

Fact sheet

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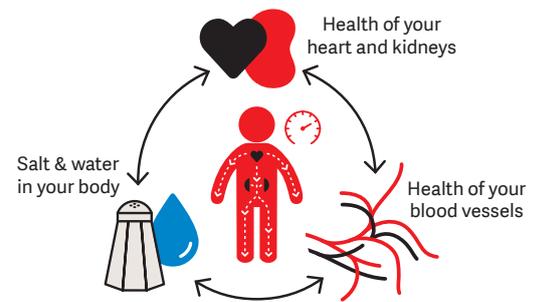
# Cardiovascular Disease and Chronic Kidney Disease

Cardiovascular disease includes all diseases and conditions of the heart and blood vessels, such as arteries and veins. The most common diseases and conditions include heart attack, heart failure, stroke, blockages in the blood vessels and vascular kidney disease.

People at every stage of chronic kidney disease are at increased risk of cardiovascular disease. People with kidney disease are up to 20 times more likely to die from a heart attack or stroke than they are to receive dialysis. Cardiovascular disease remains the leading cause of death for people on dialysis and for people who have a transplanted kidney.

## Risk factors for cardiovascular disease

- Age - your risk increases with age. Women are more at risk after menopause as their cholesterol levels increase
- Gender - men are at increased risk
- Family history of cardiovascular disease
- Race - people of Aboriginal and Torres Strait Islander origin are at higher risk
- Chronic health conditions (for example, kidney disease, high blood pressure, high cholesterol, obesity, diabetes).



The amount of salt and water in your body and the health of your blood vessels will also affect your blood pressure.

## Why does kidney disease increase your risk of disease?

If your kidneys aren't working properly, your blood pressure can rise. If high blood pressure is left untreated, it can cause the blood vessels to narrow. High blood pressure can also damage the small blood vessels that carry blood to the kidney filters. It can also damage the kidney filters themselves. Very high blood pressure can weaken and enlarge the heart muscle, and this can cause kidney failure.

Your kidneys control the acid level in your body plus the levels of minerals and salts such as potassium, chloride, bicarbonate, phosphate, sulphates, magnesium, sodium (salt), calcium and potassium. These minerals and salts are called electrolytes. Electrolytes are found in the food that you eat. Electrolytes are important as they keep you healthy, but too much or too little can make you sick. For instance, too much potassium may cause an abnormal heart rhythm and not enough magnesium can cause an irregular heartbeat.

The balance of calcium and phosphate levels in your blood is also changed by chronic kidney disease. This eventually causes calcium deposits to build up in your blood vessels and heart, also known as atherosclerosis. Poor control of calcium and phosphate levels increases the risk of cardiovascular disease over time.

Chronic kidney disease often also causes anaemia. This is a serious condition where there are not enough red blood cells in your blood to carry oxygen around your body. This can cause your heart to work harder to keep your oxygen levels high. If the heart works too hard, the heart muscle becomes larger and can lead to heart failure.

If your kidney damage is caused by diabetes, you are at a much higher risk of cardiovascular disease because diabetes also affects the heart and blood vessels. Good control of blood glucose and blood pressure levels is essential.

See the fact sheets *All about Chronic Kidney Disease*, *Anaemia*, *Blood Pressure and Chronic Kidney Disease* and *Calcium and Phosphate Balance* for more information.

## Medications to treat cardiovascular disease

Managing your medication is an important part of treatment for cardiovascular disease. Your doctor may prescribe a number of different medications to control your blood pressure and help regulate your body's chemistry.



These medications can include:

**Cholesterol or lipid (fat) lowering medications:** Various medications can lower cholesterol levels. One common drug is called a statin. Statins lower LDL ('bad') cholesterol and triglycerides levels, and increase the HDL ('good') cholesterol levels.

**Blood pressure medications:** Different types of blood pressure tablets work in different ways, so it is not unusual for more than one type to be prescribed. Angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARB) are often used to treat high blood pressure. Both of these medications also help to protect your kidney function. Other common blood pressure medications are beta-blockers and calcium-channel blockers. A diuretic (also called a water pill) is often prescribed as well. A diuretic can lower your blood pressure by helping to remove extra fluid and salt through your urine.

**Phosphate binders:** You may be prescribed a phosphate binder to take with your meals and snacks. It is given to lower the amount of phosphate absorbed from the food you eat. Phosphate binders are taken with food and act by trapping the phosphate in the gut before it has a chance to move into the blood.

**Bicarbonate supplement to treat acidosis:** This has been shown to be helpful in stabilising kidney function in the pre-dialysis stage of chronic kidney disease.

**Aspirin:** Low doses of aspirin may be given to improve blood circulation. These should be used with caution if you are on dialysis or living with a kidney transplant.

Medication should be taken exactly as directed by your health care team. Never change a dose or stop taking a medication without your doctor's approval. To prevent unwanted side effects, it is important to tell your doctor about all your medications including those sold over-the-counter at a chemist or supermarket, such as vitamins and herbal supplements.



## Lifestyle changes to treat cardiovascular disease

Healthy lifestyle choices can help to improve your overall health and lower your risk of cardiovascular disease. They can also reduce the amount of medication you need or make your medication work better.



Healthy lifestyle choices include:

- being a non-smoker
- eating a healthy diet with plenty of fruit and vegetables plus foods low in salt and saturated fat (unless otherwise directed by your doctor)
- maintaining a healthy weight
- doing things that help you to relax and reduce stress
- drinking alcohol only in moderation
- staying fit by doing at least 30 minutes of physical activity on most days of the week.

Regular physical activity or exercise can help lower your risk of cardiovascular disease by:

- lowering your 'bad' and increasing your 'good' cholesterol
- reducing your triglyceride levels
- improving fitness of heart and lungs
- helping to maintain a healthy weight
- helping to control blood pressure and blood sugar levels.

The key is to start slowly and gradually increase the time and intensity of your activities. Physical activity leads to increased strength, stamina and more energy. If you are only starting out, aim to do some physical activity for at least 30 minutes 3-4 times a week. The 30 minutes can be broken down into smaller blocks, for example 3 x 10 minutes, which can be increased as you become fitter.

It is important to stop exercising and tell your health care team if you get:

- chest pain or pressure
- dizziness or light-headedness
- irregular or fast heart rate that persists when the activity is completed
- excessive shortness of breath.

It is important to take control of your own health. Talk to your health care team to get practical advice about the best way to reduce your risk of cardiovascular disease.

For more information about kidney or urinary health, please contact our free call Kidney Health Information Service (KHIS) on 1800 454 363.

Or visit our website [kidney.org.au](http://kidney.org.au) to access free health literature.

This is intended as a general introduction to this topic and is not meant to substitute for your doctor's or health professional's advice. All care is taken to ensure that the information is relevant to the reader and applicable to each state in Australia. It should be noted that Kidney Health Australia recognises that each person's experience is individual and that variations do occur in treatment and management due to personal circumstances, the health professional and the state one lives in. Should you require further information always consult your doctor or health professional.



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