

UNDERSTANDING YOUR DIAGNOSIS

Your Kidneys, Your Health



A GUIDEBOOK DESIGNED FOR INDIVIDUALS
DIAGNOSED WITH LATE STAGE
CHRONIC KIDNEY DISEASE

This Chronic Kidney Disease (CKD) guidebook has been designed for people newly diagnosed with stages 3-5 of CKD, by their family doctor. It is meant to provide you with more information to help you better understand your diagnosis, and to help you stay healthy and active.



UNIVERSITY
OF MANITOBA



Chronic Disease
Innovation Centre

kidneyhealth.ca
manitoba renal program

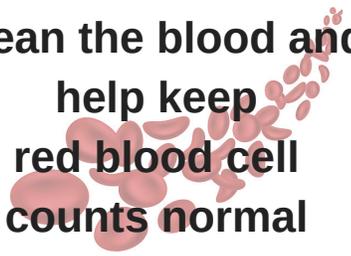


Canadian Primary Care Sentinel Surveillance Network

All About The Kidneys

The kidneys are two bean-shaped organs, each about the size of a fist located underneath your rib cage. They have many important jobs!

Clean the blood and help keep red blood cell counts normal



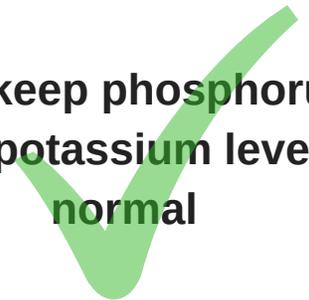
Get rid of waste and extra water, by making urine



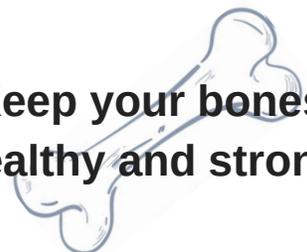
Keep your body chemicals in balance



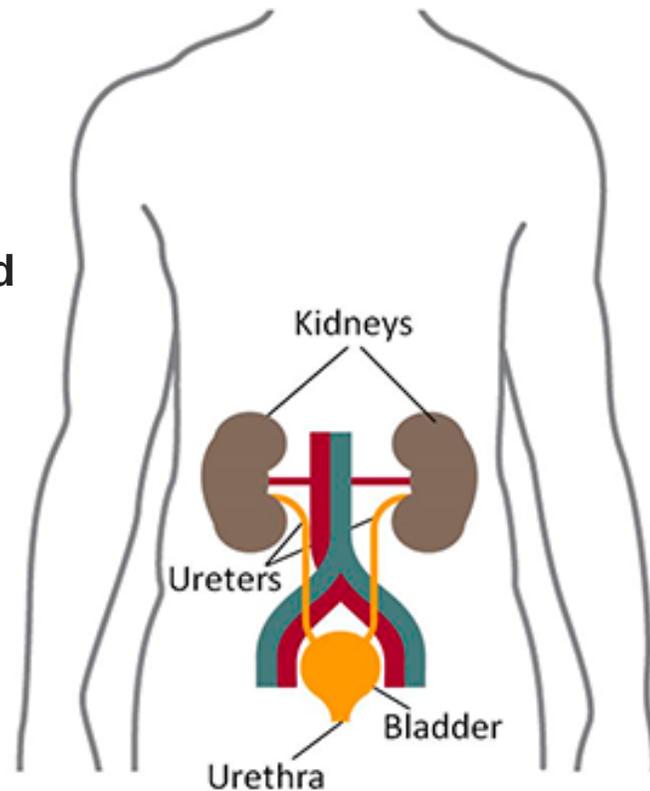
Help keep phosphorus and potassium levels normal



