

The National Kidney Foundation

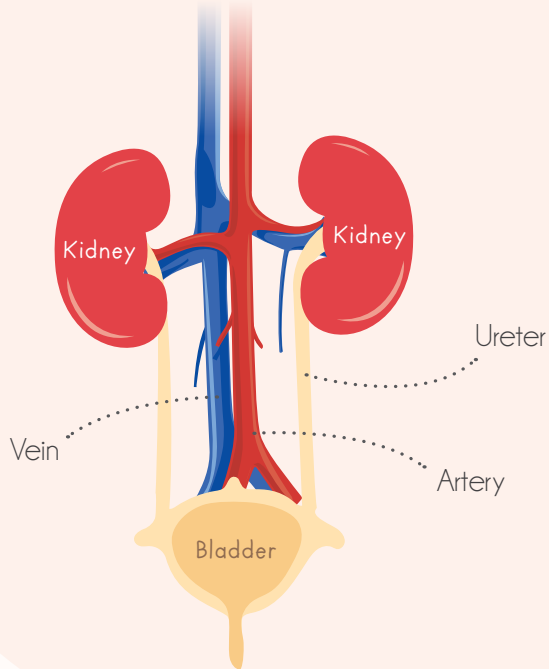
**NKF**

It's time to  
**Listen to  
Your Kidneys**

# Amazing kidneys

Located just below your rib cage near your spine, are two bean-shaped organs known as the kidneys. While they are quietly doing their job, it is easy to forget they are there and how very important they are. You will face dire consequences if your kidneys are not working at optimal levels.

Approximately 180 litres of blood passes through your kidneys each day. The kidneys filter waste products and excess water in your blood, reabsorb essential nutrients and water, and remove the waste products through urine formation.



Kidneys are the most hardworking organs in your body! They work 24 hours a day, 7 days a week to clean your blood.



# What do your kidneys do?

The main function of the kidneys is to **filter and remove waste products** and **excess water from the body**. Apart from this, our kidneys actually perform many other complex and vital jobs to keep our body in balance and healthy.

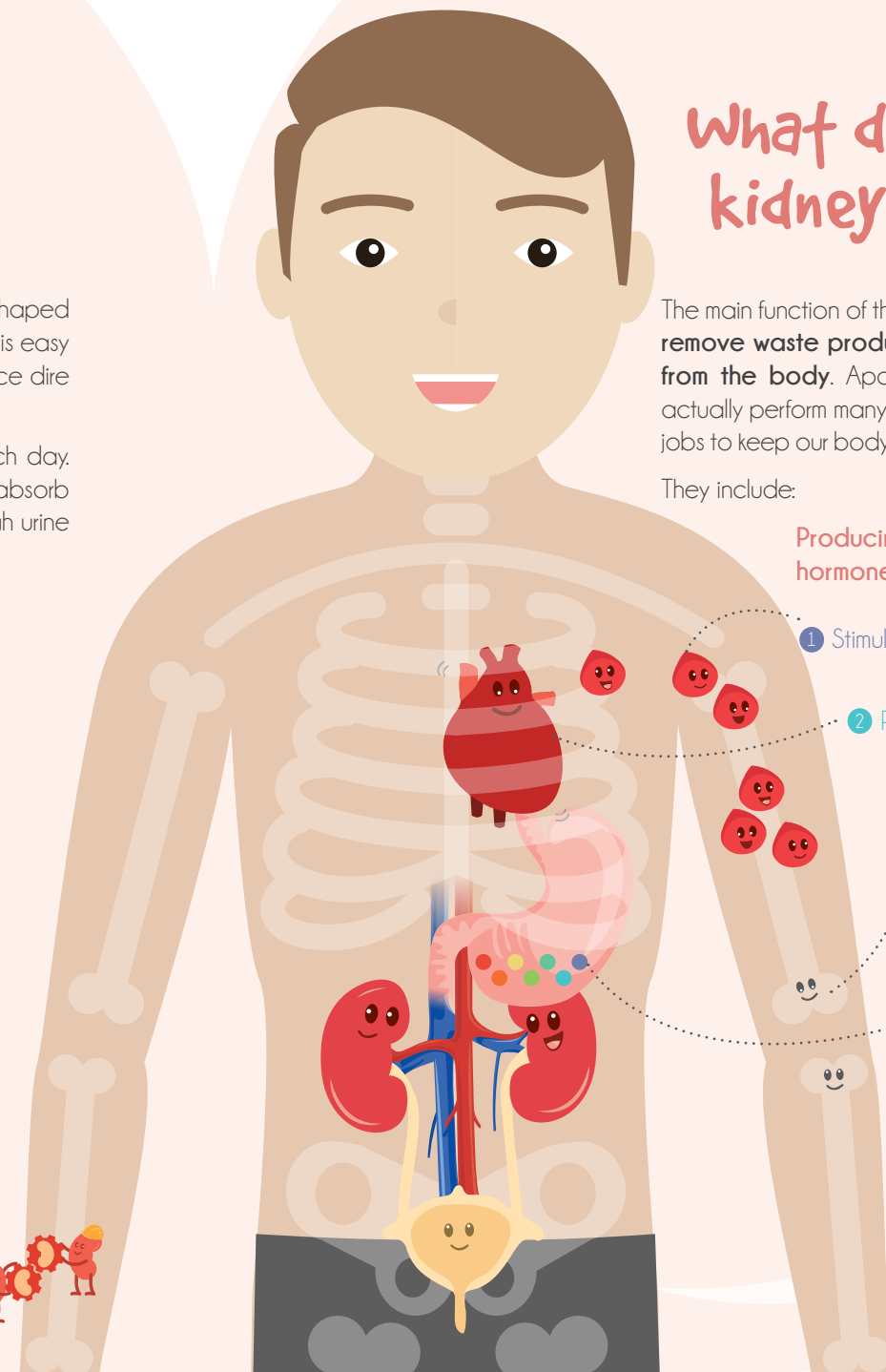
They include:

