Understanding type 2 diabetes

Type 2 diabetes is the most common form of diabetes. It affects 85–90% of all people with diabetes.

What is type 2 diabetes?

Diabetes is a condition where there is too much glucose (sugar) in the bloodstream. Glucose is an important source of energy for your body. It comes from carbohydrate foods that you eat, such as bread, pasta, rice, cereals, fruits, starchy vegetables, milk and yoghurt. Your body breaks down carbohydrates into glucose, which then enters your bloodstream.

Insulin is made in your body by the pancreas. Insulin is needed to allow glucose from the bloodstream to enter the body cells and be used for energy.

Type 2 diabetes occurs when the body resists the effects of insulin and cannot make enough insulin to maintain blood glucose levels within the target range. This leads to high blood glucose levels.

Who is at risk of type 2 diabetes?

Type 2 diabetes usually occurs in adults, but younger people – and even children – are now developing this type of diabetes.

Risk factors for type 2 diabetes include:

- having a family history of type 2 diabetes
- having pre-diabetes
- being above the healthy weight range
- having an inactive lifestyle
- increasing age
- having an Aboriginal or Torres Strait Islander background
- being from a Melanesian, Polynesian, Chinese, Southeast Asian, Middle Eastern or Indian background
- having prior gestational diabetes
- having polycystic ovary syndrome
- taking some types of antipsychotic or steroid medications.

Can type 2 diabetes be prevented or cured?

People who are at risk of type 2 diabetes can delay and, in some cases, even prevent developing diabetes by adopting a healthy lifestyle. This includes regular physical activity, making healthy food choices, and being a healthy weight.

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There is no cure for type 2 diabetes, but if well managed you can continue to lead a healthy life. Recent research has shown that losing weight and keeping it off in some cases can slow the progression of type 2 diabetes.

What are the symptoms of type 2 diabetes?

The symptoms of type 2 diabetes can include:

- being thirsty and drinking more than usual
- going to the toilet (to pass urine) more often
- feeling tired and low on energy
- sores or cuts that won't heal
- blurred vision
- itching and skin infections
- pain or tingling in the legs or feet.

Often, people don't notice these symptoms, or they may appear slowly over time. Some people may not have any symptoms at all. In some cases, the first sign of diabetes may be a complication such as a foot ulcer, heart attack or vision problem.

How is type 2 diabetes managed?

Type 2 diabetes is managed with healthy eating and regular physical activity. Over time, you may also need glucose-lowering medications (tablets or injectable medications). As diabetes progresses, some people will need insulin injections to help keep their blood glucose levels in the target range.

Looking after your diabetes is important for good health and for preventing diabetes complications, such as damage to the eyes, kidneys, nerves and blood vessels.

How is type 2 diabetes diagnosed?

There are three ways of diagnosing type 2 diabetes:

- A blood glucose test (not just a finger prick test), which needs to be analysed by a pathology lab. This may be done as either a fasting test (after having nothing to eat or drink for at least eight hours) or a non-fasting test.
- An oral glucose tolerance test (OGTT), which is done at a pathology lab. You will have a fasting blood glucose test first, then you will be given a sugary drink and have your blood tested two hours after this.
- A HbA1c test, which reflects your average blood glucose level over the last 10 to 12 weeks. This is also a pathology test but fasting is not needed.

Who can help with your diabetes?

Managing diabetes is a team effort involving you, your family, friends and health professionals. There are many different health professionals who can help you, including:

- your general practitioner
- an endocrinologist (diabetes specialist)
- a credentialled diabetes educator or diabetes nurse practitioner
- an accredited practising dietitian
- an accredited exercise physiologist
- a registered podiatrist
- a counsellor, social worker or psychologist.

The NDSS and you

A wide range of services and support is available through the NDSS to help you manage your diabetes. This includes information on diabetes management through the NDSS Helpline and website. The products, services and education programs available can help you stay on top of your diabetes.

Adjusting to life with diabetes

A diagnosis of diabetes can come as a shock. First reactions may be disbelief, sadness, anger or self-blame. Usually, these feelings ease after a while and diabetes becomes part of life. However, sometimes these feelings don't go away easily. If you feel this way, you are not alone. There are many things you can do to fit diabetes into your life.

"It was really scary because I didn't know much about it, I just had this whole perception that, 'Oh, it's really bad, it's a life-long thing', and I remember asking myself, 'Why me?'."

Sandra, 27, person with diabetes

Life with diabetes

It is common for people to go through emotional 'ups and downs' after diabetes is diagnosed. People may experience disbelief, grief, guilt, anger, fear, and negative feelings. Others may have a sense of relief that they now have a reason for how they have been feeling, both physically and emotionally.

At first, you may feel down for having concerns about how it is going to change your life. That is natural. It takes time to learn how to manage diabetes and to adapt your lifestyle.

However, when these emotions start to affect your daily life or diabetes management, it can become a serious problem. For example, if you are:

- avoiding medical appointments because you are having trouble coping with the diagnosis
- checking glucose levels excessively or not checking them at all due to anxiety or worry
- blaming yourself (or others) for your diabetes or when things do not go well.

If you are having trouble adjusting to life with diabetes, talk to your health professional. They will assess the problem and help you work out strategies to live well with diabetes.

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What you can do

Whether or not you feel distressed about your diabetes diagnosis, it's important to look after your emotional well-being.

Adjustment is an ongoing process, so it's essential for you to take care of yourself through all stages of diabetes.

Some of the following strategies may work for you – others may not, and that's okay. They may give you ideas about other things you could try.

Be informed

Understanding the basics of diabetes is a first and necessary step to managing and living well with diabetes. Take your time and gather information at your own pace.

A good place to start is by talking to your health professionals or by calling the diabetes organisation in your state or territory. If you are unsure about who to contact, call the NDSS Helpline on **1800 637 700** and they can direct you.

Take care when searching the internet for medical advice. Make sure you consult reliable sources (e.g., professional organisations).

Ask questions

At first you may feel overwhelmed with all the information you receive and with learning new skills to manage your diabetes. Sometimes, writing a list of questions and concerns is useful to get a better understanding of diabetes.

» Bring this list along to your next diabetes appointment so you don't forget the questions or concerns you want to discuss with your health professional.

You may not remember everything that has been said during your previous consultation. If you are unsure, ask again next time. Your health professional will appreciate your questions, as it will help them to offer you the best support possible.

Learn from your peers

Experts are not the only health professionals; other people, like you, who have diabetes are also experts in living with diabetes. Often, the most practical support you can get is from people who understand what it is like to live with diabetes. It can be reassuring to know that others face similar challenges and to share ideas about how to cope with them.

Join a support group or an online community — read on to find out where you can access peer support.

Journal it

You might also like to note down your feelings in a journal. This can be a powerful way of understanding and dealing with some of your emotions.

You might surprise yourself with what you write down. This can be a private journal, or you may choose to share it with a friend or your health professional. It's completely up to you.

Include your family and friends

You don't have to go through this alone. Let your family and friends know how you feel if you are comfortable, so they can support you in your diabetes management. Communicate how much you want them to be involved and invite them to share their feelings too. You might like to say things like:

» " I'm still the same person I was before I was diagnosed with diabetes."

» "I know I don't look sick, but sometimes I may not feel great."

» "Diabetes is an invisible illness, which means you can't always see my symptoms, but they are very real."

Not all your family and friends will know how to respond to your emotions, and they may even be uncomfortable seeing you hurt. Don't let that stop you from opening up.

Some people are better at supporting in more practical ways. For example, you may find that they can help you to make healthy food choices, get more physically active, or be considerate about your need to check your glucose level or inject insulin.

Remember, it is completely up to you who you choose to involve in your diabetes management.

Make a plan

Developing a plan for your health care — including your emotional health — is essential. Start small and work your way up. You might like to include your family or friends in this process too. Here are some tips to help get you started:

- Make an appointment with your health professional to talk about your diabetes (e.g., to discuss any questions or concerns you have).
- Get information from the NDSS on various topics (e.g., medication, insulin, nutrition, events, support groups).
- Connect with other people living with diabetes.
- Talk to your school or employer about your current issues, if it seems helpful, then work with them to achieve the best results.
- Plan regular physical activity.
- Plan social activities – make sure you have fun! Diabetes is just one aspect of your life, so don't let it take over.
- Remember, don't let it take over your life.

Talk with a professional

The strategies above may give you some ideas about adjusting to life with diabetes, but they can't replace professional help. It's always a good idea to talk about your concerns with your diabetes health care team.

"I think it's taken a long time to realise what it means to have diabetes and what it means for me to live with it and cope with it effectively, and that will probably be a much longer term learning process for me."

Mark, 42, person with diabetes

Who can help?

Your diabetes health care team

Your diabetes health care team is there to help you with all aspects of your diabetes, including how you feel about it. Share your feelings with them if you feel comfortable to do so—they will give you non-judgmental support and advice. You may want to talk with your:

- general practitioner (GP)
- endocrinologist
- diabetes educator
- nurse practitioner
- dietitian
- counselor/psychologist.

Bring this leaflet to your appointment to help get the conversation started. You will probably be relieved after sharing your feelings, and it will help your health professional to understand.

Together, you can make plans to reduce your concerns. For example, your health professional can refer you to diabetes information sessions or peer support groups.

- You might like to attend a structured diabetes education session. Learning more about diabetes can help you live well with the condition.
- There may be group education sessions in your area.
- Ask your health professional or call the NDSS Helpline for more information.

A psychologist

You might also like to talk to a psychologist. They will help you find ways to adjust to life with diabetes.

Ask your health professional if they know a psychologist in your area who is familiar with diabetes. You can also find a psychologist near you by visiting the Australian Psychological Society website at **psychology.org.au/FaP**

Your GP can tell you if you are eligible for a Mental Health Treatment Plan to reduce the costs of seeing a psychologist.

More information and support

Diabetes Online Community (#DOC)

Some people with diabetes like to connect with other people with diabetes for online peer support via Twitter. Although the Australian DOC has stopped its weekly chats, many people with diabetes still communicate via Twitter using #DOC or #OzDOC.

Peer support

ndss.com.au
(search for 'Publications & Resources')

To find out what peer support is and how you can access it in your area, refer to the NDSS leaflet, Peer support for diabetes.