Keep your bones healthy and strong



Maintain blood pressure



How The Kidneys Work

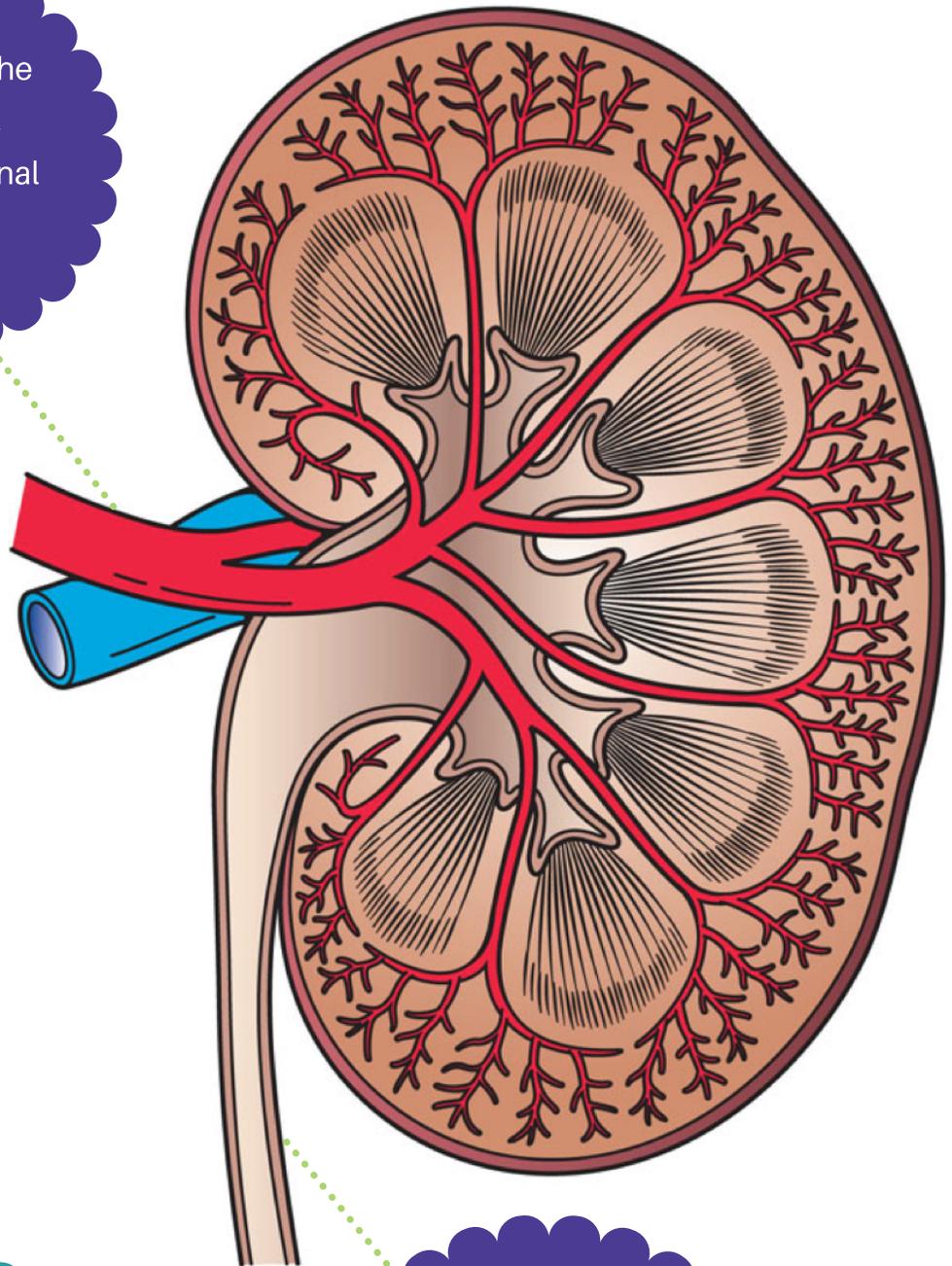
Blood enters the kidney here, through the renal artery

Each kidney contains about one million tiny filtering units called nephrons

Inside each nephron is a glomerulus that acts like a strainer to clean the blood

The clean blood with important nutrients is sent back to the body

Urine is made with the waste and extra fluid your body does not need, and is sent to the bladder through this tube, the ureter



What is Chronic Kidney Disease (CKD)?