## Producing 3 important hormones that help:

- 1 Stimulate red blood cells production
- 2 Regulate blood pressure
- 3 Regulate calcium for healthy bones

and also

Regulate acid balance and minerals  
i.e. sodium, potassium, calcium and phosphate

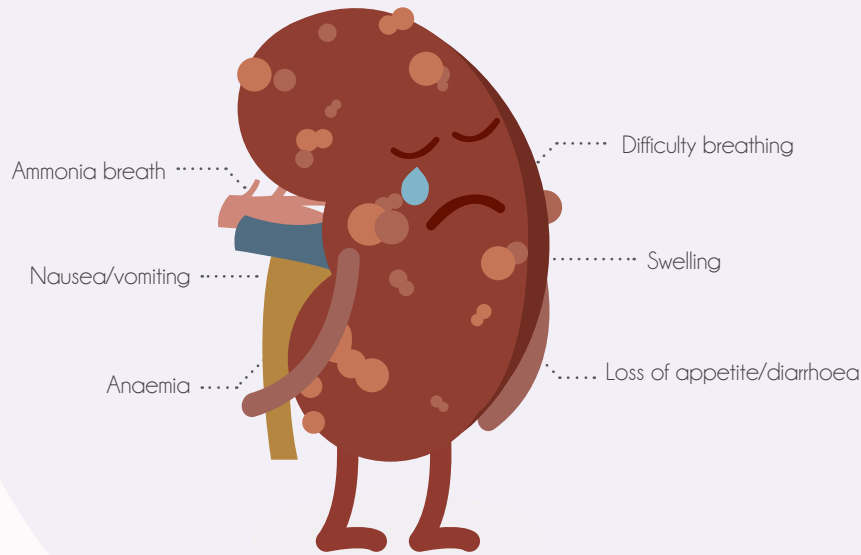


# Kidney Failure - What is it?

Kidney failure also known as **End-Stage Renal Disease (ESRD)** occurs when the kidneys do not function properly or sufficiently resulting in the accumulation of waste products and toxic materials in your blood.

If the level of our kidney function drops below 15%, we will require kidney transplant or dialysis treatment to survive.

