

2nd
EDITION

LIVE LONG & LIVE WELL

Get *Smart* with Type 2 Diabetes



Suitable for people with type 2 diabetes,
prediabetes and metabolic syndrome

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ACKNOWLEDGEMENT OF COUNTRY

Driving Diabetes acknowledge the traditional custodians of country throughout Australia and recognise their continuing connection to land, waters and community.

We pay our respects to them and their cultures; and to Elders both past and present.

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This book is a guide to serve sizes only. It does not replace advice from your health professional. For specific individual nutrition advice or diabetes management planning, see an Accredited Practising Dietitian, Credentialed Diabetes Educator or General Practitioner.

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WELCOME

Congratulations on taking this step! You're on your way to making great health choices.

This is a great book for you if -

- You have prediabetes ("**borderline**" blood glucose levels), or if you've had gestational diabetes (i.e. diabetes during pregnancy).
- You have **type 2 diabetes**, would like to learn more about why you have it, how to manage your blood glucose levels (BGLs) and stay well.
- You would like a **better understanding** of specific diet and lifestyle choices to help your diabetes, while still enjoying the things you love.
- You are a health care worker.

This isn't the book for you if -

- You've been diagnosed with type 1 diabetes.
- You currently have gestational diabetes.
- Your diabetes has been caused by other conditions e.g. pancreatitis, pancreatic cancer.



With over 30 years' combined experience helping people like you, we understand you want -

- Diabetes information delivered and explained simply.
- Small changes to your life.
- BIG results for a healthier you.



Remember, weight loss is not the only measure of success.

Other changes include:

- Improved physical and mental strength.
- Increased understanding of your body.
- Greater awareness and control of what you eat.
- Increased well-being, and confidence in your new knowledge and skills.
- Pride in your achievements, no matter how small.

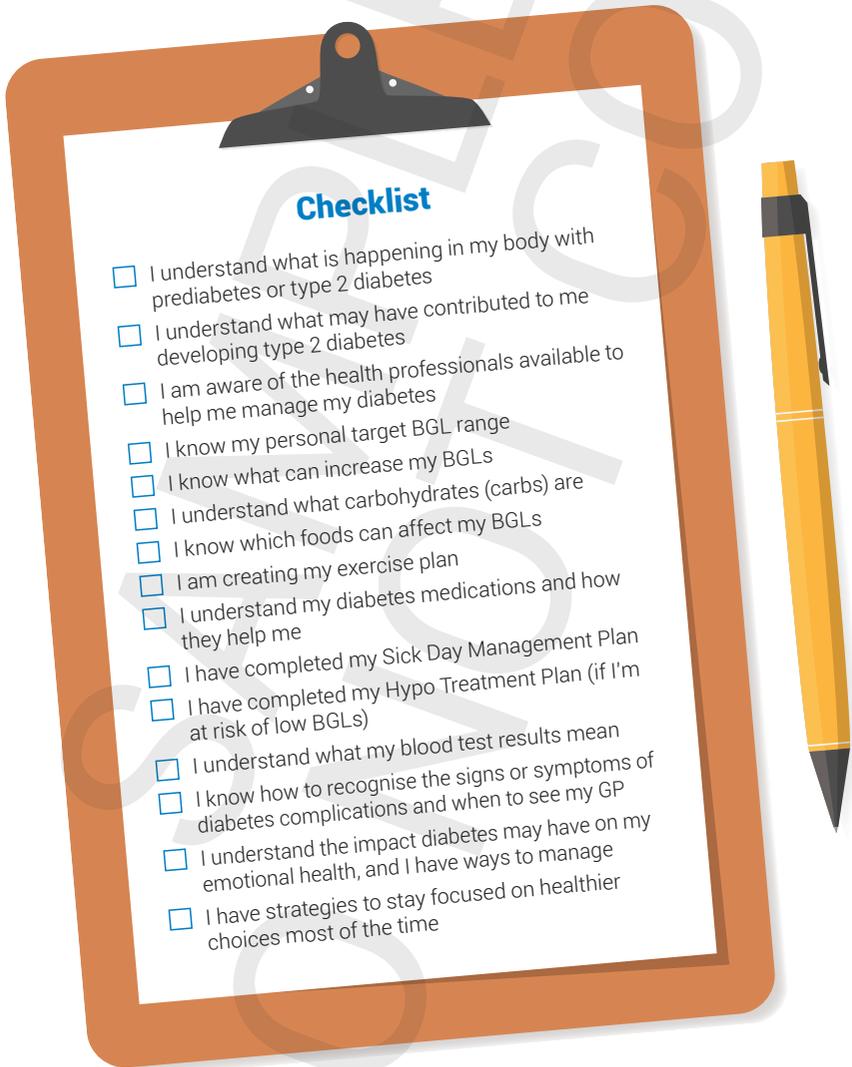
Helen + Amanda



Driving Diabetes

Here you are at the beginning of your journey, to becoming the confident Driver of your diabetes, so you can live the life you choose, and live it well.

After reading this book, use the checklist below to ensure you have a good understanding of diabetes and how to keep your BGLs in a safe range. If you have any questions, please see your GP or your Diabetes Educator.



Checklist

- I understand what is happening in my body with prediabetes or type 2 diabetes
- I understand what may have contributed to me developing type 2 diabetes
- I am aware of the health professionals available to help me manage my diabetes
- I know my personal target BGL range
- I know what can increase my BGLs
- I understand what carbohydrates (carbs) are
- I know which foods can affect my BGLs
- I am creating my exercise plan
- I understand my diabetes medications and how they help me
- I have completed my Sick Day Management Plan
- I have completed my Hypo Treatment Plan (if I'm at risk of low BGLs)
- I understand what my blood test results mean
- I know how to recognise the signs or symptoms of diabetes complications and when to see my GP
- I understand the impact diabetes may have on my emotional health, and I have ways to manage
- I have strategies to stay focused on healthier choices most of the time



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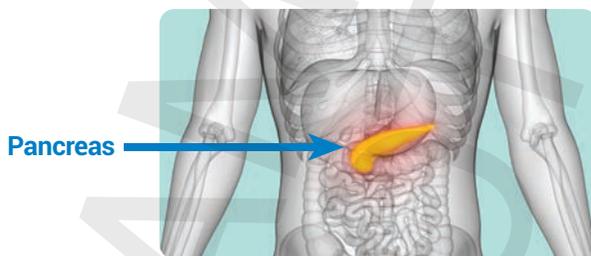
DIABETES EXPLAINED

Being diagnosed with prediabetes or type 2 diabetes can be overwhelming, especially when you don't understand the condition and factors that have contributed to your diagnosis. However, diabetes is a condition that can be managed. By gaining a deeper understanding of diabetes and the changes you can make, you'll be able to improve your health long term and live your best life.

Diabetes mellitus, commonly known as **diabetes**, is a health condition characterized by an elevated level of glucose in the bloodstream. There are two main types of diabetes - type 1 and type 2.

Type 1 diabetes is an autoimmune condition which destroys the insulin producing cells in the pancreas. People with type 1 diabetes are unable to produce insulin. Currently it's unknown if type 1 diabetes can be prevented.

In type 2 diabetes (and prediabetes), the pancreas cells still produce insulin. However, the insulin becomes less effective in moving glucose from the bloodstream into the body's cells, leaving some of the glucose behind in the bloodstream. This leads to elevated blood glucose levels (BGLs), which over time, can cause damage to the body.



“ The pancreas is an organ located behind the stomach. It's two main functions are to help with digestion and regulate BGLs. It does this by making hormones and enzymes. Insulin is one of the hormones produced by the pancreas. Insulin is needed to carry glucose from the bloodstream into the liver, fat and muscle cells. ”



The Normal Process

For your body to stay alive, your cells rely on glucose as a fuel source for energy.

This glucose comes from the food you eat and from storage cells in the liver.

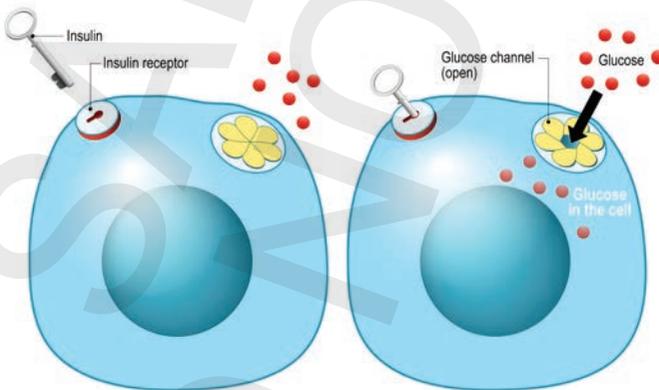
Glucose can't enter the body's cells on its own. It requires the assistance from a hormone called insulin, which is produced by the cells in your pancreas. Insulin is released in response to extra glucose from the food you eat, or when the liver releases stored glucose into your bloodstream.

Insulin's job is to unlock the cell doors and carry glucose from your bloodstream into the cells of your muscles for fuel; then to the liver where it's stored for a later stage. Your pancreas produces a small amount of insulin constantly. Extra insulin is released when you eat, or when your body detects BGLs rising. This is normally a tightly regulated process to keep your BGLs at optimal range.

“

Insulin acts as the key, which unlocks the cell to allow glucose to enter and be used for energy.

”



TYPE 1 DIABETES

Type 1 diabetes is an autoimmune condition where the body destroys its own insulin producing cells (called beta cells) in the pancreas. Signs and symptoms of high BGLs are similar to people with type 2 diabetes, listed on page 14. Symptoms often appear quickly.

For some people their first symptom is developing diabetic ketoacidosis (DKA), and they are diagnosed in hospital. Due to insufficient insulin being produced, the body can't use glucose for fuel. In an attempt to find another energy source, the body will break down fat instead.

As ketones are a result of breaking down fat, ketones start to accumulate in the body which are dangerous at high levels. Specific symptoms of DKA: nausea and vomiting, flushed face, abdominal pain, weakness or fatigue, shortness of breath, fruity or acetone smelling breath, confusion, or eventually coma if not treated.

Type 1 diabetes generally affects people under the age of 30 years, but can affect people of any age. An increasing number of people over 40 years are developing Latent Autoimmune Diabetes in Adults (LADA), where destruction of beta cells occurs more slowly. LADA is treated as type 1 diabetes.

Can Type 2 Diabetes turn into Type 1 Diabetes?

Type 2 diabetes cannot turn into type 1 diabetes. Type 1 diabetes is an autoimmune condition, resulting in the destruction of insulin producing cells in the pancreas. People with type 1 diabetes are unable to produce insulin and require daily insulin injections. Type 2 diabetes is caused by insulin resistance and insufficient insulin production. People with type 2 diabetes can still produce some insulin, just not enough insulin to keep BGLs in a safe range. Over time, around 50% of people with type 2 diabetes will require insulin injections in addition to their oral medication. This is to 'top up' what their body can no longer produce. These people are type 2, insulin requiring (T2IR), they are not insulin dependent.

“

Type 2 diabetes cannot turn into type 1 diabetes.

”



PREDIABETES & TYPE 2 DIABETES

What Changes?

Our bodies are normally very efficient at moving glucose from the bloodstream into our cells. In prediabetes, a long time before type 2 diabetes, this process doesn't work as well as it should. Not all the glucose in the bloodstream is able to be transported into the cells. The cells become resistant to insulin, meaning insulin is not able to open the cell door for glucose to get inside. This is known as insulin resistance. When your cells become low in energy, the liver will release some of its stored glucose in an attempt to provide cells with the fuel they need.

To compensate, your pancreas works extra hard to produce higher amounts of insulin to overcome the resistance, and help the glucose enter your body's cells. Your pancreas can do this for a very long time, this is why at prediabetes stage, your BGLs don't seem too high.

Your pancreas can't keep working this hard forever though. It eventually starts to get tired and isn't able to keep performing. It then slows down and produces less insulin.

Prediabetes is when fasting BGLs are higher than normal but not high enough to be diagnosed as type 2 diabetes. People with prediabetes can postpone or prevent the development of type 2 diabetes if they understand the lifestyle changes required.

At what levels are prediabetes or type 2 diabetes diagnosed?

If your fasting BGLs are above 5.5mmols, further testing is usually recommended. Your GP may arrange an Oral Glucose Tolerance Test (OGTT) and/or HbA1c blood test to confirm or exclude prediabetes or type 2 diabetes.

Normal BGL = 4.0 - 7.8mmols.

Prediabetes = Fasting BGL 6.1-6.9mmols, or 2 hours after OGTT 7.8-10.9mmols.

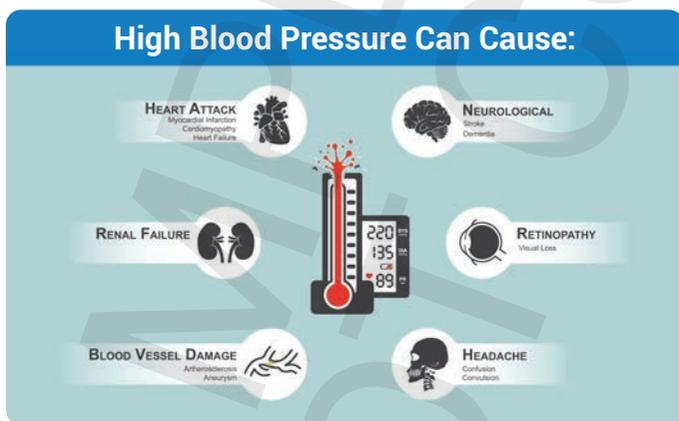
Type 2 diabetes = Fasting BGL \geq 7mmols, or 2 hours after OGTT \geq 11mmols.



There aren't usually obvious signs or symptoms with prediabetes. However, you may notice it's become harder to lose weight despite intentional exercise, or you're gaining weight without any change to your usual lifestyle. You may have found yourself craving sweet snacks more than usual or fatigued for no apparent reason. These symptoms will be explained in other sections.

Prediabetes often goes undiagnosed – many people are told to “just keep an eye on their levels”, or that they're “borderline”.

Prediabetes is a serious condition. This is when damage to nerves and blood vessels begins, when high blood pressure and/or high cholesterol may be diagnosed and when you're at increased risk of heart disease and stroke.



“

For some people with prediabetes, medication is necessary. Lifestyle changes are essential at this point to avoid developing type 2 diabetes and further increasing your risk of heart attack and stroke.

”



The Path to Type 2 Diabetes

Trending

Trending – When your body is becoming resistant to insulin and your pancreas has to work harder to keep BGLs in normal range. This could be due to aging, your waist increasing, doing less intentional physical activity, higher stress levels, poor sleep or undiagnosed sleep apnoea.

Prediabetes

Prediabetes – Your pancreas is getting tired from overproducing insulin. Your BGLs are now higher than normal. With lifestyle changes you'll have a good chance of returning your BGLs to normal range.

Type 2 diabetes

Type 2 diabetes – 50% of people will already have complications from prolonged elevated BGLs at diagnosis of type 2 diabetes. At this stage your pancreas may only be producing half the amount of insulin it should.



“

Less insulin production and/or insulin resistance results in some glucose being left behind in your bloodstream. This shows up as higher than normal glucose levels on your blood test, indicating type 2 diabetes.

”

Being diagnosed with type 2 diabetes means that your immediate family has an increased risk of developing type 2 diabetes also. Share the risk factors on the following page with your family members over 30 years of age.



RISK FACTORS

Risk Factors for Type 2 Diabetes

“ A combination of genetics and 'lifestyle' factors can lead to a diagnosis of type 2 diabetes. This doesn't mean you've deliberately brought this on yourself. ”



Non-modifiable risk factors

- Previous history of gestational diabetes
- Gender (male)
- Race/Ethnicity
- Over 45 years
- Family history of diabetes
- Polycystic Ovarian Syndrome (PCOS)
- Medications needed for other conditions (e.g. oral or injected steroids)

Modifiable risk factors

- Dietary intake
- Physical inactivity
- High waist measurement
- High blood pressure
- High cholesterol
- High stress levels
- Sleep apnoea/insufficient sleep (often undiagnosed)
- Pain
- Smoking



“ Women who have had gestational diabetes and people who have prediabetes should have a yearly HbA1c check. ”



WAIST CIRCUMFERENCE

Your waist circumference can indicate your level of risk for chronic disease. If you have fat around the belly, there's likely to be fat around some of your organs. This can increase your risk of type 2 diabetes, heart disease, high blood pressure and stroke.

ADULT MALES

94cm <	94cm	95cm	96cm	97cm	98cm	99cm	100cm	101cm	102cm
Low Risk	Moderate Risk						High Risk		

ADULT FEMALES (excluding pregnancy)

80cm <	80cm	81cm	82cm	83cm	84cm	85cm	86cm	87cm	88cm
Low Risk	Moderate Risk						High Risk		

How to find your Waist Measurement

- Remove clothing from your waist area.
- Stand up straight with your feet in line with your shoulders.
- Find your hip bone, and place the bottom of the measuring tape on top.
- Wrap the measuring tape around your waist.
- This should be straight and in line with your belly button.
- As you breathe, tighten the tape as you exhale.
- The measuring tape should feel fitted but should not squeeze or pinch.
- This will show you your waist measurement.

Try this...



INCORRECT

Waist circumference is NOT the narrowest part of the waist.

CORRECT

Correct waist measurement is between the hip bone and lowest rib, which is 'normally' at the level of the belly button.

In general, the higher your waist circumference, the greater the risk...

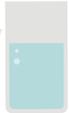


DIABETES SYMPTOMS

Type 2 Diabetes can be present for many years without you noticing any signs or symptoms. This is why it's important to know your risk factors and ensure you continue to have regular screening and blood tests. It's important to be aware of signs and symptoms that may be related to very high levels of glucose in your blood. If you experience any of the following, we highly recommended you discuss them with your GP.

WHEN TO SEE YOUR DOCTOR!



		
Frequent urination	Leg cramp	Mood swings
		
Unexplained weight loss	Skin infections	Increased appetite
		
Wounds which don't heal	Prolonged headaches	Excessive thirst
		
		Tiredness or lethargy

THE SYMPTOMS EXPLAINED

The most common symptoms are tiredness and fatigue which is due to glucose not getting into your muscle cells. You may feel like your body is running low on fuel. Many people also experience:

Urinary frequency

When your BGLs are high, especially over 12mmols, the only way your body can get rid of the extra glucose in your blood is by flushing it out through your kidneys. This can be very dehydrating causing extreme thirst and the need to drink huge amounts frequently. Frustratingly, this may not relieve your dry mouth for very long.

Poor memory

Memory and concentration issues may cause you to think you're developing dementia, but it's actually due to glucose not providing your brain with the fuel it needs. Many people also become short tempered, which is understandable, because your body is basically running on empty.

Blurred vision

This is a common and frustrating symptom and is due to the extra glucose attracting fluid into your eye and distorting the shape of your lens. This will settle down once your BGLs come back to normal, but it can take a while. There's not usually any damage as a result. Some people find their vision can get worse before it gets better as their BGLs come back into target range. This isn't the time to buy new prescription glasses, although magnifying glasses can help you get through this time.

Hunger and Cravings

These are also common symptoms, and can be due to a few reasons:

1. You're producing high amounts of insulin which is telling your brain that your cells are starving, and you need something sweet (fuel) to eat.
2. Glucose isn't getting into your cells to give your body the energy it needs to perform every day.
3. Many people with type 2 diabetes produce less incretin, a hormone produced in the small intestine which helps control BGLs after meals. Incretin hormones reduce glucose release from the liver, and trigger the release of insulin from the pancreas when you eat carbs. Incretin also helps by slowing down the digestion process. This enables gradual release of glucose into the bloodstream, and helps you feel satisfied (satiety) after meals.



Infections

- **Urinary tract infections (UTI's)** can be a result of increased levels of glucose in the urine, which promote bacterial growth. Recurrent UTI's are a reason to make an appointment with your GP and get tested for diabetes.
- **Thrush or fungal infections** can be a result of elevated BGLs, as it provides your body with a perfect environment for a yeast infection to grow. These infections can occur in your mouth, groin, vagina, between toes and skin folds.
- **Wounds or cuts** that don't appear to be healing are also a sign you may have diabetes. This is because elevated BGLs interfere with the natural wound healing process.

Nerve damage (Neuropathy)

This may present as a symptom of prolonged elevated BGLs. Rather than a symptom, nerve damage can be a complication of prediabetes or type 2 diabetes, which cannot be reversed but can be managed.

- **Feet** with nerve damage can be experienced as tingling, pain, burning, altered sensation – numb or overly sensitive. Lowering of BGLs can help reduce the discomfort. We will discuss other treatments you can try later in the book.
- **Autonomic neuropathy** occurs when there is damage to the nerves that manage our body's everyday functions. They include blood pressure, heart rate, sweating, bowel and bladder emptying, and digestion.

“

Contrary to what you've probably heard, diabetes complications aren't caused by a diagnosis of diabetes. They're caused by BGLs staying too high for too long. This can be due to -

- Undiagnosed type 2 diabetes or prediabetes
- Being diagnosed too late, the damage has already occurred
- Being unaware of the seriousness of prediabetes
- Limited education, information or understanding in how to prevent type 2 diabetes

”



YOUR TEAM OF HEALTH PROFESSIONALS

There's a team of qualified health professionals that may be available in your area or online to help you make the required lifestyle changes. They include:



Your General Practitioner (GP)

Your GP is your central health care professional. It's often a good idea to start with your GP if you have any questions related to your diabetes and/or your health in general. Your GP can also refer you on to the appropriate health care professionals to assist you with making lifestyle changes. If you don't get the answers you need from your GP, don't be afraid to ask to be referred to someone who can.



Credentialed Diabetes Educator (CDE)

Diabetes Educators will help you understand what having type 2 or prediabetes means, your risk factors leading to your diagnosis and how you can manage it to stay healthy. You'll be taught how and why to monitor your BGLs and what your blood test results mean. If you've been prescribed medication for diabetes, they'll explain how it works and potential side effects to be aware of. As time goes on and your management changes or life gets in the way and you can't manage it as well as you'd like to, they'll help you to gently get back on track. *Find a Credentialed Diabetes Educator near you at adea.com.au.*



Accredited Practising Dietitian (APD)

Dietitians can work with you to develop a personalised healthy eating plan to suit you, your lifestyle and individual health needs. They can teach you in simple ways to read food labels, modify recipes and even how to order when eating out. Yes they'll also help you include those 'extras' that add sweetness to your life. *To find an Accredited Practising Dietitian near you, visit dietitiansaustralia.org.au/find-an-apd.*



Accredited Exercise Physiologist (AEP)

An Exercise Physiologist (EP) can help you determine the appropriate exercise plan for you, individually suited to your ability and lifestyle. Everyone with type 2 diabetes, or who has had an injury, should see an EP for an individualised safe exercise plan. You can take this plan to a Personal Trainer (PT) if desired; PT's are not qualified to develop an exercise plan for people with type 2 diabetes. *To find an Accredited Exercise Physiologist near you, visit essa.org.au/find-aep.*



YOUR TEAM OF HEALTH PROFESSIONALS



Podiatrist

Podiatrists deal with the prevention, diagnosis and management of foot problems. Many people with type 2 diabetes have nerve damage in their feet but may have no symptoms. A Podiatrist can check for any signs that may indicate you have a problem. These may include reduced blood flow, altered sensation, balance issues, abnormal foot structure and areas at risk.



Pharmacist

Pharmacists will help you understand your medication actions, side effects and interactions with other medications you may be taking. They perform free of charge reviews of all your medications, provided either at your pharmacy or in your home. If you are taking herbal medicines and/or supplements, it is a good idea to speak with your Pharmacist to ensure they are safe to take with your diabetes medication.



Optometrist

All people with diabetes have an increased risk of retinopathy (damage to the retina at the back of the eye) which is a major cause of vision loss and blindness. Regular checkups with an Optometrist are important for all people with diabetes. An Optometrist can reduce the risk of vision loss by providing an eye examination, timely diagnosis, appropriate management, and referral to an Ophthalmologist (eye specialist) if required.



Aboriginal and Torres Strait Islander Health Worker

Aboriginal and Torres Strait Health Workers play a vital role in advocating for the needs of their community. They work alongside other health care team members, educating and advising about culturally appropriate care. To achieve better health outcomes, it is important an Aboriginal or Torres Strait Islander Health Worker is available to be present at education sessions for people who require or request one.



YOUR TEAM OF HEALTH PROFESSIONALS



Dentist

Your Dentist can identify diabetes related complications such as dry mouth, thrush, tooth decay, gingivitis (inflammation of the gums), and/or gum infection. Timely treatment of these conditions is important as they are known to increase the risk of cardiovascular disease.