Diabetes Australia & NDSS

diabetesaustralia.com.au
ndss.com.au
NDSS Helpline **1800 637 700**

Through the NDSS, you can access a free national NDSS Helpline to obtain information about diabetes and learn about education programs, peer support groups, and other events.

The NDSS and you

A wide range of services and support is available through the NDSS to help you manage your diabetes. This includes information on diabetes management through the NDSS Helpline and website. The products, services and education programs available can help you stay on top of your diabetes.

Developed in collaboration with The Australian Centre for Behavioural Research in Diabetes, a partnership for better health between Diabetes Victoria and Deakin University.

Diabetes-related complications

Looking after your diabetes is important for long-term health. If your diabetes is well managed and you take care of your general health, you can reduce the risk of diabetes-related complications.

What are the most common complications of diabetes?

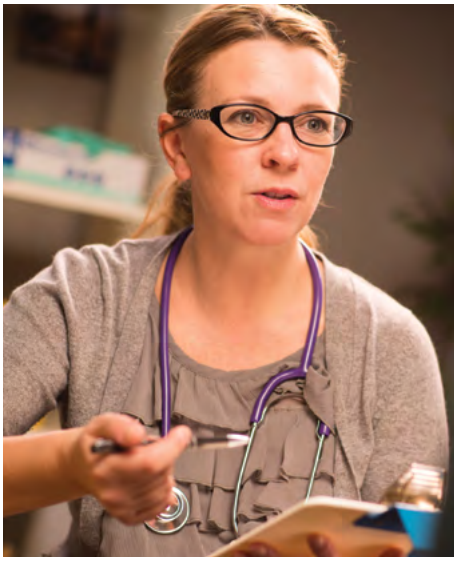
Diabetes-related complications can include damage to:

- the large blood vessels (macrovascular/ cardiovascular complications), leading to heart attack, stroke or circulation problems in the lower limbs
- the small blood vessels (microvascular complications), causing problems in the eyes, kidneys, feet and nerves
- other parts of the body, including the skin, teeth and gums.

Large blood vessels

The main cause of large blood vessel damage in people with diabetes is atherosclerosis. Atherosclerosis occurs when plaque – made up of cholesterol and other fats – builds up inside the walls of blood vessels. This causes a narrowing of the vessels, reducing the blood flow to organs and other parts of the body.

If the plaque ruptures, this can form a blood clot that can totally block the blood supply to organs and other parts of the body. This can affect the blood vessels that supply blood to the heart, brain and lower limbs.



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Heart

- Reduced blood flow increases the risk of having a heart attack.
- Heart attacks occurs when a blood vessel in the heart becomes blocked, and the heart muscle becomes damaged.
- Symptoms of a heart attack can include severe central chest pain or a crushing sensation – which may move up the neck or down the left arm or difficulty in breathing.
- Some people with diabetes may not have any symptoms of a heart attack due to nerve damage.

Brain

- Reduced blood flow increases the risk of having a stroke.
- A stroke can occur when the blood supply to one of the blood vessels leading to a part of the brain is suddenly blocked.
- Symptoms of a stroke can include weakness or numbness down one side of the body, droopiness on one side of the face, or difficulty talking.

Lower limbs

- Reduced blood flow to the lower limbs can affect your legs and feet. This is called peripheral vascular disease.
- This can cause pain, cold and discoloured lower legs and feet, slow healing wounds, shiny skin on the legs, and pain in the buttocks, thighs or calves when walking.
- The long-term lack of blood flow to the lower limbs can lead to ulceration and infection, which in turn can increase the risk of amputation.

The risk of damage to the large blood vessels is higher if you:

- have blood glucose levels above your target range
- have high blood pressure
- have high levels of blood fats (cholesterol or triglycerides)
- are above the healthy weight range or carry extra weight around your waist
- are a smoker
- have a family history of heart disease.

Your doctor can check your risk for large blood vessel damage during your annual diabetes check-up (also known as your annual cycle of care).

Small blood vessels

Long periods of high blood glucose levels can cause damage to the small blood vessels in the eyes, kidneys and nerves.

Eyes

- Over time, the small blood vessels in the retina can become damaged and leak fluid or bleed. This is called retinopathy.
- Other eye conditions – such as cataracts and glaucoma – are more common in people with diabetes.

- Eye conditions can be managed more successfully if they are found and treated early.
- Have your eyes checked by an optometrist or ophthalmologist (eye specialist) at least every two years to look for early signs of damage.
- Early detection and treatment of eye problems provides the best outcomes.

Kidneys

- High blood pressure and high blood glucose levels can damage the small blood vessels in the kidneys. As a result, the tiny blood vessels that filter the blood become leaky, and the kidneys don't work as well as they should. This is called diabetic nephropathy or diabetic kidney disease.
- Have your kidneys checked at least once every 12 months by your doctor. This will involve a urine test and a blood test as part of your annual diabetes check-up (also known as your annual cycle of care).
- Early detection and treatment of kidney problems provides the best outcomes.

Nerves

- Nerve damage can be caused by high blood glucose levels, drinking large amounts of alcohol, and other disorders.
- Damage can occur to the nerves in the legs, arms and hands. This is called peripheral neuropathy. Damage to nerves can cause pain, tingling or numbness.
- There can also be damage to the nerves affecting your stomach (gastroparesis), intestines (diarrhoea or constipation), bladder, or genitals (erectile dysfunction in men). This is called autonomic neuropathy.

Other parts of the body

Teeth and gums

- There is a higher risk of dental problems when blood glucose levels are above the target range for a long period of time. If you smoke, this also increases the risk.
- Dental problems can include tooth decay, gum infections (gingivitis) and gum disease.
- Tooth and gum infections can increase your risk of heart disease.
- Signs of dental problems include a dry mouth and sore, swollen or bleeding gums.
- It's important to brush your teeth twice a day and floss every day to prevent dental problems. Regular visits to your dentist will also help maintain oral health. Tell your dentist that you have diabetes.

Skin

- There is a higher risk of skin problems when blood glucose levels are above the target range.
- Skin problems can include very dry skin, caused by damage to the small blood vessels and nerves. There is also a higher risk of skin infections.
- You can protect your skin by avoiding irritants such as hot baths and showers, scented soap and household cleaning products.
- To avoid dry skin, use moisturisers every day but not between your toes.
- Treat any cuts on your skin promptly to prevent infection.
- See your doctor if you have any skin problems.

Tips to maintain good health

There are several things you can do (with the help of your diabetes team) to reduce your risk of complications and stay well with diabetes.

- Talk to your doctor about whether you need to monitor your blood glucose levels at home. If you do check your blood glucose levels, aim to keep them in your recommended target range. Your doctor or diabetes educator can provide advice about your individual blood glucose targets.
- Keep blood pressure as close to the target range as possible. The target range is 130/80 or less. If you have existing heart (cardiovascular) or kidney disease your doctor will advise you on a blood pressure target to meet your individual health needs. Ask to have your blood pressure checked every time you visit your doctor.
- Keep your blood cholesterol and triglycerides in the recommended target range for people with diabetes. Your doctor may prescribe medications that can help manage your cholesterol and other risk factors for cardiovascular disease.
- Make healthy food choices from a wide variety of foods, such as wholegrains, fruit, vegetables, lean meats, fish and low-fat dairy foods. It's also important to limit foods high in saturated fat and salt (sodium). A dietitian can help you make the best food choices.
- Do regular physical activity, as this is a great way to reduce your blood pressure and your blood glucose levels. Aim for 30 minutes most days of the week. Talk to your doctor before starting any new exercise or activity program.
- If your weight is above the healthy weight range, losing even a small amount of weight will help reduce your blood pressure, blood glucose and cholesterol levels.
- Don't smoke. If you do smoke, try and quit. If you feel you can't give up smoking on your own, ask for help – talk to your doctor or call the Quitline on **13 78 48**.

Aim to have regular appointments with your doctor and diabetes health care team and complete all of your annual cycle of care health checks. These checks are important for assessing your health and risk of diabetes-related complications.

Your diabetes health care team can help you reduce your risk of diabetes-related complications.

The NDSS and you

A wide range of services and support is available through the NDSS to help you manage your diabetes. This includes information on diabetes management through the NDSS Helpline and website. The products, services and education programs available can help you stay on top of your diabetes.

Living with type 2 diabetes – what to do when you are sick

Like everyone, people with diabetes can get sick with the flu, a cold or other common infections or illnesses.

When you have type 2 diabetes, everyday illnesses or infection can affect your blood glucose levels. It's important to be prepared and to know what to do if you get sick. This includes having a personalised sick day action plan and sick day management kit ready to use at the earliest sign of illness. You should discuss your sick day action plan and kit with your General Practitioner (GP), Credentialled Diabetes Educator (CDE) and diabetes team.

What is a "sick day"?

A sick day is when you have an illness or infection to manage as well as your diabetes – such as a common cold, influenza, gastro or a respiratory infection. You may need to make changes to your usual diabetes management plan to help prevent your blood glucose levels from going too high or too low. These changes are usually only needed until you are well again.

Why it's important to manage sick days

Being unwell (e.g. with an infection) can make it more difficult to manage your diabetes. This is because your body releases stress hormones when you are sick. These hormones make your liver increase the amount of glucose in your bloodstream, and they can also make it difficult for insulin to do its job. This can cause your blood glucose levels to rise.

If you are sick and have high blood glucose levels, you may be at risk of severe dehydration. This can result in you feeling drowsy and confused, and needing urgent medical attention.

What to do when you are sick

Follow your sick day action plan

Start following your plan if you feel unwell or have any signs of sickness or an infection. If your blood glucose levels are higher than 15mmol/L for 8-12 hours or more, start following your sick day action plan even if you feel ok.

Let a friend or family member know that you are unwell. Tell them about your sick day action plan in case you need any help.

Check your blood glucose levels more often

When you are sick, check your blood glucose levels every two to four hours until levels are back in the target range recommended by your GP or CDE or other health professional.

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Keep taking your diabetes medications or insulin dose(s)

If you have vomiting or diarrhoea, most diabetes medications can continue, with some exceptions. If vomiting and diarrhoea is significant (multiple episodes, or lasting more than a few hours), consult your GP or other health care professional.

There are two types of oral medicine that you may need to stop taking – these are Metformin and SGLT-2 inhibitors. So ask your doctor or pharmacist about these if you have significant vomiting or diarrhoea.

