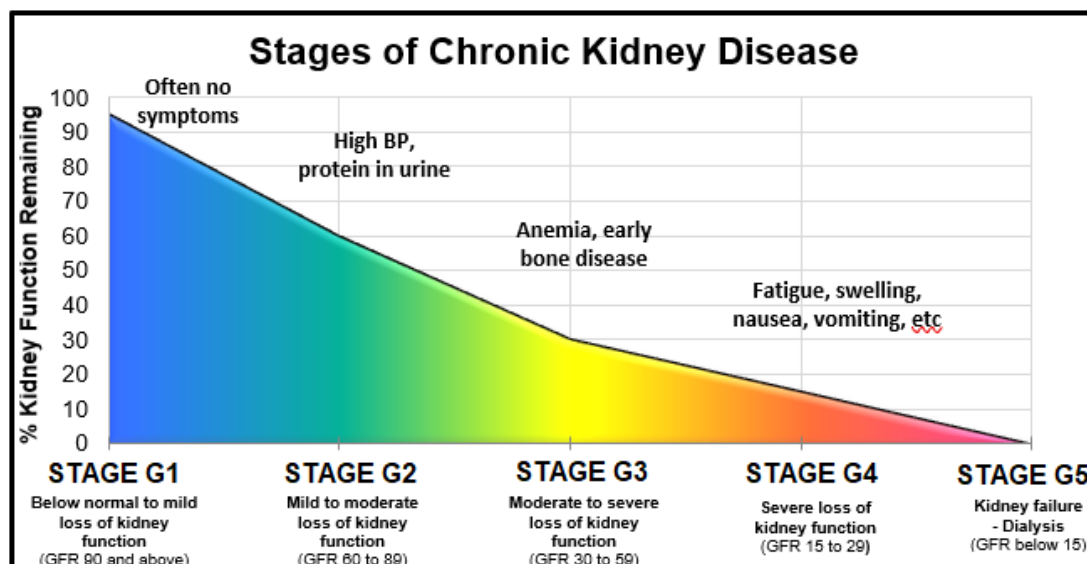


Chronic Kidney Disease

One important function of your kidneys is to remove waste from your body. When you have Chronic Kidney Disease (CKD), there is a gradual loss of kidney function and your kidneys will not be able to remove waste properly. As a result, waste will build up in your blood and cause serious problems.

Five Stages of CKD

Using a urine and blood test, your doctor will inform you which stage of CKD you are at based on the presence of kidney damage. The urine test checks the amount of protein you have in your urine and the blood test checks your Glomerular Filtration Rate (GFR), which indicates your level of kidney function. The GFR number decreases as the CKD worsens.



Causes of CKD

The two most common causes of CKD are diabetes and high blood pressure.

Diabetes is a condition where you have high blood sugar levels. Diabetes can cause damage to many parts of the body, including the kidneys, blood vessels, heart, nerves and eyes.

High blood pressure is a leading cause of heart attack, stroke and CKD. In addition, CKD can cause high blood pressure.

You may also have an increased risk of getting CKD if you:

- Have a family history of kidney failure
- Are 60 years or older

Symptoms

There are usually no obvious symptoms in the early stages of CKD. You may only notice symptoms such as poor appetite, muscle cramping at night, swollen feet and ankles, and dry, itchy skin when the disease is at a more advanced stage.

Kidney Function Tests

We estimate your kidney function level based on your GFR using a blood test. A normal GFR is more than 90. As GFR declines with age, older individuals aged 60 years and above may have a GFR between 60 and 89 and not have kidney disease.

We also use a simple urine test called the Urine Albumin Creatinine Ratio (UACR), which can check for the presence of protein. These two tests are used by doctors to diagnose if you have CKD and if so, which stage of the disease you are at.

Before you do your blood and/or urine test, remember to:

- Drink enough plain water to avoid dehydration
- Avoid exercising right before the test

Prevention

You can protect your kidneys by:

- Having a healthy balanced diet
- Exercising regularly
- Maintaining a healthy body weight
- Controlling blood pressure, blood sugar and blood cholesterol levels
- Not smoking
- Not using excessive pain-relieving medications
- Using only the medications, vitamins and supplements that your doctor recommends
- Avoiding herbal or traditional medicines or supplements, and supplements used for body building

Treatment

In the early stages, exercise, diet and medication may help to slow down or stop your kidney disease from worsening. Dialysis or a kidney transplant is needed if your kidney fails. Hence, it is important to be tested early, even if you do not show any symptoms.