Psychologist

A Psychologist can help you deal with the emotional aspects of life, or barriers that prevent you from making positive health choices. Your emotional health is just as important as the physical side of making change. Stress is very common today and is one of the factors that cause fat to be stored around your waist. Stress hormones can also cause your BGLs to rise. A Psychologist can provide you with strategies to reduce stress and keep moving forward.



Endocrinologist

Endocrinologists specialise in the endocrine (hormone) system. The pancreas is an endocrine organ which produces the hormone insulin. Often people with type 2 diabetes can be managed safely by their GP, but sometimes their condition has progressed to the point they need specialist input, or there are other factors that make their care more complex. In these cases, your GP may refer you to an Endocrinologist for further assessment.

Other team members would be your family and friends.

Your family and friends need to be on board, and understand as the driver of your diabetes, you know what's best for you. Discuss your goals and how these changes may affect you and/or them. Ask them to help support you in making these important changes. They'll be the ones you'll express your feelings to along the way and the ones to provide additional support and encouragement to keep you on track.



MONITORING YOUR BGLs

1. Home monitoring.

Although it's normal for BGLs to fluctuate, a general target range is 5-8mmols; closer to 5mmols before meals, and under 8mmols two hours after meals. Overall, aim for all BGLs to be under 10mmols.

Your personal target will depend on:

- The type of diabetes you have.
- Your age.
- Your risk factors.
- The medication you're taking.
- How long you've had diabetes.
- How well your diabetes has been controlled.
- If you have other health conditions.

The younger you are, (if you're not taking medication that puts you at risk of hypoglycaemia, see page 111), the closer to normal your BGLs need to be. Elevated BGLs are damaging to blood vessels and nerves in the body. So even slightly elevated levels over a period will cause damage. Keeping BGLs as close to normal as possible can prevent the development of long-term complications. If you are at risk of low BGLs, or if you are elderly, it's much safer to have higher targets, e.g., 6-12mmols.

“

A general guide for BGLs is: 5-8mmols;
closer to 5mmols before meals, and under
8mmols two hours after meals

”



2. Your HbA1c

HbA1c (glycated haemoglobin), is a blood test that shows your average BGL over the previous 2-3 months. This result is seen as a percentage (%) or mmols/mol, which is a different measure to your home monitoring BGLs. A HbA1c of $\geq 6.5\%$ or 48 mmols/mol is diagnostic of diabetes. Target for diabetes management is to keep HbA1c $< 7\%$ or 53 mmols/mol.

HbA1c is a measure of glucose attached to your red blood cells. If there's a high amount of glucose attached to the red blood cells, this means not all glucose is getting into your cells where it needs to go. The higher the HbA1c, the higher the risk of complications to your body.

Keep in mind that what you eat or drink before the test will not affect the result. HbA1c is an average of your BGLs over the past 3 months, not the past 24 hours.



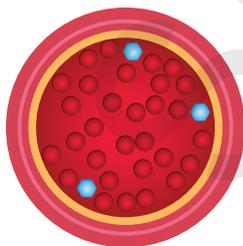
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Your HbA1c target depends on your age, risk of hypoglycaemia and other health conditions. Talk to your GP about your individual target range.

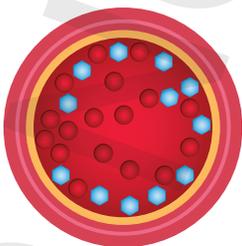
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HbA1c

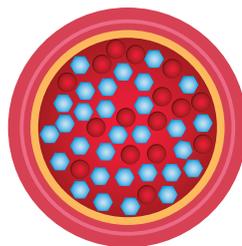
LOW



NORMAL



ELEVATED



 Indicates Red Blood Cells

 Indicates Glucose



Driving Diabetes

MONITORING BGLs AT HOME

Checking your BGLs with a blood glucose meter at home is incredibly helpful, especially when you're first diagnosed. Ask your GP or Diabetes Educator where to obtain a meter (they may have one for you) and what target range is right for you.

It's a great way to understand what causes your BGLs to go higher than your target range. You'll come to understand how different foods, exercise, stress, illness and other factors can impact your BGLs. If you're taking diabetes medication, you'll be able to see if it's effective in controlling your BGLs.

Blood glucose monitoring strips

In Australia, monitoring strips are subsidised when your GP or practice nurse completes an NDSS (National Diabetes Services Scheme) registration for you.

“ If your BGLs are consistently in your target range, it may not be necessary to be checking regularly unless you become unwell or your HbA1c (3-month blood glucose average) increases. ”



Alternatives to finger prick checks

There are a few options to checking your BGL with a finger prick. Ask your Diabetes Educator if any of the following options may be of benefit to you:

Alternate Site Testing (AST). Some meters come with a second cap for AST. Alternate sites to your fingers include – your palm, forearm, abdomen, thigh, or calf. You can purchase an Accu-Chek Fastclix lancet device for AST separately. It's important to know when you can and can't use AST for obtaining reliable results.

Flash Glucose Monitoring (FGM). The Freestyle Libre - A disc is applied to your arm, which has a sensor that lodges just under your skin and measures the glucose in the fluid surrounding the blood cells. When the Libre reader/meter (or smart phone) is 'flashed' over the sensor, the BGL is displayed. The information is stored and can be viewed numerically or in a graph. Each 'flash' will store your previous 8 hours BGLs so you know what your BGL has been doing over that time. Despite not being subsidised for people with type 2 diabetes, the Freestyle Libre can be useful for people requiring insulin therapy. It helps determine patterns of high and low BGLs over an extended period of time. Your GP and Diabetes Educator can use this information to determine if your insulin needs adjusting.

Continuous Glucose Monitoring (CGM). Continuously records BGLs via a sensor under the skin. Has alarm for low BGL. These are not subsidised for people with type 2 diabetes in Australia. Some finger pricks are still required to keep the device calibrated.



HOW TO CHECK YOUR BGLs

If unsure how to use your meter, read the instruction manual or call the customer care number. The steps below can be applied to most meters.

1. Make sure that your hands are clean and dry before you start.

If your finger is not clean, your meter may detect food or drink residue and result in a false higher reading. If your finger is not dry, the blood may be diluted resulting in a false lower reading. Alcohol wipes and hand sanitiser are not required or recommended to clean fingers as they can affect the accuracy of the result.

“



If you have poor circulation or difficulty obtaining blood after lancing, try washing your hands under warm water and/or rest your hand below your heart level to increase blood flow.

”



2. Check expiry date of monitoring strip.

3. Insert the strip into the meter and it will turn on.

Wait for the display to show when it's time to apply blood to the strip. If you feel you are slow getting your blood to the strip, and it times out, (meaning you have to start all over again), it's a good idea to insert the strip partially in preparation, but not far enough for the meter to turn on. Then when you're ready, insert the strip completely and wait for display before adding blood to strip.



4. Lancing finger.

The puncture depth of your lancet is generally displayed on the endcap with numbers, e.g. 1-5. Start on the lowest number, lance your finger on the outside pad of your fingertip; not the middle where there's a lot of nerve endings.

Wait five seconds! It's important to wait and allow the blood to get there. Squeezing immediately after lancing can act as a tourniquet and actually restricts blood flow. Even if you don't see any blood after five seconds, give a little squeeze.

If you have enough, great. If not, dial up to the next depth level on the lancet device and repeat this procedure. Very little blood is needed, it's not necessary to set the depth too high and cause discomfort.



5. Applying your blood to the monitoring strip.

When you have enough blood, push the strip into your meter completely (if you haven't already). Apply the blood to the end or side of the strip, depending on your brand of test strip, and it will be 'sucked up like a straw'.

6. Care of sharps.

Dispose your lancet needle into a puncture-proof container or a sharps container from your pharmacy. DO NOT put it straight into your rubbish bin. Contact your local council for guidelines if you're unsure.



“

If you're BGL is higher than you expected, ask yourself

“Did I wash my hands?”

”

It's important to know that meters have up to 15% variance on every test. So, you could test several times on the same finger and the results may vary.

However, results are valid if they're within 15% of your actual.

If you think your meter is reading incorrectly, contact the Customer Care number provided with your meter.



WHEN IS IT HELPFUL TO CHECK MY BGLs?

Your GP or Diabetes Educator will advise you how often and when to check your BGLs. There are three times that are most helpful.

1. When you wake in the morning.

A BGL check in the morning before food or drink, is known as a fasting glucose (FG). If FG is ≥ 7 mmols, this is diagnostic of diabetes. It is usually due to your liver releasing too much glucose overnight. Your liver will naturally release some glucose while you are sleeping to keep you alive. Sometimes in diabetes, it releases too much. A medication called Metformin helps prevent your liver releasing too much glucose overnight, your GP might be monitoring its effect by checking your FG level.

2. Paired monitoring (see template on page 27).

This is when you **check your BGLs before and two hours after a meal**. Checking at these intervals will indicate how well your body's insulin is able to clear the glucose out of your bloodstream from the meal you've eaten. It usually takes two hours for this process to happen, so your BGLs should be back down, or closer to the level you recorded before your meal.

It's helpful to use a record book or notepad to write down the meal you ate at this time. Try testing a different meal each day. You'll start to see the foods or drinks that cause your BGLs to rise. Maybe your meal was high in carbohydrate, which breaks down into glucose. If there's too much glucose in the bloodstream at once, your tired pancreas may struggle to make enough insulin to match it.

Try reducing the amount of carbohydrates you eat, then check again next time you have that meal. If you had a cup of rice and your BGLs have gone higher than you anticipated, maybe next time try $\frac{1}{2}$ or $\frac{3}{4}$ cup. Use cup measures so you know how much you have had and can adjust next time if you need to. It's a great learning experience.

Date	Breakfast		Lunch		Dinner		Food/Activity/Pain/Stress
	Before	After	Before	After	Before	After	
1	5.3	7.9					2 Weetbix, milk, black coffee.
2			9.1	8.6			Ham and cheese toasted sandwich and apple. (Had donut and coffee on milk an hour before lunch)
3					5.4	7.9	Spaghetti Bolognese (1 cup cooked pasta), 2 pieces garlic bread, glass of white wine - 125mls. Went for a 30 min walk before lunch. (my BGL was lower before dinner)
4	9.1	7.4					Had a bad night sleep, probably why FG is higher. Usual breakfast - 2 Weetbix and coffee
5			6.3	7.1			Small multigrain wrap with cold meat and salad, small chocolate bar
6					7.3	12.4	2 pieces of pizza and salad, milkshake

3. Before and after exercise (see page 84).

Checking your BGL before and after exercise will show how your body responds to that particular activity. This is especially important if you're taking medication that can cause your BGLs to go too low.



WHAT CAN AFFECT MY BGLs?

Factors that can increase your BGLs:

- Certain foods and drinks (think Glycaemic Index, see page 35, and portion size).
- Stress - emotional and physical stress.
- Illness and infection.
- Lack of sleep.
- Undiagnosed sleep apnoea.
- Increased waist gain (this will not be immediately noticed but will increase your BGLs over time).
- Physical inactivity.
- Some medications - cortisone is a common one.



“ Your BGLs will never be perfect all the time. You'll sometimes have high levels for unknown reasons. ”

“

Pain is a very common, and unrecognized cause of elevated BGLs. It's important to manage your pain (which is a stress to your body) to then manage your BGLs. Take pain relieving medication when your body needs it. It's just as important as your other medications.

”



Factors that can decrease your BGLs:

- Exercise will help lower your BGLs for hours after (despite sometimes an initial rise).
- Relaxation techniques.
- Diabetes medication.
- Insulin injections.
- Decreased waist measurement.



Blood Glucose Monitoring Templates

- Before breakfast is generally your fasting glucose and is taken before any food or drink.
- Before meals is checking within 30 minutes of commencing your meal.
- After meals is checking 2 hours after eating your meal.

Date	Breakfast		Lunch		Dinner	
	Before	After	Before	After	Before	After
Mon	5.3	7.9				
Tue	6.8	7.1				
Wed			9.1	8.6		
Thur			7.4	7.9		
Fri					5.4	7.9
Sat					7.3	8.4
Sun	5.6	10.2				

Date	Breakfast		Lunch		Dinner	
	Before	After	Before	After	Before	After
Mon						
Tue						
Wed						
Thur						
Fri						
Sat						
Sun						

Date	Breakfast		Lunch		Dinner	
	Before	After	Before	After	Before	After

Date	Breakfast		Lunch		Dinner	
	Before	After	Before	After	Before	After

Date	Breakfast		Lunch		Dinner		Food / Activity / Pain / Stress
	Before	After	Before	After	Before	After	

For a printable PDF go to: drivingdiabetes.com.au/free-templates-and-forms



FOOD CHOICES

There's no such thing as a special diet for diabetes. Healthier eating is the key!

To help manage your BGLs and to avoid weight gain, you may need to make some dietary changes.

Try to focus on:

- Smaller portions of carbohydrates that are high in fibre.
- Food and drinks low in added sugars.
- Food low in saturated fat.
- Foods from all food groups.
- More vegetables and salads.

Other factors to consider are:

- Eating smaller, regular meals.
- Avoid eating for comfort.
- Reducing alcohol.
- Drinking enough water.
- Be careful with your choices of takeaway foods.
- Allow yourself treat foods in small amounts.



EATING TO MANAGE DIABETES AND YOUR HEALTH

Let's start with the five food groups:

Many of you will be familiar with the five food groups. Eating the right amount from each food group will ensure that you're getting the nutrients you need to stay healthy.

The foods shaded in the table below are carbohydrates (carbs). As you can see, they can be found in all food groups. These carbs are made up of different sugars, however they all break down into glucose once digested.

To meet dietary requirements, we all need to eat some carbs. Eliminating carbs completely from these food groups can lead to nutrient deficiencies.

Dairy
Milk, Yogurt, Cheese

Milk Yogurt Smoothie Cheese String Cheese Cottage Cheese

Vegetable

Potatoes Corn Sweet Potatoes Broccoli Carrots Capsicum Avocado Asparagus Spinach Tomatoes

Fruits

Apple Banana Strawberries Blueberries Watermelon Grapes Orange Juice Mango Pear

Grains
Bread, Cereal, Pasta

Cereal Tortillas Rice Bread Pasta Popcorn Crackers Bagel Oats

Protein
Meat, Beans, Nuts

Beans /Lentils Eggs Hamburger Nuts Chicken Tofu Tuna Salmon Pork Chops

Extras

Cakes, biscuits, pastries, chocolate, ice cream, confectionery, crisps, soft drink, cordial.

Indicates Carbohydrates



MICRONUTRIENTS

The two types of micronutrients (micro meaning small), are vitamins and minerals. They are called this because we only need them in small amounts.

Vitamins and minerals each play a different but extremely important role in our health and wellbeing. This includes ensuring a healthy immune system, energy production, and formation of enzymes and hormones essential for growth and development.

Because our bodies can't make all the micronutrients we need, it's important to include foods from each of the 5 food groups every day to ensure we have adequate supply.

Foods containing vitamins and minerals include:

- Dairy products (milk, yoghurt and cheese).
- All vegetables.
- Wholegrain breads, cereals and legumes.
- Fruits.
- Nuts and seeds.
- Meat (lean meat, chicken and fish).



MACRONUTRIENTS

Macronutrients are proteins, carbohydrates (carbs) and fats (lipids). We use these substances for energy, growth, repair and to keep our body functioning. Macro means large and these macronutrients are required in large amounts.

Unlike micronutrients, each of the macronutrients provide energy in the form of kilojoules/calories (kJ/Cal).



Energy values of nutrients

Fat contains more than twice the amount of energy (kJ/cal) as carbs and protein per gram, closely followed by alcohol. We need to remember this when attempting waist loss, or even when just maintaining our waist measurement.

For maintenance it's important to only consume as much energy (kJ/cal) as our body needs to function - with a balance of carbs, protein and fats.

Unused energy is stored in fat cells throughout the body, which accumulate over time, and contributes to the visceral (hard) fat around your internal organs. This visceral fat is inflammatory to the body, which increases insulin resistance, blood pressure and cholesterol.

Cutting out any of the macronutrients (carbohydrate, protein or fats) completely will inevitably lead to an imbalance which can affect your ability to build muscle and burn fat effectively.



ALCOHOL

7cal per gram
29kj per gram



PROTEIN

4cal per gram
17kj per gram



FAT

9cal per gram
38kj per gram



CARBOHYDRATE

4cal per gram
16kj per gram



Driving Diabetes

FOODS WITH MACRONUTRIENTS

Foods containing Carbohydrate:

- Breads and cereals.
- Pasta, rice, couscous, noodles, barley.
- Fruit and fruit juice.
- Milk and yoghurt.
- Starchy vegetables (potato, sweet potato, taro and corn).
- Added sugar (cakes, biscuits, pastries, soft drink, sweets, chocolates etc).

Foods containing Protein:

- Meat products (beef, lamb, chicken, turkey, fish and pork).
- Meat alternatives (eggs, tofu, nuts, legumes; split peas, beans, chickpeas, lentils).
- Milk and milk products (milk, yoghurt, cheese, soy milk).

Foods containing Fat:

Saturated fats:

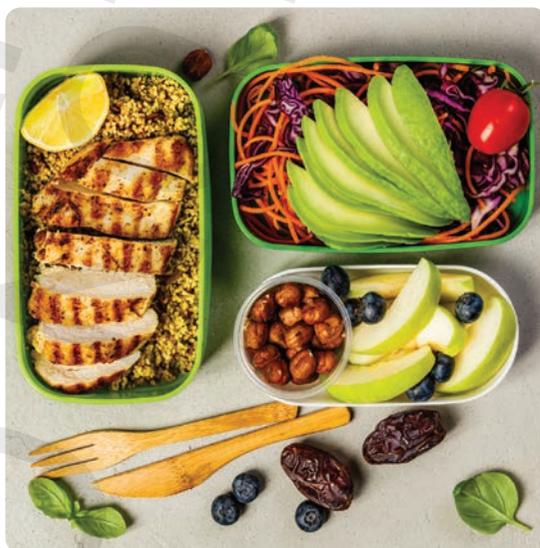
- Butter, cream.
- Animal fats.
- Palm oil, coconut oil.

Unsaturated fats:

- Unsaturated margarines.
- Olive oil.
- Canola oil.
- Avocado.
- Nuts and seeds.

Omega 3 fats:

- Oily fish.
- Canola oil.
- Nuts and seeds including linseed and walnut.



DIETARY RECOMMENDATIONS

- Aim to meet your food group targets each day.
- Aim to leave 2 ½ - 3 hours between meals.
- Experiment with paired monitoring to understand which foods affect your BGLs.
- Eat foods that are higher in fibre.
- Reduce foods that are highly processed and/or high in added sugar.
- Learn how to be aware and respond to hunger and fullness signals.
- Be aware of portion/serving sizes.
- Eat regular meals (with healthy snacks in between).
- Do not completely restrict any foods.
- Set small goals which are realistic and achievable.
- Show compassion for yourself if you slip up, be your own best friend.
- Develop other ways to manage stress to avoid emotional eating.



Make today the start of a healthier life...



Driving Diabetes

DAILY REQUIREMENTS

When you have type 2 diabetes, carbs tend to become a major focus when making food choices, and often various food groups are overlooked. Not meeting your body's requirements for certain nutrients can lead to deficiencies and may have a serious effect on your health.

Recommended daily serves from each food group for adults (not pregnant or breastfeeding):

Grains and Cereals	4 serves
Fruit	2 serves
Vegetables	5 serves
Dairy - Up to 50 years - Over 50 years	2-3 serves 4 serves
Meat and/or Meat Alternatives	2-3 serves

See Build Your Own meals and snacks from page 43 for what is considered a serve.

“

Meeting your dairy requirements will ensure you're getting enough calcium to help prevent osteoporosis. If you don't like dairy, other options are soy, tofu, nuts (especially almonds), canned sardines or salmon with bones.

”

“

Meat and eggs are great sources of vitamin B12, which is not found in many other foods. If you're vegetarian, vegan or have dietary requirements limiting these foods, see your Dietitian to discuss other alternatives or supplements. Approx. 10% of people taking Metformin (see page 93), have vitamin B12 deficiency, which is vital for brain and nerve function. Symptoms can include – fatigue, numbness or tingling, muscle weakness, poor balance, memory loss and anaemia.

”



CARBOHYDRATES

Carbohydrates (carbs) are an important part of a healthy diet and have many health benefits. As carbs directly impact BGLs, when you have diabetes, you need to consider the type and quantity of carbs you eat, as not all carbs are the same.

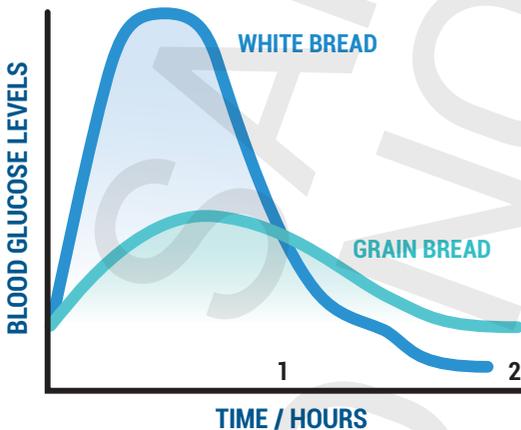
When you eat carbs, your body breaks them down into glucose to be absorbed into your bloodstream. This glucose is then used as energy by the cells in your body.

Glycaemic Index

Carbs are digested by your body and absorbed at different rates. Glycaemic Index (GI) is a measure of how quickly or slowly a carb food is digested, absorbed and increases BGLs.

Carbs that are digested slowly, release glucose into the bloodstream more slowly, and don't cause a fast rise in BGLs. This rate of glucose absorption requires less insulin to clear glucose out of the bloodstream. These are low GI foods.

Carbs that are digested quickly may cause a fast rise in BGLs and are called high GI foods. Your body may not be able to keep up with the insulin required to clear a fast rise in glucose. Eating foods with a low GI can help you control your BGLs and stay full for longer.



“ Generally low GI foods are high in fibre. The fibre is what slows the digestion process. So if you can't give away your white bread, look for high fibre varieties. Adding fibre to your meal e.g. vegetables, beans, legumes, will help lower the GI. ”



THIS vs THAT

Low GI foods in small amounts (see page 37), are helpful if you have prediabetes or type 2 diabetes, as they generally have less impact on BGLs.

The following table will assist you in choosing Low GI options:

Carb Food Sources	Low GI Foods Found to have less impact on BGLs	Higher GI Foods Found to have more impact on rise in BGL's
Bread	multigrain, traditional sourdough, wholegrain pita, pumpnickel, dense fruit loaf, wholegrain flour roti	white, wholemeal, dark & light rye, turkish bread, focaccia, crumpets, English muffins, white roti or naan
Breakfast Cereal	untoasted muesli, rolled oats (porridge), All Bran®, High Bran®, Wheat-Bix®, Guardian®, Special K®, Digestive 1st®, Up & Go®	instant oats, many commercial products - e.g. Cornflakes®, Rice Bubbles®, Mini Wheats®, Sultana Bran®, Cocopops®, Nutrigrain®, Sustain®
Grains	barley, semolina, quinoa, buck wheat	polenta, couscous
Pasta	wheat, vermicelli, fettuccini, ravioli, rice noodles	canned spaghetti, potato gnocchi
Noodles	soba, rice noodles	udon, instant
Rice	basmati long grain, doongara, wild, black, red, low GI brown rice, clever rice	jasmine, medium grain (white & brown), arborio, sushi rice
Lentils & Legumes	ALL (baked beans, lentils, kidney beans, black beans, chickpeas)	
Vegetables	most veg including corn, yams, potato- carisma, nicola, orange flesh sweet potato	potato- new, desiree, taro, purple sweet potato
Fruit	apples, oranges, mandarin, pears, peaches, grapes, kiwi fruit, banana, plums, berries, pineapple, figs	watermelon, cantaloupe/rockmelon, honeydew
Milk	cow's milk, soy, almond	rice, oat
Biscuits	multigrain crackers	sweet biscuits, rice cakes, water crackers, Cruskits
Other		cakes, pastry, sugar, jam, honey, maple syrup, chocolate, sweets, soft drink, cordial, fruit juice, potato chips, corn chips, ice-cream, custard.



CARBOHYDRATE SERVES

1 serve of Carb = 15g carb.

Generally, people with type 2 diabetes can manage:
Up to 2 serves of carb for main meals (30g) and 1 serve of carb (15g) for snacks.
Once diagnosed with diabetes, your body is producing far less insulin (up to 50% less) and may not be able to deal with the excess carb.



Here are some example of foods that equal 1 serve (15g) of carb.