If you are taking insulin, expect to increase your dose(s)

If you are taking insulin, you may need extra insulin when you are unwell, even when you are not eating much, and even with vomiting or diarrhoea. You should monitor your blood blood glucose levels regularly and this will help indicate if you need extra insulin. If you do, it will be an additional dose of short-acting insulin.*

Refer to your sick day action plan or talk to your GP or diabetes health professional for advice on making changes to your insulin dose or type of insulin when you are sick.

If your blood glucose levels are above 15mmol/L for 8 – 12 hours or more, check your blood glucose levels every two hours.

Ask for help

Seek medical help to treat the illness or infection. Contact your doctor early to avoid becoming more unwell and needing emergency care. You may need to contact your CDE or other diabetes health professional for advice about adjusting your insulin dose or medications during periods of illness, especially if your glucose levels stay above 15mmol/L or below 4mmol/L.

If possible, have a friend or relative either stay with you or check on you frequently. Seek urgent medical attention if you have symptoms such as shortness of breath, chest pain or a foot infection.

Keep drinking and (if possible) eating

It's very important to keep up your fluid and carbohydrate intake when you are feeling unwell, to avoid dehydration and low blood glucose levels (hypoglycaemia, or hypo).

- Try to eat normally. If you can't, have some easy-to-manage carbohydrate drinks, snacks or small meals, such as dry toast, plain rice, dry biscuits or crackers, mashed potato, plain ice cream or custard.
- Try to have a cup of fluid (250 mL) every hour.
- If your blood glucose levels are 15mmol/L or lower and you can't eat, drink one cup of fluids containing carbohydrate every hour. These include regular cordial or soft drink, juice, sports drinks, weak tea with sugar/ honey, jelly or sweet ice blocks.
- If your blood glucose levels are higher than 15mmol/L, drink one cup of fluids that does not contain carbohydrate every hour, such as water, diet cordial or diet soft drink, weak tea with no sugar/ honey, diet jelly or broth.
- If you are vomiting or have diarrhoea, oral rehydration fluids such as Gastrolyte® or Hydralyte® can help replace fluid and electrolytes.

Your diabetes health professionals can help you manage your illness until you are well again.

*Occasionally blood glucose levels may be low during illness. In this case, a reduction in insulin doses may be needed.

Seek medical attention IMMEDIATELY if you:

- are drowsy or confused
- have deep rapid breathing or shortness of breath
- chest pain
- foot infection
- can't keep food or fluids down and are experiencing persistent vomiting, diarrhoea and/or stomach pain
- are showing signs of dehydration (such as extreme thirst, weakness, confusion, lack of urination)
- have blood glucose levels that continue to rise even though you have been following your sick day management plan
- have difficulty keeping your blood glucose levels above 4mmol/L
- are not well enough to follow your sick day action plan or you don't have anyone to help you.

Sick day checklist

- Follow your sick day action plan and use your sick day kit.
- Let someone know you are unwell.
- If you use insulin, check your blood glucose levels more often.
- Keep taking your diabetes medications or insulin dose(s).
- If you are taking insulin, expect to increase your dose(s).
- Ask for help – see your doctor or contact your CDE/diabetes educator.
- Drink plenty of fluids and keep eating (if possible).
- Seek urgent medical care if needed.

Tips to stay healthy

- Get immunised for flu and pneumonia.
- Take care with personal hygiene to avoid the spread of germs.
- Keep your blood glucose levels within your target range to help reduce the risk of illness and infections.

Sick day kit

The following items should be included in your kit:

- a copy of your sick day action plan
- a blood glucose meter
- in-date blood glucose testing strips
- your blood glucose diary
- a thermometer
- pain relief medication
- food and drinks for sick days
- hypo treatment
- if you use insulin – in-date rapid-acting or short-acting insulin
- insulin syringes or insulin pen (if you use insulin)
- telephone numbers for medical and support people.
- a list of relevant medical information, for example Medicare number, NDSS number, medical insurance information.

Check your kit every six months to make sure it is still date and restock your kit if you have used it.

More information

For a sample sick day action plan and management kit, refer to the Australian Diabetes Education Association's Sick day management of adults with type 2 diabetes consumer resource.

These guidelines are available online at **adea.com.au**

Well managed blood glucose levels can help reduce the risk of illness and infection.

The NDSS and you

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Your diabetes annual cycle of care

The diabetes annual cycle of care is a checklist for reviewing your diabetes management and general health. Your general practitioner (GP) will do this review to help you and your diabetes health care team manage your diabetes, and to reduce your risk of diabetes-related complications.

It's important to do an annual cycle of care to identify any health concerns early and discuss the best treatment with your doctor and diabetes health professionals. Without regular checks, diabetes can lead to complications that can affect your whole body, including your kidneys, eyes, feet, nerves and heart.

The annual cycle of care includes the following health checks:

HbA1c

This blood test reflects your average blood glucose level over the last 10-12 weeks. This should be done at least every 6-12 months, or more often if required. The general recommendation is to aim for a reading of 53mmol/mol (7%) or less. HbA1c targets can be different for different groups so it's important to discuss your individual HbA1c target with your doctor or credentialled diabetes educator (CDE).

Blood pressure

Your GP or practice nurse should be checking your blood pressure at every visit or at least every six months. As a general guide, the target for people with diabetes is 130/80 or less. If you have existing cardiovascular or kidney disease, your doctor will advise you on a blood pressure target to meet your individual health needs. Research has shown that keeping blood pressure on target decreases the risk of stroke, heart, kidney and eye disease, and nerve damage.

Foot assessment

Your GP, CDE, practice nurse or podiatrist should conduct a foot assessment to check the blood supply and sensation in both of your feet. If your feet have been assessed as low risk, you should have a foot assessment every year. If your feet

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have been assessed as intermediate or high risk, you should have a foot assessment at least every 3-6 months. Daily foot care is essential. Get to know your feet and check them every day. If you can't reach your feet, you can use a mirror or have someone look at them for you.

For more information about how to look after your feet, talk to your GP, podiatrist or diabetes health professional. You can also ask your GP if you are eligible for a management plan to see a podiatrist under Medicare.

Eye examination

Damage to the small vessels in the back of your eyes can occur even without your knowledge. That's why it's essential to have your eyes checked regularly by an optometrist or eye specialist (ophthalmologist) for diabetes-related damage. This is recommended every two years or more often, as directed by your health care team.

If you do notice any changes in your vision, it's important to contact your GP or eye specialist as soon as possible.

Kidney health

If your blood pressure and blood glucose levels remain high over time, this can increase the risk of damage to your kidneys. Every 12 months your GP or endocrinologist will arrange a urine test to check for protein in your urine (albuminuria).

A blood test to assess your kidney function is also recommended.

Blood fats (cholesterol and triglycerides)

Healthy cholesterol and triglyceride levels will reduce your risk of diabetes-related complications.

Your doctor will check your blood fats. As a guide, aim for:

- Total cholesterol of less than 4mmol/L
- LDL (bad) cholesterol of less than 2mmol/L
- HDL (good) cholesterol of 1mmol/L or higher
- Triglycerides of less than 2mmol/L.

Weight, waist and body mass index

If you are carrying extra weight, losing even a small amount of weight (5-10%) will help reduce your blood pressure, blood glucose levels and cholesterol.

One way to assess your weight is by using the Body Mass Index (BMI). This measures whether or not you are in the healthy weight range. It's calculated by dividing your weight in kilograms (kg) by your height in metres squared (m^2). You can also use online calculators to know your BMI. A BMI between 18.5 and 24.9 is within the healthy weight range.

Your waist measurement is also an important indicator of your health risks. The recommended waist measurement is less than 94cm for men and less than 80cm for women.

These targets are for people from European backgrounds. Different target ranges may be used if you are from Asian or Pacific Islander backgrounds. Speak to your doctor or diabetes health professional about the BMI and waist targets that are right for you.

Healthy eating

Following a healthy eating plan will help you achieve the best possible blood glucose and cholesterol levels, and help you manage your weight. You can also ask your GP if you are eligible for a management plan to see a dietitian under Medicare.

Physical activity

Be physically active. For good health, aim to do at least 30 minutes of moderate physical activity (such as brisk walking, swimming or cycling) on most, if not all, days of the week. You can also incorporate light exercise into your daily routine. For example, choose to climb the stairs instead of using the lift or hang washing outside instead of using the dryer. The best activity is one that you enjoy and gets you moving. It's also important to limit the amount of time you spend sitting and being sedentary.

Before starting any new exercise or activity program, check with your doctor to make sure it's suitable for you. If you are on insulin or other glucose-lowering medications, you may need to take special precautions when exercising to prevent your blood glucose level from dropping too low (thereby increasing the risk of hypoglycaemia or 'hypo'). Make sure you discuss this with your GP, endocrinologist or CDE. Your level of physical activity will be reviewed as part of your annual cycle of care. An exercise physiologist can develop a program that is right for you. Ask your GP if you are eligible for a management plan to see an exercise physiologist under Medicare.

Medication review

A review of your medications helps ensure that the combination of all your current medications is safe and that the doses are right for you. You may be eligible for a free Home Medication Review. This would involve the pharmacy of your choice conducting a thorough review of all your medications in your own home. Ask your GP for more information.

Diabetes management

Your diabetes health care team will review your overall diabetes management and provide advice on how to keep your diabetes on track.

Smoking

If you are a smoker, quitting can help reduce your risk of diabetes-related complications and improve your overall health. Some people find it hard to quit, so if you feel you cannot give up smoking on your own, ask for help – talk to your GP or call the Quitline on **137848.**

Emotional health

Your emotional health is also important. If living with diabetes is making you feel anxious or distressed, discuss how you're feeling with your family, friends and diabetes health professionals. They can help you access the support you need.

GP management plan

By providing an organised, written approach to your care, a GP management plan can help you manage your diabetes well. These plans allow you to receive a Medicare rebate when seeing health professionals, such as CDEs, dietitians, podiatrists and exercise physiologists. For more information about GP management plans, talk to your GP, CDE or practice nurse.