Your doctor can provide a treatment plan based on your medical conditions such as:

- **High blood pressure**
You may need to take medication to control high blood pressure. You should also reduce the amount of salt you eat, maintain a healthy weight and exercise regularly.
- **Protect your kidney function**
If you have protein in the urine or *albuminuria*, your doctor may prescribe you with medications called Angiotensin Converting Enzyme Inhibitor (ACE-I) or Angiotensin II Receptor Blocker (ARB). These medications can slow down the loss of kidney function.
- **Diabetes**
In Singapore, diabetes is the leading cause of kidney failure. Controlling your blood sugar levels with exercise, diet and medication is the best way to prevent or slow the progression of CKD.

Adapted from *About Chronic Kidney Disease: A Guide for Patients*, 2013-2014 National Kidney Foundation, Inc, and *End Stage Renal Disease in Singapore*, Health Promotion Board, January 2018.

The information in this brochure is meant for educational purposes and should not be used as a substitute for medical diagnosis or treatment. Please seek your doctor's advice before starting any treatment, or if you have any questions related to your health, physical fitness or medical condition.

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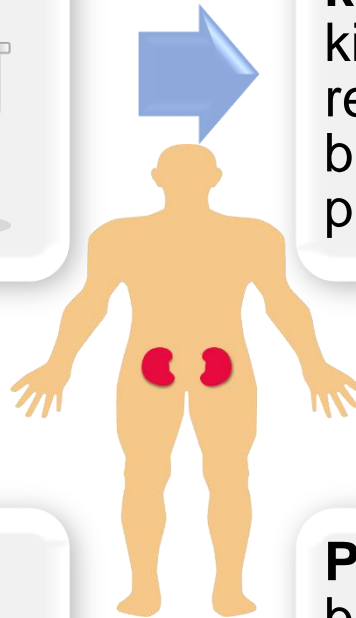
Information is correct at time of printing [Jul 2024] and subject to revision without prior notice.

Let's HALT Chronic Kidney Disease

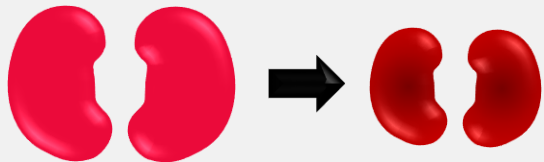
Our kidneys help to **remove waste** from our bodies.



When you have **chronic kidney disease**, your kidneys will not be able to remove the waste that has built up in your body properly.



If left untreated, chronic kidney disease can lead to **kidney failure**.



Protein in your urine may be a sign of kidney damage.

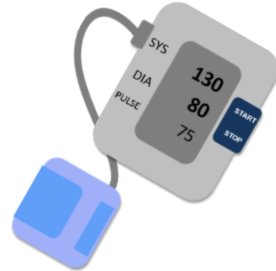


How Can I Protect My Kidneys?



Control your blood sugar levels

Ideal **HbA1c** less than **7%**
(less than **8%** if you are above 75 years old)*

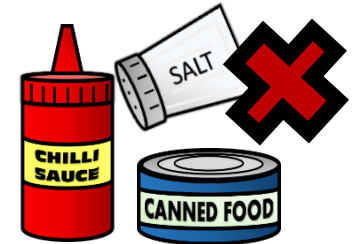


Control your blood pressure

Less than
130/80mmHg*



Take your medicine To protect your kidneys



Reduce salt intake Less than one teaspoon (5g) a day



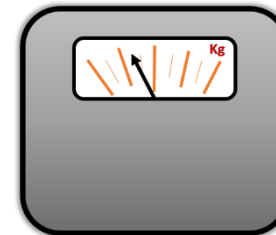
Avoid smoking

To prevent heart disease and worsening of kidney disease



Exercise regularly

150 minutes a week



Maintain a healthy body weight

Body Mass Index within
18.5 to 22.9