Wholegrains Cereals	Fruit	Vegetable	Dairy / Alternatives	Meat / Alternatives
¼ cup natural muesli	1 medium apple/ banana/ orange/ pear	1 medium corn cob or ½ cup of corn kernels	1 cup milk	½ cup of cooked or canned kidney beans, chickpeas
1 ½ Weetbix®	¾ cup canned fruit (juice drained)	½ cup cooked or canned kidney beans, chickpeas or lentils	1 cup soy milk	½ cup of baked beans
½ cup rolled oats	½ cup 100% fruit juice (no added sugar)	1 medium potato or ½ cup mashed potato	200g tub natural yoghurt	¾ cup of cooked or canned lentils
½ cup of porridge or flake cereal	2 kiwi fruit, medium mandarins or plums	½ cup sweet potato	100g tub of fruit yoghurt	
1 slice of bread or fruit bread or ½ medium bread roll	1 ½ cups of fruit salad diced		1 small coffee/latte without sugar	
½ round pita bread	1 cup of berries		1 small sugar free hot chocolate	
1 round crumpet or ½ English muffin	1 ½ cups of diced melon		½ cup of low fat custard	
1 small wrap (45g) or 1 small roti/ chapati	½ cup of grapes			
11 rice crackers or 2 Ryvita® crackers	4 dried prunes			
4 Cruskits® or Vita-weat®	1 tablespoon of sultanas			
½ cup cooked noodles				
½ cup cooked pasta/ quinoa/ barley				
½ cup cooked rice/ couscous				

 Indicates Carbohydrates



Driving Diabetes

FREE FOODS

“ Remember milk is a carb. Coffee made on milk, such as a latte or cappuccino is not considered a free food. ”



The following foods are considered to contain minimal carbs and have very few kilojoules/calories.

Free Foods
Herbs and spices: Garlic, ginger, basil, coriander, sage, rosemary, chilli, pepper, cloves, turmeric, thyme, mixed herbs, Italian herbs, paprika, mint, parsley, lemongrass Condiments: Chilli/fish/soy/tabasco/tomato/Worstershire sauce, clear soup, curry paste, horseradish, mustard, stock, Vegemite, vinegar, wasabi
Vegetables: Asparagus, cabbage, carrot, cauliflower, green beans, beetroot, broccoli, brussel sprouts, tomato, cucumber, lettuce, mushroom, onion, peas, radish, silver beet, squash, watercress, zucchini
Drinks: Water, cocoa, coffee, diet cordial, herbal tea, unflavoured mineral water, tea

(Note: Many condiments are high in salt/sodium)

“ Caffeine can cause an elevation in BGLs due to activation of stress hormones. ”



PORTION SIZES



1 TBSP
Peanut Butter



1/2 CUP
Noodles, Rice, Oats



40 GRAMS
Cheese



1 SLICE | 25 GRAMS
Whole Wheat Bread



1 CUP
Milk & Yoghurt,
Cooked Vegetables,
Canned Peaches in
Natural Juice, Dry
Cereal, Apple



80-100 GRAMS
Chicken, Beef, Fish, Pork,
(Chicken Breast)



Be careful of portion distortion!

If you're unsure about portion sizes, use scales, cup measures or your hand to keep your serves in check. Use smaller serving plates at home to make your meals look larger, but make sure you have enough room for free veg.

Please note that all hand sizes are different and should be used as a guide only when you do not have access to scales.



PULLING IT ALL TOGETHER

Trying to calculate your daily dietary requirements can get very confusing, so we've tried to keep it simple for you by creating the following tables. You can independently select foods to build your own meals and snacks by using your allocated serves from the five food groups.

“

To prevent overwhelm in trying to change your diet overnight, start with making changes to one meal at a time until you're comfortable.

”



Step 1. Work out your daily requirements. See page 34.

Step 2. Choose 2 carb foods per main meal and 1 carb per snack. Include choices from each food group across the day using the build your own tables in the following pages.

Step 3. Complete your meal with non carb foods from various food groups to meet your day's requirements.

Example of how to spread your daily requirements of each food group across the day.

Age	Wholegrains & Cereals	Fruits	Vegetables	Dairy	Meat & Alternatives	Healthy Fat
51-70	4	2	5	4	2	2

	Breakfast	Morning Snack	Lunch	Afternoon Snack	Dinner	Evening Snack	Treat
MONDAY	1 W/grain	1 Fruit	2 Veg	Dairy 1	3 Veg	1 Dairy	1 Fruit
	1 Dairy		2 W/grain		1 W/grain		
			1 Oils		2 Meat		
					1 Dairy		
					1 Oil		



EXAMPLE OF PULLING IT TOGETHER

Here's an example of how you can incorporate the recommended serves from all food groups, while keeping your carbs down.

	Eggs on Toast with Coffee Latte	Fruit	Tuna, Cheese and Salad Sandwich	Yoghurt & nuts	Chicken & Veggie Stir Fry & Rice	Fruit
	Breakfast	Morning Snack	Lunch	Afternoon Snack	Dinner	Desert
MONDAY	1 slice bread = 1 carb = 1w/grain	1 banana = 1 carb = 1 fruit	2 slices w/ grain bread = 2 carb = 2 w/grain	1 small tub yoghurt = 1 carb = 1 dairy	$\frac{2}{3}$ cup cooked rice = 2 carb = 2 w/grain	1 cup frozen berries = 1 carb = 1 fruit
	1 small latte = 1 carb = 1 dairy		1 sliced tomato + 1 cup baby spinach = 0 carb = 2 veg	10g nuts = 0 carb = 1 oil	1 cup mixed frozen veg = 0 carb = 2 veg	
	2 eggs = 0 carb = 1 meat/alt		1 small tin tuna = 0 carb = 1 meat/alt		80g chicken stir fry strips = 0 carb = 1 meat/alt	
			$\frac{1}{4}$ avocado = 0 carb = 1 oil			
			2 slices of cheese = 0 carb = 1 dairy			
	= 2 carb	= 1 carb	= 2 carb	= 1 carb	= 2 carb	= 1 carb

 Indicates Carbohydrates



BUILD YOUR OWN EXAMPLES

BREAKFAST

Wholegrain Cereals Serves: 1	Fruit Serves: 1	Vegetable Serves: 1	Dairy / Alternatives Serves: 1	Meat / Alternatives Serves: 1	Oils Serves: 1
1/2 cup natural muesli	1 medium apple/ banana/ orange/pear	1/2 cup baked beans	1 cup milk	1/2 cup baked beans	25g avocado
1/2 cup rolled oats	1 cup of berries	1 medium tomato	1 cup soy milk or 2 cups of almond milk with calcium	2 eggs	10g nuts (unsalted)
1/2 cup bran flakes/ fibre cereal	1/2 cup canned fruit (juice drained)	1/2 cup mushrooms	200g tub natural yoghurt	170g tofu	1 tsp. sunflower seeds
1 slice wholegrain bread/ fruit bread	1/2 cup 100% fruit juice (no added sugar)	1/2 cup capsicum	1 small sugar free hot chocolate made with all milk	100g (small tin) canned tuna	2 tsp peanut butter
1 Weetabix / Vita wheat	1 1/2 cups fruit salad or dried melon	1 cup baby spinach	1 small sugar free hot chocolate made with all milk	30g nuts/ seeds	1/2 tsp. LSA
1/2 small English muffin	2 kiwi fruit, medium mandarin or plums	1/2 cup zucchini	1/2 cup of low fat custard		2 tsp margarine
1 round crumpet	4 dried prunes		2 slices (40g) cheese		1 tsp flaxseed oil
1 small wrap (45g) or 1 small roti/ chapati	1 tablespoon sultanas		150g cottage cheese		
	1/2 cup grapes		50g feta		

MORNING SNACK

Wholegrain Cereals Serves: 1	Fruit Serves: 1	Vegetable Serves: 1	Dairy / Alternatives Serves: 1	Meat / Alternatives Serves: 1	Oils Serves: 1
1 small wrap (45g) or 1 small roti/ chapati	1 medium apple/ banana/ orange/pear	1 medium potato or 1/2 cup mashed potato	1 cup milk	1/2 cup kidney beans / chic peas or lentils	25g avocado
1/2 medium bread roll	1/2 cup canned fruit (juice drained)	1/2 cup cooked sweet potato	1 cup soy milk or 2 cups of almond milk with calcium	1/2 cup baked beans	10g nuts (unsalted)
1 slice bread/ damper/ fruit bread or 1/2 medium bread roll	1/2 cup 100% fruit juice (no added sugar)	1 medium corn cob or 1/2 cup corn kernels	200g tub yoghurt	65g (cooked) lean beef/lamb/ pork/ ham/kangaroo (100g raw)	1 tbsp. sunflower seeds
1/2 round pita bread	2 kiwi fruit, medium mandarin or plums	1 cup mixed lettuce leaf or baby spinach	1 small all milk coffee/latte	80g (cooked) lean chicken/ turkey/ game/marinate (100g raw)	2 tsp peanut butter
1 round crumpet or 1 English muffin	1 1/2 cups fruit salad or dried melon	1 cup raw salad vegetables	1 small sugar free hot chocolate made with all milk	100g (small tin) canned tuna	1/2 tsp. LSA
11 rice crackers or 4 Vita wheat	1 cup berries	1 medium tomato	150g cottage cheese	120g prawns	1 tsp flaxseed oil
4 Cruskette/ or Vita wheat	1 cup grapes	1 medium tomato	50g feta	2 eggs	1 tsp oil, olive, regular
1/2 cup cooked noodles	1/2 cup grapes	1/2 cup capsicum	50g feta	2 eggs	1 tsp oil, olive, regular
1/2 cup cooked pasta/ quinoa/ barley	4 dried prunes	1/2 cup frozen mixed cooked vegetables	170g tofu	8 whole olives (drained)	
1/2 cup cooked rice/ couscous	1 tablespoon sultanas	1/2 cup cooked vegetables	30g nuts/ seeds		

Food Choices

LUNCH

Wholegrain Cereals Serves: 2	Fruit Serves: 1	Vegetable Serves: 1	Dairy / Alternatives Serves: 1	Meat / Alternatives Serves: 1	Oils Serves: 1
1 small wrap (45g) or 1 small roti/ chapati	1 medium apple/ banana/ orange/pear	1 medium potato or 1/2 cup mashed potato	1 cup milk	1/2 cup kidney beans / chic peas or lentils	25g avocado
1/2 medium bread roll	1/2 cup canned fruit (juice drained)	1/2 cup cooked sweet potato	1 cup soy milk or 2 cups of almond milk with calcium	1/2 cup baked beans	10g nuts (unsalted)
1 slice bread/ damper/ fruit bread or 1/2 medium bread roll	1/2 cup 100% fruit juice (no added sugar)	1 medium corn cob or 1/2 cup corn kernels	200g tub yoghurt	65g (cooked) lean beef/lamb/ pork/ ham/kangaroo (100g raw)	1 tbsp. sunflower seeds
1/2 round pita bread	2 kiwi fruit, medium mandarin or plums	1 cup mixed lettuce leaf or baby spinach	1 small all milk coffee/latte	80g (cooked) lean chicken/ turkey/ game/marinate (100g raw)	2 tsp peanut butter
1 round crumpet or 1 English muffin	1 1/2 cups fruit salad or dried melon	1 cup raw salad vegetables	1 small sugar free hot chocolate made with all milk	100g (small tin) canned tuna	1/2 tsp. LSA
11 rice crackers or 4 Vita wheat	1 cup berries	1 medium tomato	150g cottage cheese	120g prawns	1 tsp flaxseed oil
4 Cruskette/ or Vita wheat	1 cup grapes	1 medium tomato	50g feta	2 eggs	1 tsp oil, olive, regular
1/2 cup cooked noodles	1/2 cup grapes	1/2 cup capsicum	50g feta	2 eggs	1 tsp oil, olive, regular
1/2 cup cooked pasta/ quinoa/ barley	4 dried prunes	1/2 cup frozen mixed cooked vegetables	170g tofu	8 whole olives (drained)	
1/2 cup cooked rice/ couscous	1 tablespoon sultanas	1/2 cup cooked vegetables	30g nuts/ seeds		

AFTERNOON SNACK

Wholegrain Cereals Serves: 1	Fruit Serves: 1	Vegetable Serves: 1	Dairy / Alternatives Serves: 1	Meat / Alternatives Serves: 1	Oils Serves: 1
1 small wrap (45g) or 1 small roti/ chapati	1 medium apple/ banana/ orange/pear	1 medium potato or 1/2 cup mashed potato	1 cup milk	1/2 cup kidney beans / chic peas or lentils	25g avocado
1/2 medium bread roll	1/2 cup canned fruit (juice drained)	1/2 cup cooked sweet potato	1 cup soy milk or 2 cups of almond milk with calcium	1/2 cup baked beans	10g nuts (unsalted)
1 slice bread/ damper/ fruit bread or 1/2 medium bread roll	1/2 cup 100% fruit juice (no added sugar)	1 medium corn cob or 1/2 cup corn kernels	200g tub yoghurt	65g (cooked) lean beef/lamb/ pork/ ham/kangaroo (100g raw)	1 tbsp. sunflower seeds
1/2 round pita bread	2 kiwi fruit, medium mandarin or plums	1 cup mixed lettuce leaf or baby spinach	1 small all milk coffee/latte	80g (cooked) lean chicken/ turkey/ game/marinate (100g raw)	2 tsp peanut butter
1 round crumpet or 1 English muffin	1 1/2 cups fruit salad or dried melon	1 cup raw salad vegetables	1 small sugar free hot chocolate made with all milk	100g (small tin) canned tuna	1/2 tsp. LSA
11 rice crackers or 4 Vita wheat	1 cup berries	1 medium tomato	150g cottage cheese	120g prawns	1 tsp flaxseed oil
4 Cruskette/ or Vita wheat	1 cup grapes	1 medium tomato	50g feta	2 eggs	1 tsp oil, olive, regular
1/2 cup cooked noodles	1/2 cup grapes	1/2 cup capsicum	50g feta	2 eggs	1 tsp oil, olive, regular
1/2 cup cooked pasta/ quinoa/ barley	4 dried prunes	1/2 cup frozen mixed cooked vegetables	170g tofu	8 whole olives (drained)	
1/2 cup cooked rice/ couscous	1 tablespoon sultanas	1/2 cup cooked vegetables	30g nuts/ seeds		

DINNER

Wholegrain Cereals Serves: 2	Fruit Serves: 1	Vegetable Serves: 2	Dairy / Alternatives Serves: 1	Meat / Alternatives Serves: 1	Oils Serves: 1
1 small wrap (45g) or 1 small roti/ chapati	1 medium apple/ banana/ orange/pear	1 medium potato or 1/2 cup mashed potato	1 cup milk	1/2 cup kidney beans / chic peas or lentils	25g avocado
1/2 medium bread roll	1/2 cup canned fruit (juice drained)	1/2 cup cooked sweet potato	1 cup soy milk or 2 cups of almond milk with calcium	1/2 cup baked beans	10g nuts (unsalted)
1 slice bread/ damper/ fruit bread or 1/2 medium bread roll	1/2 cup 100% fruit juice (no added sugar)	1 medium corn cob or 1/2 cup corn kernels	200g tub yoghurt	65g (cooked) lean beef/lamb/ pork/ ham/kangaroo (100g raw)	1 tbsp. sunflower seeds
1/2 round pita bread	2 kiwi fruit, medium mandarin or plums	1 cup mixed lettuce leaf or baby spinach	1 small all milk coffee/latte	80g (cooked) lean chicken/ turkey/ game/marinate (100g raw)	2 tsp peanut butter
1 round crumpet or 1 English muffin	1 1/2 cups fruit salad or dried melon	1 cup raw salad vegetables	1 small sugar free hot chocolate made with all milk	100g (small tin) canned tuna	1/2 tsp. LSA
11 rice crackers or 4 Vita wheat	1 cup berries	1 medium tomato	150g cottage cheese	120g prawns	1 tsp flaxseed oil
4 Cruskette/ or Vita wheat	1 cup grapes	1 medium tomato	50g feta	2 eggs	1 tsp oil, olive, regular
1/2 cup cooked noodles	1/2 cup grapes	1/2 cup capsicum	50g feta	2 eggs	1 tsp oil, olive, regular
1/2 cup cooked pasta/ quinoa/ barley	4 dried prunes	1/2 cup frozen mixed cooked vegetables	170g tofu	8 whole olives (drained)	
1/2 cup cooked rice/ couscous	1 tablespoon sultanas	1/2 cup cooked vegetables	30g nuts/ seeds		

EVENING SNACK

Wholegrain Cereals Serves: 1	Fruit Serves: 1	Vegetable Serves: 1	Dairy / Alternatives Serves: 1	Meat / Alternatives Serves: 1	Oils Serves: 1
1 small wrap (45g) or 1 small roti/ chapati	1 medium apple/ banana/ orange/pear	1 medium potato or 1/2 cup mashed potato	1 cup milk	1/2 cup kidney beans / chic peas or lentils	25g avocado
1/2 medium bread roll	1/2 cup canned fruit (juice drained)	1/2 cup cooked sweet potato	1 cup soy milk or 2 cups of almond milk with calcium	1/2 cup baked beans	10g nuts (unsalted)
1 slice bread/ damper/ fruit bread or 1/2 medium bread roll	1/2 cup 100% fruit juice (no added sugar)	1 medium corn cob or 1/2 cup corn kernels	200g tub yoghurt	65g (cooked) lean beef/lamb/ pork/ ham/kangaroo (100g raw)	1 tbsp. sunflower seeds
1/2 round pita bread	2 kiwi fruit, medium mandarin or plums	1 cup mixed lettuce leaf or baby spinach	1 small all milk coffee/latte	80g (cooked) lean chicken/ turkey/ game/marinate (100g raw)	2 tsp peanut butter
1 round crumpet or 1 English muffin	1 1/2 cups fruit salad or dried melon	1 cup raw salad vegetables	1 small sugar free hot chocolate made with all milk	100g (small tin) canned tuna	1/2 tsp. LSA
11 rice crackers or 4 Vita wheat	1 cup berries	1 medium tomato	150g cottage cheese	120g prawns	1 tsp flaxseed oil
4 Cruskette/ or Vita wheat	1 cup grapes	1 medium tomato	50g feta	2 eggs	1 tsp oil, olive, regular
1/2 cup cooked noodles	1/2 cup grapes	1/2 cup capsicum	50g feta	2 eggs	1 tsp oil, olive, regular
1/2 cup cooked pasta/ quinoa/ barley	4 dried prunes	1/2 cup frozen mixed cooked vegetables	170g tofu	8 whole olives (drained)	
1/2 cup cooked rice/ couscous	1 tablespoon sultanas	1/2 cup cooked vegetables	30g nuts/ seeds		



BUILD YOUR OWN BREAKFAST

Examples of one serve (15g) carbohydrate foods highlighted in yellow.

Wholegrains Cereals	Fruit	Vegetable	Dairy / Alternatives	Meat / Alternatives	Oils
Serves:	Serves:	Serves:	Serves:	Serves:	Serves:
¼ cup natural muesli	1 medium apple/ banana/ orange/pear	½ cup baked beans	1 cup milk	½ cup baked beans	25g avocado
⅓ cup rolled oats	1 cup of berries	1 medium tomato	1 cup soy milk or 2 cups of almond milk with calcium	2 eggs	10g nuts (unsalted)
½ cup bran flakes/ flake cereal	¾ cup canned fruit (juice drained)	½ cup mushrooms	200g tub natural yoghurt	170g tofu	1 tbsp. sunflower seeds
1 slice wholegrain, wholemeal or fruit bread	½ cup 100% fruit juice (no added sugar)	½ cup capsicum	1 small all milk coffee/ latte	100g (small tin) canned tuna	2 tsp peanut butter
1 ½ Weetbix® / Vitabribs®	1 ½ cups fruit salad or diced melon	1 cup baby spinach	1 small sugar free hot chocolate made with all milk	30g nuts/ seeds	½ tbsp. LSA
½ small English muffin	2 kiwi fruit, medium mandarins or plums	½ cup zucchini	½ cup of low fat custard		2 tsp margarine
1 round crumpet	4 dried prunes		2 slices (40g) cheese		1 tsp flaxseed oil
1 small wrap (45g) or 1 small roti/ chapati	1 tablespoon sultanas		150g cottage cheese		
	½ cup grapes		50g feta		

 Indicates Carbohydrates



Driving Diabetes

BREAKFAST IDEAS

Muesli, yoghurt with berries and walnuts

- Natural muesli.
- Mixed berries.
- Walnuts.
- Low fat yoghurt.

Eggs on toast with avocado

- Multigrain toast.
- Avocado.
- Eggs.

Banana Smoothie

- Bananas fresh or frozen.
- Low fat yoghurt.
- Milk.
- LSA (Linseed, Sunflower, Almond mix).

Baked beans with sourdough bread

- Baked beans.
- Sourdough.

Porridge with Fruit and Walnuts

- Rolled oats (see packet for cooking instructions).
- Banana.
- Grated apple.
- Chopped walnuts.

“ Remember although avocado is a healthy fat, 1tsp of avocado is the same as 1tsp of butter in kJ/Cal. ”



If breakfast isn't an option for you, try a low-fat latte
= 15g carb which is equal to 1 serve.

We've not listed serving sizes for these examples deliberately. Not everyone can manage the same amount of carb, and you may want to vary your serving size of each carb in each meal. Check your BGLs before and 2 hours after your meal to determine the amount of carb that is right for you.



BUILD YOUR OWN MORNING SNACK

Wholegrains Cereals Serves:	Fruit Serves:	Vegetable Serves:	Dairy / Alternatives Serves:	Meat / Alternatives Serves:	Oils Serves:
1 small wrap (45g) or 1 small roti/chapati	1 medium apple/ banana/ orange/pear	1 medium potato or ½ cup mashed potato	1 cup milk	½ cup kidney beans / chic peas or lentils	25g avocado
½ medium bread roll	¾ cup canned fruit (juice drained)	½ cup cooked sweet potato	1 cup soy milk or 2 cups of almond milk with calcium	½ cup baked beans	10g nuts (unsalted)
1 slice bread/damper/fruit bread or ½ medium bread roll	½ cup 100% fruit juice (no added sugar)	1 medium corn cob or ½ cup corn kernels	200g tub yoghurt	65g (cooked) lean beef/ lamb/ pork/ ham/kangaroo (100g raw)	1 tbsp. sunflower seeds
½ round pita bread	2 kiwi fruit, medium mandarins or plums	1 cup mixed lettuce leaf or baby spinach	1 small all milk coffee/latte	80g (cooked) lean chicken/ turkey/goanna/ turtle (100g raw)	2 tsp peanut butter
1 round crumpet or ½ English muffin	1 ½ cups fruit salad diced	1 cup raw salad vegetables	1 small sugar free hot chocolate made with all milk	100g (small tin) canned tuna	½ tbsp. LSA
11 rice crackers or 2 Ryvita cracker bread	1 ½ cups diced melon	5 slices beetroot, canned	2 slices (40g) cheese	100g cooked (or 115g raw) fish	2 tsp margarine
4 Cruskits® or Vita-weat®	1 cup berries	1 medium tomato	150g cottage cheese	120g prawns	1 tsp flaxseed oil
½ cup cooked noodles	½ cup grapes	½ cup capsicum	50g feta	2 eggs	1 tsp oil, olive, regular
½ cup cooked pasta/ quinoa/ barley	4 dried prunes	½ cup frozen mixed cooked vegetables		170g tofu	8 whole olives (drained)
½ cup cooked rice/ couscous	1 tablespoon sultanas	½ cup cooked vegetables		30g nuts/ seeds	

 Indicates Carbohydrates



Driving Diabetes

MORNING SNACK IDEAS

Savoury Plate

- Wholegrain crackers.
- Avocado/tomato.
- Cheese slices or cottage cheese.
- Tomato slices.

Fresh Fruit, Veg and Nuts

- Piece of fruit (e.g. apple, pear).
- Vegetable pieces (e.g. snap peas, cherry tomatoes).
- Unsalted nuts (e.g. almonds, cashews, walnuts).

Fruit and Yoghurt

- Tub of yoghurt.
- Piece of fruit (e.g. berries or banana).



Banana Oat Pancakes with Greek yoghurt

- Banana.
- Eggs.
- Rolled oats.
- Baking powder.
- Greek yoghurt.
- Fresh fruit (optional).

“ Including some protein with carb will blunt the rise of BGLs and keep you full for longer. ”



Quick Snacks

- 30g fruit & nut packs.
- Small fruit tubs in juice.
- Yoghurt squeeze packs.
- Cheese & cracker packs.
- Nut bars (check total carbs).
- Boiled eggs.