Your annual cycle of care checklist

Check	When	Target
HbA1c	At least every 6-12 months	53mmol/mol (7%) or less
Blood pressure	At least every six months	130/80 or less
Foot assessment	Low risk feet: At least every year High risk feet: At least every 3-6 months	Foot health maintained
Eye examination	At least every two years	Eye health maintained
Kidney health	At least every year	Urine albumin levels in target range Kidney function test in target range
Blood fats	At least every year	Total cholesterol less than 4mmol/L LDL less than 2mmol/L HDL 1mmol/L or above Triglycerides less than 2mmol/L
Weight	At least every six months	BMI 18.5-24.9
Waist circumference*	At least every six months	Less than 94cm (men) Less than 80cm (women)
Healthy eating review	At least every year	Following a healthy eating plan
Physical activity review	At least every year	At least 30 minutes of moderate physical activity, five or more days a week and minimise time spent sitting
Medication review	At least every year	Safe use of medications
Smoking	At least every year	No smoking
Diabetes management	At least every year	Self-management of diabetes maintained
Emotional health	As needed	Emotional health and well-being maintained

Note: The targets listed are for adults with diabetes. Different targets apply to children and adolescents.
*BMI and waist circumference targets may not apply to non-European ethnic groups.

The NDSS and you

A wide range of services and support is available through the NDSS to help you manage your diabetes. This includes information on diabetes management through the NDSS Helpline and website. The products, services and education programs available can help you stay on top of your diabetes.

Blood glucose monitoring

Regularly checking your blood glucose levels (also called self-monitoring) can help you manage your diabetes. Your diabetes health professionals can help you with information and advice about blood glucose monitoring.

Regular monitoring can help you see the effects of food, exercise, medication and illness on your blood glucose levels. It can also help you identify any patterns or changes that you should discuss with your doctor or diabetes health professionals.

Why monitor?

Monitoring your blood glucose levels helps you to:

- know immediately if your levels are in the target range
- gauge whether your diabetes medication is helping you to achieve target levels
- better understand how physical activity, food, stress, travel and illness influence your blood glucose levels
- look for any patterns at different times of the day to help you identify when you have high or low blood glucose levels
- identify and treat low blood glucose levels (hypoglycaemia or hypo) quickly if you are using insulin or other types of blood glucose-lowering medications
- feel more confident about managing your diabetes
- know when you need to seek support from your doctor or diabetes health professionals to adjust your medications or insulin, or for advice on meal planning or physical activity.

Your diabetes health professionals, especially your credentialled diabetes educator, can:

- help you choose a blood glucose meter that best suits you
- give you information about how to check your blood glucose levels
- work with you to decide how often and at what times you should check your levels
- help you learn how to interpret your readings.

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How to monitor

To check your blood glucose levels, you need a blood glucose meter, a finger pricking device with lancets and blood glucose testing strips. There are a wide variety of blood glucose meters available. Your doctor or credentialled diabetes educator can help you choose one that suits your needs and show you how to use it.

The National Diabetes Services Scheme (NDSS) is an initiative of the Australian Government administered by Diabetes Australia. Through the NDSS, you can access subsidised products to help you manage your diabetes, including blood glucose testing strips.

You can also monitor your glucose levels using a continuous glucose monitoring (CGM) or flash glucose monitoring (Flash GM) device. To find out more about how to access subsidised blood glucose monitoring strips and CGM and Flash GM products, visit **ndss.com.au** or call the NDSS Helpline on **1800 637 700**.

Registration with the NDSS is free and open to everyone in Australia with a Medicare card, diagnosed with diabetes.

Targets

Your diabetes health professional will recommend a blood glucose range that is suitable for you. They will consider your age, how long you have lived with diabetes, the diabetes medication you take, and any other relevant health conditions you may have.

The following ranges for blood glucose targets are a guide only. Talk to your diabetes health professionals about your individual targets.

Blood glucose targets

	Fasting/ before meals	Two hours after starting meals
Type 1 diabetes	4–8mmol/L	<10mmol/L
Type 2 diabetes	6–8mmol/L	6–10mmol/L

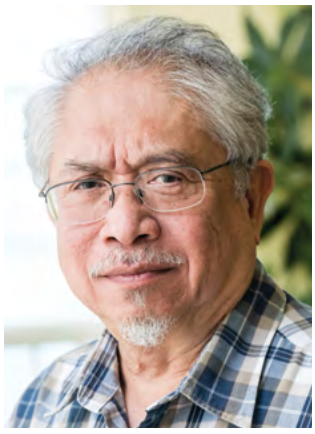
When to check

Your doctor or diabetes health professional will help you decide when and how often to check your blood glucose levels, as well as the target range to aim for. Ask for help to develop a monitoring routine that suits your lifestyle. Common times for people to check blood glucose levels include:

- before breakfast (fasting)
- before lunch or dinner
- two hours after a meal
- before bed
- before driving or exercise.

You may be advised to check your blood glucose levels more often if you are:

- feeling sick or stressed
- being more (or less) physically active
- experiencing more hypos than usual
- experiencing changes in your routine, such as travelling or starting a new job
- changing or adjusting your diabetes medication or insulin
- changing your eating pattern
- experiencing night sweats or morning headaches
- noticing frequent instances of high blood glucose levels above the target range
- pregnant
- preparing for, or recovering from, surgery
- starting on new medications, for example steroids.



What causes blood glucose levels to go up or down?

There are many reasons why your blood glucose levels may go up or down during the day. The most common causes include:

- food (the time, type and amount of carbohydrate eaten)
- the amount of exercise or physical activity
- diabetes medication
- emotional stress/excitement
- hormonal changes
- blood glucose monitoring techniques
- illness and pain
- alcohol
- medications, such as steroids.

Who is at risk of low blood glucose?

- Insulin and some diabetes medications increase your risk of hypoglycaemia (hypo).
- Hypos occur when the blood glucose level has dropped too low, below 4mmol/L.
- Hypo symptoms can sometimes occur with higher blood glucose levels, especially in children, older people and those who have had blood glucose levels above the target range for a long time.

Are high blood glucose levels dangerous?

- Sometimes, your blood glucose levels may be high and you may not understand why.
- If you have type 1 diabetes and your blood glucose levels are high, or if you are sick, it's important to check for ketones in your blood or urine. If you have ketones or are unwell, it's important to seek medical attention.
- Long-term diabetes-related complications can occur if blood glucose levels are above the target range over a long period of time. If your blood glucose levels are high on a regular basis, ask your doctor or diabetes health professionals for advice.

If your reading doesn't seem right

Sometimes, you may be surprised by the reading when you check your blood glucose level. If it doesn't seem right to you, there are a couple of things you can check.

- Did you wash your hands and dry them well before you did the check?
- Have the strips expired?
- Is the strip the correct one for the meter?
- Was there enough blood on the strip?
- Did you put the strip into the meter correctly?
- Have the strips been affected by climate, heat or light?
- Is the meter clean?
- Is the meter too hot or cold?
- Is the battery low?

What is the HbA1c test?

The abbreviation 'HbA1c' stands for glycosylated haemoglobin. It's a blood test that reflects your average blood glucose level over the last 10–12 weeks.

It's recommended that you have this test done at least every 12 months, although you may be advised to have it done more often (every three to six months). The results of an HbA1c can help give you an overall picture of your blood glucose management.

The target HbA1c for most people is 53mmol/mol (7%) or less. Your doctor will advise you of the HbA1c target that is best for you.

Remember: Monitoring blood glucose levels helps you manage your diabetes.

At times, the readings may not be what you expect, but it's important to remember that these readings are not a test of how well you are managing your diabetes.

Knowing – and understanding – your blood glucose levels can help you and your health professionals fine tune your diabetes management.

Your doctor or diabetes health professional will recommend a blood glucose target range that is suitable for you.

The NDSS and you

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The glycemic index

Choosing the right amount and type of carbohydrate foods helps manage your blood glucose levels. The glycemic index is one tool that helps you choose which carbohydrate foods to eat.

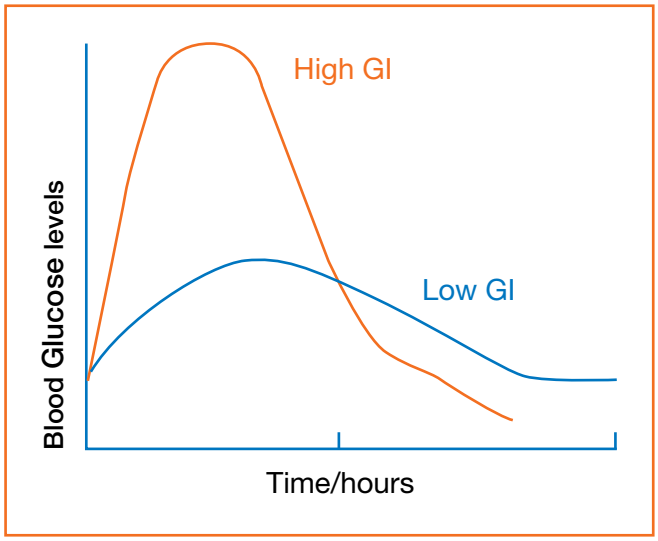
Carbohydrate foods are the main source of energy for your body. Foods high in carbohydrate include bread, pasta, rice, grains, cereals, fruits, starchy vegetables, legumes, milk and yoghurt. Your body breaks down carbohydrate from these foods into glucose, which then enters your bloodstream.

What is the glycemic index?

The glycemic index (GI) ranks how quickly or slowly carbohydrate foods affect blood glucose levels.

High-GI carbohydrate foods break down into glucose quickly, which means a higher and faster rise in blood glucose levels after eating.

Low-GI carbohydrate foods break down into glucose over a longer period of time. Compared with high-GI foods, they result in a smaller and slower rise in blood glucose levels after eating.



Acknowledgement **glycemicindex.com**

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What are the benefits of a low-GI eating plan?

Research has shown that people with diabetes can improve their blood glucose levels after meals and lower average blood glucose levels (HbA1c) by including lower GI carbohydrate foods as part of a healthy eating plan.

Low-GI diets have also been shown to:

- help with weight management
- improve blood cholesterol levels.

These factors are also important for managing diabetes and reducing the risk of long-term diabetes-related complications.

Are all low-GI foods healthy?

Some foods with a low GI, such as potato chips, chocolate and ice cream, are not healthy everyday food choices.

When choosing low-GI foods, it is essential to also consider the overall nutritional value of the food, including the number of kilojoules, saturated fat, salt (sodium) and fibre.

It's important to remember that the GI is just one tool to help you manage your diabetes. You also need to consider the total amount of carbohydrate in the foods you eat throughout the day.