## Signs & symptoms of kidney failure



Diabetes is the number one cause of kidney failure in Singapore, accounting for up to **67%** of new cases.

# Kidney Failure - What causes it?

Singapore has one of the **highest rates** of kidney failure in the world, with **diabetes, hypertension (high blood pressure)** and **glomerulonephritis** being the top three most common causes.



## Diabetes

A condition when the body **does not possess or respond to insulin**. Shortage of insulin in the body results in **glucose build up in the bloodstream**, eventually affecting various parts of our body; our kidneys, eyes, skin, nerves and heart.

- Excessive thirst
- Slow healing of cuts
- Frequent urination
- Sudden weight loss/gain

## Hypertension

A condition when the blood is pumped around the body at **too high a pressure**.

For most people, a **normal blood pressure** should be **less than 120/80mmHg**. If either number is consistently exceeded, your blood pressure is high.

## Signs & symptoms

- Persistent headaches
- Blurred or double vision
- Nosebleeds
- Shortness of breath

## Glomerulonephritis

A group of diseases that causes **inflammation and damage** to the kidney's filtering units.

- Blood in urine
- Foam in urine (protein leakage)
- Dark or pink-coloured urine
- Nausea and vomiting
- Swelling




# What are the options available for kidney failure?



When our kidneys are not functioning optimally, waste products and excess water cannot be removed from the body effectively.

This accumulation of waste products and toxins in the body may cause permanent and irreversible damage to body cells, tissues and organs. Thus, for the patient to survive, kidney function needs to be replaced through a transplant or dialysis.






## Kidney Transplant

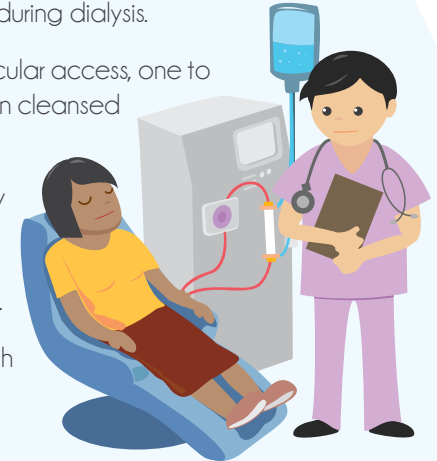
-  Kidney transplant is the process where a kidney is surgically removed from a donor and implanted into a patient.
-  This is the optimal solution to kidney failure as it provides the best long-term survival and quality of life.
-  The transplanted kidney can almost fully substitute the lost function right away, allowing the patient to lead a normal life.








Kidney transplant patients usually have **3 kidneys!**  
Unless the old kidneys have complications, the original kidneys are usually not removed because they still have filtering abilities.

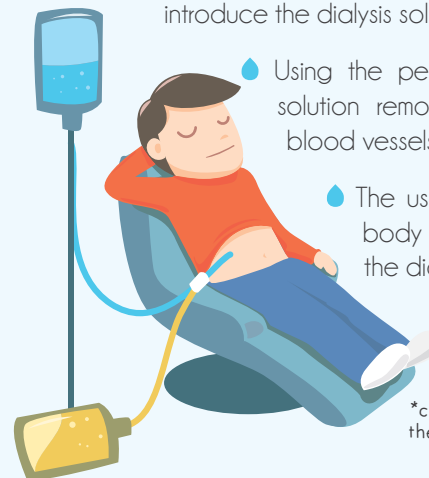
## Haemodialysis (HD)

-  HD, known as blood dialysis, is a way of cleansing the blood of waste products, extra salt and water through a dialysis machine, at a dialysis centre.
-  A vascular access is first surgically created to allow large volume of blood to flow at high speed during dialysis.
-  2 needles are then inserted into the vascular access, one to remove the blood and the other to return cleansed blood to the body.
-  Blood is pumped through the body and filtered through the dialyser, which works like an artificial kidney, where waste products and excess water are removed.
-  Performed thrice weekly, 4 hours each treatment.



