use salt substitutes e.g. LoSalt or Selora

## Fluid

When your kidneys are not working well it can lead to an accumulation of fluid in your body. This can include areas such as your ankles, legs and chest.

Your doctor may advise you to restrict your fluids and prescribe water tablets to help remove the extra fluid.

As well as tea, water and other drinks, you will also need to count certain foods as part of your fluid allowance for example, jelly, ice cream, milk on cereal, porridge, milk puddings, soup, gravy and sauces.

If you have a high salt diet this can make you thirsty and make it harder to follow your fluid allowance.

## Potassium

When your kidneys do not work properly they may not be able to get rid of potassium. This increases the level of potassium in your blood.

Certain types of medications like some blood pressure tablets can also further increase the level of potassium in your blood. High levels of potassium can be dangerous to your heart.

If your blood tests show an increased potassium level your doctor will refer you to a dietician for advice on a low potassium diet.

## Protein

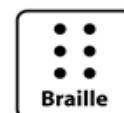
Protein is an essential part of a well-balanced diet. When your body breaks down protein your kidneys deal with the waste products. It is important therefore, not to over eat protein foods, for example meat, fish, cheese, eggs, milk and nuts. Try to keep these foods to 2-3 portions per day in your diet.

## Phosphate

Phosphate is a mineral found in your bones. Your kidneys normally get rid of excess phosphate.

High blood levels can lead to thinning of your bones, joint pain and can damage your blood vessels.

Phosphate levels may go up in the advanced stages of kidney disease. If your blood tests show a high phosphate level your doctor may prescribe you a drug called phosphate binder and refer you to a dietician for a low phosphate diet.



### If you require a special edition of this leaflet

This leaflet is available in large print, Braille, on audio tape or disk and in other languages on request. Please contact:

**Tel No: 0151 529 2906**

**Email: [interpretationandtranslation@aintree.nhs.uk](mailto:interpretationandtranslation@aintree.nhs.uk)**