Examples of lower GI foods

Breads	Low-GI varieties include dense grainy/seeded breads, pumpernickel, authentic sourdough and white corn tortillas. Look for breads with the GI symbol.
Breakfast cereals	Low-GI varieties include traditional rolled oats or steel-cut oats, wheat, rice or oat bran and natural muesli. Look for cereals with the GI symbol.
Grains	Grains include pasta (most types), fresh rice noodles, soba noodles, mung bean (bean thread noodles), Basmati rice, Doongara™ rice, quinoa, barley, bulgur (cracked wheat), buckwheat, pearl (Israeli) couscous and freekeh.
Legumes	Other than broad beans, all dried and canned legumes have a low GI. Examples include baked beans, kidney beans, soy beans, mixed beans, cannellini beans, haricot beans, butter beans, brown/green/red lentils, split peas, black eyed peas and chickpeas.
Starchy vegetables	Relatively low-GI vegetables include taro, parsnips, sweet corn and orange sweet potatoes.
Dairy foods	Milk, soy milk, yoghurt and custard naturally have a low GI. Look for low-fat, unsweetened varieties.
Biscuits and crackers	Lower GI varieties include grainy/seeded crackers and biscuits with oats and dried fruit. Look for varieties with the GI symbol.
Fruit	Most fruits have a low GI, including apples, bananas, pears, oranges, peaches apricots, plums, mangoes, nectarines, grapes, kiwifruit and prunes.

Tips for eating low GI

- Try to include a nutritious low-GI food at each meal.
- Replace high-GI carbohydrate foods for lower GI options (so long as they're still a nutritious option). A dietitian can help you with this.
- Replace some of the high-GI foods in a meal with a low-GI option to lower the overall GI of the meal.
- Look for products with the GI symbol logo. This indicates that the food has been tested at an accredited laboratory and meets strict nutrient criteria that are in line with the Dietary Guidelines for Australians. However, not all foods with a low GI will have the GI symbol logo.

More information

For more information about the glycemic index, visit **glycemicindex.com** and **gisymbol.com**.

To find an accredited practising dietitian, contact the Dietitians Association of Australia on **1800 812 942** or visit **daa.asn.au**.

The glycemic index is one tool to help you choose which carbohydrate foods to eat.

The NDSS and you

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Alcohol

Most people can enjoy a small amount of alcohol. However, drinking too much alcohol can be harmful to your health. When you have diabetes, there are some extra things to consider when you drink alcohol.

Alcohol can have many different effects on your body, including:

Weight gain – alcohol has very little nutritional value and is high in kilojoules/ calories. If you drink alcohol in large amounts, or on a regular basis, it can lead to weight gain.

Making it difficult to manage your diabetes – drinking alcohol can cause both high and low blood glucose levels. Alcohol may also affect your judgement when looking after your diabetes.

Damage to the body – drinking large amounts of alcohol can be extremely dangerous. It can affect many different parts of your body, including your brain, nerves, liver and pancreas. Too much alcohol can also increase your risk of developing heart disease and some cancers.

Risk of complications – too much alcohol can increase the risk of developing complications related to diabetes. This is because alcohol can contribute to weight gain, increase triglycerides (blood fats) and raise blood pressure.

Alcohol and hypoglycaemia

If you are taking insulin or certain diabetes tablets, you are at risk of alcohol-related hypoglycaemia (hypos). A hypo is when blood glucose levels drop below 4mmol/L. Hypos can occur while drinking alcohol – or many hours afterwards – and can be dangerous.

Normally, the liver releases stored glucose if your blood glucose level drops too low. However, when you drink alcohol, the liver always processes the alcohol first, instead of releasing stored glucose. This can increase the risk of a hypo. Alcohol can also make it harder to recognise the symptoms of, and to treat, a hypo.

When drinking, it's important that your friends and family understand the signs of a hypo and what the symptoms are.

Ask your doctor or diabetes health professional whether you might be at increased risk of alcohol-related hypos.

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Tips to reduce your risk of hypos

- Talk to your diabetes health care team about whether you might be at risk of alcohol related hypos and if so, how to reduce your risk.
- Avoid drinking large amounts of alcohol. Don't drink alcohol on an empty stomach. Make sure you have a meal containing carbohydrate foods (such as rice, potato, pasta or bread) before drinking alcohol, or snacks that contain carbohydrate* while drinking.
- Talk to your health care team about whether you should check your blood glucose levels when you drink alcohol. They may recommend checking your blood glucose levels more often (this might include checking before bed and again overnight, if possible).
- Always carry some hypo treatment, such as jelly beans or glucose tablets.
- When drinking alcohol, make sure you have someone with you who knows you have diabetes and who understands how to treat a hypo if needed.
- Always wear some form of diabetes identification. Otherwise, people may mistake your hypo symptoms for the effects of excessive alcohol, and you may not get the help you need.
- Never stop taking your insulin to avoid having a hypo while drinking. Ask your diabetes health care team for information on drinking safely when taking insulin.
- Eat a snack containing carbohydrate before you go to bed.
- Ask someone to wake you up in the morning to check that you are ok. If you monitor your blood glucose levels, check them when you get up and then eat breakfast as soon as you can.
- Avoid alcohol after vigorous exercise. Sometimes you may drink alcohol while dancing.
- Discuss this with your diabetes health care team.

How much alcohol is safe?

Current guidelines for alcohol recommend no more than two standard drinks per day for both men and women. This recommendation is the same for people with or without diabetes.

You may be advised to drink less – or not at all – if you:

- are above the healthy weight range
- have trouble managing your blood glucose levels
- have high blood pressure or triglycerides (blood fats)
- have diabetes-related complications.

If you have other health conditions that are made worse by drinking, such as liver disease or pancreatitis, you may also be advised not to drink. Women who are pregnant, planning a pregnancy or breastfeeding should not drink alcohol. Alcohol is also not recommended for people under the age of 18, as it can affect brain development and function.

Some medications can react with alcohol. If you are taking any medications, ask your doctor or pharmacist whether you can drink alcohol when taking these.

* If there are no carbohydrate foods available, use a standard (non-diet) soft drink or fruit juice if you are having mixed drinks. If you are eating carbohydrate foods while drinking, use a diet soft drink, plain mineral or plain soda water as a mixer.

Standard drinks

What is a standard drink?

A standard drink contains 10g of alcohol. It's important to know what a standard drink is for different types of alcohol so you can monitor your intake.

One standard drink is:

- 285ml of regular beer
- 375ml of mid-strength beer
- 425ml of low-alcohol beer (less than 3% alcohol)
- 60ml of fortified wine
- 100ml of wine
- 30ml of spirits.

It's easy to overestimate the size of a standard drink, so it's a good idea to:

- check the number of standard drinks on the label of the bottle/can
- measure out a standard drink into a glass, so you know what it looks like
- be aware that many wine glasses can hold two or more standard drinks.

What should you choose?

It's generally best to avoid very sweet drinks, such as regular soft drink mixers, sweet liqueurs and pre-mixed alcoholic beverages.

Choose wine, low-alcohol beers or spirits with diet mixers or plain mineral or soda water.

Low-carbohydrate (low-carb) beers offer no advantage over regular beers.

Ask your diabetes health care team about drinking alcohol safely.

Tips for drinking less alcohol

- Drink some water before drinking any alcohol, so that you are not thirsty.
- Choose low-alcohol (not low-carb) beer.
- Sip alcoholic drinks slowly.
- Alternate your alcoholic drinks with non-alcoholic drinks such as water or mineral or soda water.
- Dilute alcoholic drinks with non-alcoholic mixers to reduce the alcohol content – such as mixing beer with diet lemonade to make a shandy or mixing soda water with wine.
- Make sure you have regular alcohol-free days.

The NDSS and you

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Making healthy food choices

Healthy eating, along with regular physical activity, can help you look after your diabetes. It can also help you manage other risk factors like high blood pressure, or unhealthy cholesterol and triglyceride levels.

Healthy eating for people with diabetes is no different from what is recommended for everyone else. There is no need to prepare separate meals or buy special foods – the whole family can enjoy the same healthy meals.

There are various dietary approaches that may be suitable for people with diabetes. These include Mediterranean-style diets, low fat plant-based diets or lower carbohydrate eating plans.

The following guidelines are general recommendations suitable for most people with diabetes. However, a dietitian can help you to develop an eating plan to meet your food preferences and nutritional needs.

To make healthy food choices:

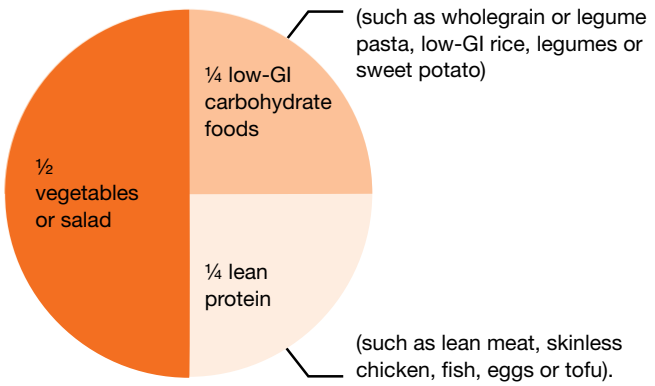
- eat regular meals to assist with managing energy and blood glucose levels
- choose high-fibre, lower glycaemic index (GI) carbohydrate foods
- limit foods that are high in saturated fat and choose healthy fats
- include lean protein foods with your meals
- choose foods low in added salt (sodium) and avoid adding salt to your food.

Eat regular meals in the right amounts

Aim to eat three meals during the day and choose serving sizes to meet your energy needs. Talk to your dietitian for advice about your individual needs and the serving sizes that are right for you.

When preparing a healthy meal aim to:

- fill half of your plate with a variety of non-starchy vegetables or salad
- fill a quarter of your plate (a palm-sized serving) with a lean protein source, such as lean meat, skinless poultry, fish, seafood, tempeh, legumes or eggs
- fill a quarter of your plate with a nutritious carbohydrate food that has a lower GI, such as wholegrain or legume pasta or noodles, brown, basmati or Doongara™ rice, quinoa, soba or mung bean noodles, legumes (such as chickpeas, kidney beans, lentils), barley, freekeh, corn, low-GI potato or sweet potato.