## Peritoneal Dialysis (PD)

-  PD, known as water dialysis, is a home-based, self-administered, needle-free treatment.
-  A permanent tube (catheter)\*, inserted into the abdomen, is used to introduce the dialysis solution into the body.
-  Using the peritoneum membrane in the body, the dialysis solution removes waste products and excess water from blood vessels.
-  The used dialysis solution will be drained out of the body and new solution will be filled in to continue with the dialysis process.
-  This daily treatment can be done manually or aided by a machine.



\*catheter is removed or replaced when there is wear and tear or complications.

# How to prevent kidney failure?

## 5 ways to **START**

### 1 Shake the salt habit

Excessive sodium intake can lead to **hypertension** which is one of the leading causes of kidney failure! Choose natural ingredients when cooking.

### 2 Toss the sugar habit

Excessive sugar intake can lead to **weight gain** and **obesity**, thus increasing risk of diabetes and kidney failure. Opt for less or no sugar option.

! Honey, brown sugar and white sugar all have a similar calorie content with insignificant minerals content.

### 3 Actively keep fit

Maintain a healthy weight. Keep fit by doing **at least 2.5 hours** of moderate to vigorous activity **each week**.



### 4 Regularly drink water

Our body is made of **60% water!**

Keeping our body hydrated with water, will help the kidneys remove toxic waste more effectively. This helps to reduce the risk of developing kidney stones and as a result damaging the kidneys.

! 500ml to 1,000ml of water a day is the amount of fluid a dialysis patient can consume.

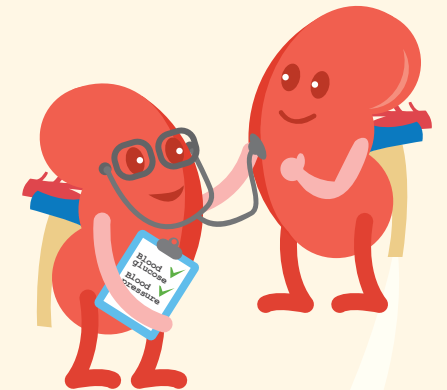
### 5 Track your health levels

Schedule **regular health check-ups** to stay on top of your blood pressure and blood glucose.

Have your blood pressure checked regularly. **Uncontrolled blood pressure** can **speed up the progression** of any underlying kidney disease.

If you have **diabetes**, make sure your **blood sugar** is **well controlled**.

! A cup of fruit juice has more sugar than the fruit itself. As more than one fruit is used to make a cup of juice, the amount of sugar in the juice will also be higher compared to eating a single fruit.



Healthy kidneys are not a matter of chance. **YOU** can choose to keep them healthy!



# Keen to know more?

Join us as we journey towards a healthier lifestyle through various complimentary education and prevention programmes that we have specially crafted!

## Kidney Discovery Centre



Through multisensory storytelling, exhibits with touch screens, and even motion detectors, visitors to the centre will be taken through an enhanced, experiential learning journey!

## Public Events



Extending kidney awareness to the mass public through community education roadshows.

## Kidney Health Education Buses



Our buses aim to guide visitors on the right path to healthier eating and living habits.



To raise awareness of kidney disease and prevention, learn ways to protect your kidneys through our team of professionals.

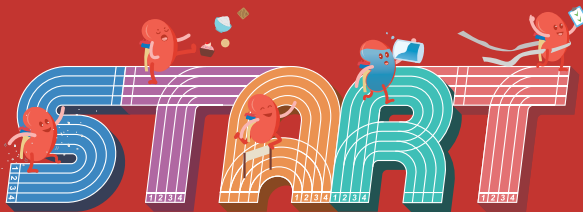
## Kidney Booths & Talks

## Interactive Resources

Level up on your kidney knowledge and take charge of your health through our interactive resources.



[qrco.de/inreskb](http://qrco.de/inreskb)



**SHAKE**  
the  
salt habit

**TOSS**  
the  
sugar habit

**ACTIVELY**  
keep  
fit

**REGULARLY**  
drink  
water

**TRACK**  
your  
health levels

Don't kid your kidneys and  
**START** making changes!

**The National Kidney Foundation**

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