# Living with Reduced Kidney Function

**6th Edition**

kidney FOUNDATION™

## Here to help you

Your care team including your primary care provider, nephrologist (kidney specialist), family doctor, dietitian, nurse practitioner, clinic nurse, pharmacist and social worker can help you with planning, answer your questions, and identify resources that can provide you and your family with the support you need.

The Kidney Foundation of Canada is also here to help by providing information and educational material, short-term financial assistance, peer support and a number of other programs and services.

There are Kidney Foundation branches and chapters all across Canada. Visit our website at kidney.ca for a list of our offices or call 1.800.361.7494 to learn more about what is available in your area.

The Foundation also supports an active online **Kidney Community Kitchen** at kidneycommunitykitchen.ca that offers kidney-friendly recipes, meal plans, information on diets and discussion forums. As well, the Kidney Connect social network for people living with kidney disease is available at kidneyconnect.ca.



Model(s) are a depiction of people with kidney disease.

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kidney.ca

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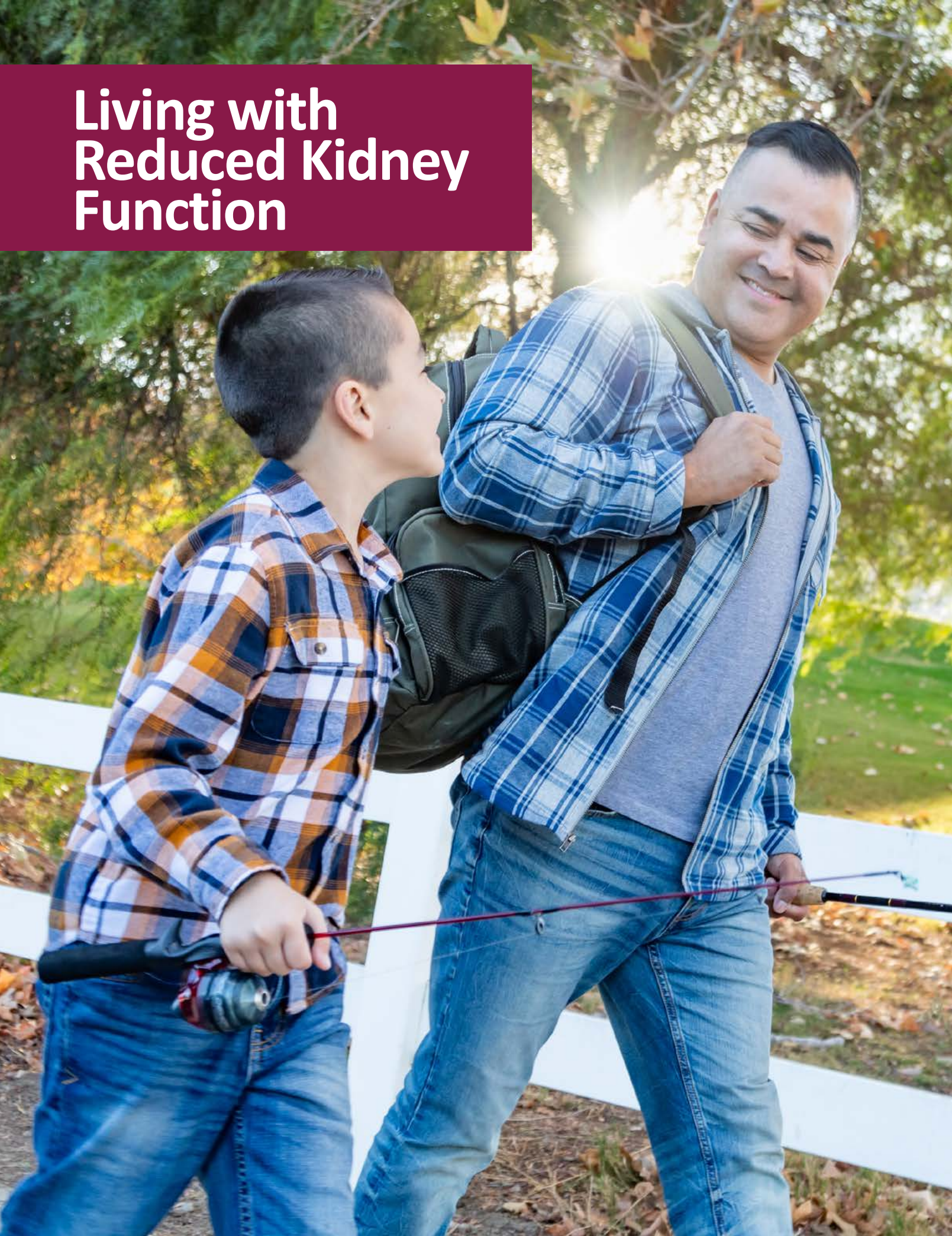

# My Personal Information

Name

Address

Phone Number(s)

Email Address

Personal Health Number

Primary Care Provider

Kidney Doctor

Kidney Nurse

Kidney Dietitian

Kidney Pharmacist

Kidney Social Worker

Substitute Decision Maker & Phone Number

## Thank You

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# Table of Contents







# Introduction

## What is this handbook about?

A diagnosis of kidney disease can be overwhelming and often completely unexpected. It can also leave you with many questions "What is kidney disease? How can I have kidney disease? I didn't have any symptoms! How long will my kidneys work on their own? What should I do to give my kidneys their best chance? Will I need dialysis? Will I need a transplant?"

There are many people in Canada who have chronic kidney disease (CKD). However, most of them don't know it so they aren't able to take steps to protect their remaining kidney function. If your doctor has told you that you have reduced kidney function and are in the early stages of CKD, then this information should be helpful for you and your family. By using this handbook and working with your care team, you will learn how to support and manage your kidney health. This means you may be able to delay or prevent symptoms of kidney failure, as well as prevent or reduce the risk of other complications such as heart disease.

The purpose of this handbook is to provide you with the information you need to take control of your health. In it you will find information about your kidneys and how they work, the stages of CKD, and steps that can help you to protect your remaining kidney function and maintain a healthy lifestyle. The information and suggestions in this book are general – you should always seek the advice of healthcare professionals for an assessment and treatment plan that meet your individual needs.

This book is produced by The Kidney Foundation of Canada (KFOC) and is provided free of charge to any person living in Canada who has been diagnosed with kidney disease. Others may obtain a copy of the handbook, for a small fee, by contacting their local Kidney Foundation office. Contact information and an electronic version of this handbook are available on The Kidney Foundation's website at kidney.ca.

## Hints on how to use this handbook

Research has shown that people have better health outcomes when they are involved in seeking answers to some of these questions for themselves, by understanding their disease(s) and by participating in decision-making about their care.

**This handbook and other information about kidney disease are available online at kidney.ca.**

**This material is available in accessible formats upon request by contacting info@kidney.ca or calling 1-800-361-7494.**

This material is available to help you to keep track of your questions, prepare for your appointments, set personal health goals and work towards achieving them so that you can live your healthiest life possible.

- While the focus of this handbook is adults living with reduced kidney function, most of the information can also be used to help the pediatric population and their families.
- Each chapter begins with helpful tips and/or suggestions for people living with kidney disease. It also includes highlights, pictures and icons and a summary of key points so you can more easily find the information you want.
- This handbook includes some action-planning tools and log sheets where you can record important information about various aspects of your health and treatment. Feel free to photocopy these sheets as needed or download additional copies at kidney.ca.
- Whenever a new or important word or term is introduced, it is shown in ***bold italic type*** the first time it appears in the book. You will find the definitions of these words and terms in the glossary.
- Sometimes italics are used to emphasize certain words or phrases. These words and phrases do not appear in the glossary.
- When medications are mentioned, the generic (common) name of the medication is used because there are often several brands available. However, brand name medications are sometimes used as an example. There is also a chart at the end of the handbook that gives examples of brand names for various medications.

- Wherever you see a QR code, use your smartphone to scan the code to open the website.

Please use this handbook as a resource in whichever way works best for you. Make it your own: read it all the way through or skip to the chapters that you find most interesting; mark up the margins with your own notes or use it as a reference and re-read sections as your situation changes. We also encourage you to share this resource with family, friends, colleagues or anyone in your circle who would like to learn more about CKD in order to help and support you.

# Acknowledgements

## Project management team

Dr. Joanne Kappel, Physician of Record, Saskatchewan

Lydia Lauder, National Director of Programs and Public Policy, Kidney Foundation

Mélissa Fontil, project coordinator, Kidney Foundation

Janice Melanson, coordinator, Kidney Foundation

## Reviewers

Chantal Boucher, coordinator, Kidney Foundation

Sophie Desjardins, reviewer, Quebec

François-René Dussault, patient representative, Ontario

Kathy Giangaspero, communications coordinator, Kidney Foundation

Peggy (Margaret) Gillespie, patient representative, Nova Scotia

Sue Huffman, family member representative, Alberta

Dr. Scott Klarenbach, nephrologist, Alberta

Corinne MacNab, renal social worker, Ontario

June Martin, renal dietitian, Ontario

Elizabeth Myles, National Executive Director, Kidney Foundation

Randy Spensley, patient representative, British Columbia

Carrie Thibodeau, reviewer, Ontario

Philippe Vincent, coordinator, Kidney Foundation

Lori Wazny, renal pharmacist, Manitoba

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Chapter 1

# How your kidneys work

Chapter 1

# How your kidneys work

***Kidneys*** are as important to your health as your heart or your lungs. Kidneys remove waste products from your body, regulate water and produce ***hormones***.

Dealing with reduced kidney function can be confusing and you may find it difficult to cope. This is why we are here to equip you with the knowledge you need to better understand and manage your condition.

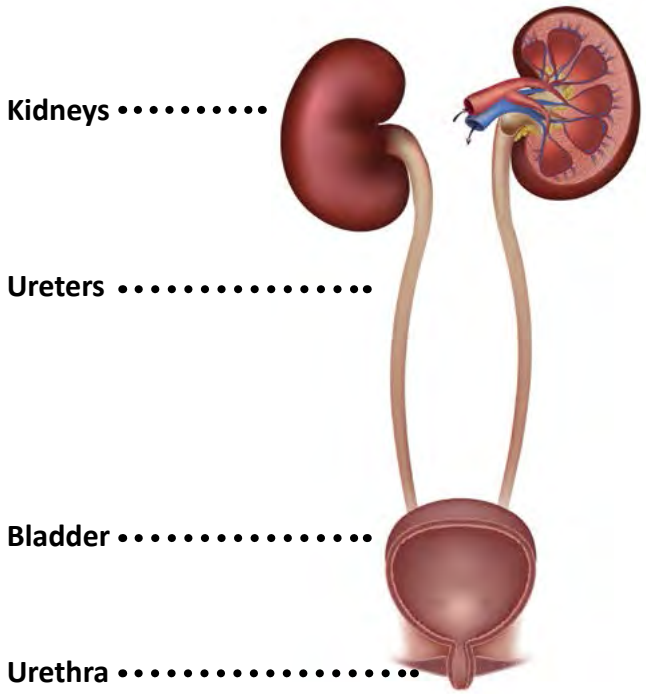
## How do kidneys work?

Normally, people have two kidneys, one on each side of the spine under the lower ribs. They are reddish brown in colour and shaped like kidney beans. Each kidney is about the size of your clenched fist.

Usually, the kidneys are able to provide more than twice as much kidney function as your body needs to work well. A normal kidney can greatly increase its workload: if you were born with one kidney or if one kidney is injured or donated, the remaining kidney can work harder to keep your body healthy.