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NDSSFS018

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Include some healthy fats and oils as part of a balanced meal – such as olive oil in cooking or as a salad dressing, avocado as a spread or nuts and seeds in a stir-fry or salad.

Choose high-fibre, lower GI carbohydrates

Carbohydrate foods are the main source of energy for your body. Your body breaks down carbohydrate from food into glucose, which then enters your bloodstream and is used by the body cells for energy. Glucose from carbohydrate foods is our body's preferred fuel source. Nutritious carbohydrate foods provide fibre and resistant starch for a healthy digestive system as well as many other vitamins and minerals.

Foods that contain carbohydrate include:

- breads, cereals and other grains or starchy foods, like rice, quinoa and pasta
- starchy vegetables, like potato, sweet potato and corn
- legumes such as lentils, chickpeas and dried or canned beans
- fruit and fruit products
- dairy products, like milk and yoghurt
- sugary foods and drinks
- other sweet foods, like honey, maple syrup and other syrups.

Eating the right type and amount of carbohydrate foods will help manage your blood glucose levels.

Including a small amount of carbohydrate food at each meal can help to spread the carbohydrate food you eat evenly across the day. This can help to maintain your energy levels without causing blood glucose levels to rise above or below your target range. However, everyone has different nutritional needs, so talk to your dietitian about the amount of carbohydrate that is right for you. If you take insulin, it's important to match your insulin dose and insulin type to your carbohydrate intake.

There are different types of carbohydrates. Some carbohydrates break down into glucose quickly and some break down slowly. The GI ranks how slowly or quickly carbohydrate foods affect blood glucose levels. High-GI carbohydrate foods break down into glucose quickly, which means a higher and faster rise
in blood glucose levels after eating.

Low-GI carbohydrate foods break down into glucose slowly. They result in a smaller and slower rise in blood glucose levels after eating compared with high-GI foods. The best carbohydrate choices are high in fibre and have a lower GI, such as dense grainy or seeded breads, oats, grains such as barley and quinoa, legumes, and most fruits.

See the 'Sample one-day meal plan' for one example of how to make the best carbohydrate food choices and how to spread these out over the day.

Sugar and sweeteners

Sugar is also a type of carbohydrate. A healthy eating plan can include a small amount of sugar, such as a teaspoon of sugar in a cup of tea or coffee, or a teaspoon of honey on porridge.

It's important to consider the nutritional value and the quantity of the foods you eat. High-sugar foods – such as sweets, lollies and regular soft drinks – provide no nutritional benefit and can cause your blood glucose level to rise above your target range. They can also lead to weight gain and poor health.

While alternative sweeteners are not necessary, nor do they provide any nutrition, some people may still choose to use these to add sweetness without adding sugar and kilojoules.

If you choose to use sweeteners, be aware that swapping sugar for a sweetener in a recipe – or buying products labelled 'sugar-free' – does not guarantee they are a healthy choice, or that they won't affect your blood glucose levels.

There are many different alternative sweeteners available. Always check the nutrition information to make sure the product meets your needs, or ask a dietitian. All of the sweeteners approved for sale in Australia have been tested and deemed safe for use by Food Standards Australia New Zealand.

Limit foods high in saturated fat and choose healthy fats

It's important to consider both the amount and the type of fat you eat. The main types of fat found in food are saturated, trans and unsaturated fats.

Saturated fats and trans fats

Saturated fats make it more difficult for the body's insulin to work properly and raise your bloods low-density lipoprotein levels (also known as LDL or 'bad' cholesterol).
It is therefore best to limit these in your diet and replace them with healthier fats. Saturated fat is found in animal foods like fatty meat, full-fat dairy foods, butter and cream, as well as plant sources such as palm oil and coconut oil. It's also found in many take-away and processed foods.

Trans fats can raise your blood LDL cholesterol and lower your high-density lipoprotein levels (also known as HDL or 'good' cholesterol). Most trans fats are formed during food manufacturing and can be found in fried foods and baked goods like biscuits, cakes and pastries.

Check the ingredients list for 'hydrogenated oils' or 'partially hydrogenated vegetable oils' and avoid foods that contain these as they are likely to be high in trans fats.

Unsaturated fats

Unsaturated fats include polyunsaturated fats and monounsaturated fats. These are healthier fats, as they help to reduce your LDL cholesterol levels and increase your HDL cholesterol levels. Replacing saturated fats with unsaturated fats can help to keep your blood vessels healthy and reduce your risk of heart disease.

Polyunsaturated fats include:

- the fat found in oily fish, such as mackerel, sardines, salmon and tuna (omega-3 fats)
- nuts and seeds such as walnuts, brazil nuts, pine nuts, sesame and sunflower seeds, chia seeds and flaxseeds
- sunflower, safflower, soybean, corn, cottonseed, grapeseed and sesame oils.

Monounsaturated fats include:

- avocado
- nuts and seeds such as almonds, cashews, hazelnuts, macadamias, pecans, peanuts and pistachios
- olive, canola, peanut and macadamia oils.

Tips to get the right balance of healthy fats

- Choose reduced or low-fat milk, yoghurt and cheese.
- Choose lean meat, trimmed of fat, and skinless cuts of chicken.
- Limit butter, lard, dripping, cream, sour cream, copha, coconut milk and coconut cream.
- Choose olive, sunflower, canola or other unsaturated oils for cooking and salad dressings.
- Limit pastries, cakes, puddings, chocolates, packaged biscuits and savory snacks to special occasions.
- Limit the use of processed deli meats (like salami) and sausages.
- Limit fatty take-away foods, such as chips, fried chicken, battered fish, pies and pastries.
- Snack on a handful of unsalted nuts, or add some nuts to a stir-fry or salad.
- Spread avocado on sandwiches and toast, or add to a salad.
- Use natural nut and seed spreads instead of butter on toast.
- Eat fish two or three times a week (especially oily fish).

Include lean protein foods

Protein foods can help you feel fuller for longer and are an important part of a balanced meal. Protein foods include meat, poultry, fish or seafood, eggs, nuts, seeds, dairy products, soy products (such as tofu and tempeh), and legumes (dried beans and lentils). Choose lean sources of protein foods.

Choose foods low in added salt and avoid adding salt to your food

Eating too much salt (sodium) is not good for your health and can result in high blood pressure. If your blood pressure is already high, cutting down on salt may help to lower it, and reduce your risk of heart disease and stroke.

Limit your salt intake by choosing more fresh foods that are naturally low in sodium. Look for low-salt or salt-reduced options when buying packaged foods, and avoid adding salt to foods during cooking or before eating. To add flavour without salt, use a wide variety of herbs, spices and condiments (such as lemon or lime juice and vinegar).

Eat plenty of vegetables

Eating plenty of vegetables is important for good health. Most vegetables are low in carbohydrate and kilojoules and will not affect your blood glucose levels. They are a good source of fibre, vitamins and minerals.

Eat a variety of different coloured vegetables and salads, such as tomatoes, cucumber, celery, mushrooms, capsicum, onions, cauliflower, zucchini, broccoli, spinach, peas, cabbage, lettuce, green beans, eggplant, carrot, leek, squash, pumpkin and Asian greens.

What to drink

It's important to stay hydrated throughout the day. Water is the best drink, but alternatives include:

- plain mineral or soda water flavoured with sliced lemon or lime, frozen berries, cucumber or fresh mint
- black, oolong, green or herbal tea
- coffee or decaffeinated coffee with skim, low-fat milk or unsweetened plant milk.

An occasional diet cordial or diet soft drink may add variety without extra sugar or kilojoules.

If you drink alcohol, limit your intake

If you drink alcohol, current guidelines recommend limiting your intake to two standard drinks per day. It's also a good idea to include some alcohol-free days each week.

A standard drink contains 10g of alcohol. It's important to know what a standard drink is for different types of alcohol, so you can monitor your intake.

One standard drink is equal to:

- 285ml of regular beer
- 375ml of mid-strength beer
- 425ml of low-alcohol beer (less than 3% alcohol)
- 60ml of fortified wine
- 100ml of wine
- 30ml of spirits.

If you are taking insulin or certain diabetes tablets, you are at risk of alcohol-related hypoglycaemia (hypo). A hypo is when blood glucose levels drop below 4mmol/L. Hypos can occur while drinking alcohol – or many hours afterwards – and can be dangerous. To reduce your risk of hypos, drink alcohol with a meal or snack that contains carbohydrate and check your blood glucose levels regularly.

Healthy snacks

Some people with diabetes may need to include a carbohydrate-based snack between meals. This will depend on your body weight, physical activity levels and the type of medication or insulin you take to manage your diabetes.

A dietitian can work with you to find out whether you need to include snacks and the best choices to make, but some suggestions include:

- a small glass of low-fat milk
- a small tub of low-fat natural or unsweetened yoghurt
- a serve of fresh fruit
- 2-3 wholegrain crisp bread spread with ricotta cheese, natural peanut butter or avocado.

Standard drinks

Sample one-day meal plan

The following meal plan is one example of how to spread carbohydrate foods evenly over the day and how to include a wide variety of nutritious foods. The foods that contain carbohydrate are highlighted in bold.

The amounts shown here are the suggested amounts for one person – they are a guide only and you may need to adjust them according to your own nutritional needs. Talk to a dietitian for advice on how to cater for your individual needs and food preferences.

More information

An accredited practising dietitian (APD) can help with the best food choices. Contact the Dietitians Association of Australia on **1800 812 942** or visit **daa.asn.au**

For information about standard drinks, visit **alcohol.gov.au**

For more information on glycemic index visit **glycemicindex.com** or **gisymbol.com**

Breakfast

- ¾ cup of cooked **rolled oats** with **milk**, topped with fresh berries OR
- 2 thin slices of **wholegrain toast**, thinly spread with peanut butter, avocado or ricotta, and tomato or boiled or poached eggs OR
- 1 cup fresh **fruit** salad topped with 100g low fat **natural yoghurt**
- tea, coffee or water

Lunch

- 2 thin slices of **wholegrain bread** or **1 grainy bread roll** with thinly spread avocado or **hummus**
- salad vegetables
- a small serve of lean meat, skinless poultry, tinned fish, eggs, marinated tofu or fat-reduced cheese
- water or sparkling mineral water

Dinner

- palm-sized serve (100 g) of lean meat, skinless poultry, fish, seafood, 2 eggs, 170g firm tofu or 1 cup legumes
- 1½ cups of cooked vegetables OR 2 cups of salad
- 1 cup of **cooked pasta** OR 2/3 cup of **low-GI rice** OR 1 cup of **sweet potato** or corn OR 1 cup of **chickpeas** or **kidney beans**
- water or sparkling mineral water.