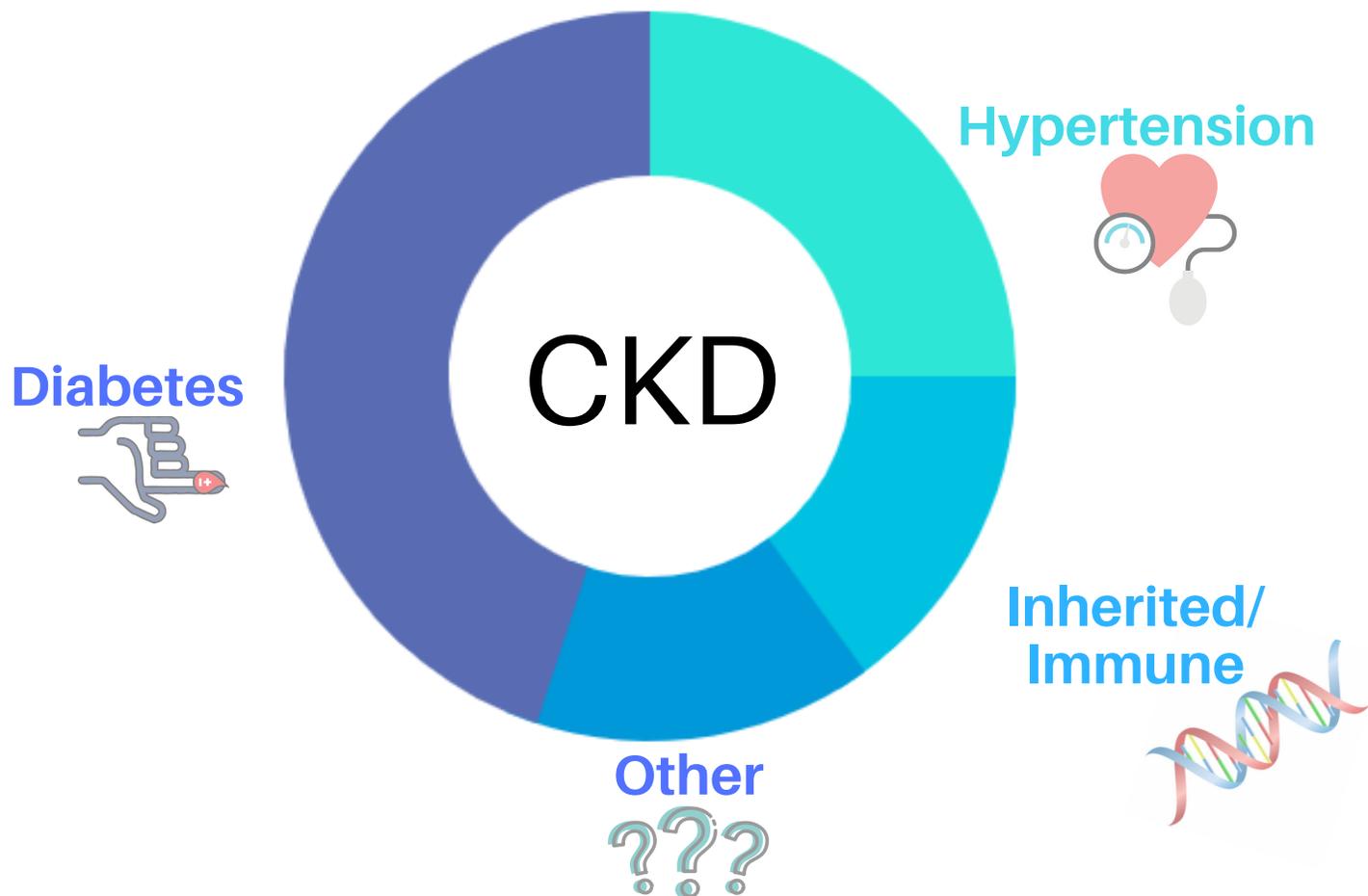
Having CKD means that your kidneys have been damaged, usually slowly over a long period of time (months or years). The damage means that your kidneys are not working well anymore. This can cause:

- A build up of fluids and waste
 - A mineral imbalance
 - High blood pressure
- Anemia (low number of red blood cells).

CKD is permanent, but sometimes the damage can be slowed down through different treatments prescribed by your doctor, as well as through healthy eating and exercise.

What Causes CKD?

1 in 10 Canadians has some form of kidney disease.



The two main causes of CKD are diabetes and hypertension, which are responsible for up to two-thirds of all cases. Immune and inherited causes, as well as other reasons, are responsible for the rest.

Symptoms of Chronic Kidney Disease

- Low energy, feeling tired, confused
- Foaming, tea-coloured, bloody or cloudy pee
 - Peeing more often
- Swelling around the eyes, hands, or feet
 - Shortness of breath
- Metal taste/bad taste in mouth
 - Unusual itching
 - Nausea and/or vomiting
- Increased trouble sleeping
 - Weight loss
 - Confusion

The symptoms can be different for everyone, and sometimes there can be no symptoms at all.

CKD can often be silent and painless.