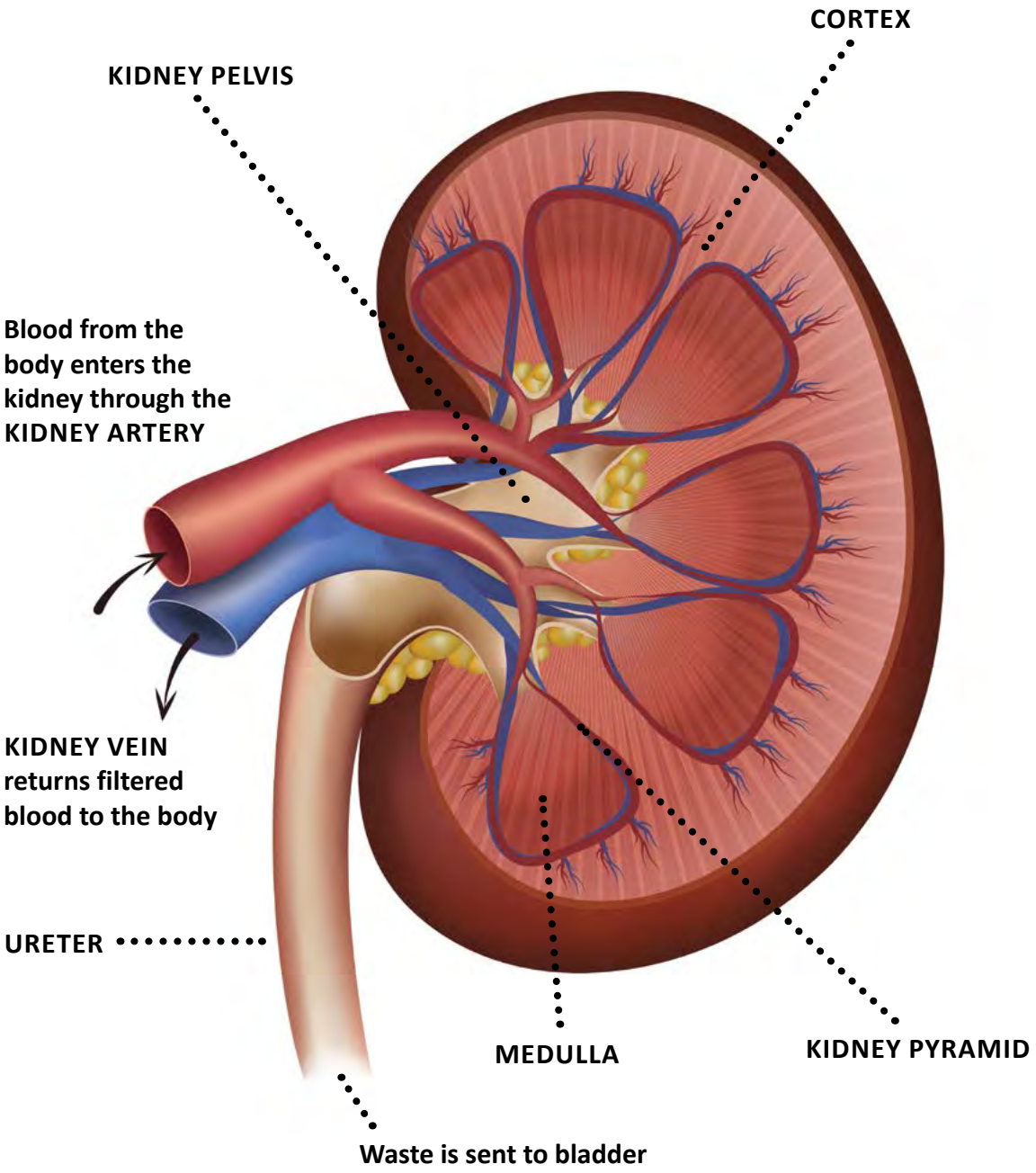
Let's take a closer look at how they work.

One of the main jobs of the kidneys is to remove wastes from the blood and return the cleaned blood back to the rest of the body. Every minute, about one litre of blood (one fifth of all the blood pumped by the heart) enters the kidneys through the ***kidney arteries***. After the blood is cleaned, it flows back toward the heart through the ***kidney veins***.



Chapter 1

# How your kidneys work




**NOTES:**

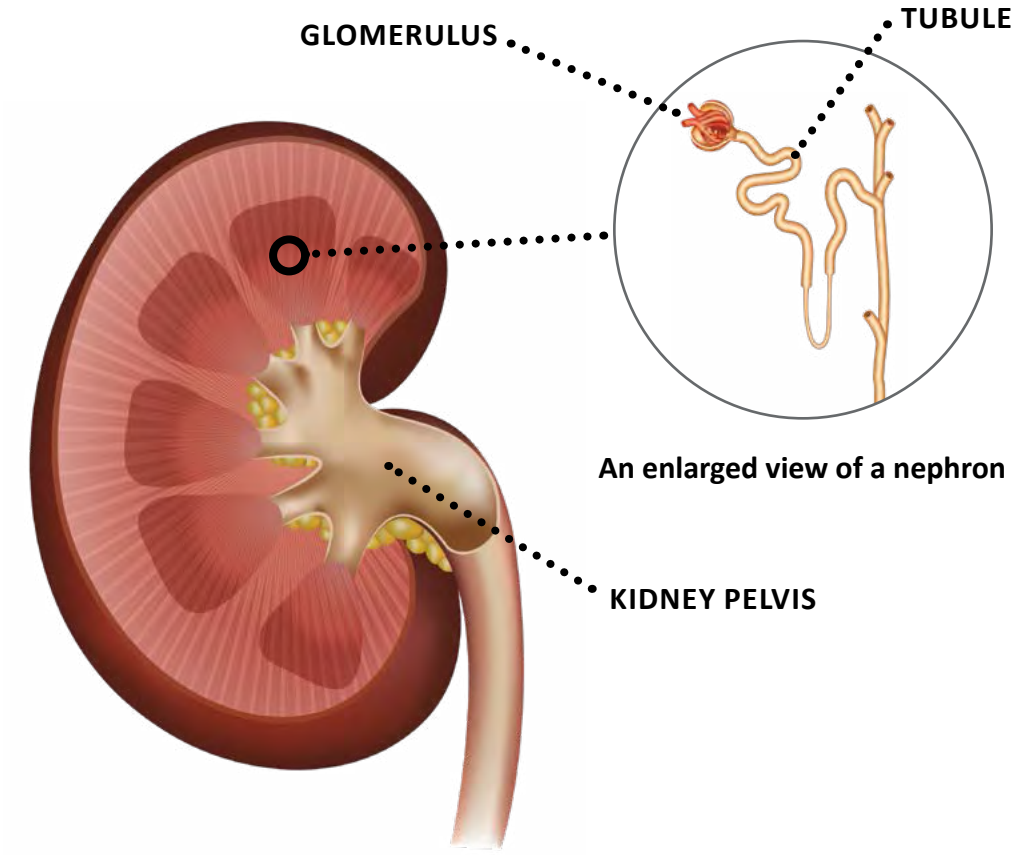
Chapter 1

# How your kidneys work

Inside each kidney there are more than one million tiny units called ***nephrons***. Each nephron is made up of a very small filter called a ***glomerulus***, which is attached to a ***tubule***. Water and waste products are separated from the blood by the filters and then flow into the tubules. Much of this water is reabsorbed by the tubules and the wastes are concentrated into urine.

The urine is collected from the tubules in the funnel-like ***kidney pelvis*** and then flows through tubes called the ***ureters*** into the ***bladder***. Urine passes out of the body through a tube called the ***urethra***. Together, the kidneys normally make one to two litres of urine every day depending on how much you drink.

But why is this so important? Let's move on to discover more.




**NOTES:**

Chapter 1

# How your kidneys work

## Why are kidneys so important?

Your kidneys are vital for good health because they do three essential things:

**1. Regulate water**

For your body to work properly, it must contain just the right amount of water. One of the important jobs of the kidneys is to remove excess water from the body or to keep water when the body needs more.

**2. Remove waste products and help to balance the body's minerals**

Many of the substances in the blood and other body fluids must be kept at the correct level for the body to function properly. For example, ***sodium*** (salt) and ***potassium*** are minerals that come from food. The body needs these minerals for good health, but they must be kept at certain levels. When the kidneys are working properly, extra minerals, such as sodium and potassium, leave your body in the urine. The kidneys also help to adjust the levels of other minerals, such as ***calcium*** and ***phosphate*** (which are important for bone strength, growth and other functions).

Your kidneys help remove waste products, such as ***urea*** and ***creatinine***, from your body. Urea and other wastes are made when the body breaks down ***protein***, such as meat. Creatinine is a waste product of the muscles. As kidney function decreases, the levels of urea and creatinine in the blood increase. The creatinine level in the blood is a very useful measure of kidney function. It is measured by a simple blood test.

**3. Produce hormones**

Normal kidneys also make important chemicals in your body called hormones. These ***hormones*** circulate in the bloodstream like "messengers" and regulate blood pressure, red blood cell production and the calcium balance in your body.

**NOTES:**

Chapter 1

# How your kidneys work

## Summary

In this section, we have explained the role of your kidneys and have provided you with key information about your kidneys and how they work so you are better equipped to protect and preserve your kidney function. We have learned:

- One of the main jobs of your kidneys is to remove wastes from the blood and return the cleaned blood to the rest of the body.
- Together, the kidneys normally make one to two litres of urine every day, depending on how much you drink.
- Your kidneys help control how much water you have in your body, as well as other important salts and minerals, such as sodium, potassium, and phosphate.
- Your kidneys produce hormones that help your body make red blood cells and regulate blood pressure.

**NOTES:**

Chapter 2

# Kidney disease

**“I will never forget the day I was diagnosed with polycystic kidney disease (PKD).”** - Trevor

Chapter 2

# Kidney disease

This chapter will help you recognize the risk factors for kidney disease, some common causes of kidney disease, and the medical terms used to describe them. By knowing more about your condition, you will better understand how to protect and preserve your kidney function.

## What is chronic kidney disease (CKD)?

***Chronic kidney disease (CKD)*** is the presence of kidney damage, or a decreased level of kidney function, for a period of three months or more. When there is sudden damage to the kidney, this may result in ***Acute Kidney Injury (AKI)***; however, in this section, we will focus on CKD.

There are two key tests which are used to detect kidney damage and to assess how well your kidneys are functioning at removing toxins and waste products from your blood: blood test and ***urinalysis***.

### Blood test

A blood test is used to measure your ***serum creatinine level***, which helps to indicate how well the kidneys are filtering and getting rid of waste product from your body. Creatinine is a waste product that comes from the muscles in your body. As kidney function decreases, the creatinine level rises. Decreased kidney function means that your kidneys are not able to remove the toxins and waste products from your blood as well as someone with normal kidney function.

Another way kidney function is measured is called the ***glomerular filtration rate (GFR)***. Sometimes the GFR is also referred to as the ***estimated glomerular filtration rate (eGFR)***; the serum creatinine as well as other factors such as age and sex are used to calculate the eGFR. Glomeruli are tiny blood vessels in the kidney that help to filter waste. The GFR is a way of measuring how well the kidneys are working by determining the rate at which the glomeruli are filtering waste products from your blood. The eGFR is a common way to measure kidney function at kidney clinics and can provide a rough estimate of the percentage of kidney function (0-100%).

### Urine Tests

A urinalysis (where a special stick – a urine dipstick – is dipped in the urine) can detect signs of damage to the kidney, such as blood and a protein called ***albumin*** in the urine. Checking the urine for blood and protein is useful to detect kidney damage and determining your risk of losing more kidney function. The urine ACR (albumin-creatinine ratio) is the most common test for protein in the urine. The filters of the kidney do not normally allow protein in the urine so if protein (albumin) is detected, it is a sign that the filters of the kidney are being damaged. The more albumin that you have in your urine, the greater the risk of losing kidney function over time.

Other blood tests, X-rays, a kidney ultrasound or a kidney biopsy (inserting a needle into the kidney and taking a sample to look at under the microscope) may also be needed to diagnose the specific type of kidney disease and to determine the appropriate treatment.

Chapter 2

# Kidney disease

## Understanding CKD

Now that you've seen how we test for kidney function, let's look at the potential symptoms and treatment options for patients with CKD.