Snacks:

- 1 piece of **fresh fruit** OR
- 1 tub of low-fat **natural yoghurt** OR
- 1 cup of low-fat **milk** OR
- 1 slice of **wholegrain bread** OR
- 2 table spoons **hummus** with **carrot** and **celery**
- 30g of unsalted nuts.

The NDSS and you

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Hints for healthy cooking

Healthy eating for people with diabetes is no different from what is recommended for everyone.

There is no need to prepare separate meals or buy special foods. By choosing ingredients and recipes that are low in saturated fat and salt, high in fibre and contain less added sugar, you can make healthy and nutritious meals suitable for everyone.

Choosing healthy ingredients

When preparing meals or following recipes at home, try using some of these healthier swaps.

Fats and oils

Instead of:	Choose:
Butter	Polyunsaturated or monounsaturated fats such as olive, canola or sunflower oils
Cream	Low-fat plain yoghurt, reduced fat evaporated milk, buttermilk, reduced fat ricotta, low-fat milk or cashew
Sour cream	Light cream, sour cream or low-fat plain yoghurt
Cream-based dressings	Olive oil mixed with balsamic vinegar or lemon juice
Coconut milk and cream	Reduced fat coconut milk, coconut flavoured light evaporated milk or coconut essence mixed with low-fat milk thickened with a small amount of cornflour

Dairy foods

Instead of:	Choose:
Full-fat milk	Low-fat or skim milk, calcium-fortified soy milk
Cream cheese	Reduced fat ricotta, low-fat cottage cheese or extra light cream cheeses
Hard cheese	Reduced fat cheese or small amounts of a stronger flavoured cheese (such as parmesan) or a nut based cheese
Yoghurt	Low-fat natural or diet yoghurts

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Meat, chicken and fish

Instead of:	Choose:
Fatty meat	Lean cuts of meat with visible fat removed, lean mince
Poultry with skin	Skinless chicken or turkey (breast or thigh)
Sausages	Lean meat rissoles or meatballs
Deli meats	Shredded BBQ chicken, lean roast meats, turkey or chicken breast
Fried or crumbed fish	Fresh or canned fish

Breads, cereals, legumes and nuts

Instead of:	Choose:
White bread	Dense grainy or seeded bread, wholemeal sourdough or rye bread
Calrose or jasmine rice	Low glycemic index (GI) white or brown rice, basmati rice, quinoa, barley, freekeh, burghul or pearl couscous
Legumes canned in brine	Dry or no-added-salt canned legumes (such as kidney beans, chickpeas, four-bean mix, lentils)
Salted nuts	Unsalted nuts
White flour for baking	Wholemeal flour, nut flour, legume flour, or a mixture of wholemeal and white flour
Shortcrust or puff pastry	Filo pastry (brushed with egg white or milk instead of oil), reduced fat puff pastry or a base made with wholegrain bread, crushed nuts, or low GI rice

Healthy cooking methods

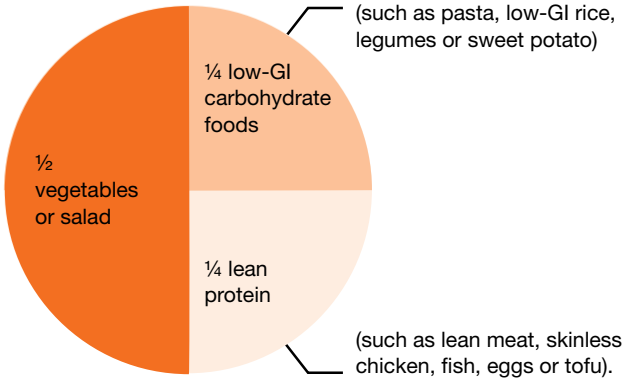
Try the following healthy cooking methods:

- Use low-fat cooking methods, such as steaming, stir-frying, poaching, grilling, barbequing or microwaving.
- When baking, use a non-stick pan or try using a dish lined with baking paper.
- Use cooking spray oil or small amounts of olive, canola or sunflower oil.
- Cook casseroles in advance, then skim the fat off with a spoon when they have cooled.
- Roast large cuts of meat on a rack over a baking tray to drain excess fat.
- Cook vegetables, chicken or fish in a steamer.
- Try baking fish in the oven or on the barbeque wrapped in foil. Add lemon juice and herbs like parsley for flavour and to keep the fish moist.
- Replace some of the meat in casseroles, stews, curries and mince dishes with legumes such as lentils, chickpeas or kidney beans.
- When making roast vegetables or homemade chips, try partially cooking in the microwave, then brush or spray with oil and bake until crisp. Leave the skin on where possible.
- Instead of using salt to flavour foods, try using herbs and spices such as parsley, basil, oregano and rosemary, pepper, garlic, chilli, curry, along with vinegar, lemon or lime juice.
- Use less sugar in cakes and muffins by adding mashed, chopped or pureed fruit instead.

Don't forget you can always create healthier alternatives of your favourite take away foods such as pizza or burgers, by choosing nutritious ingredients and healthier cooking methods.

Choosing the right serving size

Serving sizes are important to help manage your diabetes and maintain a healthy weight. As a guide for main meals, aim to balance your plate like this:



The below is a general guide for lunch and dinner.

- Fill a ¼ of your plate with lean meat, skinless chicken, fish/seafood, tofu, legumes or eggs
- Fill a ¼ of your plate with a carbohydrate food that has a lower glycemic index (GI) such as pasta, low-GI rice, quinoa, barley, soba, mung bean or rice noodles, legumes, corn on the cob, low-GI potato/sweet potato
- Fill ½ of your plate with salad or non-starchy vegetables and add these to every meal
- Use small amounts of healthy fats and oils when preparing meals.

Talk to a dietitian about serving sizes that are right for you.

Tips for healthy cooking

Tips to reduce sugar

- You can use small amounts of sugar in healthy recipes.
- If a recipe contains a large amount of sugar, try reducing the amount, modifying the ingredients, or using an alternative sweetener as a substitute.
- Swapping sugar for a sweetener affects the taste and texture of cooking so, for the best results, refer to the packaging and choose one that suits your needs.

For information about artificial sweeteners read the artificial sweeteners fact sheet.

Tips to reduce salt

- Check the sodium content per 100g listed on the nutrition information panel.
- Choose products with the lowest sodium or, where possible, with less than 120mg per 100g.
- When shopping, look for products that are ‘salt reduced’ or have ‘no added salt’.
- Avoid putting salt on the table.
- For extra flavour, add herbs, lemon juice, onions, ginger, garlic, chilli, vinegar, wine or salt-reduced stock.

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Physical activity

Regular physical activity is one of the most important things you can do to improve your health and help manage your diabetes.

The more physically active you are, the greater the health benefits will be. However, any activity, even at a slow pace, can have health benefits, and some activity is better than none at all.

Benefits of physical activity

Physical activity plays a vital role in helping the body use glucose as fuel for the working muscles, which in turn lowers blood glucose levels.

When the body starts to exercise, the muscles need energy to move. This energy comes from glucose in the blood as well as glucose stored in the muscles and, occasionally, from stores in the liver.

There are plenty of other benefits of regular physical activity, including:

- reducing the risk of heart disease and stroke
- lowering cholesterol levels
- helping to lower blood pressure
- assisting with weight loss and maintaining a healthy weight
- slowing age-related loss of muscle mass
- preventing osteoporosis and risk of falls
- increasing strength, power and balance
- improving mood
- helping circulation in lower limbs.

Types of physical activity

Doing a combination of different types of physical activity has proven benefits for managing diabetes. There are two main types of physical activity: aerobic exercise and resistance exercise.

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Aerobic exercise

Aerobic exercise is any activity that involves large muscle groups working at a pace that can be sustained for more than a few minutes. It gets your heart and lungs working harder. Examples include walking, dancing, aerobic exercise classes, cycling and swimming. For some people, moderate or intense aerobic exercise is not suitable. Light aerobic exercise may be a good alternative. Examples include yoga, lawn bowls, and choosing to walk up the stairs rather than take the lift.

Resistance exercise

Resistance exercise involves working your muscles against a load or resistance. This can be your own body weight (such as moving from sitting to standing or doing squats or wall push-ups) or using equipment to provide resistance (such as machine weights, dumbbells, cans of food or resistance bands). Talk to a qualified exercise professional about a resistance program to suit your needs.

How often should you exercise?

Ideally, aim to do some aerobic exercise on most – preferably all – days of the week, and resistance exercise two or three times a week.

How hard do I need to exercise?

It's important to think about exercise intensity – or how much effort you put in – during physical activity. You need to exercise at a moderate level of intensity to get the most benefit from being active.

A good way to work out your level of intensity is to use a scale between 0–10:

- Moderate Intensity (3–4 out of 10)
  Requires some effort and causes an increase in your breathing but you can still hold a conversation (for example brisk walking, cycling).
- Vigorous intensity (5+ out of 10)
  Involves activities that make you breathe harder, puff and pant (for example jogging, circuit classes).

How long do I exercise for?

The target amount of exercise will vary according to your goals and your initial level of fitness. If you currently do no physical activity, start by doing some activity and then gradually build up. You could start by joining together short blocks of exercise, such as combining a 15 minute walk with 15 minutes of cycling to make 30 minutes of moderate exercise.

Put together:

- at least 30 minutes of moderate intensity aerobic activity every day of the week (that is, 210 minutes a week) OR
- 40–45 minutes of vigorous intensity aerobic activity on at least three days of the week (that is, 125 minutes a week) OR
- a combination of moderate and vigorous aerobic activity PLUS
- 2–3 sessions of resistance training each week.

Spending too much time sitting down can have a negative effect on your health, regardless of whether you are meeting the recommended physical activity guidelines. It's important to minimise the amount of time spent sitting. Break up long periods of sitting as often as possible to reduce your health risks.