We've not listed serving sizes for these examples deliberately. Not everyone can manage the same amount of carb, and you may want to vary your serving size of each carb in each meal. Check your BGLs before and 2 hours after your meal to determine the amount of carb that is right for you.



BUILD YOUR OWN LUNCH

Wholegrains Cereals Serves:	Fruit Serves:	Vegetable Serves:	Dairy / Alternatives Serves:	Meat / Alternatives Serves:	Oils Serves:
1 small wrap (45g) or 1 small roti/chapati	1 medium apple/ banana/ orange/pear	1 medium potato or ½ cup mashed potato	1 cup milk	½ cup kidney beans / chic peas or lentils	25g avocado
½ medium bread roll	¾ cup canned fruit (juice drained)	½ cup cooked sweet potato	1 cup soy milk or 2 cups of almond milk with calcium	½ cup baked beans	10g nuts (unsalted)
1 slice bread/damper/fruit bread or ½ medium bread roll	½ cup 100% fruit juice (no added sugar)	1 medium corn cob or ½ cup corn kernels	200g tub yoghurt	65g (cooked) lean beef/ lamb/ pork/ ham/kangaroo (100g raw)	1 tbsp. sunflower seeds
½ round pita bread	2 kiwi fruit, medium mandarins or plums	1 cup mixed lettuce leaf or baby spinach	1 small all milk coffee/latte	80g (cooked) lean chicken/ turkey/goanna/ turtle (100g raw)	2 tsp peanut butter
1 round crumpet or ½ English muffin	1 ½ cups fruit salad diced	1 cup raw salad vegetables	1 small sugar free hot chocolate made with all milk	100g (small tin) canned tuna	½ tbsp. LSA
11 rice crackers or 2 Ryvita cracker bread	1 ½ cups diced melon	5 slices beetroot, canned	2 slices (40g) cheese	100g cooked (or 115g raw) fish	2 tsp margarine
4 Cruskits® or Vita-weat®	1 cup berries	1 medium tomato	150g cottage cheese	120g prawns	1 tsp flaxseed oil
½ cup cooked noodles	½ cup grapes	½ cup capsicum	50g feta	2 eggs	1 tsp oil, olive, regular
½ cup cooked pasta/ quinoa/ barley	4 dried prunes	½ cup frozen mixed cooked vegetables		170g tofu	8 whole olives (drained)
½ cup cooked rice/ couscous	1 tablespoon sultanas	½ cup cooked vegetables		30g nuts/ seeds	

 Indicates Carbohydrates



Driving Diabetes

LUNCH IDEAS

“

To save time, make extra at dinner for lunch the next day. If you have a freezer at work, keep a frozen portion for if you forget lunch or are in a hurry.

”



Chicken and Feta Wrap

- Wrap.
- Mixed lettuce.
- Tomato.
- Carrot and cucumber.
- Feta.
- Chicken.
- Lemon juice drizzle.

Baked Potato

- Baked potato.
- Carrot and capsicum.
- Cheese.
- Kidney beans.
- Avocado.

Ryvita or Vita-Weat

- Low fat cream cheese.
- Flavoured tuna or salmon.

Baked Beans on Toast

- Baked beans.
- Sourdough or grain toast.

(Toasted) Tuna Sandwich

- Canned tuna.
- Cheese.
- Tomato.
- Baby spinach.
- Wholegrain bread.

Chicken Salad and Bread Roll

- BBQ chicken breast.
- Green leaf mix.
- Coriander.
- Cucumber.
- Cherry tomato.
- Olives.
- Avocado.
- Small dinner bread roll.

Soup (not packet Cup A Soup)

- Canned.
- Homemade.
- Fresh pouch (in supermarket).



We've not listed serving sizes for these examples deliberately. Not everyone can manage the same amount of carb, and you may want to vary your serving size of each carb in each meal. Check your BGLs before and 2 hours after your meal to determine the amount of carb that is right for you.

BUILD YOUR OWN AFTERNOON SNACK

Wholegrains Cereals Serves:	Fruit Serves:	Vegetable Serves:	Dairy / Alternatives Serves:	Meat / Alternatives Serves:	Oils Serves:
1 small wrap (45g) or 1 small roti/chapati	1 medium apple/ banana/ orange/pear	1 medium potato or ½ cup mashed potato	1 cup milk	½ cup kidney beans / chic peas or lentils	25g avocado
½ medium bread roll	¾ cup canned fruit (juice drained)	½ cup cooked sweet potato	1 cup soy milk or 2 cups of almond milk with calcium	½ cup baked beans	10g nuts (unsalted)
1 slice bread/damper/fruit bread or ½ medium bread roll	½ cup 100% fruit juice (no added sugar)	1 medium corn cob or ½ cup corn kernels	200g tub yoghurt	65g (cooked) lean beef/ lamb/ pork/ ham/kangaroo (100g raw)	1 tbsp. sunflower seeds
½ round pita bread	2 kiwi fruit, medium mandarins or plums	1 cup mixed lettuce leaf or baby spinach	1 small all milk coffee/latte	80g (cooked) lean chicken/ turkey/goanna/ turtle (100g raw)	2 tsp peanut butter
1 round crumpet or ½ English muffin	1 ½ cups fruit salad diced	1 cup raw salad vegetables	1 small sugar free hot chocolate made with all milk	100g (small tin) canned tuna	½ tbsp. LSA
11 rice crackers or 2 Ryvita cracker bread	1 ½ cups diced melon	5 slices beetroot, canned	2 slices (40g) cheese	100g cooked (or 115g raw) fish	2 tsp margarine
4 Cruskits® or Vita-weat®	1 cup berries	1 medium tomato	150g cottage cheese	120g prawns	1 tsp flaxseed oil
½ cup cooked noodles	½ cup grapes	½ cup capsicum	50g feta	2 eggs	1 tsp oil, olive, regular
½ cup cooked pasta/ quinoa/ barley	4 dried prunes	½ cup frozen mixed cooked vegetables		170g tofu	8 whole olives (drained)
½ cup cooked rice/ couscous	1 tablespoon sultanas	½ cup cooked vegetables		30g nuts/ seeds	

 Indicates Carbohydrates



Driving Diabetes

AFTERNOON SNACK IDEAS

Coffee

- Latte or iced coffee (without cream) made on all milk.

Fruit

- Fruit salad.

Cheese and Crackers

- Cheese.
- Wholegrain crackers.

Veggie Sticks and Hummus

- Vegetable sticks (carrot, capsicum, celery).
- Hummus (smashed chickpeas).

“ Although there's a variety of carbs in the following example meals, try to keep the total carbs down. Check your BGLs before and then 2 hours after your meal to see how much carb your body can manage. ”



Quick Snacks

- 30g fruit & nut packs.
- Small fruit tubs in juice.
- Yoghurt squeeze packs.
- Cheese & cracker packs.
- Nut bars (check total carbs).
- Boiled eggs.



BUILD YOUR OWN DINNER

Wholegrains Cereals Serves:	Fruit Serves:	Vegetable Serves:	Dairy / Alternatives Serves:	Meat / Alternatives Serves:	Oils Serves:
1 small wrap (45g) or 1 small roti/chapati	1 medium apple/ banana/ orange/pear	1 medium potato or ½ cup mashed potato	1 cup milk	½ cup kidney beans / chic peas or lentils	25g avocado
½ medium bread roll	¾ cup canned fruit (juice drained)	½ cup cooked sweet potato	1 cup soy milk or 2 cups of almond milk with calcium	½ cup baked beans	10g nuts (unsalted)
1 slice bread/damper/fruit bread or ½ medium bread roll	½ cup 100% fruit juice (no added sugar)	1 medium corn cob or ½ cup corn kernels	200g tub yoghurt	65g (cooked) lean beef/ lamb/ pork/ ham/kangaroo (100g raw)	1 tbsp. sunflower seeds
½ round pita bread	2 kiwi fruit, medium mandarins or plums	1 cup mixed lettuce leaf or baby spinach	1 small all milk coffee/latte	80g (cooked) lean chicken/ turkey/goanna/ turtle (100g raw)	2 tsp peanut butter
1 round crumpet or ½ English muffin	1 ½ cups fruit salad diced	1 cup raw salad vegetables	1 small sugar free hot chocolate made with all milk	100g (small tin) canned tuna	½ tbsp. LSA
11 rice crackers or 2 Ryvita cracker bread	1 ½ cups diced melon	5 slices beetroot, canned	2 slices (40g) cheese	100g cooked (or 115g raw) fish	2 tsp margarine
4 Cruskits® or Vita-weat®	1 cup berries	1 medium tomato	150g cottage cheese	120g prawns	1 tsp flaxseed oil
½ cup cooked noodles	½ cup grapes	½ cup capsicum	50g feta	2 eggs	1 tsp oil, olive, regular
½ cup cooked pasta/ quinoa/ barley	4 dried prunes	½ cup frozen mixed cooked vegetables		170g tofu	8 whole olives (drained)
½ cup cooked rice/ couscous	1 tablespoon sultanas	½ cup cooked vegetables		30g nuts/ seeds	

 Indicates Carbohydrates



Driving Diabetes

DINNER IDEAS

Spaghetti Bolognese

- Pasta.
- Tomato.
- Mixed cooked vegetables.
- Turkey or lean beef mince.
- Cheese.
- Herbs.
- Onion & garlic.

Prawn Fried Rice

- Rice.
- Onion & garlic.
- Capsicum.
- Corn.
- Peas.
- Prawns.
- Reduced salt soy sauce.

Chickpea Korma Curry

- Chickpeas.
- Broccoli/cauliflower/carrot.
- Cherry tomato.
- Korma paste.
- Sweet potato.
- Green Beans.
- Yoghurt.

Easy Meals

- Frozen fish ready to bake or steam in the microwave.
- Frozen vegetables for a side dish.
- Omelettes.
- Stir fries.
- BBQ chicken and salad wraps.
- Canned soup.



BUILD YOUR OWN EVENING SNACK

Wholegrains Cereals	Fruit	Vegetable	Dairy / Alternatives	Meat / Alternatives	Oils
Serves:	Serves:	Serves:	Serves:	Serves:	Serves:
1 small wrap (45g) or 1 small roti/chapati	1 medium apple/ banana/ orange/pear	1 medium potato or ½ cup mashed potato	1 cup milk	½ cup kidney beans / chic peas or lentils	25g avocado
½ medium bread roll	¾ cup canned fruit (juice drained)	½ cup cooked sweet potato	1 cup soy milk or 2 cups of almond milk with calcium	½ cup baked beans	10g nuts (unsalted)
1 slice bread/damper/fruit bread or ½ medium bread roll	½ cup 100% fruit juice (no added sugar)	1 medium corn cob or ½ cup corn kernels	200g tub yoghurt	65g (cooked) lean beef/ lamb/ pork/ ham/kangaroo (100g raw)	1 tbsp. sunflower seeds
½ round pita bread	2 kiwi fruit, medium mandarins or plums	1 cup mixed lettuce leaf or baby spinach	1 small all milk coffee/latte	80g (cooked) lean chicken/ turkey/goanna/ turtle (100g raw)	2 tsp peanut butter
1 round crumpet or ½ English muffin	1 ½ cups fruit salad diced	1 cup raw salad vegetables	1 small sugar free hot chocolate made with all milk	100g (small tin) canned tuna	½ tbsp. LSA
11 rice crackers or 2 Ryvita cracker bread	1 ½ cups diced melon	5 slices beetroot, canned	2 slices (40g) cheese	100g cooked (or 115g raw) fish	2 tsp margarine
4 Cruskits® or Vita-weat®	1 cup berries	1 medium tomato	150g cottage cheese	120g prawns	1 tsp flaxseed oil
½ cup cooked noodles	½ cup grapes	½ cup capsicum	50g feta	2 eggs	1 tsp oil, olive, regular
½ cup cooked pasta/ quinoa/ barley	4 dried prunes	½ cup frozen mixed cooked vegetables		170g tofu	8 whole olives (drained)
½ cup cooked rice/ couscous	1 tablespoon sultanas	½ cup cooked vegetables		30g nuts/ seeds	

 Indicates Carbohydrates



Driving Diabetes

EASY EVENING SNACKS

Dry Biscuits, Cottage Cheese and Fruit

- Dry biscuits.
- Cottage cheese.
- Fruit (strawberries, mandarin or pear).

Cottage Cheese Smoothie

- Reduced fat cottage cheese.
- Milk.
- Fruit (frozen berries, mango or other fruit).
- Vanilla essence.

More Ideas

- Yoghurt +/- berries.
- Cheese and crackers.
- 30g nuts.
- Cup of milk.
- Sugar free hot chocolate +/- made with low fat milk.
- Popcorn.
- Fruit.
- Fruit bread.

“ To avoid heartburn, acid reflux and indigestion, avoid eating large amounts directly before bed. ”



COOKING TIPS

Sometimes, simply changing the way you cook your food can make a difference in energy consumed and the overall nutritional value:

- Swap frying for oil free cooking methods such as **baking, steaming or grilling**.
- Instead of salt, **add herbs and spices** to season foods; for example, try adding parsley, rosemary, basil or mint.
- Marinate meat in **low kJ/Cal dressings**. For chicken, try lime juice, chilli, garlic or coriander marinade. For beef, try parsley, mint, onion, garlic or chopped tomato marinade.
- When cooking grains such as quinoa or rice or making soups use **salt reduced vegetable stocks**.
- For salads and **dressings try balsamic vinegar and olive oil** to replace creamier options.
- Replace full fat sour cream with **low or reduced fat Greek yogurt**.
- **Canned and frozen vegetables** are a perfect substitution if you do not have fresh vegetables on hand.



“

When baking: 1 cup of wheat flour = approx. 95g carb.
e.g. Vegetable slice made with 1 cup of flour divided
into 6 serves =15g carb per serve.

”



EXTRAS/TREATS

These foods don't contain essential nutrients, which is why they aren't included in our Build Your Own options. It's still okay to enjoy them; however, you may need to reduce the amount and/or frequency in which you consume them, as they are generally high in kilojoules (energy) and can increase your waist measurement and insulin resistance.

The following treat food and drinks contain 15g carb/1 serve

Common treat foods containing 1 serve (15g) of carbohydrate	
10 regular sized hot chips	4 squares of plain milk chocolate (30g)
3 tsp honey/jam/sugar	1 medium scoop of ice-cream (½ cup)
150ml regular soft drink	½ cup custard
2 tsp Milo in 200ml milk	2 plain sweet biscuits
150ml flavoured milk	1.5 sweet biscuits (e.g. Tim Tam)
1 party pie	3 hard lollies
1 small pack (50g) potato crisps	3 cups popcorn
½ slice large pizza	12 flavoured biscuits (e.g. shapes)
½ hot dog bun	½ cup regular jelly

Indicates Carbohydrates



“

Over time, consuming these types of foods in excess can lead to various health issues including obesity and chronic diseases such as stroke, type 2 diabetes and some cancers. If you're seeking to maintain a healthy sustainable weight, it's still okay to treat yourself on occasion.

”



WHAT'S IN TREATS?

High in added sugars	High in fat	High in fat & added sugars	High in alcohol
Energy drinks Fruit drinks	Bacon, ham, sausages	Biscuits, cake, slices	Beer
Honey	Butter, cream, ghee, dairy blends	Chocolate/bars	Liqueurs
Jams/marmalade	Crisps	Dessert, custards	Mixed alcoholic drinks
Some sauces	Meat pies, sausage rolls	Doughnuts, iced buns	Port
Sugar	Pastry	Ice cream, puddings	Sherry
Sugar confectionary	Pizza	Muesli bars	Spirits
Sweetened soft drinks and cordials	Potato chips and fries	Confectionary	Wines
Sweetened waters	Quiche	Some sauces/dressings	
Syrups	Salami, Mettwurst, Frankfurts	Sweet muffins	
	Processed deli meats	Sweet pastries and	
	Some sauces and dressings	Sweet pies, pastries and crumbles	
	Deep fried foods		

Eat for Health (2015), Discretionary food and drink choices

Diet soft drinks and cordials are generally sweetened with an artificial sweetener. These drinks may not affect your BGLs in the short term like sugar sweetened drinks do, however, because they don't have any nutritional benefit, they are also best enjoyed occasionally.'

“

It's okay to have treats.
Eat them slowly and mindfully,
enjoying every mouthful!

”



Driving Diabetes

TV WATCHING SNACK

Healthy snacks can be included in a nutritious eating plan, however too many snacks high in kJs/Cals may lead to weight gain.

Below are some healthy TV watching snacks. Each dot point = 1 snack.

Be aware of eating when you are not actually hungry

- 1 x oven baked mountain bread and $\frac{1}{4}$ cup tzatziki dip (cut mountain bread into pieces, lightly spray with oil and bake until crisp).
- 20-30g unsalted nuts.
- 6-8 water crackers + $\frac{1}{4}$ cup hummus.
- Vegetable sticks with $\frac{1}{4}$ cup hummus, tzatziki or salsa.
- 4 Vita-Weat crackers with cheese + vegetable toppings.
- 1-2 cups plain air popped popcorn.
- 200g tub yoghurt.
- 1 cup grapes.
- 1 orange sliced.



BEST TAKEAWAY CHOICES

The truth is, life can get busy and there are times when you are too tired or too busy to cook (and sometimes you just don't feel like washing the dishes – we get it!). We would always recommend having some easy, healthy options pre-prepared in the freezer for those times, but when you really want to have your meal cooked for you, here are some healthy meal swapping suggestions for you:



Feel like Mexican food?

GO FOR: Salsa dip, refried beans, chilli con carne and paella. When eating your tacos or burritos try to choose fish or lean meat, chicken or beans...and pack with salad!

LIMIT: Cheese, corn chips (such as Doritos) and sour cream.



Feel like Aussie food?

GO FOR: A baked potato with a small amount of ham and salad, BBQ chicken without the skin, grilled fish, grilled chicken burger (again, without the skin) and lots of salad, steak sandwich with salad, Subway six grams of fat or less options, plain burger with salad.

LIMIT: Margarine, sour cream fried or battered chicken or fish, steak sandwich with the lot, hamburger with the lot, mayonnaise, croissants, pies, pasties and sausage rolls.



Feel like Lebanese or Greek food?

GO FOR: Yiros with less meat and loads of salad, hummus, tzatziki, cabbage rolls or Greek salad.

LIMIT: Yiros with lots of meat, falafels, moussaka and baklava.



Feel like Italian food?

GO FOR: Pasta sauces with a tomato base and vegetables, plain bread, pizza with a thin base and preferably vegetarian with limited cheese, vegetarian lasagne.

LIMIT: Creamy pasta sauces, garlic bread, pan fried pizza with thick bases, bacon, salami and excessive cheese.





Feel like Asian food?

GO FOR: Clear soups, steamed dim sims, steamed spring rolls, braised steak or chicken, vegetables, sushi, boiled rice, noodles, fruit desserts.

LIMIT: Creamy soups, prawn chips, satay sticks, peanut sauce, fried spring rolls, wontons and dim sims, lemon chicken, honey prawns, plum sauces, fried or battered meats, fried rice, coconut cream, coconut milk, fried ice-cream.

Feel like something on the side?

GO FOR: Roast potato, salad with low fat dressing, plain vegetables or bread.

LIMIT: Wedges, sour cream, chips, creamy salad dressings, fried vegetables, cheese, cream, herb bread.



“

Be mindful of your carb serves
(see page 37)
when ordering takeaway foods.

”



Driving Diabetes

HYDRATION

Hydration

Water plays a significant role in our bodies. It's an essential nutrient; the body actually needs more water on a daily basis than any other nutrient. Water also plays an important role in the transport of other nutrients and waste products throughout the body. In addition to this, it participates in many important chemical reactions, protects our joints and helps to regulate body temperature.

Keeping your fluid levels up will help to maintain overall body health and support your organs to function effectively. Your brain sends the same messages when you are both thirsty and hungry. If you feel hungry and have eaten recently, try having a drink of water first to see if you were actually just thirsty.

Water

Water is the best drink choice for hydration and is recommended as the primary fluid source. Other fluids including tea, coffee, milk and unflavoured mineral water can help to make up your daily intake but shouldn't replace the role of water.

If you're struggling to reach your daily hydration requirements, the following suggestions may help:

- Sip on herbal tea – ginger and lemon, green tea or peppermint tea.
- Coffee and tea are okay in moderation.
- Unflavoured mineral water can replace soft drinks.
- Add fruit to your water such as fresh lemon or lime juice, watermelon or strawberries to give it a zesty flavour.

“ Favourite flavours:

To create a tasty alternative to plain water, infuse chilled water with cucumber, lemon, mint and ice cubes. ”



ALCOHOL

Although not a nutrient, alcohol does contain kJ/Cals, hence consuming it will add to your energy intake, which can hinder your weight loss goals. In addition, alcohol can affect your BGLs and increase your risk of liver and kidney damage, certain cancers, and high blood pressure. Drinking alcohol is never completely risk free. If you're finding it difficult to remove alcohol completely from your diet due to lifestyle and social practices, we suggest a moderate approach.

The Australian guidelines for alcohol consumption suggest a maximum of two standard drinks per day for adults, with two alcohol free days per week. Some medications, gender, age and mental health issues can all have an impact on the way your body reacts to alcohol and these should be an important consideration. If you're pregnant or breastfeeding, no alcohol consumption is the safest approach to take.

A standard drink provides 10g alcohol and is equal to:

- 285 ml of full-strength beer.
- 425 ml of low-strength beer.
- 100 ml of wine (red and white).
- 100 ml of champagne.
- 60 ml port or sherry.
- 30 ml of spirits.
- 275 ml bottle of ready-to-drink beverage (5 per cent alcohol content).



Please be aware, when you order a drink it may be bigger than the standard recommended size. For example, a standard glass of wine should not be filled to the very top!

- Have at least two alcohol free days per week.
- Alternate alcohol with water to avoid dehydration.
- Mix your wine or champagne with mineral or soda water to lower the alcohol content.
- Limit salty foods as they can increase cravings for additional drinks.
- Limit premixed drinks as they often contain a large amount of sugar and kilojoules.
- Avoid mixing alcohol with energy drinks. With high levels of caffeine and sugar, you can quickly forget you are supposed to be monitoring your alcohol consumption.



SUPPLEMENTS

Eating a wide variety of foods within the five food groups is the optimal way for most people to obtain the nutrients they need to meet daily nutrient requirements.

We don't promote the use of multivitamins or supplements as a complete replacement for the different food groups. However, in certain situations they may be necessary to help meet daily requirements.

Ask your GP...

Your GP or Accredited Practising Dietitian can help you determine whether you may need a vitamin or mineral supplement. A supplement might be recommended when;

- You are an older adult (+50).
- You are vegan or vegetarian.
- You are pregnant or breastfeeding.
- You have a medical condition that limits your food choices.

“

Please consult your GP or Accredited Practising Dietitian before beginning any vitamin or mineral supplements.

”



LIMITED ACCESS TO FOOD

Challenges for some remote communities:

Challenges for some remote communities and those at high risk of natural disasters:

- Lack of refrigeration.
- Healthy fresh foods are less available or more expensive.
- Lack of food for extended periods due to weather and/or road conditions, e.g., during the wet season.

It's important to know how to get your nutrients from foods usually available, that don't need refrigeration.



Examples of healthy canned foods are:

Canned Fruit (juice drained)

Includes apples, peaches, pears, apricots, mango, pineapple.

Canned Vegetables & Legumes

Includes baked beans, kidney beans, chick peas, lentils, tomatoes, mushrooms, beetroot, corn and peas.

Canned Soup

Includes minestrone, pea and ham, pumpkin, tomato.

Canned Fish

Includes tuna, salmon, sardines, mackerel.



IDEAS USING CANS AND PACKETS

Staples

- Spreads such as Vegemite, peanut butter, honey.
- Noodles, pasta, rice, flour, bread, crackers.
- Cereals such as rolled oats or Weetbix™.
- Milk powder or UHT (long life) milk.
- Eggs.
- Oils, Vinegar.

Increased fibre

- Baked beans on damper or usual bread.
- Mixed beans with rice.
- Add oats to the flour when making damper or bread.
- Canned fruit (drain juice) for snacks.

Increased protein

- Peanut butter on crackers.
- Boiled eggs.
- Nuts and seeds.

Increased calcium

- Add powdered milk to cereal.
- Canned sardines, pilchards, or salmon with bones.



MEAL & SNACK IDEAS

When fresh food is unavailable, here are some ideas to include a variety of nutrients.