**Three key facts:**

1. Kidney disease can range from mild to severe, and in some cases could lead to ***kidney failure*** (which is sometimes referred to as ***end-stage kidney disease (ESKD)***).
2. Chronic kidney disease often starts slowly and develops without signs or symptoms over a number of years, so it may not be detected until it has progressed to the point where your kidney function is quite low.
3. Fortunately, most people do not progress to end-stage kidney disease, especially if they are diagnosed early and are able to take steps to preserve their remaining kidney function.

"End-stage" kidney disease does not mean the end of your life. End-stage means the end of your kidney function: your kidneys no longer adequately filter your blood. If your kidneys fail, there are a number of treatment options including different forms of ***dialysis***, ***transplant***, and ***conservative kidney management***. More information about treatment for kidney failure is included in *Living with kidney failure.*

**NOTES:**

# Kidney disease

The following table provides an overview to help you understand CKD at different stages, including potential symptoms and treatment. The amount of kidney function (GFR) you have remaining, your symptoms, your overall health and other factors (such as the amount of albumin in your urine) will be used to help you and your care team to manage your health, monitor your kidney function and determine the type of treatment that's best for you.

There are different stages of CKD that your care team may refer to. Each stage refers to the level of kidney function and kidney damage.

## Kidney function, symptoms and treatment

| | NORMAL* | MILD | MODERATE | SEVERE | KIDNEY FAILURE |
|---|---|---|---|---|---|
| **Amount of Kidney Function** | **> 60%*** | **45% - 59%** | **30% - 44%** | **15% - 29%** | **< 15%** |
| **Symptoms** | No symptoms observed | No symptoms observed | In some people, early symptoms may occur and could include tiredness, poor appetite, and itching | In some people, tiredness, poor appetite and itching | Symptoms may include fatigue, nausea, swelling, difficulty breathing and itchiness |
| **Treatment Options** | Identify cause and try to reverse it | Monitor urine ACR, eGFR**, blood pressure, general health and well-being | Monitor urine ACR, eGFR, and blood pressure and continue to try to stop or slow the worsening of kidney function | Monitor urine ACR, eGFR, and blood pressure and continue to try to stop or slow the worsening of kidney function | Monitor eGFR and blood pressure and continue to try to stop or slow the worsening of kidney function |
| | Monitor urine ACR and eGFR | Try to stop or slow down the worsening of kidney function | Learn more about CKD and treatment options | Discuss and plan for treatment choice: dialysis access, assessment for transplant, or information about conservative kidney management | Plan for dialysis or kidney transplant or continue conservative kidney management*** (depending on symptoms) |

* Normal unless there is an underlying issue, kidney damage or albumin in the urine.
** eGFR is based on sex at birth and NOT on gender.
*** The timing of starting dialysis treatment depends on many factors. This should be discussed with your care team.

Chapter 2

# Kidney disease

The amount of estimated kidney function (eGFR) you have remaining, your symptoms, your overall health and other factors (such as the urine ACR) will be used to help you and your care team to:

- Manage your health
- Monitor your kidney function
- Determine the type of treatment that's best for you

Sometimes kidney failure occurs rapidly and this is called acute kidney injury. This may be a result of a variety of causes including infection, diseases that specifically attack the kidney filters, disease in other parts of your body that affect the kidney, or other causes. If acute kidney injury is very severe, dialysis treatment may be urgently needed for a period of time, but kidney function often recovers. Acute kidney injury may occur in people who have normal kidney function, but also in people with CKD.

**HELPFUL TIP**

More information about the classification of CKD, eGFR and urine ACR is available at kidney.ca. Strategies for protecting your kidney function are included in the following chapters.

## Risk factors for CKD

There are a number of risk factors for the development of CKD – some that you can control such as smoking, and others that you cannot, such as aging. They include:

- Diabetes
- High blood pressure
- A family history of kidney disease
- Children who are born with kidneys that did not develop properly
- Indigenous people (First Nations, Inuit and Métis), Asian, South Asian, Pacific Island, African/Caribbean and Hispanic ethnicity

It is important to remember that CKD can also occur in people without risk factors.

**NOTES:**

Chapter 2

# Kidney disease

## What causes chronic kidney disease?

There are many different types of kidney disease. Some forms are present at birth and others develop as we grow older. Often, kidney disease is associated with other medical conditions such as diabetes, high blood pressure and heart disease.

Most diseases of the kidney attack the filtering units in the kidney, damaging their ability to remove wastes and excess fluids. There is no cure, but it may be possible to prevent CKD or slow down worsening of kidney function. This is especially true in people with diabetes and/or high blood pressure, the leading cause of kidney failure.

### Diabetes

***Diabetes*** is a disease that is caused by a lack of ***insulin*** in the body or the body's inability to properly use normal amounts of insulin. Insulin is a hormone – a very important chemical messenger that regulates the level of glucose (sugar) in the blood. The body must have insulin to function. Therefore, people with diabetes may take medications that can either make the pancreas produce more insulin, or help the body properly use the insulin that is being produced, or they may take insulin by injection or pump.

Even with the use of insulin or other medications, people who have had diabetes for some time often suffer from damage to the small blood vessels such as the ones in the filters of the kidney.

**HELPFUL TIP**

It can be overwhelming to find out that you have kidney disease. It may be hard to remember information and test results when you get home after your medical appointments. Try to bring someone with you to take notes and record information so that you can focus on listening and asking questions.

### High blood pressure

High blood pressure (also called ***hypertension***) may cause chronic kidney disease (CKD). The reverse is also true: chronic kidney disease frequently causes high blood pressure (which may then cause worsening of CKD over time if not controlled).

High blood pressure damages the small blood vessels that deliver blood to the kidneys' filters. Long-standing, untreated high blood pressure, or very severe high blood pressure will reduce the

flow of blood into the filters and may lead to CKD if the filters become damaged.
The kidneys also produce a hormone that helps in the control of blood pressure. When the kidneys are damaged or fail, this hormone may increase and cause high blood pressure. In turn, this may lead to worsening of kidney function. It is important to control high blood pressure to try to prevent long-term kidney damage.

### Inflammation of the kidney filters

***Glomerulonephritis*** or ***nephritis*** is a condition in which the filters of the kidney (glomeruli) are damaged from inflammation. Glomeruli help clean the blood. There are many types of inflammation of the filters (glomerulonephritis): some types recover without medical treatment, while others can be treated with medications. Sometimes, some types of glomerulonephritis cannot be successfully treated despite using many different medications. If this happens, dialysis may be needed if the kidney filters become scarred from the inflammation and are not able to do their job properly.

There are many types of glomerulonephritis associated with different conditions such as ***systematic lupus erythematosus (lupus), vasculitis*** (inflammation of the blood vessels which can occur on its own or be caused by other diseases, such ***Hepatitis B*** or ***Hepatitis C***).

### Polycystic kidney disease

***Polycystic kidney disease (PKD)*** is the most common inherited disease of the kidneys. The most common form (autosomal dominant) will be passed on to 50% of the children of an affected parent. Polycystic means “many cysts”. Polycystic kidneys become very large and have a bumpy surface because of fluid-filled cysts. Pressure from the cysts as they expand can slowly damage the kidneys, which may lead to kidney failure. People who are found to have the disease will be monitored and have their blood pressure and general health watched closely.

## Other causes of kidney disease

### Urinary tract blockage

The kidneys may be damaged if there is a blockage of urine from the kidneys. Blockages may occur anywhere along the urinary tract, from the kidneys to the ureters to the outlet of the bladder. When the blockage occurs in the fetus during pregnancy, the kidneys may not develop properly and this could lead to CKD in children. In adults, common causes of urinary tract blockage can be an enlarged prostate gland, kidney stones or tumours.

**NOTES:**

## Drug- and medication-induced kidney problems

Over-the-counter medications (non-prescription) including anti-inflammatory medications like ibuprofen, may damage the kidneys if used in large doses over a long period of time.

At times even prescription medications may cause kidney dysfunction. Sometimes the damage can be repaired but sometimes it cannot. However, many prescription medications can be safe for people with kidney disease as long as your doctor makes changes to the dosage (amount). You should always ask your doctor or pharmacist about the possible side effects of prescription medications for people with kidney disease.

Recreational drugs, such as heroin and cocaine, can cause kidney damage.

## Kidney stones

A kidney stone can develop when certain chemicals in the urine form crystals that stick together. The crystals may grow into a stone ranging in size from that of a grain of sand to a golf ball. While small stones may pass through the urinary system without problems, larger stones may block the flow of urine or irritate the lining of the urinary tract and cause pain or other symptoms. In some cases, multiple kidney stones that block normal urine flow can cause scarring of the kidneys and result in reduced kidney function.

**1 in 10** **One in 10 Canadians has kidney disease and millions more are at risk.**

For more information and to take a risk awareness quiz, go to: kidney.ca/risk
Available in English, French, Chinese and Punjabi.

**NOTE:**

Sometimes kidney failure occurs rapidly and this is called acute kidney injury. This may be a result of infection, diseases that specifically attack the kidney filters, or other causes. For severe acute kidney injury, dialysis treatment may be urgently needed for a period of time, but kidney function often recovers.

**NOTES:**

## Other causes

Other problems can affect the kidneys. Some of these are genetic causes such as ***Alport syndrome***, ***Fabry disease*** and ***Cystinosis***. Some other problems are kidney cancer, Medullary Sponge Kidney, Wilms's tumour (children only) and bacterial infections.

Information on most of these conditions is available at kidney.ca or from your local Kidney Foundation office.

### IMPORTANT:

Be very careful about taking non-prescription medications. It is wise to discuss all over-the-counter drugs and herbal remedies with your community pharmacist or kidney care team before they are taken. **See Chapter 4: Managing your medications for kidney health** for more information.

## Summary

- Most people with CKD do not progress to end-stage kidney disease, especially if they are diagnosed early and are able to take steps to preserve their remaining kidney function.
- Kidney function is measured through simple blood and urine tests. Urine tests check for protein (albumin) and blood in the urine. A blood test for creatinine level is used to measure kidney function and to estimate GFR (glomerular filtration rate), which can calculate the percentage of kidney function you have.
- People with diabetes, high blood pressure or people who have a family history of kidney disease are at greater risk of developing CKD. So are Indigenous people (First Nations, Inuit and Métis), and those of Asian, South Asian, Pacific Island, African/Caribbean and Hispanic ethnicity.
- Diabetes and high blood pressure are the leading causes of CKD in Canadian adults. Other causes include inflammation of kidney filters, polycystic kidney disease and urinary tract blockage.

More information about other causes of CKD is available at **kidney.ca** or from your local Kidney Foundation office.

Chapter 3

# Supporting and managing your kidney health

**“This journey is not easy. There are often many bumps in the road, but with a good attitude and a good support system, kidney patients can find a way to live a happy and productive life.”**

- Michael

Chapter 3

# Supporting and managing your kidney health

Learning you have chronic kidney disease (CKD) can affect you physically, emotionally, socially and spiritually. People have different reactions after being diagnosed with kidney disease, as it can be difficult to cope with a chronic condition that will affect you for the rest of your life. Additionally, managing other medical conditions at the same time can also be challenging. While kidney function changes slowly, damaged kidneys that are scarred won't heal, therefore having a strong support system and maintaining a healthy lifestyle are key to living well with kidney disease.

**This first section of this chapter will offer tips on how to *support* your kidney health by:**

- Getting assistance from people around you
- Staying active by doing things you enjoy
- Becoming an involved member of your care team

**The second section of this chapter will offer tips on how to *manage* your kidney health by:**

- Identifying the measures that can be taken to avoid the decline of kidney function, and avoid or delay kidney failure
- Learning to control other existing medical conditions
- Following guidelines on diet and healthy lifestyle habits

**HELPFUL TIP**

You may have many worries and concerns about living with kidney disease. It may help to write them down and put the name of the person who can provide you with support, information and/or encouragement beside each.

## Section 1: Supporting your kidney health

Mental health and physical health go hand in hand. This section will help you explore how to stay supported in your journey and more in control of your kidney disease, so that you can continue to enjoy an active, satisfying lifestyle.

## Build a support network

It is a good idea to tell people around you about your condition. This could be your spouse, close friends, family members, doctor, social worker, church member or anyone else with whom you feel comfortable.