Testing for Chronic Kidney Disease

Your will need to go for urine and blood tests regularly, so that your doctor can monitor your kidney function.

Urine Tests:

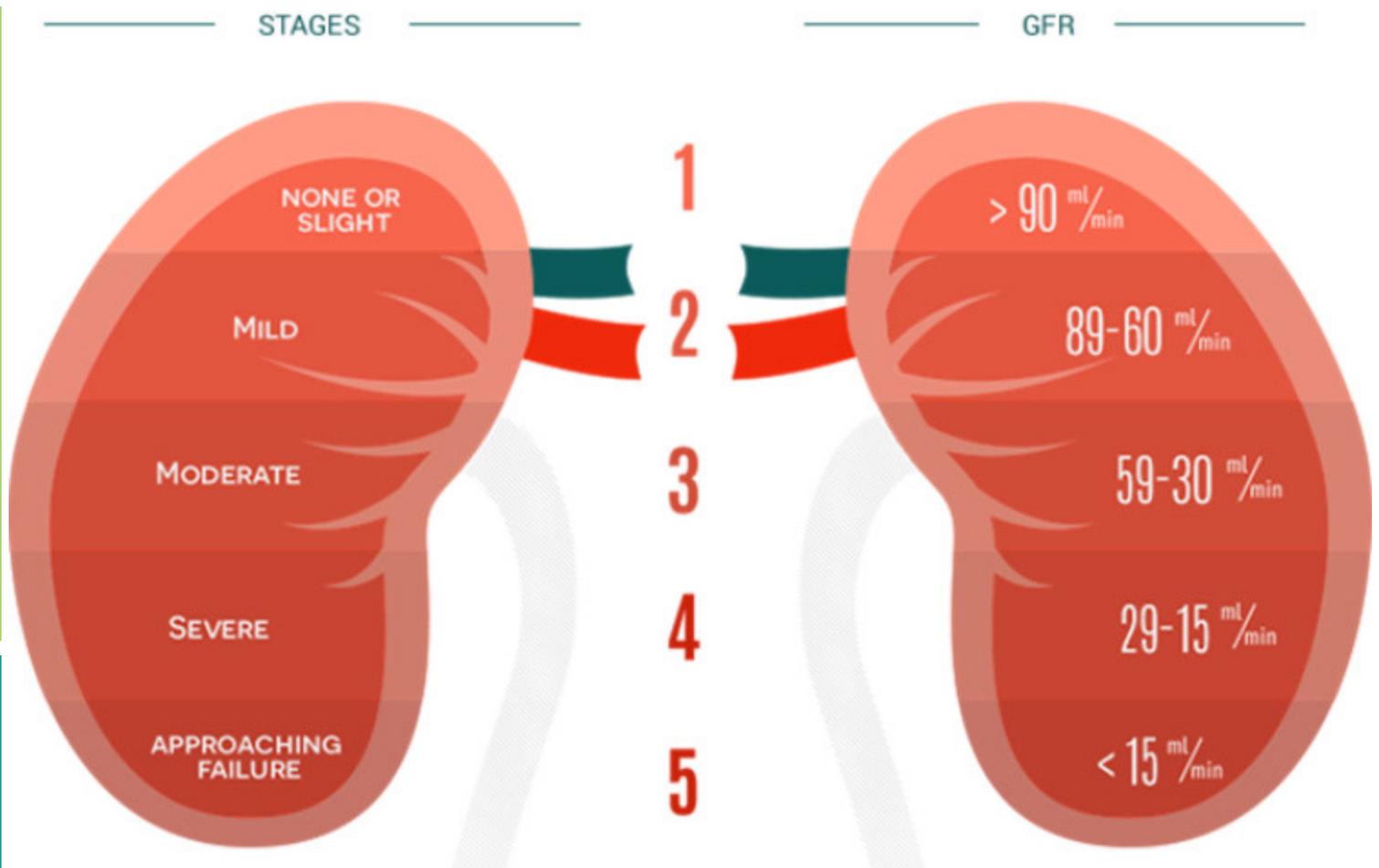
Kidneys that are damaged can leak substances into your urine that should be kept inside the body. One of these things is a protein called albumin. Too much protein in the urine is a sign of kidney damage, and can scar the kidneys. The amount can be measured by testing your urine.

Blood Tests:

A blood test is done to measure your *Glomerular Filtration Rate (GFR)*, which tells us how well you kidneys are cleaning your blood, and classifies your disease into stages.