Tips to help you be more active

- Plan the times and set the days to do your exercise, like an appointment.
- Exercise with a friend, family member or in a group.
- Increase your day to day activity such as walking all or part of the way to work or the shops.
- Set yourself an exercise goal and keep an exercise diary to track your progress.
- Use an activity tracker (step-counting device) to record your steps each day.
- Stand and move about while talking on the phone or during TV ad breaks.
- Look for opportunities to stand rather than sit (for example at work meetings).

Starting a new exercise program

Before starting any new exercise or activity program, check with your doctor to make sure it's suitable for you.

If you are on insulin or other glucose lowering medications, you may need to take special precautions when exercising, to prevent your blood glucose level from dropping too low (hypoglycaemia or a hypo). Make sure you discuss this with your doctor, endocrinologist (diabetes specialist) or diabetes educator.

If you have peripheral neuropathy (damage to the nerves, usually hands and feet), it is important to talk to your diabetes health care team before beginning or increasing exercise, to make sure you minimise the risk of ulcers and other complications.

If you experience any of the following symptoms, stop exercising and consult your doctor immediately:

» chest pain

» unusual breathlessness

» nausea

» dizziness

» severe muscular or joint pain.

If you experience leg pain while exercising, stop and rest until the pain settles, and then resume the activity. Leg pain can be a sign of reduced blood flow to the lower limbs (also known as peripheral vascular disease). Talk to your doctor for more information.

Exercise and diabetes

When you have diabetes, there are some extra things to consider before, during and after exercise.

Blood glucose monitoring

If your doctor has asked you to self-monitor your blood glucose levels:

» Check your blood glucose levels before and after exercise, and during exercise if it's for longer than 30 minutes. Your blood glucose levels may be lower for up to 48 hours after exercise.

» Don't be worried if you see your blood glucose levels rise during brief, vigorous intensity exercise. This may persist for 1–2 hours after the activity.

Adjusting Insulin doses

» If you are using insulin, you may need to adjust your insulin doses for physical activity. Insulin adjustment varies from person to person, so discuss your exercise routine and insulin adjustments with your doctor or diabetes educator.

High blood glucose levels

» If your blood glucose level is higher than 15mmol/L, and you are unwell, it is recommended that you avoid exercise.

» If you have type 1 diabetes and your blood glucose levels are higher than 15mmol/L, make sure you check for ketones before you exercise. It can be dangerous to exercise when blood glucose levels are high and/or ketones are present. Follow the advice of your diabetes health professionals about extra insulin doses to help bring your blood glucose levels back into the target range.

Hypoglycaemia

If you are using insulin or other blood glucose lowering medications you may be at risk of a hypo. This occurs when your blood glucose level drops below 4mmol/L.

- If you have a hypo, it is important to treat the hypo and delay exercise until your blood glucose level is in the target range.
- If your blood glucose levels before exercise are between 4 and 6mmol/L, you may need to have extra carbohydrate foods before you exercise. You may also need extra carbohydrate during and after physical activity (depending on how long you are exercising for) to reduce your risk of hypos. Ask your diabetes educator or dietitian for advice.
- Make sure you have some easily absorbed carbohydrate available (such as jelly beans, glucose tablets or gels) so you can treat a hypo if necessary.

Remember

It's important to stay well hydrated before, during and after exercise.

Make sure you have appropriate footwear and check your feet at least once a day. A podiatrist can provide you with more information.

If you are exercising alone, stay safe by carrying a mobile phone with you.

More information

Ask your doctor if you are eligible for a rebate from Medicare to see an exercise physiologist. Private health funds may also offer rebates for exercise physiologists – check with your health fund provider.

If you would like more information about physical activity and would like to see a qualified exercise physiologist, go to **essa.org.au** to find one in your area.

Everyday activities such as gardening, washing the car and housework are great ways to keep active.

The NDSS and you

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Understanding food labels

Labels on packaged foods provide information that can help you make healthier food choices.

Understanding how to read food labels can help you choose foods with less saturated fat, salt (sodium) and kilojoules, and with more fibre. They can also provide information on the amount of carbohydrate in the food you eat, to help manage your blood glucose levels.

Information on food labels must meet Australian food labelling laws. Labels must:

- be written in English
- be clearly presented
- show the 'use by' or 'best before' date
- include an ingredients list
- include a nutrition information panel
- clearly identify food allergens and additives.

Nutrition information on food labels

When shopping for healthier foods, the two most useful tools on a food package are the nutrition information panel and the ingredients list.

Nutrition information panel

You will find a nutrition information panel on most packaged foods, as it is compulsory for manufacturers to include. This panel provides useful information to help you compare similar products and choose healthier options for you.

Here is an example of a nutrition information panel.

Nutrition information

Servings per package: 10
Serving size: 35g (Approx 3 biscuits)

		Quantity per serving	Quantity per 100g
Energy		522KJ	1490KJ
Protein		1.8g	5.1g
Fat	– Total	1.0g	2.9g
	– Saturated	0.2g	0.7g
Carbohydrate	– Total	26.5g	75.6g
	– Sugars	16.3g	46.5g
Sodium		53mg	150mg

When you read the nutrition information panel, check the serving size, the quantity per 100g column, the amount of energy (kilojoules), and the amount of fat, carbohydrate and sodium in the product. These components are explained here.

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Serving size

This is the average serving size of the product, according to the manufacturer, which can help you work out the nutrition information for the serve you eat. Check whether your serving size is the same as the recommended serving size. If your serve is smaller or larger, you will need to take this into account. A dietitian can help you with this.

Energy

Energy is measured in kilojoules (kJ) or calories (cal). The amount of energy each of us needs depends on many factors and will vary from person to person. When comparing similar products, choosing those with fewer kilojoules can help with weight loss.

Fat

'Total fat' includes all polyunsaturated, monounsaturated, saturated and trans fats in the food. It's important to consider both the amount and the type of fat.

Check the 'saturated fat' amount on similar products and choose the one with the least amount of saturated fat per 100g.

'Trans fats' are not required by law to be listed on the nutrition information panel but some manufacturers will list trans fats. Look for products with less than 1g of trans fats per 100 grams, particularly when buying margarines or baked goods.

Carbohydrate

'Total carbohydrate' includes both the sugars and the starches in food. This figure is useful if you count carbohydrates to help manage your blood glucose levels. To work out the amount of carbohydrate in food use the per serve column or the per 100g column. You may need to adjust this to suit your serving size.

The 'sugars' amount tells you how much of the total carbohydrate is made up of sugars. It includes, both added sugars and natural sugars such as lactose in milk and fructose in fruit.

Remember, the total carbohydrate affects blood glucose levels, not just sugar.

A dietitian can help you work out how much carbohydrate you need each day.

Sodium

This figure tells you how much salt (sodium) is in the food. Where possible, choose products with 'reduced' or 'no added' salt. A low-salt food has less than 120mg of sodium per 100g. When comparing similiar products, choose the one with the lowest sodium per 100g.

Percentage (%) daily intake

Some manufacturers may choose to include information about percentage (%) daily intake. This can be used to compare the nutrients in one serve of the food with what an 'average adult' needs. This is just a guide, as your daily intake may be higher or lower depending on your energy needs.

Tips on making healthy food choices

To decide whether a food is a healthy choice, compare products and ask yourself these questions:

Is the food an 'everyday' or a 'sometimes' food?

- Fill your shopping trolley with a variety of 'everyday' healthy foods, such as fruit, vegetables, wholegrains, legumes, lean meats and poultry, fish or seafood, nuts, seeds and low-fat dairy. Reduce the amount of 'sometimes' foods like chocolate, crisps, sweet biscuits and soft drinks.

Is the food lower in saturated fat?

- Compare similar products and choose those with the least amount of saturated fat per 100g.

Is the food lower in sodium?

- Healthier options have less than 120mg of sodium per 100g. Where possible, choose products that have 'reduced salt' or 'no added salt'.

Is the food high in fibre?

- Not all labels show the fibre content, but high fibre foods have at least more than 3g of dietary fibre per 100g. When comparing similar products, choose the one higher in fibre per 100g. This is particularly important for foods like breads and cereals. It is recommended that adults aim for at least 25–30g of fibre each day.

Ingredients list

All packaged foods must have an ingredients list on their labels. All ingredients are listed in descending order by weight (that is, the ingredient that weighs the most is listed first, and the ingredient that weighs the least is listed last).

You can use this information to help you decide whether the product is a healthy choice. For example, you can look at the ingredients list to find out whether the sugar in the product is from an added or a natural sugar.

Nutrition claims

Food manufacturers often use nutrition claims on their packaging to attract the shopper's attention. While the claim may be true, it may also be misleading – so it's useful to know the meaning of nutrition claims. Always check the nutrition information panel to see if the product is a healthy option.

Here are some common claims and what they mean.

High fibre

The food must contain at least 3g of fibre per average serving.

Reduced salt

The product contains at least 25% less salt than the regular product. However, the reduced salt version may still have a high salt content, so always check the nutrition information panel and compare similar products.

No added salt

Salt has not been added.

Low salt

The food has less than 120mg of sodium per 100g.

Low joule or diet

The product is usually artificially sweetened and/or low fat. You can check this in the ingredient list or nutrition panel.

No added sugar

The product contains no added sugars (such as sucrose, honey or glucose). However, the product may still contain natural sugars, such as milk (lactose), fruit (fructose) or other carbohydrates, which can affect your blood glucose levels.

Low fat or 97% fat free

The food must contain no more than 3g of fat per 100g of food, or no more than 1.5g fat per 100ml of liquid.

Reduced fat

The product contains at least 25% less fat than the regular product. However, this doesn't necessarily mean it's low in fat.

Lite or light

This may refer to a reduced fat content, but it may also be used to describe taste, texture or colour. For example, light olive oil is lighter in colour and taste but not lower in fat. Check for an explanation on the label and compare fat content per 100g with similar products.

Nutrition claims on food products

If a product includes a nutrition claim about a specific nutrient on the package, it must list the amount in the nutrition information panel. For example, if it makes a claim about dietary fibre, the amount of fibre must be listed in the panel.

Nutrition symbols

Food manufacturers can choose to display nutrition symbols such as the GI symbol and the Health Star Rating system.

These symbols show that the product has been tested and meets specific criteria, but it is still a good idea to check the nutrition information panel to make sure the product meets your needs.

More information

For more information about understanding food labels, visit: **foodstandards.gov.au**

The Healthy shopping guide – your essential supermarket companion can help you make healthy food choices.

To purchase a copy, call **1800 637 700**.

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