Talk about your health and your feelings. Being as open and honest as you can about your situation may help those around you better understand how to help and support you. You will probably find that it helps to share your feelings and hear how others are feeling as well.

The Kidney Foundation of Canada provides support through its ***Kidney Connect*** program at kidneyconnect.ca. This online social network is available in both English and French so that members of the kidney community can connect, share ideas, and help fight the isolation some people experience when confronted with kidney disease. It features live chat, forums, blogs, support groups, and events. This program is free, and also available to your friends and family members.

Keep in mind that sadness, loss of appetite, trouble sleeping and lack of interest in sex or daily living can be signs of depression. While feeling down at times is a normal part of life, speak to your doctor if you are feeling sad for longer than a couple of weeks.

**NOTE**

**What's best for you?**

- What activities do you enjoy?
- Setting a goal is a great strategy to help keep you on track.
- How can you add half an hour of activities to your daily routine?
- Keep an activity journal – give yourself credit for the work that you do and use the journal as a record to discuss with your care team any concerns you may have.

## Be physically active

One of the most powerful things you can do for your health is to stay physically active. Doing so can:

- improve your mood
- make you sleep better
- help you manage stress.
- enhance your mobility
- allow you to stay independent for longer

The recommended level of activity is 150 minutes of moderate intensity exercise (such as walking, cycling or swimming) per week (or roughly 30 minutes, five times a week), in addition to the routine activities of your daily living (such as cleaning, gardening or walking the dog).

If you cannot walk, chair-based strength exercises with resistance bands can also help you maintain muscle strength. This form of training can be done at home, seated on a sturdy chair, with little or no equipment.

## Why

There are many reasons why it can be hard for you to maintain your physical activity. The thought of doing 30 minutes of activity may feel overwhelming and well beyond what you are currently doing. You are not alone. The important thing is to make sure that you try to be active throughout the day. Take a look at what you are currently doing, start slowly, build gradually and try not to sit for long periods of time. This might mean a two-minute walk to the end of your driveway or even walking on the spot. Or spend five minutes exercising with resistance bands. Then, add thirty seconds or a minute, as you feel able, until you are regularly active throughout the day.

## How

Find activities that you enjoy and that work well for you and your situation. Many people find it easier and more fun to stay active when they are with a friend or in a group. Call your local community centre, public health unit or YMCA and YWCA to learn about the activities or clubs that are offered in your community.

To arrange peer support by phone, just call the Peer Support line at **1-866-390-PEER (7337)**, contact your local branch of The Kidney Foundation of Canada or request peer support using our online form at kidney.ca.

**NOTES:**

### Discuss

It is always a good idea to talk to your care team if you are planning to start a new or more intense plan of physical activity than what you are currently doing. Should you have symptoms (such as joint or muscle pain, chest pain, dizziness, etc.) you should discuss your problems or concerns before starting a new activity. If you need additional guidance, registered physiotherapists are an excellent resource to help you meet your health and physical activity goals.

### Find out what's best for you

What activities do you enjoy? How can you add half an hour of activities to your daily routine? Setting a goal is a great strategy to help keep you on track. Or try keeping an activity journal – give yourself credit for the work that you do and use the journal as a record to discuss with your care team any concerns you may have.

Committing to activities with friends or a group is also a great way to stay motivated and may add an enjoyable social element to your activity.

## Be an active member of your care team

The more you know about kidney disease and protecting your remaining kidney function, the more you will feel in control and confident in making decisions about your health. Speak with a member of your care team and ask for educational material you can take home with you. If you have questions about the information, or if there is anything you do not understand, you can call the clinic or ask about it at your next appointment. As a patient, you may also request the services of a translator to help you navigate the system more easily with your care team.

The Kidney Foundation of Canada's website and this handbook are also good places to start. Some Kidney Foundation branches hold educational workshops and information sessions. Contact The Kidney Foundation branch office in your province to see what is planned. You will find branch contact information and a calendar of events on The Kidney Foundation of Canada's website at kidney.ca.

## Your care team

Life with kidney disease can be a challenge, but you have a team to support you. It may include a nephrologist, nurse, nurse practitioner, family doctor, dietitian, social worker, pharmacist, occupational therapist, and a mental health professional. These people are all there to help you live well with kidney disease. If you have a question or need assistance of any kind, just ask them.

## You

You are the centre of your care team. No one knows how your illness or treatment impacts you, your family and friends, and life better than you. Your role is to learn as much as you can about how to manage your kidney disease and to be actively involved in your own care.

## Your primary care provider (family doctor or nurse practitioner)

Your primary care provider will monitor how well your kidneys are functioning and help you manage any other health issues such as diabetes or high blood pressure. When you go to an appointment, be prepared with any questions you may have such as:

- What medical tests can I expect in the next few months?
- What, in your opinion, are the most important things I should be doing to protect my remaining kidney function?
- Do I need to adjust my medications?
- May I have a copy of my last blood and urine test results?

## Pharmacist

A pharmacist specializes in medications. When you see your pharmacist, tell them you have kidney disease and provide them with a list of all the medications and supplements you are taking – that includes any vitamins or herbal remedies. Your pharmacist will make sure the medications you take are safe for your kidneys. Here are some other questions to ask your pharmacist:

- What is the purpose of each of my medications?
- When should I take each medication?
- Which medications should I avoid?

## Nephrologist

A nephrologist is a doctor who specializes in kidney care. You may be referred to a nephrologist who will monitor your kidney function, discuss your treatment options, and tell you what you may expect of your kidneys in the future.

## Nurse

Nurses are specially trained to provide professional, personalized care. They will look after your well-being and plan your care, provide information and answer any questions or concerns you may have. They will also work with other members of your care team to help solve any problems that may occur.

## Dietitian

You can ask your doctor for a referral to a dietitian who can help you choose the foods and beverages that are best for you. A dietitian can also suggest foods that will help lower your blood pressure, improve your blood sugar or help you lose or gain weight if necessary, in order to help protect your kidneys.

## Social worker

You can ask your doctor for a referral to a social worker. A social worker can help you with the non-medical issues related to your kidney health. You may benefit from discussing emotional, financial, family, school, work, or other concerns as you try to understand and adjust to the changes that result from having kidney disease.

## Mental health professional

You may be referred to a mental health professional who will help you develop skills and strategies to manage thoughts, emotions and behaviours that affect your kidney disease and overall health.

## Online resources

The internet can be a good source of health-related information, yet exercise caution with your searches. Remember that individuals, groups and organizations can easily create their own websites and post anything they want – even if it's not accurate. Therefore, it is important to make sure that you check that the information can be trusted. You should ask yourself some questions about the website before deciding to use what you find there.

- Who supports the website? Who maintains it? Who pays for it?
- How current is the information? Does the site post the date and when it was last updated?
- If the information on the site is not original, does the site provide references about the source of the information?
- Does the site display the name/logo of the institution or organization responsible for the information?
- Does the site display the author's name, qualifications and credentials, if relevant?

See **Chapter Six: Developing a personal care plan of action** for more information on how you can actively manage your health.

- What is the purpose of the site? Is it to give you information or to sell you a product? Is the site a vehicle for advertising? Be extremely cautious of sites that are making money by selling products or by advertising.
- Is the information balanced or more one-sided?
- Does the site post links to other appropriate sites so you can read more?
- Is there a way to send comments and feedback on the site?

(This information is printed with permission from the *"How to" Health Guide*, available free online on the Health Charities Coalition of Canada website at healthcharities.ca.)

## Summary

- Kidney disease affects you physically, but it can also affect you emotionally, socially and spiritually. When you are first diagnosed, you may not want to tell others about your disease. You may feel angry, guilty, sad, or lonely. These feelings are normal.
- It helps to talk about it. Build your support network and connect with others who have experience living with kidney disease through the Kidney Connect peer support program or kidneyconnect.ca.
- If you are feeling depressed, be sure to contact your doctor.
- Stay physically active and involved. Identify your favourite activities and ways to incorporate them into your day.
- You are the most important member of your care team. The more you know about kidney disease, the more you will feel in control and confident in making decisions about your health.
- Start a health file for all your medical test results.

**Get Connected**
Build your support network and connect with others through kidneyconnect.ca

**NOTES:**

# Section 2: Tips on managing your kidney health

Proper management of existing medical conditions is crucial for long-term kidney health. This section will address why it is important to control your weight, blood sugars (if you have diabetes), blood pressure, and to stop smoking to help prevent kidney failure or kidney disease progression.

## Other medical conditions

One of the most important ways to preserve your kidney function is to manage other medical conditions you may have. The first step is to follow the advice of your care team and to take your medications as prescribed. Below you can find advice on how to best maintain a healthy lifestyle if you are living with reduced kidney function.

**HELPFUL TIP**

When you have a diagnosis of kidney disease, there are many things outside of your control. However, there are still a number of steps you can take to protect your remaining kidney function. As you go through this chapter, write notes in the margins about areas that you might need to focus on to support your kidney health. You can discuss them with your care team.

### Control your blood sugar if you have diabetes

Why? High blood sugar damages blood vessels of the body, including the filters of the kidney. This, in turn, causes decreased kidney function.

Keeping your blood sugars well controlled will help to protect the delicate filters in the kidneys and may slow down the decline in your kidney function.

*Here are some tips for managing kidney disease if you have diabetes:*

- Manage your blood pressure. Most people with kidney disease who also have diabetes should aim for a blood pressure below 130/80 mm Hg. It is very important to talk to your doctor about your blood pressure target. You can find out more in the section Managing your high blood pressure.
- Talk with your doctor or nurse about what your target blood sugar level should be, and when and how often you need to check it.
- Test your blood sugar as often as directed by your care team. The A1C blood test tells you what your average blood sugar level was over the past two to three months. Have this test done every three months (or as often as your doctor suggests) to see if you are controlling your blood sugar.

- Maintain a healthy lifestyle and weight. Aim for 150 minutes of activity every week (30 minutes, five times per week), assess what you are eating and try to make healthy food choices. See a dietitian if you need help with finding a meal plan that is right for you.
- Don't smoke cigarettes, pipes or recreational cannabis, nor vape.
- Control your ***cholesterol*** through proper food choices. If you are on medication, make sure you take it as directed by your doctor.
- Infections in people with diabetes tend to progress rapidly. If left untreated, many infections, especially urinary tract infections, can further damage the kidneys. People with diabetes must take special care to have infections treated immediately.
- Make sure to have your kidney function tested annually (or as often as your doctor suggests) by having blood and urine tests.
- Ask your pharmacist, primary care provider or your kidney doctor for a "sick day" list of medications if you are unable to keep food or fluids down; some medications should be stopped temporarily if you are becoming dehydrated.

## Manage high blood pressure

Why? High blood pressure can cause the filters in your kidneys to become scarred and lead to a decrease in kidney function. Prolonged uncontrolled high blood pressure can also increase the risk of heart disease and stroke. Blood pressure control is one of the most effective ways of slowing the progression of kidney disease and is important no matter what the original cause of kidney damage may be. Consider the following tips:

- Eat a diet low in sodium (salt). The DASH (Dietary Approaches to Stop Hypertension) eating plan is based on eating foods rich in vegetables, fruit, nuts, and 1% milk products. It Is also low in sodium and saturated fat. This eating plan can help you lower your blood pressure.
- Talk with your doctor or nurse about what your target blood pressure should be, and when and how often you need to check it. Generally, you should keep your blood pressure well below 140/90 mm Hg. Ask your kidney care team what your blood pressure target should be.
- Learn how to properly take your blood pressure, regularly monitor it at home and write down your blood pressure readings.
- Take your record of your blood pressure readings with you to your doctor's office visits and clinic appointments.

See **Chapter Six: Developing a personal care plan of action** for blood pressure logs and other resources to help you manage your kidney disease.