The Stages of CKD

CKD is divided into 5 stages - the more damaged your kidneys are, the less function they have.



For example, a patient with a GFR=49ml/min has **49% of normal kidney function**, and would be at **Stage 3** of kidney disease.

The Stages of CKD

Early stages (Stages 1-2)

Most people with early CKD feel normal. If your CKD is in the early stages, it is important to talk to your doctor before starting any new medications, including any vitamins, and natural or herbal medicines. Management of CKD includes keeping your blood pressure in the normal range and making healthy lifestyle choices.

Stages 3-4

Discovering kidney disease during this stage is more common as the level of wastes (urea and creatinine) in your blood rises. You may begin to feel unwell and notice changes in the number of times you pass urine. As kidney function slows down, your blood pressure may rise. Management can slow the progress of kidney disease and reduce the chance of other complications.

End stage kidney disease (Stage 5)

Even with the best management, CKD sometimes leads to Stage 5 (or end-stage kidney disease). At this stage, your care team will start talking about dialysis with you.

Let's Talk About "Risk"

CKD is permanent, but how fast the disease progresses will differ for everyone. Your doctor will talk to you about your **risk of kidney failure**, which tells you what your chances are of reaching the last stage of CKD, and needing dialysis, in the next few years.



YOUR PROJECTED RISK OF KIDNEY FAILURE



Risks of CKD

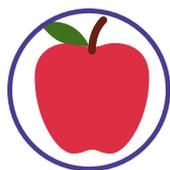
Kidney Disease also puts patients at risk of having a heart attack, as well as increases a patient's chance of dying from any cause. It is important to live a healthy lifestyle, to help reduce these risks.



Stop smoking



Drink in moderation



Eat healthy



Exercise



Take your blood pressure medications

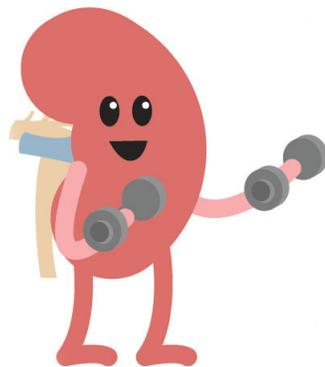


Manage your Diabetes

If your CKD reaches an advanced stage, your family doctor will refer you to a kidney doctor, called a ***nephrologist***. Along with a team of other health care professionals, they will provide you with specialist kidney care, to help you further manage these risks.

Metabolic Acidosis

When the kidneys are not working well, they are not able to balance the level of acidity in the blood, leading to a condition called **Metabolic Acidosis**. This condition can damage the bones and muscles, putting patients at higher risk of bone fractures and muscle disease, and it can also further damage the kidneys.



Your doctor will monitor the level of **bicarbonate** in your blood - which is the substance in your blood that balances high acidic levels. If your levels of bicarbonate get too low, your doctor might prescribe you medications to help increase the levels.

Blood Pressure & CKD

It is important to control your blood pressure (BP) to prevent heart disease and stroke, as well as slow down damage to your kidneys.

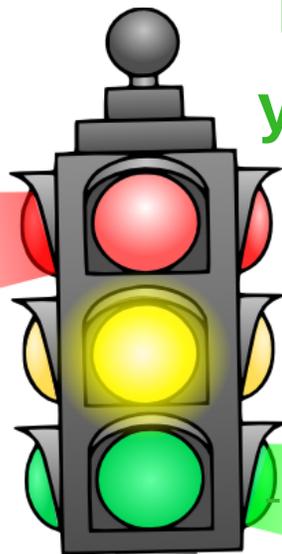


Blood pressure is normally measured by wrapping an inflatable cuff around your upper arm. ***On average, your BP should be lower than 130/80.*** If it is too high, your doctor may prescribe you medications to keep it under control.

Medications & CKD

Your doctor may prescribe you certain medications to keep your kidneys as healthy as possible, but there are also medications that can harm your kidneys.