Breakfast Ideas	Lunch Ideas	Dinner Ideas	Snack Ideas
Sardines on toast/bread	Baked beans on toast	Frozen fish with canned three bean mix and frozen vegetables	Canned fruit (juice drained)
Eggs on toast with canned whole tomatoes	Canned soup	Noodles with canned tuna and canned corn/peas	Crackers/dry biscuits with peanut butter
Baked beans on toast/bread	Crackers/dry biscuits with canned flavoured tuna	Omelette	Boiled eggs
Whole oat porridge with UHT or powdered milk	Boiled egg sandwich	Beef mince/ canned lentil Bolognese + pasta	Diet jelly with canned fruit (juice drained)
UHT or powdered milk smoothie with frozen fruit	Homemade rissoles with steamed frozen vegetables	Canned soup with toast or damper	UHT or powdered milk smoothie with frozen fruit
Canned fruit with frozen yoghurt tub	Baked potato with or without canned Bolognese sauce	Canned casserole with additional frozen vegetables/beans	Frozen yoghurt tubs
Damper with spread	Lentil and potato patties with canned beetroot	Stir fried frozen vegetables + chickpeas with rice	Nuts and seeds

“ Freeze fruit in season – mashed or sliced in small containers, ice cubes or freezer bags. Frozen fruit can be used to make smoothies and/or for a snack when fresh fruit is unavailable. ”



HOW TO READ FOOD LABELS

Reading food labels can be a simple task if you understand what to look for, and how to compare one product to another. Look for items which are lower in Energy (kJ/Cal), fats, sugar and sodium while being higher in dietary fibre. The following tips are most relevant to packaged and processed foods.

Here is an example of a product label which we will be referring to in this book for your reference:

NUTRITION INFORMATION			
	Servings per package: 2	Serving size: 200g	
	AVE. QUANTITY PER SERVING	%DI*PER SERVING	AVE. QUANTITY PER 100g
ENERGY	178kJ (43Cal)	2%	89kJ (21Cal)
PROTEIN	2.2g	4%	1.1g
FAT - TOTAL	Less than 0.1g	<1%	Less than 0.1g
- SATURATED	Less than 0.1g	<1%	Less than 0.1g
CARBOHYDRATES	6.8g	2%	3.4g
- SUGARS	5.7g	6%	2.9g
DIETARY FIBRE	2.2g	7%	1.1g
SODIUM	12mg	1%	6mg
POTASSIUM	485mg		243mg

This table shows the **servicing size** of the product is 200g (not the total product size). There are 2 x 200g servings in the product. Therefore, the total carb per serve of this product is 6.8g.



“

Use the quantity per 100g column when comparing products e.g. breakfast cereal vs breakfast cereal.

Use the quantity per serving column to calculate the amount of carbs or other nutrients in the amount of food you're eating.

”



Servings Per Package / Serving Size:

This is the recommended serving size based on advice from the product manufacturer. This tells you how much of the food you should be eating per serve. In the provided example the item should be consumed as 2 serves. The serving size explains this in terms of weight, as there are 2 serves of 200g, we can assume the packet size is 400g.

% Daily Intake (DI) Per Serving:

Labels will not always state the Percentage Daily Intake per serving. Percentage Daily Intakes are based on an average adult diet of 8700kJ. This is a rough guide and your energy needs may require less or more daily intakes per day.

Energy:

When looking at the 'Energy' panel on a food label, it's important to understand that in the first column the average quantity is 'per serving'. Looking at the example, there are 178kJ per serving of 200g. If you ate the whole item, you would need to double this number. The best way to compare the energy in different items is by looking at the 'Ave. Quantity per 100g' column. This allows you to accurately make a comparison based on the same amounts of food.



For a snack, look for less than 600kJ per serve.



Fat:

The total amount of fat in the item includes saturated, unsaturated and trans-fat

- Total fat, ideally, should be less than 10g of fat per 100g.
- Dairy products such as milk and yoghurt, look for less than 2g of fat per 100g.
- With saturated fat, aim for less than 2g per 100g; trans-fat less than 1g per 100g.
- Trans fats are not always listed on the label as our example shows.

Carbohydrate:

- Use the quantity per 100g column when comparing products e.g. breakfast cereal vs breakfast cereal.
- If you're counting carbs in a meal, look at the grams of total carb in the quantity per serving column. There can be more than one serving in the package, so if you eat more than one serving, you'll need to multiply the grams of carb by the number of servings you've eaten.
- See an Accredited Practising Dietitian to help you better understand carb counting and to calculate your individual requirements.



Sugars:

This figure indicates the added sugars portion of the 'total carb'.

- Sugars may also include natural sugar from fruit.
- Check the ingredients list to see exactly which sugars are included in the product.
- Look for products with less than 15g of sugar per 100g, unless the first three main ingredients are fruit then it rises to less than 20g per 100g.
- Drinks (with the exception of milk) should have even less sugar than foods. Look for those with under 1g per 100g.

Dietary Fibre:

- The recommended daily intake for fibre is 30g.
- Choose products higher in fibre which can assist weight loss and reduce your risk of bowel cancer.
- Aim for foods with at least 5g of fibre per 100g.
- Products which are high in fibre are digested more slowly and keep you full for longer.

Sodium:

- Sodium is another name for salt.
- Try to avoid eating foods high in sodium. High intake increases the risk of high blood pressure, heart attack and stroke.
- Look for foods with less than 120mg per 100g.
- Exceptions to the above are items such as bread and savoury crackers which generally contain more sodium. In these cases look for less than 400mg per 100g.



Compare products side by side and choose the option with less sodium

When you are aware of your individual requirements you can take this knowledge with you to the supermarket – understanding food labels will soon become a habit! Take a look in your pantry and see how your choices measure up.



MORE NUTRITIONAL INFORMATION

NUTRITION INFORMATION: Look for items which are lower in Energy (kJ), fats, sugar and sodium while being higher in dietary fibre.	
ENERGY	Snacks: less than 600kJ per serve
FAT - TOTAL	Total Fat: less than 10g of fat per 100g Diary: less than 2g of fat per 100g Oil and margarine: less than 1/3 total fat
- SATURATED	Saturated fat: less than 2g of fat per 100g
-TRANS	Trans fat: less than 1g of fat per 100g
CARBOHYDRATE	Total Carbs: 30g per serve or less for a main meal or 15g per serve for a snack*
-SUGARS	Sugars: less than 15g of sugar per 100g If first three ingredients are fruit: less than 20g per 100g Drinks: less than 1g per 100g (excludes milk)
DIETARY FIBRE	Dietary Fibre: at least 5g of fibre per 100g
SODIUM	Sodium BEST: less than 120mg per 100g Sodium GOOD: less than 400mg per 100g

*Paired Monitoring (see page 25) will help you learn how much carb per meal/snack your body can manage.

Alternative Names for Popular Ingredients		
Sugar	Fat	Salt
Sucrose, glucose, fructose, maltose, dextrose, lactose, syrup, malt extract, molasses, monosaccharides, mannitol, sorbitol, xylitol, raw sugar, brown sugar, invert sugar, modified carbohydrate.	Oil, shortening, tallow, lard, dripping, cream, copha, milk solids, monoglycerides, diglycerides, butter, margarine.	Sodium, rock salt, onion salt, celery salt, garlic salt, vegetable salt, MSG, meat extracts, yeast extracts, booster, stock cubes, baking soda, baking powder, sodium bicarbonate.



Low Fat

To bare the label of "low fat" a product must contain no more than 3 grams of fat per 100 grams. If it is a liquid item, it must contain no more than 1.5 grams per 100 grams.

Fat Free

To be classed as fat free a product must contain no more than 0.15 grams of fat per 100 grams. If you spot a product that is 90% fat free, just be aware that the other 10% is still going to be fat.

Cholesterol Free

The term "cholesterol free" can often mislead the consumer, as the only products which contain cholesterol are animal foods. If you see a plant based product labeled "cholesterol free", it doesn't really mean anything special. Just because a food is cholesterol free does not mean it is low in fat or energy.

Natural, Real or Fresh

Natural sounds good, doesn't it? Natural has many different meanings and shouldn't be relied upon as part of your decision making process. After all, sugar is natural and that does not make it good for us.

No Added Salt

While this is a good start, this simply means no salt has been added to the product. The food item may still contain a portion of natural salt.

Salt Reduced

Just like reduced fat, reduced salt simply means the product contains 25% less salt when compared to the regular version. This doesn't necessarily mean it is low in salt – but it is going to be better than the alternative.

Low Salt or Low Sodium

If a product is labeled low in salt, it is going to have less than 120 milligrams per 100 grams making it a healthier choice.



High Fibre

Fibre is important in aiding digestion and keeps you fuller for longer. To be classed as high fibre, a product must have more than 3 grams of dietary fibre per serving.

Gluten Free

Gluten Free is only required if you have Coeliac Disease. A product labeled Gluten Free must contain NO detectable gluten. Gluten Free products may be higher in sugar or salt, so check the label thoroughly.

Low GI

Low GI means the carbohydrate in the product is digested slowly and may slow the rise of glucose in your bloodstream. Be aware, the Low GI symbol does not necessarily mean the product is healthy.



Baked Not Fried

Yes, baked is going to be better than fried when you cook it yourself, but this is not necessarily the case when it comes to processed foods. It does not mean it is going to be low in fat or energy. Often products with the words oven baked or crunchy have added fat.

Wholegrain

There are currently no standards for labeling a product as wholegrain, so this claim could mean very little.

The Health Star Rating System

The Health Star Rating System has been designed to give consumers an overall nutritional profile of the packaged food, compared to other packaged food in the same category. The rating system starts at 1/2 star through to 5 stars with the more stars providing a more healthier choice. It is very important to remember that the star rating compares products in the same category e.g cereals compared to other cereals, crackers compared to other crackers. If you see 4 stars on a snack bar this is NOT equivalent to 4 stars on a cereal.

ALTERNATIVE NAMES

Just to add to the confusion, brands often use different names for common ingredients which we want to avoid.

Fat

Oil, shortening, tallow, lard, dripping, cream, copha, milk solids, monoglycerides, diglycerides, butter, margarine.

Sugar

Sucrose, glucose, fructose, maltose, dextrose, lactose, syrup, malt extract, molasses, monosaccharides, mannitol, sorbitol, xylitol, raw sugar, brown sugar, invert sugar, modified carbohydrate.

Salt

Sodium, rock salt, onion salt, celery salt, garlic salt, vegetable salt, MSG, meat extracts, yeast extracts, booster, stock cubes, baking soda, baking powder, sodium bicarbonate.



“ Try to ignore the big, bold claims listed on the packaging, and try to limit foods which are highly processed. Instead, select whole grain varieties, fresh foods and choose products with less added salt and more fibre. Limit foods high in sugar and saturated fat such as biscuits, cakes and pastries to special occasions and small amounts. ”



RECOGNISING HUNGER

In type 2 diabetes it is common for people to be less able to recognise hunger appropriately. Listen to your body and understand that it's normal to feel hungry three to five hours after you have eaten. Rate your hunger and become familiar with the signs by using a scale system throughout the day. Use a scale between 1 and 10. 1 being starving and 10 being extremely full.

Plan to eat when you feel hungry but not starving, around a level 3. Aim to finish eating when you are full, but not overly full, this is around a level 6.



The Hunger Scale



- It can take some time (20mins) for your stomach to communicate the message to your brain that you have had enough to eat.
- Eat more slowly by chewing your food well and tasting and enjoying each mouthful.
- Think about times when you have felt starving or overfull to help associate the numbers with the how they make your body feel.

What should hunger feel like?

- Empty stomach.
- Stomach rumbling.
- Dizziness, feeling faint or light-headedness.
- Headache.
- Irritable, agitated.
- Unable to concentrate.

By understanding and listening to your body, you'll become more familiar with how your hunger works. This may take time but you will begin to learn the signals.

Our bodies are all different and what works for you may not work for someone else. For example, you may notice that your body works more efficiently on either smaller, lighter, and more frequent meals, or it may work more effectively for you with three larger meals. (Kausman, 2008).



HELPFUL TIPS

Know Your Meal Plan

- It is important to know your meal plan, so you are less likely to get side-tracked or fall back into old habits.
- Educate yourself on serving sizes and prepare each day in advance. We suggest writing down your meals and snacks for the whole week.

Declutter Your Pantry

- A clean pantry will make it easier to see which ingredients you have, and what you need to stock up on.
- Eliminating those unhealthy options, you won't be tempted to snack on them when you know you shouldn't.
- Try grouping foods into categories and by how frequently you use them.
- Try using labels and get rid of anything that is past its used by date or shouldn't be part of your new way of eating.

Focus on Nutrients Not Kilojoules / Calories

- Calorie counting is not sustainable, and it is definitely not enjoyable.
- It will take time, but you will learn to change the way you view food.
- Just because two foods contain the same calories doesn't mean they have the same nutrition to fuel your body.
- Start considering the quality of the food instead. By learning about the foods that best suit your body, knowing your portion sizes and allowing yourself the occasional treat you will be more likely to see the results you are looking for.

Ignore the Scales

- Scales cannot differentiate between muscle and fat (always remember that muscle weighs more than fat), so the best way to monitor your success is not by how heavy you are but the size of your waist.
- Change your behaviours and create habits so you're focused on improving your health, feeling stronger and/or more flexible, and energised, rather than losing weight.
- Feel the difference in how your clothes fit, are they getting looser? This is the true sign you're on track.

“ Creating new, healthier habits can be more sustainable long term than relying on willpower which, like muscles, can become fatigued. ”



FOOD SAFETY

Which foods can cause food poisoning?

Some foods are more susceptible to contamination than other foods, such as meats, seafood, dairy products and other food that requires refrigeration.

Temperatures between 5°C to 60°C are optimal for bacterial growth and are known as the temperature danger zone. Foods that require refrigeration should be stored below 5°C and foods that are being served hot should be reheated or stored at temperatures greater than 60°C.

Insects, such as flies and cockroaches, and rodents such as rats and mice, can also spread bacteria when they crawl or walk over it.

Avoid food poisoning

- Always clean your hands, bench tops, and utensils before, during, and after preparing food using warm water and detergent.
- Keep raw foods (meat, chicken, seafood) away from other food in the fridge.
- Cook food all the way through and reheat food until it is steaming hot.
- Avoid the temperature danger zone and keep foods below 5°C (or hot foods above 60°C).



Best before date and use by date

Foods with a 'best before' date can be sold and used after that date, provided the food is not damaged or it has not deteriorated or perished.

A 'use by date' must be displayed on foods that deteriorate and can cause a significant health risk after a certain time. The 'use by date' tells us when the food is no longer safe to eat. Foods should not be sold after this date.



COMMON DIETS & DIABETES



Diets can come with many health claims, particularly promising to help lower BGLs and assist with weight loss. Regardless of the claims, dieting can be very restrictive, and if nutrients are not replaced to meet daily requirements, then deficiencies can occur.

Diets are generally not sustainable long term. You may notice weight loss, improved blood glucose and blood pressure control initially; however, in 2020 the British Medical Journal published a study showing the benefits of most diets rarely last beyond a year.

A long-term healthier eating approach rather than short term dieting may be best for people with diabetes. Combine this with regular physical activity, managing your stress levels and staying hydrated.

Everybody's needs are different, and there is no 'diet' that will suit everyone. The most effective diet is one you can stick to (usually with small but sustainable changes), which incorporates food from every food group.

If you're considering any diet at all, it's important to see a Dietitian. A Dietitian can help you with meal planning and advise you about nutritional supplements where necessary.



Detoxing Diets:

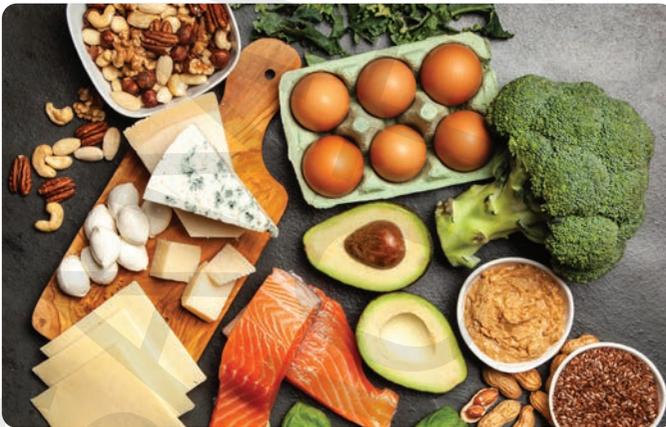
Your body will detox on its own, and as our systems are tightly regulated, detoxing happens continuously. The liver and kidneys are well equipped to detoxify - by removing waste and toxins like alcohol, medication, bacteria and by-products of our digestion. The best thing you can do to help your body is to include foods high in antioxidants, vitamins and minerals, and avoid over consuming toxins from processed foods and alcohol. Detox diets are not based on sound evidence and can be expensive.

Clean Eating/Plant based Diet:

These diets are designed to eliminate processed foods and salt (sodium), while increasing fruit, vegetable and wholegrain carbs.

Pros: Certain aspects of these diets can be useful. We know that reducing processed foods, reducing alcohol, increasing our intake of fruit and vegetables and wholegrains has important health benefits for everyone, including people with diabetes.

Cons: These diets can be restrictive and unbalanced, especially if you're cutting out foods groups and not replacing the lost nutrients.



Ketogenic Diet:

The ketogenic (keto) diet is a very low-carb, high-fat eating plan. The diet includes mainly fat, whether that's unsaturated fats like nuts, seeds, and avocados, or saturated fats like butter and coconut oil. The diet strictly limits carbs, even those that are considered healthy, such as beans, whole grains, milk, and many types of fruits and vegetables. The keto diet limits carbs to less than 50 grams per day. To put that in perspective, one medium apple has 15 grams of carbs.

After a few days of the keto diet, it is expected that the body runs out of glucose. So, it starts burning body fat instead. In nutritional ketosis, the body creates fatty acid substances from fat called ketones, which your body can use for energy.

Though the diet may lower BGLs, it can increase risks of hypos, especially if you're taking blood glucose lowering medication. Let your GP or CDE know if you're wanting to try the keto diet.



The Paleo Diet

The Paleo diet is based on the types of food presumed to have been eaten by our Stone Age ancestors. The aim of a Paleo diet is to return to a way of eating that's more like what early humans ate, and that the human body is genetically mismatched to the modern diet. However, there are no long-term clinical studies about the benefits of the diet. Paleo diets consist mainly of meat, fish and vegetables.

The food groups avoided in the Paleo diet are cereal products including whole grains and legumes, which are considered good sources of fibre, and dairy foods including milk, cheese and yoghurt which are good sources of protein and calcium.

Cutting out food groups can be detrimental to your health, unless supplements and/or food with the required nutrients are considered.

the 5:2 Diet

5 days of normal eating 2 days of partial fasting



Intermittent Fasting (5:2 Diet)

The 5:2 intermittent fasting diet is based on 5 days a week of meeting daily kilojoule/calorie intake recommended for people of a healthy weight, approximately 8700kj/2150cal.

For the other 2 days of the week, food intake is restricted to around 25% of the recommended kilojoules/calories, approximately 2200kj/550cal.

The fasting days can be taken at any time during the week as long as you do not take 2 fasting days consecutively.

Pros: The fasting days force the body to use stored energy from fat and stored glucose (glycogen), which may help with weight loss and improve blood glucose and cholesterol levels.

Cons: If you are on insulin, or sulphonylurea medication, this diet could significantly increase the risk of hypoglycaemia (hypos). Your GP or Dietitian can advise you on whether the diet is appropriate.



Gluten Free Diet

Gluten is a type of protein found in wheat, barley, rye and triticale. People with coeliac disease need to avoid gluten. Coeliac disease is a condition where the body's immune system reacts to glucose and causes inflammation to the small intestine.

If you don't have coeliac disease you don't need to follow a gluten-free diet, as there's currently no evidence of any great health benefits compared with other diets designed for people with type 2 diabetes.

It's estimated 6% of people with type 1 diabetes also have coeliac disease. Research suggests that there may be a genetic link between the two autoimmune conditions coeliac disease and type 1 diabetes. Both conditions have an inflammatory component, which causes the immune system to attack the body's tissues or organs, such as the intestines or pancreas.



Mediterranean Diet

A traditional Mediterranean diet will focus on fresh food rather than processed food and includes mainly oily fish, poultry, fresh fruit and vegetables, legumes, fresh bread and pasta. A Mediterranean diet typically also includes fat from feta and mozzarella cheeses, yoghurt, olive oil, avocado and nuts.

The main vegetables used are tomatoes, capsicum, olives, onions, rocket and lettuce.

Protein sources are usually beans nuts, seeds, eggs, chicken and a moderate amount of red meat.

Pros: Mediterranean diets are rich in fruit, vegetables and fibre. The combination of these foods may help people with diabetes control their blood glucose levels.



~~Diabetes Diet~~ Everyday Eating

As already mentioned, there is no such thing as a Diabetes Diet or need to eliminate any food groups. We recommend that all people (not only those with diabetes) focus on healthier eating to ensure adequate supply of nutrients for healthy brain function, bone growth, muscle repair and much more.

For People with Type 2 Diabetes

There is no need to totally avoid any food groups. Allow yourself to eat a variety of foods in moderation, to meet your daily nutrient requirements. Many diets are proven to assist with weight loss and help manage BGLs, however be mindful that most diets are very restrictive, and are most times unsustainable long term.

You may need to decrease certain foods that directly affect your BGLs, for example, portion size and frequency of carbohydrate foods. Other foods that can indirectly affect your BGLs are foods high in saturated fat which are high in calories/kilojoules. These foods can lead to weight gain, resulting in increased insulin resistance.

Focus on:

- A variety of fresh fruit and vegetables.
- Small amounts of low GI carbohydrates.
- Healthy fats.
- Lean meat or other protein sources.
- Less processed foods and added sugars.
- Limited alcohol consumption.
- Being mindful of portion sizes.
- Avoiding snacks when you're not truly hungry.



GETTING PHYSICAL



“ **When you use your muscles, the glucose stored in these muscles is used.** The muscle cells will then need to refuel. This means they will be more sensitive to insulin and will absorb glucose more efficiently from your blood for at least the next 20 hours. ”

Globally, according to the World Health Organization (WHO), 1 in 4 adults aren't active enough. This is contributing to the increase in cardiovascular disease, diabetes and cancer. The WHO define physical activity simply as body movements which use your muscles and require energy. Eg. activity while working, playing, performing household chores, and participating in recreational activities to name a few. All movement has a health benefit.

Exercise is a subcategory of physical activity and is planned, structured, repetitive with the aim of improving or **maintaining your functionality and fitness.**

“ Find exercises that you enjoy and will continue long term. **Focus on positive physical and emotional changes to your body.** ”



Benefits of being physically active:

- ✓ Moving more easily, comfortably and efficiently.
- ✓ Feeling stronger mentally to handle challenges more confidently.
- ✓ Being able to sleep better and have more energy through the day.
- ✓ Having less aches and pains as your muscles strengthen and support you.
- ✓ Feeling more confident as you increase slowly what you're able to accomplish.
- ✓ BGLs, blood pressure and cholesterol in a safer range.
- ✓ Becoming involved socially with new people through your exercise.
- ✓ Developing the strength, mobility and ability to attempt new adventures you thought you'd never be able to do.
- ✓ Reducing your waist circumference.
- ✓ Potentially reducing your medication as your body may no longer need them.



PREPARING TO GET PHYSICAL



“ **For your own safety, it's important to make sure you speak to your GP or an Accredited Exercise Physiologist (AEP) before you start any exercise program.**

AEPs are university qualified allied health professionals equipped with the knowledge, skills and competencies to design, deliver and evaluate safe and effective exercise interventions for people with acute, sub-acute or chronic medical conditions, injuries or disabilities.

”

If you are experiencing tingling, numbness or altered sensation in your feet, this can affect your balance and may mean other nerves could be affected too. Talk to your EP who can ensure your exercise is safe and keep an eye on your balance, blood pressure and heart rate until they are confident you are safe with this exercise. See your Podiatrist about correct footwear and how to check your feet for signs of injury.

“

Have your feet checked by a podiatrist prior to commencing your planned exercise. You can prevent injuring your feet by wearing well-fitted socks and shoes and checking your feet daily for any signs of injury.

”



- Take a bottle of water with you and stay well hydrated.
- Have identification to carry with you which lists your health conditions and current medications.



“

If you have existing diabetes complications such as eye or kidney problems, check with your diabetes specialist if it is safe to do certain types of activity.

”



BGLs AND EXERCISE

Everyone will respond differently to physical activity. For people not taking blood glucose lowering medication such as insulin or sulfonylureas (see page 95) there is no need to be checking BGLs more regularly. However, it is a great learning experience to demonstrate how your BGLs decrease as your muscles utilise the glucose from the bloodstream.