- Take your blood pressure medications as directed by your doctor.
- Maintain a healthy lifestyle and weight. Aim for 150 minutes (30 minutes, five times per week) of activity every week, and make time to relax.
- Don't smoke cigarettes, pipes or recreational cannabis, nor vape.
- Make sure to have your kidney function tested annually (or as often as your doctor suggests) by having blood and urine tests.
- Ask your pharmacist, primary care provider or your kidney doctor for a "sick day" list of medications if you are unable to keep food or fluids down; some medications should be stopped temporarily if you are becoming dehydrated.

## Maintain a healthy weight

Why? If you are overweight, losing even a small amount of weight can help you control your blood pressure and blood sugar. Controlling your blood pressure and blood sugar helps to protect your kidneys.

Where you carry your weight is as important as *how much* weight you carry. If you are more "apple" shaped and carry fat stored around your middle, you are at greater risk for Type 2 diabetes, high blood pressure, heart disease and stroke.

Maintaining a healthy weight is a big challenge for many people. Eating a well-balanced diet and staying physically active can help.

People with kidney disease who are underweight are at a higher risk of malnutrition, which can affect your energy level and how well you fight infections.

See **Chapter Five: Your diet and nutrition for kidney health** for more information on reducing sodium in your diet.

## Don't smoke

Smoking (including vaping) is well known to be harmful to your health as it increases your risk of heart attack, stroke, lung disease, kidney disease and cancer. Smoking can be particularly harmful if you have kidney disease and can increase the risk of progression to end-stage kidney disease.

**How can I quit?**

Quitting can be hard but there are many supports to help you stop smoking. Talk to your doctor or pharmacist about medication and/or nicotine replacement therapy (NRT) that might help. You can also get counselling or join a support group. Here are some other helpful tips:

- Give yourself a **quit date** by making a plan, picking a start date, telling your friends and family, and keeping busy.
- Have a strategy to overcome cravings: chew gum, check in with friends, deep breathing, meditation, call in numbers.
- Make a list of reasons why to quit and carry it with you.
- Learn more about quitting smoking here: www.smokershelpline.ca or call: 1-877-513-5333

If you are not immediately successful when you try to quit, try again! Some people have to try five or more times before they quit for good. By figuring out what works for you, it will get easier. The many benefits of quitting smoking include:

- Your sense of smell and taste improve
- Breathing becomes easier as your bronchial tubes relax and your lung capacity increases.
- Your blood circulation improves and oxygen levels in your blood return to normal.
- Your risk of heart attack, lung cancer and other smoking related diseases decreases over time.
- You will have more energy as well as more money to spend or save.

## Summary

To manage your kidney health and help protect your remaining kidney function, it is important to:

- Control other medical conditions you may have like diabetes and high blood pressure.
- Maintain a healthy weight.
- Quit smoking or vaping.

Chapter 4

# Managing your medications for kidney health

**“Getting a pill pack allowed me to sort my medication, understand what I was taking and feel in control of something!”** - Kate

# Managing your medications for kidney health

There are different types of medications for chronic kidney disease (CKD). Some medications slow down the progression of kidney disease and others treat the complications that may occur as a result of CKD. Others reduce the risk of heart disease or stroke. It is very important for your kidney health to take your medications as prescribed.

Medications often have two names: the generic name and the brand name used by the drug company to identify its version of the medication. Towards the end of this handbook, there is a chart showing examples of common brand names for various medications.

Below you will find information on some medications which are commonly used by patients with, or at risk for, chronic kidney disease. You may need to take some of these types of medications now or in the future, depending on your health situation.

## Commonly used medications

### Blood pressure medications

Blood pressure medications help to reduce your blood pressure. This reduces your risk of stroke and heart attack along with playing a very important role in protecting your kidneys from the damage of high blood pressure, with the goal of slowing down the decline of kidney function.

Different types of blood pressure medications work in different ways. Therefore, you may be prescribed two or more different types in order to reach your blood pressure goal. In addition to diuretics (see below), some of the more commonly used blood pressure medications include: ***angiotensin-converting enzyme (ACE)*** inhibitors (end with "pril" examples: ramipril, enalapril, lisinopril) or ***angiotensin receptor blockers (ARB)*** (end in "sartan" examples: candesartan, losartan, irbesartan), ***beta-blockers*** (end in "lol" examples: metoprolol, bisoprolol, atenolol), ***calcium-channel blockers*** (examples: nifedipine XL, amlodipine), and ***alpha-blockers*** (end in "zosin" examples: doxazosin, terazosin).

### Diuretics

***Diuretics*** – also called "water pills" – are medications that help your kidneys get rid of extra sodium (or salt) and water, and reduce swelling. Extra salt and water in your body contributes to high blood pressure, so diuretics that help the body get rid of extra salt and water also help with blood pressure control. Examples include chlorthalidone, hydrochlorothiazide, indapamide, furosemide (Lasix).

### Flozins (also called Sodium-glucose transport protein 2 (SGLT2) inhibitors)

***Flozins*** are the latest class of medications shown to slow progression of kidney disease in people with Type 2 diabetes and other types of kidney disease (example: those with elevated protein in the urine). They are often used in combination with ACE inhibitors and ARBs. They are also used to treat patients with heart failure and help prevent heart attacks, strokes, and death from heart

disease in people at higher risk of these events. Examples include: dapagliflozin, canagliflozin and empagliflozin. These medications have only mild blood sugar lowering and are used in patients with and without diabetes. These medications have a mild diuretic effect and can cause weight loss of around three to six pounds. They can also be associated with genital infections (e.g., yeast infections) and may increase urine/bladder infections.

### Cholesterol medications

Cholesterol medications reduce the cholesterol levels in your blood which in turn reduces your risk of heart disease and stroke. This is important because people with chronic kidney disease are at higher risk of heart disease and stroke. There are different types of cholesterol-lowering medications including ***statins (examples: atorvastatin, rosuvastatin)*** and ***ezetimibe***.

### Immunosuppressants

***Immunosuppressants*** work by stopping your immune system from damaging healthy cells and tissues. They are used only in very specific types of kidney disease, such as types of glomerulonephritis. Examples include: cyclosporine, tacrolimus, prednisone, azathioprine, and rituximab.

### Other medications

Specific kidney diseases may have medications that are unique to them and are beyond the scope of this handbook. Please reach out to your kidney care team and ask if there are specific medications for your particular kidney disease.

## General tips for managing your medications

Kidneys play an important role in removing medications from your body. As your kidney function changes, the medications you need may also change. Sometimes the dose will be decreased; you may take some medications less often, or even stop taking some medications altogether. Your care team will make sure you are getting the right medications at the right dose.

### Be active and involved – know your medications!

Part of being active and involved is to learn as much as you can about all your medications to prevent any misinformation from occurring. Here's what you should know:

- Name of the medication(s)
- Strength of the medication(s)
- Dose (how much to take)
- Frequency (how often and what time of day)
- Purpose of medication
- Common side effects
- What to do if you miss a dose or doses
- Whether any tests are needed to monitor how the medication is working

Let the care team know if you have stopped or started a medication. Carry a list of your medications with you and keep it up to date. You may want to provide a copy of your medication list to a close family member or friend so they can help you and also provide information in case you are admitted to hospital. The website www.knowledgeisthebestmedicine.org has printable lists and cell phone apps for your medications.

To learn what's best to you, ask your doctor or pharmacist about your medications so you'll know how to get the most benefit from them and how to manage any possible side effects.

## Need help remembering to take your medications?

Keeping track of your medications is a big job. Things that can help are:

- Using one pharmacy for all your medications. You will have access to a community pharmacist who will get to know you and who can answer your questions.
- Having a routine for your medications. For example, taking your pills with your meals at the same time each day.
- Asking your kidney or community pharmacist to help prepare a medication calendar which will tell you what time of the day to take each medication.
- Using a medication aid to help you manage your medications. These include:
- **Dosette box** – This re-usable weekly medication container can help you (or your family member) sort your medications according to the time of day you should take them (morning, lunch, supper, bedtime). Dosette boxes can be purchased at any pharmacy or online. Many people fill their dosette box for the week on Sunday evening. Some people buy two dosette boxes so they only need to fill them every second week.
- **Blister pack/Bubble pack** – Your pharmacy can prepare your medications in a weekly package, sorted according to the time of day you should take them. Ask your community pharmacist if there would be a cost to you for this service.
- **Alarm on your phone/apps** – These can serve as useful reminders to take your medications.

## Have trouble swallowing pills?

It's normal for many children and some adults to have difficulty swallowing pills and capsules. Sometimes a liquid form of the medication is available; however, it can make the prescription more expensive and is not available for all medications.

It can be helpful to learn new ways to swallow a pill so you can improve the chances of success with the medication and reduce the stress you might feel when doing so. Try practising with various sizes of hard candies (like TicTac® or M&M® Minis). You can also try taking pills with applesauce or yogurt, but ask your pharmacist first if it is okay to crush your pills.

### Bring all your medication bottles and/or packages to your doctor's appointments

Be sure to bring all your prescription medications, over-the-counter products, vitamins, herbal remedies or natural supplements that you are taking, or a list of all these medications. This is especially important on the first visit so that the doctor can assess your current situation.

### Let your community pharmacist know that you have chronic kidney disease

Your community pharmacist should be informed of your kidney disease and work with your doctors to make sure that you are taking the right dose for your given level of kidney function.

Below are the situations in which you would need to contact your pharmacist or doctor. Please take the time to read this information carefully:

- If you have a serious reaction to a medication
- If you are ill (vomiting, diarrhea, dehydration), especially if you are taking diuretics (i.e., water pills), blood pressure pills, or certain diabetes pills. Your care team may instruct you to stop taking your diuretics or blood pressure pills if you develop nausea, vomiting, or diarrhea, to avoid dangerously low blood pressure and becoming dehydrated.
- If you have new and/or irritating side effects
- If you think your medication is not working
- If you run out of medications – try to think ahead and refill your medications one to two weeks before they run out.
- If you are prescribed a new medication by someone who is not part of your regular healthcare team (i.e., emergency room physician) and who may not be familiar with your level of kidney function

Make it a point to speak with your prescriber first before stopping your medication(s) so that they can make sure it won't affect your treatment plan or your health. If you are having financial difficulty buying the medications you need, or if you do stop or change your medication dose for any reason, be sure to let your care team know so that together you can plan appropriately.

## Covering the cost of medication

Below are some tips on how to cover the cost of medications you may be taking. These were adapted with permission from the "How to" Health Guide produced by the Health Charities Coalition of Canada.

- If you cannot afford your medications, or have difficulty paying for them, let your health care team know or talk to your social worker about different options for medications and medication coverage. They may be able to find ways to help you!

- Each province has different rules for its publicly funded drug plans. For example, some provide 100% coverage for people 65 and older, or individuals on social assistance. Talk to your doctor, your pharmacist or social worker and call your Provincial Ministry or Department of Health to get more information about the drug plan in your province.
- Even if you are eligible for coverage under one of the public plans, you may still have to pay some of the costs of your medications through, for example, a co-payment, a deductible, or a premium based on your income.
- Your private insurance plan may require that you pay for your medications upfront at the pharmacy and then submit the receipts for reimbursement. If this is a problem for you, ask your insurance company to allow your pharmacy to submit the bill directly to it for reimbursement.
- There may be medications that are just as effective but cost less (for example 'brand name' and 'generic' brands of the same medication). Talk to your pharmacist. They may be able to assist you by contacting your insurance plan or by working with your doctor to prescribe another medication that is covered or is less costly.
- Not all medications approved by Health Canada are covered by publicly funded drug plans or private insurance plans. Do your research to make sure you know what is covered by your specific plan and how much you will have to pay.

## Medications and remedies to avoid

While many medications are good for your kidney health, some medications can put you at risk of further kidney damage or may build up in your body causing undesirable effects.

**HELPFUL TIP**

**You should know the following for all your medications:**

- Name of medication
- Purpose of medication
- How to take medication
- Prescribed dose
- Possible side effects & what to do about them

When you have CKD there are some prescription and over-the-counter medications and remedies that you should either avoid or be very cautious about taking.

It is advised that you should have all prescribed and over-the-counter medication or supplements reviewed by your care team, and ensure any new medications are safe for you to take.