Avoid:
Motrin/
Ibuprofen

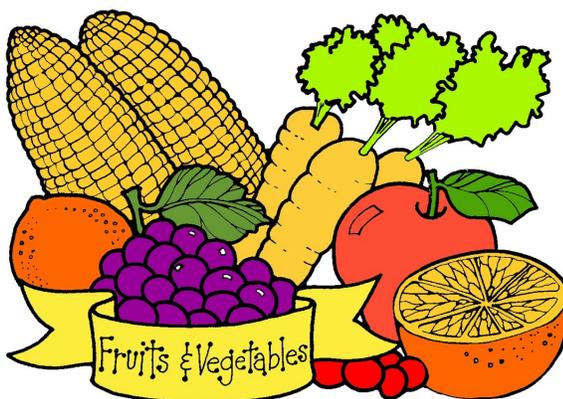


Medications to keep your kidneys healthy:

- Blood pressure medications (called RAAS inhibitors)
- Diabetes Medications (SGLT2)
- Sodium Bicarbonate
- Proteinuria medications
- Other medications as per your individual care

Nutrition and CKD

Making healthy food choices is important for everyone. When you have CKD - especially in the advanced stages, what you eat is an important part of your care plan, because your diet (along with exercising and taking proper medications), might help slow the damage happening to your kidneys.



Nutrition suggestions for CKD Stages 1, 2, and 3:

1. Aim for a healthy weight by eating healthy and being active
2. Eat healthy by following Canada's Food Guide
3. Include a variety of whole grains, fresh fruits and vegetables
4. Cut down on foods and drinks high in sugar
5. Include a small amount (30 - 45 ml or 2 - 3 tbsp) of unsaturated fat each day
6. Use vegetable oils such as canola, olive and soybean, and choose soft margarines that are low in saturated and trans fats (look for labels that say non-hydrogenated); Limit butter, hard margarines, lard, shortening, fried and deep fried foods
6. Include lean meat and meat alternatives by consuming a portion between 2-3 ounces (about the size of a deck of cards) 2 to 3 times per day

Nutrition and CKD

Nutrition suggestions for CKD Stage 4 & 5 - pre-dialysis:

Nutrients affecting the kidney at this stage are:
protein, sodium, potassium, and phosphorus.

Protein



Poultry



Milk



Eggs



Cheese



Beans,
legumes



Fish,
seafood



Red meat



Tofu

Eating the right amount of protein will help to:

- Build muscles & repair body tissues
- Fight infections and helps with healing
- Prevent wastes from building up in your blood

However, large servings of protein foods may increase the workload of the kidney; a good serving size is 3 ounces (about the size of a deck of cards)



Sodium (salt)



Canned
foods and
soups



Salty
seasonings
and sauces



Processed
meats



Salted
snack foods



Fast food



Table salt

Limiting sodium to 2300 mg or less (about 1 teaspoon of salt) per day:

- Helps to reduce fluid build up in the body (swelling of the ankles, fingers, eyes)
- Helps to control blood pressure within normal ranges

Nutrition and CKD

Potassium



Nuts and seeds



Dairy - yogurt and milk



Some fruits & vegetables
(bananas, melons, oranges, potatoes, tomatoes, dried fruits, dark green leafy vegetables & some fruit & vegetable juices)



Beans, legumes

- Potassium is an important mineral that helps your heart & muscles to work properly
 - Too much or too little potassium in your blood can be dangerous
 - Not everyone needs the same amount of potassium.

How much you need will depend on:

- How well the kidneys are working
- Some types of medications you are taking



Phosphorus



Dairy - yogurt and milk



Dried beans and peas
(kidney beans, split peas, lentils)



Nuts and seeds



Seasoned meats & processed/convenience foods



Whole grains especially bran



Baking powder



Chocolate

Phosphorus is a mineral that works with calcium to form strong bones & teeth
In the later stages of kidney disease, phosphorus starts to build up in your blood. This can cause serious problems, such as:

- Damage to the heart & other organs
 - Poor blood circulation
 - Bone pain & weakness
 - Skin sores

It is important to limit the amount of phosphorus in you diet.

Physical Activity & CKD

People with CKD may feel tired as their kidneys work less, and exercise may be the last thing on their minds. However it is important to stay active. The less active you are, your weight can creep up, your muscles (including your heart) get weak, your lungs don't pull in as much air and your joints stiffen up, sometimes to the point where you may have less mobility. Exercise also helps lower blood pressure and cholesterol levels, lowering the risk of stroke and heart disease.

Experts suggest that we should be doing at least 30 minutes of moderate physical exercise on most days of the week.

In the beginning, a chat with your family doctor is a good idea to make sure there is nothing to stop you exercising safely.

Cardiovascular Exercise

Makes your heart and lungs stronger!

Walking, swimming, biking, dancing

Resistance Training

Makes your bones and muscles stronger!

Weight lifting, push-up, sits-ups