For people at risk of hypos checking BGLs more regularly will help to prevent or treat low BGLs during and/or after exercise. Here's when to check your BGL to assess your body's response to certain physical activities:

- Prior to exercise.
- Immediately after exercise.
- Before bed.

When starting a new type of exercise, or if you're increasing the intensity or duration of an exercise, check your BGLs at 2-hours, 4- hours and 6-hours after exercise. Eat some food containing carb if necessary, to prevent hypos. Depending on the type of exercise, muscle recovery can require more glucose than you have available in the bloodstream. This may increase your risks of hypos if taking blood glucose lowering medication.

“ Depending on the type of exercise, muscle recovery can require more glucose than you have available in the bloodstream. This may increase your risks of hypos. ”



For people at risk of hypos:

- Ensure you are above 5mmols before exercise. If you are below 5mmols, have some slow acting carb (e.g., fruit, toast, glass of milk, tub of yoghurt) to ensure your body has enough glucose in the blood to sustain exercise.
- If you are often having to eat to raise your BGL prior to exercising, speak with your GP or Diabetes Educator about reducing your insulin or medication days you plan to exercise. You should not need to eat to 'keep up with your medication'.
- Always carry your blood glucose meter, your hypo kit (with fast and slow acting carb) and your hypo plan. See pages 111-116.
- Avoid vigorous activity if your BGL is above 15mmols and discuss with your GP or Diabetes Educator if your BGL is above 15mmols regularly.
- Exercise after a main meal with sufficient carbs to reduce the risk of hypos.
- Check your BGL immediately after exercise, especially if planning to drive home.



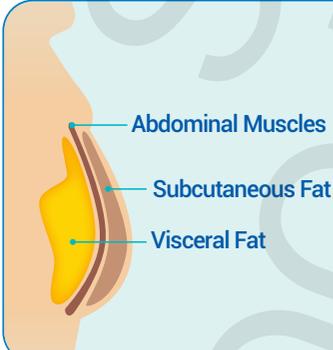
AEROBIC EXERCISE

Aerobic exercise is often called 'cardio' and results in:

- Oxygen being used to help your body break down glycogen (stored glucose) and fat for energy.
- An increase in your heart rate and breathing.
- Your being more efficient in carrying oxygen to the rest of your body.
- Increased endurance.
- Strengthening and improving the health of your heart and lungs.

The following table shows examples of aerobic exercise.

Moderate Intensity	Vigorous Intensity
Walking briskly or up a hill	Jogging, running
Aqua or low impact aerobics	Yoga – advanced
Dancing	Fast cycling (>16 km/hr)
Boxing – punching bag	Hiking, mountain climbing, digging
Yoga – beginners	Lifting, carrying heavy object
Social relaxed tennis	Organised or competition sports
Golf	Treading water, swimming laps
Housework – scrubbing, cleaning	Boxing – sparring, skipping
Horse riding	Most aerobic machines
Pushing a stroller	Wheeling a wheelchair
Raking leaves	Martial arts



Abdominal Muscles

Subcutaneous Fat

Visceral Fat

“ No one particular exercise is proven to reduce your waist measurement, but we do know that moderate-intensity aerobic exercise is very useful in the fight against belly bulge.

Follow the guidelines on page 89 and you will be on the right track to shrinking the centimetres around your belly. ”




AEROBIC EXERCISE INTENSITY

“

The 'intensity of exercise' refers to how much energy you're using during exercise. It's a measure of how hard physical activity feels to you while you're doing it.

This is also known as your Perceived Rate of Exertion or RPE for short.

”



The BORG scale below can help you measure how hard your body is working when you exercise. The aim is to be in the moderate section. If you're able to sing while exercising, you're not working hard enough. If you're not able to talk, you're working too hard and need to pull back on your intensity.

1-10 Borg Rating of Perceived Exertion Scale

0	Rest	Sleeping
1	Very Easy	Relaxing - watching TV or reading a book
2	Easy	I could happily do this all day long
3	Moderate	I'm breathing a little harder now, but not out of breath; I can talk but can't sing
4	Moderate	I have a light sweat after 10mins activity, but can talk easily with a friend
5	Moderate	I'm not feeling as comfortable now, I'm sweating more but can still talk easily
6	Vigorous	It's harder to talk now as I'm more breathless; I'm sweating after only a few minutes
7	Vigorous	I can still talk but don't want to; I'm really sweating now!
8	Vigorous	I can only say few words before taking a breath!
9	Maximal	Feels like I'm being chased by a lion
10	Maximal	The lion has won!



Jim's Monday Workout

Aerobic Exercise	Mins	RPE
Cycling	30	4
Walk to the Shops	10	3



RESISTANCE EXERCISE

- Resistance exercise breaks down glycogen for energy without using oxygen.
- This type of exercise involves short bursts of intense movement, making your muscles work against a weight or a force, which may help you burn fat and build lean muscle mass.
- Resistance exercise is great for weight and waist (visceral fat) management because the more muscle you build, the more kilojoules/calories you will burn, even when resting.
- If performed regularly, this type of exercise can reduce the inflammatory effects of visceral fat and a decrease in blood pressure and/or cholesterol levels.
- Resistance exercise has been shown to help assist your insulin to work more efficiently.

“ Resistance exercise, or strength training, is recommended for people with type 2 diabetes of all ages. ”



- Sets and Reps are terms used to guide your strength workouts, so you can assess progress towards your goals.
- Reps, short for repetitions, are the action of one complete strength training exercise, like one push-up. If you can do 3 push-ups, this is 3 reps.
- Sets are how many reps you do in a row between periods of rest. i.e., If you can do 3 push-ups then have a rest, this is one set of 3 reps.
- Resistance training exercises should be challenging, once you can achieve the required sets and reps increase the challenge of each exercise; add resistance, change the exercise type etc.

For a comprehensive full body resistance program try and complete:

3-4 upper limb exercises	3-4 lower limb exercises	2-3 core/trunk exercises
Push-Ups (floor, wall or bench) Row (resistance band) Shoulder Press (resistance band, dumbbells etc.) Tricep Extension (resistance band)	Squats Lunges Calf Raises Step-Ups	Sit Up (partial or full) Side Bridge (knees or full) Plank (knees or full)



Increase Resistance Exercise by:

- Aiming to do at least 2 sessions of resistance exercise each week. You may need to start with only a few different exercises.
- Adding 1 new exercise at a time to your routine as you are able.
- Eventually building up to 10 different exercises in a workout.
- Increasing sets and reps as you get stronger.

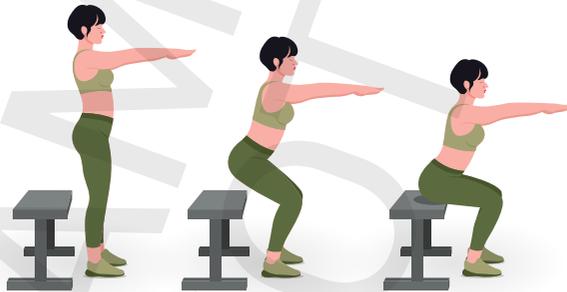


Wall Push-Up

Mary's Monday Workout			
Exercise	Sets	Reps	KGs
Wall Push-Ups	3	6	
Bicep Curls	2	5	2kg
Sit to Stand or Squats	3	10	



Bicep Curls



Sit to Stand Squats

Example:

Mary is doing wall push-ups.

- She does 6 (reps) wall push-ups which will equal 1 set.
- She then repeats these 6 wall push-ups three times.
- She has now accomplished 3 sets of 6 push-ups.
- Mary has completed 3 (sets) X 6 (reps) push-ups.
- Now she will have 1-2 minutes rest before starting her next exercise.



Many exercises can be done in your home with or without equipment.

Place images of suitable exercises around your home, to create your own exercise stations or circuit.



PUTTING IT TOGETHER

Exercise Guidelines

- Start with at least 10 minutes of aerobic exercise daily.
- Slowly increase to 30-45 minutes each day as you're able.
- Include muscle strengthening activities, known as resistance exercise, at least 2-3 days each week.

Sample Exercise Planner

Monday:	Aerobic Exercise, Resistance Training
Tuesday:	Aerobic Exercise
Wednesday:	☺ Rest Day (Active - day off from any structured exercise)
Thursday:	Aerobic Exercise, Resistance Training
Friday:	Aerobic Exercise
Saturday:	Resistance Training (Active Weekend)
Sunday:	☺ Rest Days (Active - day off from any structured exercise)

EXERCISE PLANNER

Monday Workout			Monday Workout			
Aerobic Exercise	Mins	RPE	Resistance Exercise	Reps	Sets	Kgs

Tuesday Workout			Wednesday Workout			
Aerobic Exercise	Mins	RPE	Aerobic Exercise	M	RPE	

Thursday Workout			Thursday Workout			
Aerobic Exercise	Mins	RPE	Resistance Exercise	Reps	Sets	Kgs

Friday Workout			Saturday Workout			
Aerobic Exercise	Mins	RPE	Resistance Exercise	Reps	Sets	Kgs

Sunday Workout		
Aerobic Exercise	Mins	RPE

“ Use the Exercise Planner template on page 156 and the exercise examples to develop your own workout plan. ”



INCIDENTAL EXERCISE

During the day we exercise without even thinking about it. Incidental exercise is all the walking and lifting we do throughout our daily lives. Here are some examples of how to increase the intensity of some of these activities:

Incidental Exercise	Intentional Exercise
Ironing	Support your core by pulling in your belly
Work meeting	Suggest standing or walking meeting
Using computer	Alternate sitting with standing or sitting on fit ball
Climbing stairs	Increase the speed you climb, or slow it down to mindful controlled steps
Housework – cleaning windows, vacuuming, mopping floor	Set a time for 15mins – how much can you do? Support your core; move mindfully, and use leg (not back) muscles
Brushing your teeth	Calf raises
Waiting for the microwave to heat meal	Mini squats
Carrying groceries in from car	One bag at a time
Waiting for the kettle to boil	Side steps, squats or bench push-ups
Waiting for shower to heat up	Boxing arms
Meeting a friend for coffee	Go for a walk instead +/- takeaway coffee
Making meals or baking	Try going down on one knee, alternating legs, to reach lower storage areas. This will save your back and is considered a lunge
Walking to lift or escalator	Use the stairs instead
Gardening, lawn mowing	Be mindful of your posture and movement, use your buttocks and thighs to squat
If walking the dog	Ensure you don't slow down for your dog. Plan specific places for them to do their business.
Going for a walk	Pick up rubbish along the way – lots of squatting, plus a cleaner environment



TRADE OFFS

How far are you prepared to walk to burn it off?

“

Do you know?

Kilojoules (kJ) / Calories (Cal) are a measure of energy in food. On average, an adult requires 8700kJ/2000Cal per day, however we're all different and as we get older and/or less active, we may need less than this.

When we eat or drink more kilojoules/calories than our body requires, the excess energy from this food or drink is stored in our fat cells, leading to weight gain (particularly around the waist).

To lose weight, we need to decrease the amount of kJ/Cal we consume and/or burn off more kJ/Cal through physical activity.

Excess weight, particularly around the waist, makes it difficult for insulin to work efficiently and can increase insulin resistance.

”



TIME TO BURN UP THE KILOJOULES

The following table lists some common snacks, and how much activity a 60kg person would need to do to burn them off. A lighter person will use less energy, while a heavier one will use more.

It may explain why enjoying too many treats will make your clothes feel like you've borrowed them from someone smaller!

Snack Item	Size	kJ	Walk	Cycle	Swim	Run
Latte	125ml full cream milk	344kJ	28mins	15mins	12mins	10mins
Red Wine	150ml 1 glass	502kJ	40mins	22mins	17mins	14mins
Chocolate Chip Muesli Bar	31g	545kJ	43mins	24mins	18mins	16mins
Jelly Beans	50g 18 beans	680kJ	54mins	30mins	23mins	20mins
Movie Popcorn	36g Small	707kJ	57mins	31mins	24mins	20mins
Chocolate Biscuit	2	832kJ	1hr 6mins	37mins	28mins	24mins
Dark Chocolate	40g 4 squares	884kJ	1hr 11mins	39mins	30mins	25mins
Soft Drink	600ml	1,026kJ	1hr 22mins	45mins	35mins	30mins
Ice-cream	2 scoops premium brand	1,076kJ	1hr 26mins	48mins	37mins	31mins
Chocolate Bar	60g	1,134kJ	1.5hrs	50mins	38mins	33mins
Calamari (floured & fried)	107g 1 cup	1,241kJ	1hr 40mins	55mins	42mins	36mins
Pizza-Supreme	1 slice	1,519kJ	2hrs	1hr 7mins	52mins	44mins
Sausage Roll	130g (1 large)	1,570kJ	2hrs 5mins	1hr 9mins	53mins	45mins
French Fries	Medium	1,702kJ	2hrs 16mins	1hr 15mins	58mins	49mins
Smoothie Regular	650ml	1,872kJ	2.5hrs	1hr 23mins	1hr 4mins	54mins
Blueberry Muffin	From coffee shop	1,881kJ	2.5hrs	1hr 23mins	1hr 4mins	54mins
Peanuts	75g ½ cup	2,000kJ	2hrs 40mins	1hr 28mins	1hr 8mins	58mins
Potato Crisps	100g	2,290kJ	3hrs	1hr 40mins	1hr 20mins	1hr 5mins

Nutrition Professionals Australia 2015, Snack vs Exercise

MEDICATIONS

There are many medications available in Australia for type 2 diabetes, and they all work differently. They come in oral and injectable forms. Your GP will generally recommend Metformin initially. If you need additional medication to control your BGLs, your GP will choose one based on its action, additional benefits beyond BG lowering, cost and your personal situation.

You may need to temporarily cease some of these medications if you become unwell. See the sick day planning information on page 105 to know when you should seek medical advice.

Oral Medications

BIGUANIDES (Metformin)

Metformin is usually the first medication prescribed for people with type 2 diabetes. It's two main actions that other diabetes medications cannot provide are:

1. Helping your cells become more sensitive to insulin (reducing insulin resistance), which allows glucose to be carried more effectively from your bloodstream into your cells.
2. Decreasing the amount of glucose your liver releases into your bloodstream overnight, which may help lower your fasting BGLs.

It's usually advised to take Metformin with or immediately after a meal to reduce the risk of stomach upset.

If you're taking an extended release (XR or ER) tablet, this tablet should not be broken in half or chewed; the tablet has a special coating which allows the medication to be released slowly over approximately 18 hours.

To allow your body to adjust to this medication, it's recommended to **start on a low dose (500mg) and increase slowly**. The most common side effects are diarrhoea, nausea or reflux. These side effects usually settle within two weeks of commencing Metformin. If your symptoms are severe, discuss this with your GP. Reducing the dose (if you've been started on more than 500mg) could be helpful, or having the medication at another time of the day.

Brand names:

Diabex® Diaformin® Metex® Glucophage® Formet® Metformin® Diabex XR® Diaformin XR® Metex XR®.

In combination with DPP4i - Janumet® Tragentamet® Galvumet® Nesina Met® Kombiglyze®. In combination with SGLT2i - Jardiamet® Xigduo®



“

Metformin has additional benefits: It contains cardiovascular protective properties, reducing risks of heart disease, and it can decrease the risk of dementia with its anti-inflammatory properties.

”



SGLT2 INHIBITORS (SGLT2i/gliflozins)

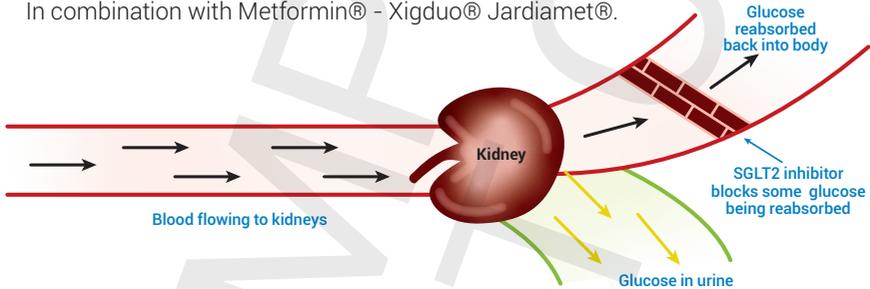
SGLT2i agents prevent your kidneys reabsorbing all filtered glucose back into your blood. Instead, 30-50% of the filtered glucose will be removed from your body in your urine. This results in lowering of your BGLs. Studies have shown additional benefits of SGLT2i agents include weight loss, lowering blood pressure and reducing risks of heart attack and stroke.

The most common side effects include fungal infections or thrush. Due to the action of this medication, it is important to ensure you drink enough fluid to stay hydrated. NB. See page 107 to know what to do when you are sick and taking this medication.

Active Ingredient: Empagliflozin, Dapagliflozin, Ertugliflozin.

Brand names: Jardiance® Forxiga®, Steglatro®.

In combination with Metformin® - Xigduo® Jardiamet®.



DPP-4 INHIBITORS (DPP-4i/gliptins)

Many people with type 2 diabetes lack enough of a hormone called incretin, which is produced in your small intestine. This is due to it being inactivated by an enzyme called DPP-4. Incretin has important functions in helping to control your BGLs by:

- Stimulating your pancreas to produce more insulin in response to rising BGLs
- Slowing your digestion so glucose is released into your bloodstream more slowly
- Decreasing glucose release from your liver
- Helping you feel full for longer after meals DPP-4 inhibitors are an incretin enhancer - they help block the DPP-4 enzyme, so your own incretin can work more effectively. i.e., they enhance the action of your own bodies' incretin.

Active Ingredient: Sitagliptin®, Linagliptin®, Saxagliptin®, Vildagliptin®, Alogliptin®.

Brand names: Januvia® Trajenta® Onglyza® Galvus® Nesina®.

In combination with Metformin® - Janumet® Galvumet® Trajentamet® Nesina Met® Kombiglyze®. In combination with SGLT2i - Glyxambi®.



SULPHONYLUREAS (SU)

Sulphonylureas stimulate your pancreas to produce more insulin throughout the day, even if you are not eating or drinking. Because of this continuous release of insulin, it's important to eat regularly to ensure adequate glucose is in your bloodstream for insulin to act on. If there's not enough glucose available in your bloodstream, your BGLs could go too low (hypoglycaemia – see page 107). Due to extra insulin 'hanging around' you may feel hungry more often, leading to weight gain. Newer medications, (SGLT2i, DPP-4i and GLP-1 RA), are effective in lowering BGLs and have additional benefits. We are seeing less of this medication being used now due to its unwanted side effects of weight gain, and low BGLs.

Active Ingredient: Gliclazide, Gliclazide MR, Glimepiride, Glipizide, Glibenclamide.

Brand names: Glyade®, Diamicon MR®, Amaryl®, Melizide®, Daonil®, plus many more.

Combined with Metformin® - Glucovance®.

Less Commonly Used Oral Medication

THIAZOLIDINEDIONES (glitazones/TZD)

Glitazones reduce insulin resistance but the effect takes weeks to two months for full effect. They have been prescribed less over the years due to side effects – fluid retention, weight gain, and fractures in women.

Active Ingredient: Rosiglitazone, Pioglitazone.

Brand names: Avandia®, Actos®.

ALPHA GLUCOSIDASE INHIBITORS

Slow down digestion and prevent the absorption of some carbs in the small bowel. The side effects of bloating, flatulence and diarrhoea have limited its use, but it is still helpful for some people.

Active Ingredient: Acarbose.

Brand names: Glucobay®.



Non-Insulin Injectables

GLP-1 RECEPTOR AGONIST (GLP-1 RA)

This medication is not insulin. GLP-1 RA's are known as incretin mimetics, because they mimic, or copy, the action of your own incretin hormones. Incretin is produced in your small intestine and is lacking in many people with type 2 diabetes. Incretin helps control your BGLs by:

- stimulating your pancreas to produce more insulin in response to rising BGLs.
- slowing digestion, allowing glucose to be released into your bloodstream more slowly.
- decreasing glucose release from your liver.
- helping you feel full for longer after meals This medication is recommended before considering insulin therapy and will not increase weight or cause low BGLs. The weekly doses have resulted in less nausea, compared with twice daily injections of a GLP-1 RA.

Active Ingredient: Exenatide, Liraglutide, Dulaglutide, Semaglutide.

Brand names: Byetta® - twice daily; Victoza® - daily; Trulicity®, Ozempic® - weekly.



“ Guidelines suggest considering a GLP-1 RA before commencing insulin unless your symptoms of hyperglycaemia are extreme or your HbA1c is too high. If you are already requiring insulin, Trulicity (Dulaglutide) is listed on the PBS for use with insulin which makes it more affordable. Ask your GP if this medication is right for you. ”



Insulin Therapy

Normally, insulin is produced naturally as the body needs it. A basal amount (base level) of insulin is produced constantly to perform various functions and keeps BGLs within a healthy range. Additional insulin (a bolus) is produced when you eat, when you're stressed or when your BGLs are elevated. Type 2 diabetes is a progressive condition and insulin production will generally decline over time, which then requires your own insulin to be 'topped up' with insulin injections. Insulin therapy starts with basal insulin once daily, or mixed insulin (basal + bolus insulin) if your BGLs are elevated two hours after meals. BGLs will be monitored closely and insulin dosage increased to meet your body's needs. Injections may increase to twice daily.

Insulin therapy is also recommended for older people or aged care residents, and end-of-life care. If they have symptoms of elevated BGLs, including urinary infections, pain in feet due to nerve damage, blurred vision, incontinence, and dehydration, discuss insulin therapy with their GP for symptom control.

BASAL INSULIN (listed in order of action time)

- **Intermediate-acting** - Humulin N®, Protophane®. Starts working 2 - 4 hours after injection, peaks at 4 - 12 hours and works for 12 - 18 hours.
- **Long-acting insulin** - Levemir®, Semglee®, Optisulin®. Starts working a few hours after injection and works for up to 24 hours.
- **Ultra-long-acting** - Toujeo®. Starts working around 6 hours after injecting. This insulin does not peak and lasts at least 24 hours. If you are switching from Optisulin® to Toujeo®, the same dose is dialed, but only 1/3 of the volume of insulin is administered. Great for those on large doses.

MEALTIME INSULIN (listed in order of action time)

Ultra-rapid acting insulin - Fiasp®, appears twice as fast as NovoRapid® into the bloodstream - approximately 2.5minutes onset compared with 5.2 minutes; therefore twice as much insulin is available in the first 30 minutes after injecting; peaks at 1 hour and works for 2-4 hours.

- **Rapid-acting insulin** - Humalog®, NovoRapid®, Apidra®. Starts working within 15 minutes of injecting, peaks at 1 hour and works for 2-4 hours. Given with meals, and to treat elevated BGLs when sick or between meals.
- **Regular or short-acting insulin** - Humulin R®, Actrapid®. Starts working 30 minutes after injection, peaks after 2-3 hours, and lasts 3 - 6 hours. Given with meals. Prescribed less since introduction of rapid acting insulin. It isn't designed to lower BGLs quickly as the rapid insulins are. Due to the slower onset and long action, subsequent insulin doses will accumulate (stack), potentially resulting in hypoglycaemia.



MIXED INSULIN

Mixed insulin is a combination of basal and rapid or regular acting insulin and is administered once or twice daily with meals. *Remember to mix cloudy insulin.*

- NovoMix 30®, Humalog Mix25®, Humalog Mix50®. The number in the name tells you the percentage of rapid acting insulin, and the rest is intermediate acting insulin.
- Ryzodeg® 70/30 is a mixed insulin consisting of 30% NovoRapid® and 70% Degludec® (an ultra-long-acting insulin). Currently in Australia we don't have Degludec® on its own - marketed as Tresiba® in the United States.

“ Make an appointment with a Credentialed Diabetes Educator to understand more about the insulin prescribed for you, and how to adjust your dose when needed. ”

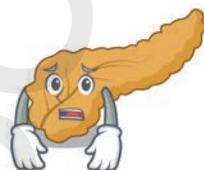


STARTING INSULIN THERAPY

Why Might Insulin Therapy be Needed?

Having type 2 diabetes over many years results in your pancreas becoming tired, and unable to produce enough insulin to keep your BGLs in a safe range. Initially, or long term, you may just need one injection a day as a 'top up' for what your body is no longer able to produce.

An example of someone requiring a 'top up' medication is a person whose thyroid gland isn't working properly; they take a thyroid hormone tablet to make up for what their body can't produce. In the same way, insulin injections 'top up' what the pancreas is no longer adequately able to produce.



“ 50% of people with type 2 diabetes could eventually require insulin therapy. There's now a non-insulin weekly injection which is recommended for people to try before considering insulin therapy. Ask your GP if this medication is right for you. See GLP-1 RA on page 96. ”



Is this you?