- Non-steroidal anti-inflammatory medications (NSAIDs) such as ibuprofen (Advil®, Motrin®) or naproxen (Aleve®) can cause damage to the kidneys, especially if used at a high dose for long periods of time.
- Daily low dose ASA (81 mg) (like baby Aspirin®) is safe for your kidneys, but avoid higher doses of ASA since this can put you at risk for kidney damage. Acetaminophen (Tylenol®) is safe to use for headache, pain and fever if used as directed.

- Cold and flu medications that contain decongestants may increase blood pressure. In addition, avoid cough and cold medications that also contain ASA or NSAIDs. Ask your pharmacist for alternatives.
- Please consult your care team if you are taking any of these products.

## Vitamins and supplements

- Vitamins or food supplements may contain potassium or magnesium or high doses of vitamin A that can build up in your body.
- High doses of vitamin C (500 mg or more) can cause damage to kidneys. There is a specially made multivitamin for people with kidney disease that has the right amount of vitamins that your kidneys can handle. Ask your care team about it.
- Avoid specific enemas or certain laxatives that contain phosphates, magnesium, calcium or aluminum unless your care team prescribes them.
- Milk of Magnesia or antacids that contain magnesium or aluminum should also be avoided.

## Herbal or complementary medicines

People living with kidney disease should use extreme caution when using herbal products or complementary medicines since some of them have been shown to lead to further kidney damage.

Herbal medications and products are not regulated in the same way as pharmaceutical products. Therefore, **the list of ingredients is not always accurate**, and some herbal medicines have been found to contain pesticides, poisonous plants, hormones, heavy metals and other compounds that are potentially dangerous.

Some herbal medications also include diuretics, high levels of potassium, and/or other ingredients that can affect the kidneys or interact with your prescription medications to change their effectiveness. It is very important to tell your doctor about any herbal medications or products you may already be using, or plan to use.

For sample medication logs, information for your pharmacist and more tips on managing your medications, see **Chapter Six: Developing a personal care plan of action.**

## Vaccinations

*Flu vaccine:* It is recommended that all people with chronic kidney disease (CKD) receive a flu vaccine once a year in the fall unless your care team advises otherwise.

*Pneumococcal (pneumonia) vaccine:* It is recommended that all people with CKD receive the pneumococcal vaccine to prevent severe forms of pneumonia. This is given once and then should be repeated in five years for people with CKD.

*Hepatitis B:* You may need to be vaccinated against Hepatitis B – a virus that can cause liver damage – if there is a plan for hemodialysis and/or a kidney transplant in the future. Hepatitis B can be spread through blood and the hemodialysis procedure involves cleaning your blood.

*COVID-19 vaccine:* It is recommended that all people with CKD receive the recommended doses of the COVID vaccine as kidney disease is a risk factor for more severe complications of COVID, such as hospitalization and death.

See **Living with kidney failure** for more information on other medications such as phosphate binders and erythropoietin.

**Tip:** Check with your care team about these vaccinations to help ensure your health and safety.

## Summary

- Your medications can help slow down the decline of your kidney function, manage the complications of CKD and/or manage other medical conditions.
- It is very important to take your medications as prescribed.
- You should know as much as you can about all the medications you are taking and bring an up-to-date list with you to all healthcare appointments.
- Do not stop taking medications without first talking with your doctor.
- There are some medications that you should avoid such as ibuprofen and other non-steroidal anti-inflammatory medications (NSAIDs), herbal and complementary medicines.

Chapter 5

# Your diet for kidney health

**“The kidney diet can be overwhelming at first, take one day at a time. Look at the areas you need to monitor, make adjustments and with time it will become second nature”.** - Kate

Chapter 5

# Your diet for kidney health

This may not come as a big surprise, but what you eat may affect your kidneys, and lead to complications of chronic kidney disease (CKD). Therefore, proper nutrition is an important part of your treatment plan. If you have moderate or severe kidney disease, you may need to make even more changes to the foods you eat, such as limiting ***phosphorus*** and potassium.

**In this section we are going to look at some tips and recommendations on how you can eat to help conserve your remaining kidney function.**

## Start a new habit

There is no standard "kidney diet." What you eat may change as your kidney function or your medications change. Modifying your diet can be difficult and stressful. It's easier when you start with small changes, so try eating foods similar to the ones you enjoy, but that are lower in sodium. You could also simply add more vegetables or fruits to your meals.

Do this each day for a week. Then try it for a month. The key is to make small changes over time so you can adjust to new flavours and form lasting, healthy habits.

## Choose modest-sized servings of protein

Your body uses protein to help fight infections, heal wounds and keep your muscles strong and healthy. Many Canadians get more protein than they need. Very high protein diets may put extra stress on the kidneys, so it is best to choose a modest size serving of protein. Most people should have no more than two to three servings of high protein foods per day. Avoid protein supplements, such as protein shakes or protein powders unless they are recommended by your care team.

- High protein foods include milk, eggs, legumes (like dried peas, beans and lentils), nuts, fish, poultry or lean meat.
- A modest-size protein serving is ¾ cup (170 mL). A modest serving of cooked fish, poultry or lean meat is ½ cup or 2.5 ounces – about the size of a deck of cards.

## Consider a plant-based diet

People living with kidney disease can also meet their protein needs with plant-based foods while reaping additional health benefits. Plant proteins offer dietary fibre, which promotes the production of anti-inflammatory compounds in your gut and reduces uremic toxins. This fibre can also prevent constipation and limit the opportunity for the body to reabsorb potassium.

## Limit your sodium intake to less than 2300 milligrams per day

The average Canadian gets over twice the amount of sodium (salt) that the body needs! Sodium is a mineral which is added in larger quantities to processed foods like deli meat, snack foods, and fast food. It can also be hidden in foods like bread, muffins, canned vegetables, cheese, pickles, condiments and tomato sauce.

### How does sodium affect your kidneys?

- When your kidneys are fully functioning, they remove the excess sodium from your blood. With reduced kidney function, your kidneys cannot remove all of the sodium you eat and the sodium stays in your blood, which then draws in extra water. This can increase your blood pressure and cause swelling in your ankles and legs; if severe, it can lead to shortness of breath.
- If you have high blood pressure, you are at higher risk of damaging the tiny blood vessels in your kidneys. To reduce your blood pressure, limit your intake of sodium to less than 2300 milligrams (mg) per day.

### How much is 2300 mg of sodium?

- One teaspoon of table salt contains 2300 milligrams of sodium. Most of the sodium we eat is not from the saltshaker - it is “hidden” in foods. That’s one reason why it’s important to read food labels. Another reason is that the sodium content of foods can vary between brands and products – the food label can help you choose the best products for you.
- Reading food labels will help you quickly compare similar food products. Always check the serving size to make sure that you are comparing similar amounts. The “% Daily Value” can be used as a general guide when you read a food label. The “% Daily Value” tells you if there is a little or a lot of a nutrient. A “% Daily Value” of 5% or less is a *little* and a “% Daily Value” of 15% or more is a *lot*. However, it is important to keep in mind that the”% Daily Value” for sodium is based on a daily intake of 2300 milligrams for a person without kidney disease, so you will need to pay particular attention to the milligrams of sodium in a product to keep your intake at less than 2300 mg of sodium per day.

See **Living with kidney failure** for diet and nutrition information for people with kidney failure

## Cutting back on sodium

- One way to limit your sodium intake is to replace processed foods with more homemade foods. Most of our sodium comes from prepared foods such as canned soup, frozen entrées, processed meats and snack foods. If you replace processed products with fresh and unprocessed foods, you can dramatically reduce your sodium intake.
- Try cutting back on salt and salty ingredients. When you cook, try using pepper, onions, garlic, lime, lemon or vinegar to flavour your food instead of salt. You usually don't need to add salt when baking, especially since baking powder and baking soda are high in sodium. *Do not use* NoSalt®, HalfSalt® or similar salt replacement products in place of table salt (unless you are told it is okay). They are made with potassium chloride and can be dangerous for people with kidney disease.

# Avoid processed foods

Processed foods are generally high in sodium and often contain other additives that may be unsafe for kidney patients. This includes phosphate food additives. Phosphorus is a mineral found in many foods. Early in chronic kidney disease, you may be advised by your care team to avoid phosphate additives, even if your phosphorus is in the normal range. Phosphate additives are used in many foods to lengthen the shelf life, enhance flavour or improve the look and feel of a product. These additives are extremely well absorbed and may cause complications in those with kidney disease. In later stages of CKD, you may also need to avoid naturally occurring phosphorus or take medications to help control your levels.

See **Living with kidney failure** for more information on phosphate binders

## How do I avoid phosphate additives?

- Look for word “phosphate” or “phosphoric acid” in the list of ingredients to see if your food contains phosphate additives. Other examples of phosphate additives are “sodium phosphate”, “calcium phosphate” and “triphosphate”.
- To reduce your intake of phosphate additives, avoid these foods:
  - **“Seasoned” meats:** “Seasoned” is a term that is used when a meat product has been treated with phosphates. Both fresh and frozen meats may contain added phosphates. It’s important to read food labels and ask your butcher if your poultry or meat is treated with sodium phosphate.
  - **Fast Food:** Most fast foods contain phosphate additives. Choose fast foods only occasionally and in small amounts. If you have a craving for fast food, try to make your own hamburgers, French fries and chicken nuggets from scratch to avoid added phosphates.
  - **Processed meats and cheeses:** Meats like ham, salami, and sausages commonly contain added phosphates, as do processed cheeses like cheese slices, Cheez Whiz® and Velveeta®. When shopping, read the list of ingredients and select meats and cheese without phosphate additives. Natural cheeses do not contain additives.
  - **Beverages:** Colas, dark sodas, and some iced teas are examples of drinks that may have phosphate additives. Generally, clear sodas are acceptable but always check the ingredients for phosphoric acid or phosphate.

*Sample*

BONELESS CHICKEN BREAST
SEASONED 21% MEAT PROTEIN

**Ingredients:** Chicken, water, salt, sodium phosphates

POITRINE DE POULET DÉSOSSÉE
ASSAISONNÉE 21 % DE PROTÉINES DE VIANDE

**Ingrédients :** Poulet, eau, sel, phosphates de sodium

## Avoid potassium additives

Potassium is another mineral found in many of the foods you eat. Almost all foods have some potassium. The size of the serving is very important. A large amount of a low potassium food can turn into a high-potassium food. Currently, over 56 different potassium-based food additives are used in Canada.


For more information about kidney-friendly baking and cooking substitutions, visit the Kidney Diet and Information section of kidneycommunitykitchen.ca

In some people with CKD, high potassium may be a problem. However, you should not limit foods that are high in potassium unless you have been advised to do so by your care team. Your kidney dietitian will help you plan your diet so that you are getting the right amount of potassium.

## When should I see a dietitian?

Changing the food you eat can be difficult and sometimes stressful for you and your family. The adjustment often requires that you modify your habits including what you eat, how much you eat, how often you eat out and where you eat out. A registered dietitian specializing in kidney nutrition will be able to help you.

**You should also speak with a dietitian if you:**

- have more than one diet and need help putting them together; for example, if you also have diabetes.
- are losing weight or are having trouble eating.
- need meal plan ideas or want to learn how to adapt your favorite recipes. For more information about kidney diet and nutrition, including kidney-friendly recipes, a meal planner and fact sheets such as *Eating Out on a Kidney Diet, and Modifying Recipes to be Kidney-Friendly*, visit the Kidney Community Kitchen at: kidneycommunitykitchen.ca

## Summary

- What you eat affects your kidneys, so diet is an important part of your treatment plan.
- A simple guide to eating healthy is to avoid processed foods, fast foods, and 'dining out', and instead to choose nutritious foods that you prepare.
- Choose modest-size servings of protein.
- Aim to limit sodium to less than 2300 mg per day.
- Avoid foods with phosphate and potassium additives.

### Did You Know?

Did you know that the Kidney Community Kitchen has an "Ask a dietitian" feature? You can use this tool to contact a dietitian for general advice about nutrition for people with kidney disease.

Chapter 6

# Developing a personal care plan of action

Chapter 6

# Developing a personal care plan of action

The most effective way to manage your kidney disease is for you to work in partnership with your care team and maintain a healthy lifestyle.

**This section includes tools and information to help you take an active role in managing your own day-to-day care, set some personal health goals, and record important information about your health and well-being.**

## There is a lot you can do

There's a lot you can do to improve your overall health and support your kidney health. Try setting small goals and work toward them before moving on to the next one. That way, any changes you make will be gradual and long-lasting.

You can live a healthy life, even with a chronic disease. Here are some suggestions to help you:

1. Work actively with your care team to develop a plan that works best for you.
2. Give accurate information about your living situation, as well as your physical and emotional well-being.
3. Speak up and let your care team know about your concerns. Never be afraid to ask questions.
4. Listen to and follow the health advice and recommendations of your care team.
5. Learn as much as you can about how to manage your disease.
6. Prepare for all of your health appointments by writing down your goals for the visit and what questions you would like answered.
7. Make sure that you receive copies of all your medical tests – bloodwork, urinalysis, ultrasound, x-rays, etc.

## Take action

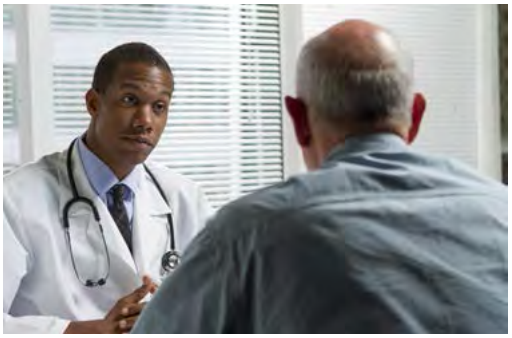
**Create a "health diary"**
One way to help manage your kidney disease is to create a "health diary" or a journal. You can use a notebook or an app for digital health journaling.

Many people will ask questions about your medical history. These might include members of your care team, your insurance company, government agencies, friends or family.

- *What medications are you on?*
- *Do you have any allergies?*
- *What is your blood pressure normally?*

The list goes on. A health diary is a good way to keep track of this information (and reduce your frustration at being asked the same questions over and over again!). Use your health diary to record changes in your physical health and to chart how you are feeling. Share this information with members of your care team because this will help them develop and change your treatment plan to best meet your needs. You may also wish to share this information with someone close to you, such as a spouse or other family member.

## Prepare for medical appointments



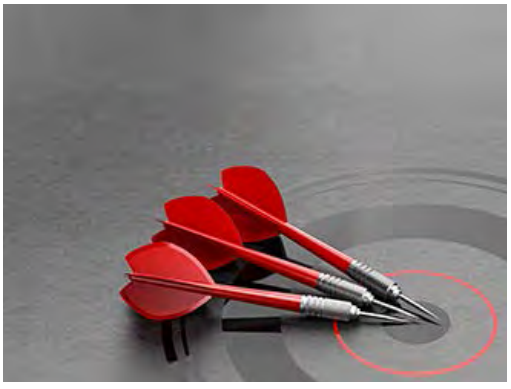
You can also use your health diary to prepare for medical appointments. How many times have you left your doctor's office only to realize you have a question that you forgot to ask? One way to improve communication and make sure you get the information you need is to write down a list of your questions or concerns before your appointment. Then take this list with you to your next appointment.

Also, some people get nervous at medical appointments and have trouble finding the right words to describe how they feel. Sometimes it's easier to let the healthcare provider read what you have written.

One question you will need to answer at all appointments is what medications you are currently taking. You should always bring an up-to-date list of your medications with you. Or, you can bring along a bag with all of your medication bottles. Please also list any non-prescribed medications, vitamins, supplements and herbal medications.

## Set personal goals

There are many positive changes you can make to take care of your kidney health. Some of these changes can be challenging to make. That is why it is good to start with smaller, manageable goals and build from there. Here are some suggestions:



- Make sure your goal is specific and realistic.
- Write down your goal and share it with trusted friends or family members so that they can encourage you.
- Break a larger goal into smaller steps.

- Identify potential barriers to achieving your goal and ways to overcome them.
- Think about how confident and ready you feel to make a change. If you don't feel confident about your progress, start instead by taking smaller steps.
- Keep track of your progress and reward yourself for your successes!
- Ask for help if you are having trouble staying motivated.

## Summary

**You can live a healthy life even with a chronic disease.**

- Creating a "health diary" can be useful to help you keep track of information regarding medical history, changes in your physical health and feelings.
- Preparing for your medical appointments is important as you may forget some of your questions if you haven't written them down and you will always be asked to provide a list of the medications you take.

Chapter 6

# My personal log

Chapter 6

# My personal log

## Important Contacts

| NAME | PHONE NUMBER | EMAIL ADDRESS | ROLE |
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## Appointment Log

| DATE | TIME | REASON FOR APPOINTMENT | LOCATION | OUTCOME | FOLLOW UP |
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Chapter 6

# My personal log

## My Health Goal

| DATE | WEIGHT | BLOOD PRESSURE | CREATININE | eGFR | Urine ACR | Hemoglobin | Other (e.g. phosphorus, potassium, cholesterol, glucose, etc.) |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

## My current status

| DATE | WEIGHT | BLOOD PRESSURE | CREATININE | eGFR | Urine ACR | Hemoglobin | Other (e.g. phosphorus, potassium, cholesterol, glucose, etc.) |
|---|---|---|---|---|---|---|---|
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## Medications

| Name of Medication | Prescribed by | Purpose of Medication | Description (e.g. colour shape) | Dose | When and How to take it | Side Effects Felt | Refill Date |
|---|---|---|---|---|---|---|---|
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## Exercise Log

| Start Date | Type of Exercise | Frequency (number of times per day, per week, etc.) | Duration or Distance (minutes, kilometres) | How did I feel? | Any difficulties? |
|---|---|---|---|---|---|
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## My Personal Well-being

| Date & Thoughts | Feelings or Questions |
|---|---|
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Chapter 6

# My personal log

## My Goals: Action Planning

A log can be a useful tool to share with your family, support system or healthcare provider. Keeping a record of your goals and how you are trying to reach them can also help you stay motivated and increase your chances of success. Focus on small steps to achieve bigger, longer-term goals and reward yourself along the way! Identify potential challenges and plan for how to overcome them.

Date: _____My goal:_____

To reach my goal I will:

1._____

2._____

3._____

What are the things that might make it more difficult for me to achieve my goal and how will I overcome them?

1._____

2._____

3._____

Who could help me to achieve this goal?

_____

_____

_____

How will I reward or acknowledge my successes?

_____

_____

_____

## General notes

Chapter 6

# My personal log

## General notes

## General notes

Chapter 6

# My personal log

## General notes

Chapter 7

# If your kidneys fail

Chapter 7

# If your kidneys fail

In the early stages of chronic kidney disease (CKD), lifestyle changes (such as getting more exercise, stopping smoking and cutting down on sodium), managing other medical conditions and taking a few medications may be all the treatment needed to slow the damage to the kidneys.

People often go for many years, or all of their life, without needing other forms of treatment. The kidneys are so good at doing their job that even diseased ones can keep you healthy for a long time. Damage to kidneys may be slowed down or even stopped if you take the necessary steps to preserve your kidney function.

If your kidney function does continue to decline, you may start developing symptoms of kidney failure. Each person is different, but most people will start to develop symptoms when their kidney disease becomes severe. At that time, you will need to discuss additional treatment options with your care team.

**As such, this section will help you to:**

- Identify the signs and symptoms of kidney failure

## Kidney Failure

Healthcare providers sometimes refer to kidney failure as '***uremia***'. If the kidneys fail and are unable to remove wastes from the body, several symptoms can occur as kidney function declines. They include:

- Fatigue
- Weakness
- Nausea
- Vomiting
- Bad taste in the mouth
- Loss of appetite
- Weight loss
- Restless legs
- Shortness of breath
- Forgetfulness
- Leg cramps
- Difficulty sleeping
- Itching
- Cold intolerance
- Chest pain
- Skin colour changes
- Easy bruising
- Decreased sexual desire
- Swelling in ankles and legs

Note that some of these symptoms are common and may be due to other conditions; speak to your health care team if you have these symptoms.

As your kidney function decreases, your care team will start to talk about your treatment choices for when your kidneys are unable to remove enough of the fluids and waste products. These treatment choices include conservative kidney management, dialysis and kidney transplantation. Each person is different and will choose which treatment choice is right for them.

More information about treatment for kidney failure is included in *Living with Kidney Failure*. You can also contact The Kidney Foundation of Canada office in your area and consult the website at kidney.ca.

**NOTES:**

# Glossary

**Acute kidney injury**
Rapid, sudden loss of kidney function, often reversible.

**Albumin**
A protein that, if present in the urine, may indicate damage to the kidneys.

**Alpha-blockers**
Medication used to lower blood pressure if other blood pressure medications cannot be tolerated.

**Alport syndrome**
A disease that damages the tiny blood vessels (glomeruli) in your kidneys. It can lead to kidney disease and kidney failure.

**Angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARB)**
Commonly prescribed blood pressure medications that are designed to protect your kidney function and reduce the amount of albumin in your urine.

**Beta-blocker**
Medication used to manage heart conditions and blood pressure.

**Bladder**
Expandable organ that collects and holds urine.

**Calcium**
Mineral that is important for bone growth and body function.

**Calcium channel blockers**
Medications to reduce blood pressure.

**Cholesterol**
Type of fat found in most body tissues.

**NOTES:**

# Glossary

**Chronic kidney disease (CKD)**
Kidney function that is less than normal and will never get better. This condition might be mild, or it may slowly get worse and lead to complete kidney failure.

**Conservative kidney management**
An active treatment choice in which kidney disease is managed with medication and diet, with no plans for a transplant or dialysis.

**Creatinine**
Waste product of muscle activity.

**Cystinosis**
A rare genetic disease that causes an amino acid called cystine to build up inside your cells. This leads to the formation of crystals that can damage the body's organs and tissues, including the kidneys.

**Diabetes**
Disease of the pancreas in which the production of insulin is decreased or absent (Type 1), or in which the body does not use the insulin that the pancreas makes (Type 2).

**Dialysis**
From Greek, meaning "to separate or dissolve." Treatment for kidney failure that removes wastes and water from the blood.

**Diuretics**
Also called "water pills" – are medications that help your kidneys get rid of extra sodium (or salt) and water, and reduce swelling.

**eGFR**
Estimated Glomerular Filtration Rate (see GFR). The eGFR is estimated by a mathematical calculation using blood tests and other information in order to get an approximate measure of the amount of kidney function present.

**NOTES:**

# Glossary

### End-stage kidney disease (ESKD)
Condition referring to the end of your kidney function (kidney failure): your kidneys no longer adequately filter your blood.

### Ezetimibe
Medication used to treat high blood cholesterol sometimes in combination with a statin.

### Fabry disease
A genetic disorder whereby the body lacks an important enzyme that breaks down certain fats so they can be removed from cells and passed out of the body. When this enzyme is missing or present in low amounts, fat can build up in the kidneys and other organs and lead to life-threatening problems, including kidney failure.

### Flozins
Latest class of medications shown to slow progression of kidney disease in people with Type 2 diabetes and other types of kidney disease (example: glomerulonephritis such as IgA nephropathy).

### GFR (Glomerular filtration rate)
Accurate measure of kidney function that usually requires specialized tests. Doctors can approximate this measure. The approximated result is called “estimated GFR”. See eGFR.

### Glomerulonephritis
Condition in which the glomeruli, the tiny filters that clean the blood, are damaged. Often referred to as nephritis. There are many causes.

### Glomerulus
The kidney filter that separates excess water and wastes from the blood. The plural form of glomerulus is glomeruli.

### Hepatitis B and C
Hepatitis means inflammation of the liver. Hepatitis B and C are viruses that can cause liver damage.