- You're on the maximum dose of oral medications, and you've even tried a GLP-1 agonist injection (if there were no contraindications for you being prescribed this), AND
- Your HbA1c is $\geq 7\%$ / 53mmols, (or other target set for you personally), with or without symptoms.

If this is the case, your current diabetes treatment isn't keeping your BGLs in a safe range to maximize your long-term health.

Are you fearful of starting insulin?

Being fearful of commencing insulin is common and is referred to as psychological insulin resistance (PIR). Often this reluctance is due to misinformation or individual perception about this medication. The table below lists common reasons given for these feelings, facts to correct misunderstandings, and what you can do to prevent/minimize any potentially undesired consequences of insulin therapy.

Insulin is just another treatment to help keep your BGLs in a safer range. There are many people who have moved on to insulin therapy who have managed their diabetes for years with dietary changes or tablets. Many of these people have reduced their risk of diabetes related damage, by adding insulin therapy in a timelier manner, rather than persisting with their diabetes medication that wasn't achieving the desired result.



BELIEFS & ATTITUDES

The table below describes some common reasons people are reluctant to commence insulin therapy.

<p>Sense of personal failure</p> <ol style="list-style-type: none"> 1. Self-blame 2. Guilt 3. Punished 4. Not Fair 5. Inability to control diabetes with tablets 6. "Last resort" treatment 	<p>Description: This is when you may feel you are to blame or being punished for not having 'managed your diabetes well enough', or you've done everything right, but you still need to commence insulin.</p> <p>The fear may be that requiring insulin is your 'last resort' and your life is almost over.</p> <p>Facts: Type 2 diabetes is a progressive condition and over time the insulin producing cells in the pancreas get tired and produce less insulin. Over 50% of people will require insulin therapy at some stage.</p> <p>Prevent/Minimise: Know that your body may require a top up of insulin to replace what your body can no longer produce.</p> <p>See a Psychologist for strategies to help you.</p> <p>Join a support group or online forum to know you're not alone.</p> <p>See a Diabetes Educator for support and understanding.</p>
<p>Fear of injections</p> <ol style="list-style-type: none"> 1. Stigma 2. Pain 3. Needle phobia 4. Confidence to inject 5. General anxiety 6. Once start, can't stop 	<p>Description: Anxiety related to pain from injecting.</p> <p>Facts: Insulin needles are only 4-6mm now, and incredibly thin. They are lubricated and almost slide in when you inject.</p> <p>Prevent/Minimise: Ask your Diabetes Educator to show you an insulin needle to see how tiny they really are, and how to inject comfortably.</p> <p>Insulin is not to be injected into muscle like immunisation injections, each should be injected into fat. Therefore, it should not be painful.</p>
<p>Lifestyle adaptations and restrictions</p> <ol style="list-style-type: none"> 1. Required planning 2. Inconvenience 3. Restricted freedom 4. Checking BGLs more often 5. Long term fears – now more serious diabetes 6. Burden to family 7. Financial cost 8. Daily injections 	<p>Description: Thoughts that come up - "How is this negatively going to impact my life?" "What are all the extra things I am going to need to do, or prepare for?" "My diabetes must be more serious now I'm needing insulin." "How do I fit this into my lifestyle?"</p> <p>Facts: Hypo's can be prevented and treated. Hypo's should not be a regular occurrence.</p> <p>In Australia, insulin is inexpensive, and needles are free on NDSS registration.</p> <p>Your diabetes is no more serious when you commence insulin. It is just another treatment.</p> <p>Prevent/Minimise: See a Diabetes Educator to learn how to incorporate this into your lifestyle.</p> <p>Discuss how you feel with your family members and allow them to support you when you require it.</p>



<p>Potential side effects and complications</p> <ol style="list-style-type: none"> 1. Weight gain 2. Hypo's 3. Increased hunger 4. Skin changes from injecting 	<p>Description: There are many fears around the consequences of insulin therapy, including weight gain and hypo's (low blood glucose)</p> <p>Facts: The benefits to your long-term health far outweigh potentially unwanted consequences.</p> <p>Hypo's are less likely to occur with current basal insulins. It's rare for people with type 2 diabetes to pass out from low BGL's.</p> <p>Skin changes shouldn't happen if insulin is injected correctly.</p> <p>See facts below about weight gain and hunger.</p> <p>Prevent/Minimise: Weight gain, increased hunger – see below.</p> <p>Your Diabetes Educator can teach you how to prevent, recognize, and treat hypo's if they occur, and how to correctly inject insulin.</p>
<p>Social stigma</p> <ol style="list-style-type: none"> 1. Injecting in public 2. Feeling misunderstood 3. Employment issues 4. Driving restrictions 5. Feel like drug addict. 	<p>Description: Worried about being unfit for work and/or losing your job or driver's license.</p> <p>Considered by work colleagues to be taking extra time to check BGLs if necessary.</p> <p>"You can't eat that, you're diabetic!" (food police).</p> <p>Stigma that type 2 diabetes is self-inflicted.</p> <p>Facts: Most people without diabetes are not educated about the condition and the various medications required for treatment.</p> <p>You may be asked to identify health problems to your employer. You should always state that you have diabetes.</p> <p>When commencing insulin, you will need to advise your state transport authority and car insurance company.</p> <p>Prevent/Minimise: See page... for driving requirements when taking insulin.</p> <p>Be prepared to discuss with your employer how diabetes may affect your work. Ensure you also discuss the positive aspects, such as your regular health checks and how you're following a healthy lifestyle.</p> <p>Have a couple of key people at work you can talk to about what to do in the event of a hypo.</p> <p>More education is required for community understanding and dispelling the myths associated with diabetes.</p>

Explaining Weight Gain and Hunger

Initially weight gain may occur when your body starts to adapt to insulin, as glucose from the food you eat is now able to move into your cells more easily; not sitting in your blood and no longer needing to be removed in urine.

Eating more than your body needs results in excess glucose being stored in fat cells, leading to weight gain. Excess fat can increase insulin resistance and the need for increased insulin doses.

Don't resort to increasing insulin doses to keep up with your appetite, as excess insulin can also cause you to feel hungry.

Weight gain can be managed. See your Dietitian and Exercise Physiologist for an individualised plan.



DECISION MAKING TOOL

When needing to make changes in our lives, many people do not take the time to consider the pros and cons. They may instead, respond emotionally by not making a decision and/or not taking action. This may be due to not liking, understanding, or feeling comfortable with what is required in making the change.

Using the Decision-Making Tool below can help you understand how making this change may affect you personally and ensure you have considered the pros and cons.

Here are some examples of pros and cons when considering insulin therapy.

Pros:

- Decreased BGLs.
- Decreased risk of heart attack, stroke, kidney failure, blindness, dementia, limb amputation.
- More energy and improved mood.
- Clearer thinking, concentration, and memory.
- Decrease in symptoms of hyperglycaemia e.g., frequent urination, thirst, dry mouth, blurred vision, etc.
- Improved overall health and immune system.

Cons:

- Potential for weight gain.
- Potential for hypo's.
- Need for daily injections.
- More frequent BGL checks.
- Forward planning required.
- Disclosure for driver's license.
- Potential negative perception from others.

Starting Insulin - Decision Tool		
	Pros – How will my life improve?	Cons – How will this negatively affect my life?
Changing	1	1
	2	2
	3	3
Not Changing	1	1
	2	2
	3	3



INSULIN ADMINISTRATION

“

Many people don't realize how tired they feel from prolonged elevated BGLs, because they've felt this way for so long.

It often surprises them how great they feel when they're back in a healthier range.

”



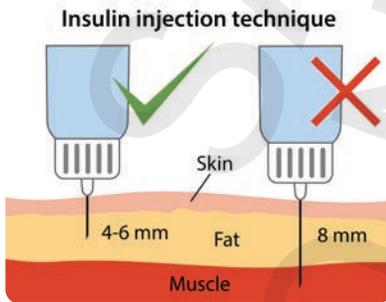
If you require insulin injections, there's some important administration information you need to consider:

What size needle are you using?

4-6mm needles are recommended as best practice to avoid injecting into muscle. 8-12mm needles have a higher risk of injecting into muscle.

Are you using a new needle for each injection?

Re-using needles can result in the fine needle tip breaking inside you. It can also result in insulin leaking out of the pen or air entering the cartridge as a result of changing temperatures and atmospheric pressure. Re-using needles removes the lubricant from them which can cause injections to be uncomfortable and blunts the needle which can result in bruising. Insulin syringes and needles are free with NDSS registration.



Driving Diabetes

Are you priming your insulin pen before each injection?

Priming means removing air bubbles from the needle and ensures that the needle is open and working. The pen must be primed before each injection. To prime the needle, turn the dosage knob to the 2 units indicator. With the pen pointing upward, push the knob all the way in until the indicator is back to 0 (zero). If you see insulin at the tip after the needle is primed, you can then dial up your dose. If not, you'll need to prime again until you can see the insulin coming out of the tip.

Are you holding the needle in your injection site after injecting your insulin for at least 10 seconds?

Due to the delay of insulin being dispensed through the fine needle, you need to take this time to get your full dose. If you notice leakage when you remove your needle, you'll need to keep it in for a little longer.

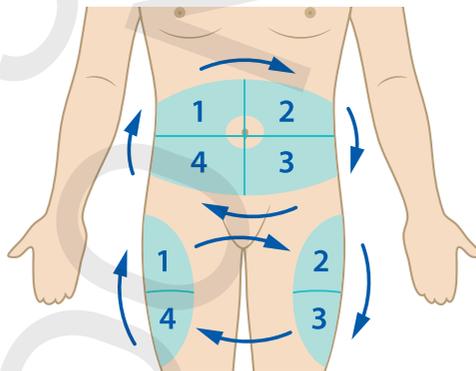
Are you rotating where you inject your insulin?

Using the same area over time can cause fatty lumps, known as lipo's, (short for lipohypertrophy), or less commonly, indentations to occur, which interferes with the absorption of your insulin. Be mindful when moving to another area to inject. Due to improved insulin absorption, you may be at risk of hypo and need to decrease your insulin dose.

Some tips:

- Don't rub the injection site after administration, as this interferes with insulin absorption.
- There's no need for alcohol wipes before injecting. Ensure your skin is clean, i.e. shower/bath daily.
- There's no need to pinch up your skin when using 4-6mm needles. This needle length will only reach the fatty tissue under the skin, and this is exactly where you want the insulin to go.
- Avoid injecting into a skin crease, stretch mark or scar and within 1 inch (2.5cm) of your belly button.
- Dispose of needles in a sharps or puncture proof container, never directly into your rubbish bin. Check with your local council about your options.

Rotating Injection Sites



SICK DAYS

Be Prepared

Being prepared for sick days is important when you have type 2 diabetes. Illness of any kind is a stress to your body and results in increased BGLs.

If your BGLs stay too high for too long, you could develop a condition called Hyperglycaemic Hyperosmolar State (HHS). This condition is a result of your body trying to eliminate the extra glucose from your blood, in your urine. If this happens you may notice you are going to the toilet more than usual. Extreme dehydration, electrolyte imbalance and potential loss of consciousness can result. The condition is an emergency and needs to be treated in hospital.



Everyone with diabetes should have a **Sick Day Management Kit, and Check list** for everything you may need for when you become unwell. In addition, everyone should have a current **Sick Day Management Plan**.

A Sick Day Management Plan should be updated every six months and/or if there's been a change to your medication or health condition. Your GP or Diabetes Educator will help you complete your Sick Day Management Plan, which should include an outline of medications to increase, decrease or cease if you become unwell.

It's not uncommon to require a number of medications. Your GP may have prescribed medication to help lower your blood pressure or cholesterol, or to help manage health conditions in addition to type 2 diabetes.

It is important to know about your medications, including the medication names, your prescribed dosage, why you require them, any potential side effects, and which ones you should cease if you become unwell.

“

Have a list of all your medications and health conditions somewhere accessible, like your wallet or handbag. This will help your family, friends or health care worker if you are too sick to speak, or unconscious.

”



- ✓ Be prepared with 2-4 weeks of medication at home to avoid additional worry when you get sick.
- ✓ Never stop your diabetes medication without speaking with your doctor.
- ✓ Dosette boxes for your medications are a great idea. They will help you know when to take your medications and whether you have actually taken them. This prevents accidentally taking your medication twice.



Ask your pharmacy about home delivery of medications if you are too unwell to collect them.

DIABETES MEDICATIONS WHEN YOU'RE SICK

“

It's important to be aware of the diabetes medication you are taking. *Discuss your Diabetes Sick Day Management Plan (page 110) with your GP. Ask your GP which medications you may need to cease if you become unwell.*

”



BIGUANIDES (Metformin)

Generally ceased or withheld if:

- Your kidney function is less than 30% (eGFR 30 on blood test).
- You're having a procedure requiring contrast or surgery (usually withheld two days before and after procedure).
- You're unwell and not able to eat and/or your Metformin tablet is causing nausea.

DPP-4 INHIBITOR (gliptins)

- Cease immediately and seek medical advice *if you have persistent or severe abdominal pain.*

SGLT2 INHIBITORS (gliflozins)

- During times of illness, including the flu or infection, monitor your ketone levels. Early awareness of diabetic ketoacidosis (DKA) is crucial. *See page 108 to learn about this potentially serious condition and how to be prepared.*
- Temporarily cease two days prior to surgery and the day of surgery.
- These medications should only be resumed after surgery when you're eating and drinking and close to discharge (usually 3-5 days post-surgery).

SULPHONYLUREAS (SU)

- Temporarily cease if you're unable to eat when you're unwell. Not eating regularly may result in hypoglycaemia (hypo) - low BGLs.
- Ask your GP about this medication if you have surgery planned.

GLP-1 RA

- Temporarily cease if you have nausea and *vomiting with persistent or severe abdominal pain and seek medical assistance.*

INSULIN

- Ensure your Sick Day Management Plan has instructions on how to adjust your insulin when you're sick. You may need additional insulin at this time.
- Make an appointment with a Credentialed Diabetes Educator, your GP or Endocrinologist to understand more about the insulin prescribed for you, and how to adjust your dose when needed.



DIABETIC KETOACIDOSIS (DKA) IN TYPE 2 DIABETES

DKA is usually experienced by people with type 1 diabetes. It can also occur in type 2 diabetes if an SGLT2i is one of your medications, and you become unwell or unable to eat normally. The risk is increased if you've been fasting, had a very restricted dietary intake, have undergone a surgical procedure, are dehydrated or have an active infection.

One theory why this may occur is that SGLT2i medications decrease the production of insulin when your body is under stress. With not enough insulin working, glucose can't be used for energy, so your body needs an alternate fuel source. In attempt to obtain energy from somewhere else, the body will break down fat for energy instead.

The by-product of breaking down fat is ketones. A high level of these ketones in the body can make the blood acidic, which can be very dangerous or fatal. Ketones + insufficient insulin can lead to ketoacidosis. (This is totally different to healthy individuals following a keto diet). BGLs may be normal or only mildly elevated if you develop DKA while taking this medication, unlike type 1 DKA where they are significantly elevated. Therefore, it's crucial you have a meter that can check ketones when you're unwell if taking SGLT2i medication.

DKA can also occur in people with type 2 diabetes, although rare, if they've had elevated BGLs for a prolonged period and/or their body experiences great stress, i.e. a severe infection, illness, heart attack or stroke.

Ketone Action Guide



- Below 0.6 mmol/L**
Readings below 0.6mmol/L are in the normal range, and no action is needed.
- 0.6 to 1.5 mmol/L**
Readings between 0.6 and 1.5 mmol/L indicate the development of a problem that may require medical assistance. Call healthcare team.
- Above 1.5 mmol/L**
Readings above 1.5 mmol/L in the presence of hyperglycemia indicates high risk of DKA. Contact your healthcare team immediately for advice.



DIABETES SICK DAY MANAGEMENT KIT

- Sick Day Management Plan
- Phone Numbers of Support People
- Food to snack on (e.g. dry biscuits, soup)
- Drinks - Sugar Free and Regular
- Scripts and Medication for 2-4 Weeks
- Paracetamol, Ibuprofen, Cough Medication
- Meter - Blood Glucose Test Strips, Record Book and Pen
- Thermometer, +/- Blood Pressure Monitor
- +/- Blood Ketone Testing Strips and Ketone Meter
- +/- Rapid or Ultra Rapid Acting Insulin (NovoRapid®, Humalog®, Apidra®, Fiasp®)
- +/- Hypo Treatment Plan and Supplies
- Electrolyte Replacement

DIABETES SICK DAY MANAGEMENT PLAN

Complete with your GP or Diabetes Educator before you become unwell

Blood Glucose Monitoring

My target blood glucose (BG) range is:

I need to check my BG every hours.

Support Team

Family / Friends Name:* Phone:

GP's Name: Phone:

Diabetes Educator: Phone:

Hospital: Phone:

* Phone someone if you become unwell, especially if you live alone.

My Medications

Medications to continue:

Medications to temporarily discontinue and seek GP advice:

Food and Drink

If unable to eat, aim for 1/2 - 1 cup of fluid every hour to prevent dehydration. If BGL greater than 12mmols, have sugar free drinks, otherwise regular drinks with carbohydrate.



“

When to go to Hospital:

- If you can't keep your BGLs under 15mmols for more than 12 hours.
- If your blood ketones are greater than 1.5mmols.
- If you can't keep your BGLs above 4mmols.
- If you have breathing difficulties, drowsiness or severe abdominal pain.
- If you're unable to keep food or fluids down.
- If you're not feeling safe to stay at home.

”



Driving Diabetes

HYPOGLYCAEMIA

Not everyone with type 2 diabetes is at risk of hypoglycaemia (hypo).

Some diabetes medications can result in your BGLs going too low; these medications include insulin injections and sulphonylureas (e.g. brand names are Diamicon®, Glyade®).

A hypo is when your BGL drops below 4mmol. Some people don't experience hypo symptoms due to having hypos frequently or as a result of autonomic nerve damage or particular medications they may be on. People can also experience hypo symptoms at levels higher than 4mmol, especially if their BGLs have been high and then come down quickly. It's important to treat BGLs and/or when these symptoms occur.

A hypo is more likely to happen if you haven't eaten enough carb for these medications to act on, if you've been drinking alcohol, or if you've been more physically active than normal.

“

Speak to your GP or pharmacist about your medications, their interactions and your risk of hypos.

”

“

If you have regular hypos, or you don't experience any symptoms with low BGLs, talk to your GP. You may need to change your diabetes medications or reduce the amount you are having.

”



As low BGLs can cause different symptoms, it's important that you recognize when you're having of a hypo.



Early signs and symptoms of low BGLs:

- Feeling hungry.
- Sweating.
- Tingling lips.
- Feeling shaky or trembling.
- Dizziness.
- Feeling tired.
- A fast or pounding heartbeat.
- Becoming easily irritated or moody.

If not treated, you may then get other symptoms, such as:

- Weakness.
- Blurred vision.
- Difficulty concentrating.
- Confusion.
- Unusual behaviour - clumsiness like being 'drunk' or aggressive; slurred speech or confusion.
- Feeling sleepy.
- Fits (seizures).
- Collapsing or passing out.



TREATING A HYPO

Step 1.

Raise your blood glucose levels (BGLs) quickly back into normal range by taking 15g of FAST acting (high GI) carbohydrate food or drink. Below are some treatment examples you can keep available:

- 10 x Glucodin™ tablets or 3 tsp Glucodin™ powder – available from supermarket.
- 3 x BD glucose tablets (5g each) or 4 x Glucojel™ Jellybeans available from your pharmacy, or 6-7 smaller jellybeans from the supermarket.
- 150ml Lucozade® or sports drink.
- 2 x snake lollies or 4- 5 x jubes (supermarket varieties)

If you don't have the above items available to treat your hypo, other options are 3 teaspoons of sugar in water, 1 tablespoon of honey or jam, or 1 cup of soft drink or cordial (not diet varieties).



Step 2.

Wait 15mins and recheck BGL. If above 5mmols go to Step 3. If not, repeat Step 1.

Step 3.

Maintain your BGLs with SLOW acting carb, or if it's your meal time, ensure you include some carb.

If between meals, some slow acting carb snacks are:

- 1 piece of fruit (apple, pear, peach).
- Dried fruit (handful of sultanas, 3-4 dried apricots).
- ½ Muesli bar.
- 1 slice of multigrain bread.
- 250ml of milk or 200g tub of yoghurt.



ACTION: Now complete your own hypo treatment options on your Hypo Plan page 116.

PREVENTING HYPOS

“

Hypo's shouldn't be a regular occurrence if you're requiring insulin therapy or Sulphonylurea tablets for your diabetes. Most hypo's can be prevented. Understanding why they happen can help you plan ahead and prevent future episodes.

”



Preventing Hypos

- Eat regular meals, with enough carb at each meal.
- Ensure your medication is taken as prescribed or instructed.
- Speak with your GP or Credentialed Diabetes Educator about how to reduce your insulin if you are eating less carb, are more physically active, have lost weight or having frequent hypos. You should not need to eat more to 'keep up' with your medication.
- Ensure your BGL is above 5mmols prior to commencing exercise or driving a vehicle.
- Avoid alcohol on an empty stomach.

Set your alarm and check BGL at 2am to ensure you aren't going low. Many people don't wake to overnight hypo's as they'd expect.

If you wake in the morning feeling very hungry, have a higher-than-expected BGL, a headache, you had a nightmare or your partner commented you were restless or confused, you may have had a hypo overnight. You may also have been lucky enough for your liver to rescue you (as it should), by releasing stored glucose, although it may result in an elevated fasting glucose reading.

Being Prepared for Hypo's

- Have your Hypo Treatment Plan available if you're not sure what to do. Ensure you have a stock of all you need.
- Keep fast acting carb available in places you may need it - your car, handbag, desk, garage and at work.
- Keep 250ml juice poppers, cans of soft drink or long-life milk drinks in stock as back up.
- Check BGLs at varying times - before and 2 hours after meals, before bed.



EMERGENCY HYPOKIT

If you've been advised to carry a GlucaGen®HypoKit® by your GP, it's important that your family, friends or work colleagues know how to use this emergency prescription medication. *Very low BGLs for too long can be extremely harmful or fatal.*



“ Ask your Diabetes Educator or Practice Nurse if there is an example of a Hypokit they can show you. ”



Who should have one of these in their emergency kit?

- If you have hypo unawareness, i.e. you can't feel you're having a hypo.
- If you have frequent hypos or can't treat yourself.
- If you have swallowing difficulties or may have a condition, e.g. Parkinson's, where you eat very slowly.

What is a GlucaGen® HypoKit®?

- Glucagon, the active ingredient in GlucaGen®, is a hormone secreted by your pancreas that causes your liver to release glucose into your bloodstream. This will usually increase your BGLs within 10minutes.
- It's extremely important you and/or your family know how to prepare and inject the GlucaGen® correctly before you actually need it. Your Diabetes Educator or GP can teach you. Ask if they have an expired GlucaGen®HypoKit® to practice with.
- Teach your family/friends to act quickly and roll you onto your side (recovery position), if you're unconscious.
- Immediately after injecting GlucaGen® they may need to call for an ambulance if they require extra support.
- Side effects of GlucaGen® can include changes in blood pressure or heart rate, nausea, vomiting or skin reaction at the site of injection.
- Keep your GlucaGen®HypoKit® stored in the fridge and keep an eye on the expiry date.
- You do not need a prescription for Glucogen®HypoKit®.



DRIVING, DIABETES & HYPOS

If you're at risk of having a hypo, i.e. you require insulin or a sulphonylurea to manage your diabetes, it's important to check your BGLs regularly. You'll need to check your BGLs before you drive a motor vehicle and ensure your levels are above 5mmol, or higher if your GP has recommended a higher target range for you.



If you don't check your BGLs, you'll put at risk:

- Yourself and those in your car.
- Other drivers or pedestrians.
- Your insurance policy to cover you.
- Your license being suspended.

What to do if hypos symptoms when driving

- 1 Pull over as soon as you safely can.
- 2 Remove your keys from the ignition.
- 3 Treat your hypo (see page 112 or follow your Hypo Treatment Plan - page 116).
- 4 Always follow up with SLOW acting carb when your BGL is above 5mmols.
- 5 Do not drive until 30 minutes after your BGL is back above 5mmols.



“ If you are unsure about your responsibilities, make an appointment with your GP or Diabetes Educator. ”

Your Responsibilities as a Driver

- ✓ Notify your state or territory Driving License Authority.
- ✓ Ensure your BGL is above 5mmols before driving.
- ✓ Carry your blood glucose meter, fast acting carb & slow acting carb.
- ✓ Regularly see your GP and health care team.
- ✓ Have your eyes and feet checked annually.
- ✓ Sleep apnoea is to be treated.
- ✓ Carry identification saying what type of diabetes you have.