**NOTES:**

# Glossary

**Hormone**
Chemical messenger that regulates bodily functions such as blood pressure and the making of red blood cells.

**Hypertension**
High blood pressure. May be either a cause or a result of kidney disease.

**Immunosuppressant**
A drug that decreases the immune system and is commonly used to treat glomerulonephritis and kidney transplant.

**Insulin**
Hormone produced by the pancreas that regulates the level of glucose (sugar) in the blood.

**Kidney**
One of two organs located at the back of the abdominal cavity on each side of the spinal column.

**Kidney artery**
Major vessel that delivers blood to the kidneys for cleaning.

**Kidney Connect and kidneyconnect.ca**
The Kidney Foundation of Canada's peer support programs where people living with kidney disease can share their experiences.

**Kidney failure**
Progressive deterioration in kidney function. Also called end–stage kidney disease (ESKD).

**Kidney pelvis**
Funnel-like structure that collects urine from the kidney and delivers it to the ureter.

**Kidney vein**
Major vessel that returns freshly cleaned blood from the kidneys to the circulatory system.

**NOTES:**

# Glossary

**Lupus**
Commonly used term for systemic lupus erythematosus.

**Nephritis**
See glomerulonephritis.

**Nephron**
The functional unit of the kidney that acts to maintain the body's chemical balance. Consists of a filter (glomerulus) attached to a tubule.

**Phosphorus (phosphate)**
Mineral in many nutritious foods. The kidneys regulate it in the body fluids. At normal levels, keeps bones strong and healthy. At high levels, causes itching, painful joints, and bone disease.

**Polycystic kidney disease**
Inherited disease of the kidneys in which the kidneys become very large and have a bumpy surface because of fluid-filled cysts.

**Potassium**
Mineral in the body fluids regulated by the kidneys. At normal levels, helps nerves and muscles work well. At high levels, may stop the heart.

**Protein**
Substance obtained from food that builds, repairs and maintains body tissues. High sources of protein are mainly from animal foods.

**Serum creatinine level**
Blood test to measure the level of creatinine, which is a waste product of muscle activity. As kidney function decreases, the serum creatinine level increases.

**Sodium**
Mineral in the body fluids that increases thirst and is regulated by the kidneys. Affects the level of water retained in the body tissues.

**NOTES:**

# Glossary

**Statins**
Medications which are used to lower low-density lipoprotein (LDL) cholesterol, often referred to as “bad cholesterol”.

**Systemic lupus erythematosus**
Disease of the immune system that may affect a number of organs, including the kidneys.

**Transplant (Transplantation)**
Surgical procedure to attach a functioning kidney from a living or deceased organ donor to a patient with ESKD.

**Tubule**
Tube in the nephron that collects and processes urine from the glomerulus before the urine passes into the kidney pelvis.

**Urea**
Waste product from the breakdown of protein.

**Uremia**
Condition caused by build-up of waste products in the blood.

**Ureters**
Tubes that take urine from the kidney pelvis and deliver it into the bladder.

**Urethra**
Tube from the bladder that takes urine out of the body.

**Urinalysis**
Test to measure the presence of protein and other substances in the urine.

**Vasculitis**
Inflammation of the blood vessels.

**NOTES:**

# Medications

This chart lists some medications used in treating various aspects of kidney disease and kidney failure. This handbook does not discuss all the medications that can be used for kidney disease. If you have questions about specific medications, please ask your primary care provider and/or kidney doctor.

| GENERIC NAME | SOME COMMON BRAND NAMES | TYPE/CLASS OF MEDICATION |
|---|---|---|
| ACEBUTOLOL | Sectral® | Beta-blocker/blood pressure |
| ACETAMINOPHEN | Tylenol® | Pain/fever |
| AMILORIDE | Midamor® | Diuretic/water pill |
| AMLODIPINE | Norvasc® | Calcium channel blocker/blood pressure |
| ATENOLOL | Tenormin® | Beta-blocker/blood pressure |
| ATORVASTATIN | Lipitor® | Statin/cholesterol |
| BENAZEPRIL | Lotensin® | Angiotensin-converting enzyme (ACE) inhibitors |
| BISOPROLOL | Concor® | Beta-blocker/blood pressure |
| CANAGLIFLOZIN | Invokana® | Slows diabetic kidney disease and certain types of glomerulonephritis |
| CANDESARTAN | Atacand® | Angiotensin receptor blockers (ARB) |
| CAPTOPRIL | Capoten® | Angiotensin-converting enzyme (ACE) inhibitors |
| CARVEDILOL | Coreg® | Beta-blocker/blood pressure |
| CHLORTHALIDONE | Hygroton® Thalitone® Chlorthalid® | Diuretic/water pill |
| CYCLOPHOSPHAMIDE | Cytoxan® | Immunosuppressant |
| CYCLOSPORIN | Neoral® | Immunosuppressant |
| DAPAGLIFLOZIN | Forxiga® | Slows diabetic kidney disease and certain types of glomerulonephritis |

**NOTES:**

# Medications

| GENERIC NAME | SOME COMMON BRAND NAMES | TYPE/CLASS OF MEDICATION |
|---|---|---|
| DILTIAZEM | Tiazac® Cardizem® | Calcium channel blocker/blood pressure |
| ENALAPRIL | Vasotec® | Angiotensin-converting enzyme (ACE) inhibitors |
| EMPAGLIFLOZIN | Jardiance® | Slows diabetic kidney disease and certain types of glomerulonephritis |
| EZETIMIBE | Ezetrol® | Cholesterol |
| FELODIPINE | Plendil® | Calcium channel blocker/blood pressure |
| FLUVASTATIN | Lescol® | Statin/cholesterol |
| FOSINOPRIL | Monopril® | Angiotensin-converting enzyme (ACE) inhibitors |
| FUROSEMIDE | Lasix® | Diuretic/water pill |
| HYDROCHLOROTHIAZIDE | Microzide® HydroDiuril® Oretic® | Diuretic/water pill |
| IBUPROFEN | Advil® | Analgesic/pain or fever **often not recommended for people with kidney disease or transplant. Check with your kidney healthcare team before taking these over-the-counter medications.* |
| INDAPAMIDE | Lozide® | Diuretic/water pill |
| IRBESARTAN | Avapro® | Angiotensin receptor blockers (ARB) |
| LABETALOL | Trandate® | Beta-blocker/blood pressure |
| LISINOPRIL | Prinivil® Zestril® | Angiotensin-converting enzyme (ACE) inhibitors |
| LOSARTAN | Cozaar® | Angiotensin receptor blockers (ARB) |
| LOVASTATIN | Mevacor® | Statin/cholesterol |
| METOLAZONE | Zaroxolyn® | Diuretic/water pill |
| METOPROLOL | Lopressor® | Beta-blocker/blood pressure |
| MYCOPHENOLATE | CellCept® Myfortic® | Immunosuppressant |
| NADOLOL | Corgard® | Beta-blocker/angiotensin receptor blocker |

**NOTES:**

# Medications

| GENERIC NAME | SOME COMMON BRAND NAMES | TYPE/CLASS OF MEDICATION |
|---|---|---|
| NAPROXEN | Aleve® | Analgesic/pain or fever<br>**often not recommended for people with kidney disease or transplant. Check with your kidney healthcare team before taking these over-the-counter medications.* |
| NIFEDIPINE | Adalat® | Calcium channel blocker/blood pressure |
| OLMESARTAN | Benicar® | Angiotensin receptor blocker |
| PATIROMER | Veltassa® | Potassium binder |
| PERINDOPRIL | Coversyl® | Angiotensin-converting enzyme (ACE) inhibitors |
| PINDOLOL | Visken® | Beta-blocker/blood pressure |
| PRAVASTATIN | Pravachol® | Statin/cholesterol |
| PROPRANOLOL | Inderal® | Beta-blocker/blood pressure |
| QUINAPRIL | Accupril® | Angiotensin-converting enzyme (ACE) inhibitors |
| RAMIPRIL | Altace® | Angiotensin-converting enzyme (ACE) inhibitors |
| RITUXIMAB | Rituxan® | Immunosuppressant |
| ROSUVASTATIN | Crestor® | Statin/cholesterol |
| SIMVASTATIN | Zocor® | Statin/cholesterol |
| SODIUM POLYSTYRENE SULFONATE | Kayexalate® Solystat® | Potassium binder |
| SODIUM ZIRCOMIUM CYCLOSILICATE | Lokelma® | Potassium binder |
| SOTALOL | Betapace® | Beta-blocker/blood pressure |
| SPIRONOLACTONE | Aldactone® | Diuretic/water pill |
| TACROLIMUS | Prograf® Envarsus® Advagraf® | Immunusuppressant |
| TELMISARTAN | Micardis® | Angiotensin receptor blockers (ARB) |
| TRANDOLAPRIL | Mavik® | Angiotensin-converting enzyme (ACE) inhibitors |

**NOTES:**

# Medications

| GENERIC NAME | SOME COMMON BRAND NAMES | TYPE/CLASS OF MEDICATION |
|---|---|---|
| TRIAMTERENE | Dyrenium® | Diuretic/water pill |
| VALSARTAN | Diovan® | Angiotensin receptor blockers (ARB) |
| VERAPAMIL | Isoptin SR® | Calcium channel blocker/blood pressure |

# Medications

**NOTES:**

# Medications

**NOTES:**

# Medications

**NOTES:**

# Feedback page

Your feedback is important.

We would like to know how helpful you found this handbook.

Any feedback we receive is confidential and will be used to help us continue improving this handbook and other Kidney Foundation resources.

You can fill out an online evaluation at kidney.ca/reducedkidneyfunctionhandbook/evaluation.

Or you can write us a note and mail it to:

**The Kidney Foundation of Canada**
**880-5160 Décarie Blvd., Montréal, QC H3X 2H9**

Thank you in advance for your comments.

# Contact information

## BRANCH OFFICES

**Atlantic Canada Branch (includes Nova Scotia, New Brunswick, Prince Edward Island, Newfoundland and Labrador)**
Tel: 506.453.0533
Toll Free: 1.877.453.0533
Fax: 506.454.3639
Email: kidneyatlantic@kidney.ca

**British Columbia and Yukon Branch**
Tel: 604.736.9775
Toll Free: 1.800.567.8112
Fax: 604.736.9703
Email: info.bcy@kidney.ca

**Manitoba Branch**
Tel: 204.989.0800
Toll Free: 1.800.729.7176
Fax: 204.989.0815
Email: info.mb@kidney.ca

**Northern Alberta and The Territories Branch (includes the Northwest Territories and Nunavut)**
Tel: 780.451.6900
Toll Free: 1.800.461.9063 within Alberta and the Territories
Fax: 780.451.7592
Email: info.nabt@kidney.ca

**Ontario Branch**
Tel: 905.278.3003
Toll Free: 1.800.387.4474
Fax: 905.271.4990
Email: ontario@kidney.ca

**Quebec Branch**
Tel: 514.938.4515
Toll Free: 1.800.565.4515 within Quebec
Fax: 514.938.4757
Email: infoquebec@kidney.ca

**Saskatchewan Branch**
Tel: 306.664.8588
Toll Free: 1.888.664.8588 within Saskatchewan
Fax: 306.653.4883
Email: info.sk@kidney.ca

**Southern Alberta Branch**
Tel: 403.255.6108
Toll Free: 1.800.268.1177
Fax: 403.255.9590
Email: info.sab@kidney.ca

**NATIONAL OFFICE**
Tel: 514.369.4806
Toll Free: 1.800.361.7494
Fax: 514.369.2472
Email: info@kidney.ca

Accurate at time of printing.
For updates see kidney.ca

kidney.ca

## Our Vision

Excellent kidney health, optimal quality of life for those affected by kidney disease, and a cure.

## Our Mission

The Kidney Foundation of Canada is the leading charity committed to eliminating the burden of kidney disease through:

- Funding and stimulating innovative research for better prevention, treatments and a cure;
- Providing education and support to prevent kidney disease in those at risk and empower those with kidney disease to optimize their health status;
- Advocating for improved access to high quality health care;
- Increasing public awareness and commitment to advancing kidney health and organ donation.

kidney FOUNDATION™