MY HYPO TREATMENT PLAN

1

If my BGL is under 4 or 5 mmols (circle)

Have my FAST acting carb.

This is:

2

Wait 15mins. Wash hands. Recheck my BGL

If above 5mmols, I go to Step 3. If not, I repeat Step 1.

3

Above 5mmols - Have slow acting carb/meal

If it's not my meal time, have my SLOW acting carb.

This is:

4

Learn and monitor to reduce further hypos

Why do you think this hypo happened?

- Not enough carb with your meal?
- Your meal was delayed?
- You were more active or exercised more than usual?
- You've had too much insulin for what you've eaten or how active you've been?



LONG TERM HEALTH

Your body needs some glucose in the bloodstream available at all times to function properly. *If glucose is unable to be transported into your cells, it can accumulate in your body, attaching to nerves and blood vessels and damaging them.*

Prediabetes can exist up to ten years without any signs or symptoms. This means that up to 50% of people already have some damage when newly diagnosed with type 2 diabetes.

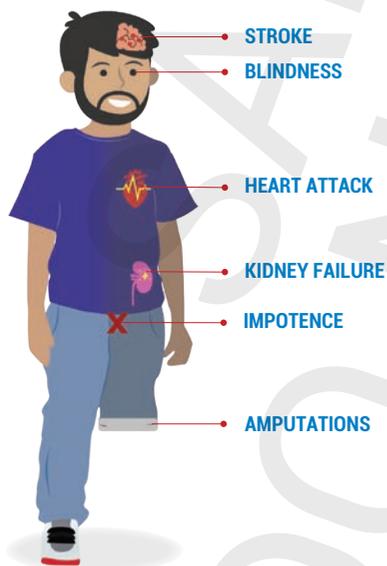
Elevated BGLs over time can increase your risk of:

Blindness

Excess blood glucose can damage small blood vessels at the back of your eye. Your body then creates new vessels; however, these are more fragile and can leak or bleed easily, causing vision changes and eventually vision loss or blindness if not treated. *You won't notice any vision loss until it is too late, so ensure at least two-yearly checks with your Optometrist.*

Kidney Damage

Excess blood glucose can damage the tiny vessels in the kidneys, which prevents them being able to filter and retain proteins in the blood. When kidney damage occurs, protein leaks from the body in urine. As symptoms of kidney damage are silent, you may not feel unwell until the damage has progressed. It's important to get your urine (morning sample) checked for protein every year.



“ Your feet need to be checked at least yearly. Let your GP know if you have tingling or numbness. Learn how to manage your diabetes and you shouldn't have a problem with your feet. ”



Heart attack and Stroke

Excess blood glucose can damage blood vessels making them more like to develop fatty deposits. This can result in blockages to the blood vessels carrying oxygen and nutrients which result in heart attack or stroke, *the most common cause of death in people with type 2 diabetes.*

Lower limb amputation

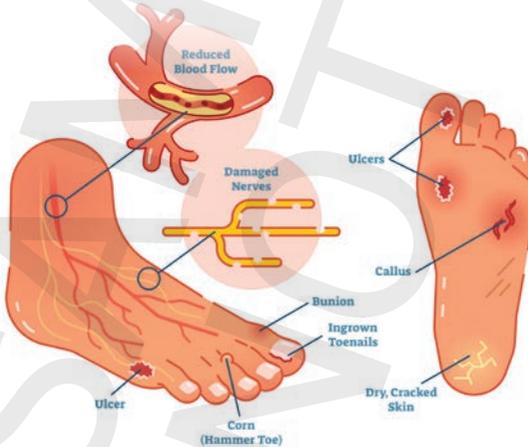
Excess blood glucose damages the blood vessels to your legs and feet, causing them to narrow, resulting in reduced blood flow. If a cut to the foot or wound occurs, this means less oxygen and nutrients can get there. This slows/prevents the normal healing process. Infection can then occur and lead to tissue death (gangrene) if not treated promptly.

Excess glucose can also cause nerve damage and prevent the sensation of pain. If pain is not recognised, the wound or cut to the feet may go unnoticed.

Nil/reduced pain sensation + reduced blood flow = high risk foot!

Infection can develop very quickly, not always with the classic signs of heat, redness and pain, and can go to the bone quickly. *This is osteomyelitis and is the cause of toe, foot or leg amputations. Look at your feet every day or have someone check them for you.*

Diabetic Foot



Infection

- High BGLs slow your body's ability to fight infection. Therefore, it's important to have your immunisations and vaccinations as required to decrease your risk of contracting these.
- Wounds or broken skin may take a long time to heal. Damaged vessels from excess glucose, along with the restricted access to white blood cells (which fight infection) can interfere with the normal healing process.
- Excess glucose in your blood and tissues provide the perfect environment for bacterial and fungal infections to grow. Common sites for fungal infections are warm moist areas, e.g. mouth, genital area, skin folds and feet (between your toes). Bacterial infections can affect your bladder, kidney and skin e.g. inflamed hair follicles can result in boils.



“

Your BGLs are not going to be perfect all the time. Complications are not the result of the occasional elevated BGLs, but from long term elevation. If slightly elevated levels are ignored regularly, your risk of blood vessel and nerve damage increases.

”



Dementia

Excess glucose can damage blood vessels that supply the brain. This can cause strokes or mini strokes, often leading to vascular dementia and increased risk of Alzheimer's disease. Frequent, untreated hypos may also increase the risk of dementia.

Nerve damage

Excess glucose can attach to nerves, damaging them and interfering with their ability to send signals. There are two types of nerve damage.

- 1. Diabetic Peripheral Neuropathy (DPN)** - damage to the nerves near the surface of the skin – usually feet and hands, however, can include legs and arms. Symptoms can range from numbness, tingling, burning to stabbing pain and hypersensitivity to the slightest touch.
- 2. Diabetic Autonomic Neuropathy (DAN)** - these nerves automatically keep your body performing its functions, e.g., keeps your heart beating, ensures food moves through your stomach in a set time. They include nerves to your heart, blood vessels, bladder, bowel, stomach and sexual organs.

Signs and symptoms you may have DAN include:

- A resting heart rate ≥ 100 (known as tachycardia).
- Exercise intolerance – your heart rate doesn't adjust to your activity level.
- Dizziness or fainting when standing due to a sudden drop in blood pressure.
- Difficulty digesting food and abdominal bloating (known as gastroparesis), constipation, diarrhoea.
- Sexual difficulties for both men and women.
- Urinary problems including being unable to enter your bladder fully which can lead to urinary tract infections (UTI's).
- Inability to recognize hypos.
- Sweating abnormalities – too much or too little which can affect regulation of your body temperature.

The amount of people developing these complications in Australia is rising. Research has shown that only 44% of Australian adults with type 2 diabetes are not meeting target HbA1c of 7.0%. In addition, 75% are also not meeting targets for cholesterol or blood pressure levels (ABS, 2013).

Damage from prolonged excess glucose in the blood can't be reversed. Progression of this damage can be delayed with tighter control of blood pressure, BGLs and cholesterol. Additional medication may also be required; e.g. to lower blood pressure or cholesterol, or to protect your kidneys.



SMOKING

Smoking is a risk factor for developing type 2 diabetes, and increases your risk of serious complications, such as: heart disease, stroke, circulation problems, vision loss, kidney problems and erectile dysfunction/sexual health problems.

How smoking affects your health and diabetes:

1. Smoking and high BGL's both damage the walls of your arteries.
2. Damaged artery walls allow the bad cholesterol (LDL) to get in.
3. LDL fatty deposits build up inside damaged arteries.
4. Blood vessels narrow as the fatty deposits build.
5. Narrow blood vessels restrict the amount of blood and oxygen to these organs, and contribute to high blood pressure.
6. Some vessels can become totally blocked – preventing the supply of blood, oxygen and nutrients to organs. This happens due to ongoing fatty plaque build-up, known as atherosclerosis, or as a result of some of this fatty plaque breaking off, known as an embolus.
7. Affected arteries in the heart can lead to heart attack.
8. Affected arteries in the brain can lead to a stroke.



Smoking can also increase insulin resistance, where your body isn't able to remove and use glucose from the blood stream as it should. This results in:

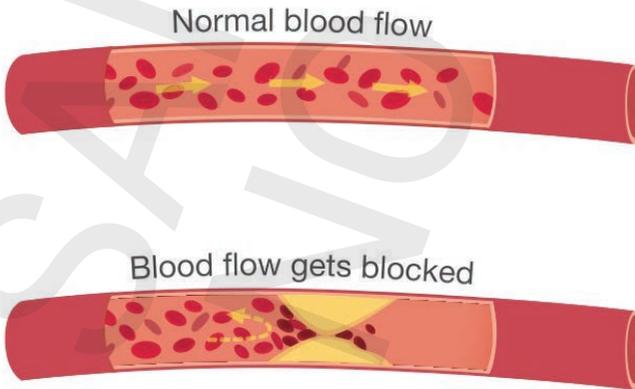
- Initially developing prediabetes which then becomes type 2 diabetes if changes aren't made.
- Your pancreas having to work harder to try and clear the glucose from the bloodstream.
- Those who are on insulin therapy needing to take higher doses of insulin, which can then result in extra weight gain leading to more insulin resistance.

You're more likely to prevent or slow the progression of health complications if you quit smoking.

Give yourself a better chance of quitting by:

- Understanding why you smoke.
- Avoiding situations that may trigger a desire to smoke.
- Distracting yourself with new activities.
- Getting support from family and friends.
- Spending more time with people who don't smoke (if possible).
- Focusing on the benefits of not smoking.

Talk to your healthcare team for advice and strategies to quit smoking.



YOUR ANNUAL CYCLE OF CARE

Check	When	Target
HbA1c	At least every 6-12 months	53mmol/mol (7%) or less
Blood pressure	At least every six months	140/90 or less
Foot assessment	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/Older Adults 21-30
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	150 mins aerobic activity plus 2-3 resistance exercise sessions (total of \geq 60 mins) per week
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
Vaccinations & Immunisations	Annually and as needed	Recommended: influenza, pneumococcus, diphtheria-tetanus-acellular pertussis (dTpa) Consider: hepatitis B (if travelling), herpes zoster

Note: The targets listed are for adults with diabetes. Different targets apply to children and adolescents.

*Body Mass Index (BMI) and waist circumference targets may not apply to non-European ethnic groups.



YOUR PATHOLOGY RESULTS EXPLAINED

Ask your GP for a copy of your pathology results and to explain them to you. Most people don't ask for their results because they don't know what they mean. We've listed what needs to be monitored at least yearly with type 2 diabetes.

Test	Healthy Target for People with Diabetes	Testing for	Risk if not in target
HbA1c	≤ 7% or ≤ 53mmol/mol. Aim for as close to normal as possible if not at risk of hypo.	Average glucose level in blood over previous 3 months	Damage to blood vessels, nerves and organs in body.
Total Cholesterol (TC)	< 4.0 mmols/L	Total amount of fat in your blood.	High levels may indicate increased risk of heart attack or stroke.
LDL Cholesterol	< 2.0 mmols/L	Unhealthy cholesterol which loads plaque onto artery walls.	High levels may indicate increased risk of heart attack or stroke.
Total HDL ratio (TC÷HDL = ratio)	< 4	Safe Ratio.	Elevated ratio indicates increased risk of heart attack or stroke.
Triglycerides	< 2.0 mmols/L	Elevated levels.	May increase risk of heart attack or stroke.
HDL Cholesterol	≥ 1.0 mmols/L	HDL in target range.	Benefits of HDL are reduced.
eGFR (estimated Glomerular Filtration Rate)	> 59mL/min	Measures the kidneys ability to filter blood adequately	If under 60mL/min, some medications may need to be reduced, and kidney function monitored.
Urinary Albumin	< 20mg/L	Detects any protein leakage in urine.	Damage has occurred to kidneys.
ACR (Albumin:Creatinine Ratio)	< 3.5mg/mmol women < 2.5mg/mmol men	Assess for kidney damage.	Higher the ratio, the more damage has occurred to kidneys.



EMOTIONAL HEALTH

You may notice that when you're feeling stressed, your BGLs go up even if you haven't eaten anything. Feeling stressed sends signals that you're in danger. Your body responds to stress by releasing cortisol.

Stress comes in many forms:

- **Emotional stress** is what people are most familiar with when we talk about stress e.g., fear, anger, frustration and anxiety.
- **Pain** is a common stress to the body and too often goes untreated. Many people are reluctant to take medication for pain relief, such as paracetamol, for osteoarthritis, surgical pain, injury etc. Managing elevated BGLs can be difficult if pain (underlying cause) isn't managed effectively.
- **Lack of sleep and sleep apnoea**, often undiagnosed, is another stress. If you haven't had a good night's sleep, for whatever reason, you may find your BGL higher than usual when you wake up.
- **Dehydration** can cause cortisol levels to rise, resulting in elevated BGLs. If you feel thirsty, you're already dehydrated.
- **Heat Stress** can result from damaged blood vessels that are unable to dilate when you get too hot, or damaged nerves that can affect your ability to sweat and cool down.



In times of stress your body releases a number of different hormones. Cortisol is a hormone that helps your body to get through fight-or-flight situations- you can't fight danger when you have low BGLs. Cortisol triggers your liver to release some of its stored glucose into the bloodstream, so your muscles have extra energy to get through the tough situation. This extra release of glucose in the blood may result in higher BGLs.

Normally your body has compensatory mechanisms to keep blood glucose from becoming too high. With diabetes, those mechanisms are either lacking or aren't working as well as they should. Therefore, stress will generally affect BGLs more when you have diabetes.

Get enough quality sleep	Connect with supportive people, family and friends
Make time for a hobby or activity you enjoy	Listen to music you find relaxing or uplifting
Try gentle yoga and/or meditation	Give yourself time to read a book
Spend time with your pet	Talk to a health professional or counsellor
Spend time in nature – beach, bush, gardening	Learn and practice mindfulness
Start journaling – this can relax and bring clarity	Access apps and websites to assist with relaxation
Focus on changing what you can	Eat well, limit alcohol and caffeinated drinks
Don't be too proud to ask for help	Have a massage, facial or health treatment



“ How do you reduce stress? Take up activities that relax you! ”

See your GP if none of the above seem to be helping; you may need medication temporarily to help you through anxious times.



DIABETES DISTRESS

Diabetes distress is a very real issue which results from the burdens of trying to manage diabetes. All areas of life can be affected when you have diabetes, however, if the distress is severe, emotional exhaustion can lead to burnout and lack of interest in maintaining your diabetes management routine.

You may find the constant checking of BGLs, managing your medications and trying to do all the right things with diet and physical activity stressful. Adding this stress to the fear of developing diabetes complications, it's understandable that attempting to self-manage diabetes can leave you feeling overwhelmed and anxious at times.

If you or your family recognise that worry, frustration, anger and/or lack of motivation to check BGLs and make healthy choices are becoming constant, you may be experiencing a condition known as diabetes distress.

If you think you have diabetes distress, it's important to realise that what you're feeling is valid and you don't need to suffer in silence. It's vital to listen to your emotions and to understand that they may overshadow your ability to keep on top of your daily diabetes routines. Remember that diabetes distress is real, and you may need support. Talk to your diabetes health team, family and/or friends if you're feeling exhausted and unable to cope. Be kind to yourself, many people experience this.



“ Up to 45% of people with type 2 diabetes experience diabetes distress. Be kind to yourself. Talk to your diabetes health team, family and friends if you're feeling overwhelmed. ”



HOW TO STAY MOTIVATED

Create habits for the long term...

Set realistic goals, and establish habits to achieve them. Gauge your progress. Keep your goals small to prevent overwhelm.

Write down your goals and put them somewhere visible such as your bathroom mirror, fridge, computer, car etc.

Celebrate each success, no matter how small.

Think long term and realise your goals are long term ones, not just a destination.

Don't compare yourself to others as we all progress at different rates.

Have fun. It's great to be disciplined but you need to have fun too. Life is too short to be serious all the time.

Involve others. Share your goals with friends and find ways to support each other. Try working out together or in groups – it makes exercise fun.

Be organised. Keep your meal ingredients that work towards a healthier you ready in the fridge, and your walking/gym shoes by the door. Keep a diary and/or be accountable to a friend. It will lessen your ability to make excuses. Just do it!

Don't beat yourself up. There will be good days and bad, but if you have a bad day – start fresh tomorrow. It's never all or nothing. Think about what you'd say to a friend in the same situation – we can often be a lot harder on ourselves.



“

Think to yourself –
What can I do today that my
future self will thank me for?

”

RECIPES

Banana Oat Pikelets with Greek Yoghurt

Ingredients

- 1 banana.
- 2 eggs.
- ½ cup rolled oats.
- ½ teaspoon baking powder.
- 100g of natural Greek yoghurt (optional).
- Fresh fruit to serve.



Method

- Place chopped banana, eggs, oats and baking powder into the blender. Blend until smooth.
- Heat a non-stick frying pan to medium heat.
- Pour the mixture into the pan using approximately 1/4 cup for each pancake.
- Brown on both sides.
- Serve with Greek yoghurt (optional).
- **Makes 4 pikelets**



“ Add 1 tsp Flaxseed Oil for ½ serve of healthy fats (oils) per pancake. ”

Total serves from each food group for 1 serve of Pikelets (2 small pikelets)

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
½	½	0	½	½	0	1½



Basic Omelette

Ingredients

- 2 eggs.
- 2 tablespoons (30ml) of milk.
- Spray of rice bran oil or other oil for greasing the pan.
- Pepper if desired.

Filling ideas (optional)

- Cheese, tomato, ham, olives, shallots, baby spinach, pan fried mushrooms, avocado.

Note: Make sure you prepare (finely chop) any filling ingredients before cooking the omelette, as the eggs will cook very quickly!



Method

- Crack the eggs into a bowl, add the milk, season with pepper and beat the mixture with a fork or whisk.
- Spray a medium sized pan with rice bran oil. Heat the pan over a medium heat.
- Add the egg mixture to the pan. Tilt the pan to allow the uncooked egg mixture to spread out.
- If you want to add fillings, sprinkle them over one side of the omelette when the eggs start to cook.
- When the eggs are almost cooked on the surface but still look moist, slide a spatula under one side of the omelette and fold over in half to create a semi-circle.
- Allow the folded omelette to cook for 1-2 minutes, then slide it out of the pan and onto a plate.
- **Serves 1**

Total serves from each food group for 1 plain Omelette (without fillings):

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
0	0	0	0	1	0	0



Baked Potato

Ingredients

- 1 medium potato (120-150g).
- 20g reduced fat cheese.
- ½ cup cooked/canned kidney/ four bean mix.
- 25g avocado.
- 1 cup of carrot/ capsicum.
- 1 tbsp. low fat yoghurt.



Method

- Wrap potato in foil, and place in the oven for 40-50mins, or until cooked.
- Once the potato is cooked all the way through, remove from foil.
- Chop carrot and capsicum to desired width, i.e. diced, grated, chopped etc.
- Grate 40g of cheese and slice the avocado.
- Warm the bean mix on stove or in microwave if desired. Cold is just fine.
- Chop cooked potato into quarters.
- Add cheese, yoghurt, avocado, bean mix, carrot and capsicum.
- Note: You can cook potato ahead of time and add condiments to serve.
- **Serves 1**

Total serves from each food group for 1 serve of Baked Potato:

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
0	0	1	½	1	1	2½



BBQ Chicken Salad

Ingredients

- 1 cup sliced warm BBQ chicken breast (skin removed).
- 1 medium sweet potato.
- 1 small bunch broccolini.
- 100g chopped feta cheese.
- 2 teaspoons olive oil.
- 3 cups baby spinach.
- ½ cup chopped capsicum.
- ½ cup chopped cucumber.
- ½ cup chopped cherry tomatoes.
- 2 tablespoons of chopped kalamata olives.



Method

- Chop the sweet potato and broccolini into pieces. In a microwave proof bowl, heat the sweet potato and broccolini in the microwave until soft. Leave aside to cool.
- Add the baby spinach to a large bowl or single bowls.
- Add capsicum, cucumber, tomatoes and olives.
- Add the cooked sweet potato and broccolini.
- Add the feta cheese.
- Add the chicken (warm or cold).
- Drizzle olive oil over the top.
- **Serves 2**



“ Another option is 1 cup cooked, cold tofu or tinned tuna. ”

Total serves from each food group for 1 serve of BBQ Chicken Salad:

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
0	0	3½	1	1	1	1



Chickpea, Sweet Potato and Ginger Soup

Ingredients

- 2 teaspoons olive oil.
- 1 large onion, finely chopped.
- 2 celery stalks, finely diced.
- 2 teaspoons finely grated fresh ginger.
- 2 garlic cloves, crushed.
- 500g sweet potato, peeled, chopped.
- 600g pumpkin, peeled, deseeded, chopped.
- 400g can chickpeas, drained.
- 2 cups reduced-salt vegetable stock.
- Lime wedges, to serve.



Method

- Heat the oil in a large saucepan.
- Add the sweet potato, pumpkin, chickpeas, stock and 2 cups of water, bring to the boil.
- Reduce heat and simmer, uncovered, for 20mins, or until vegetables are soft. Set aside to cool slightly.
- Blend soup until smooth. Season with cracked black pepper.
- **Serves 4**

Total serves from each food group for 1 serve Chickpea, Sweet Potato & Ginger Soup:

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
0	0	2	0	1	0	2



Chicken and Feta Wrap

Ingredients

- 120g uncooked chicken (100g cooked).
- 60g low fat feta.
- 1 wholegrain wrap (45g-55g).
- 1 cup of mixed lettuce/ baby spinach.
- 1 cup of mixed salad, i.e. tomato, carrot and cucumber.
- 1 tsp lemon juice.



Method

- Remove any visible fat and slice your chicken into small, even pieces.
- Spice with lemon juice, oregano, pepper.
- Place into already hot, non-stick pan. Cook for 5-10mins or until the chicken is cooked through.
- While chicken is cooking, cut salad and vegetables to desired width, i.e. diced, grated, chopped.
- Place wrap flat and crush small pieces of feta over the base of the wrap.
- Add mixed lettuce and mixed salad vegetables.
- Once chicken has finished cooking, add chicken to wrap.
- Fold wrap. Toast wrap if desired.
- **Serves 1**

Total serves from each food group for 1 serve of Chicken and Feta Wrap:

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
1	0	1	½	1	0	1½



Chickpea Korma Curry

Ingredients

- 1 onion, chopped.
- 2 tbsp. korma paste.
- 1 large sweet potato.
- 1 can of chickpeas (400g), drained and rinsed .
- 3 cups of vegetable stock (salt reduced).
- 300g of broccoli.
- 200g of cherry tomatoes.
- ¼ cup of low fat yoghurt.
- ⅔ cups of uncooked rice (2 cups of cooked rice).



Method

- Rinse rice, and cook ⅔ cup of uncooked rice in saucepan with 1½ cup of water.
- Cook rice as per instructions on the packet. Divide cooked rice equally into 4 servings.
- Chop sweet potato into 2cm cubes. Place aside. Chop broccoli into small florets. Place aside.
- Place the chopped onion into a hot non-stick saucepan and sauté for 5mins or until softened.
- Add sweet potato, and chickpeas to saucepan. Stir. Add korma paste and mix in and cook until fragrant.
- Add vegetable stock and bring to a boil, cooking for 10mins or until the sweet potato is almost soft. Add broccoli and cherry tomatoes and simmer for another 3-4mins.
- Add 1 tbsp of yoghurt to each dish.
- **Serves 4**

Total serves from each food group for 1 serve of Chickpea Korma Curry:

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
1	0	1¾	¼	1½	0	3

Recipes



Moroccan Lamb Salad

Ingredients

- 100g uncooked lamb (80g cooked).
- ½ cup cooked quinoa (or couscous).
- 1 cup of spinach.
- ½ cup of cooked pumpkin.
- 1 cup of mixed salad vegetables, e.g. cucumber, capsicum, cherry tomatoes.
- 4 whole olives (halved or quartered).
- Moroccan spice.



Method

- Cook the quinoa (cooking ratio of ½ cup quinoa to 1 cup water/ vegetable or chicken stock). Cook for approx. 20mins or until quinoa is tender and absorbed all the water. Leave to cool.
- Chop pumpkin into approx. 2-3cm cubes, and place in hot oven for 10-15mins, or until tender. Leave to cool. Remove any visible fat of the lamb, and marinade the lamb in Moroccan spice. Cooked lamb in a non-stick pan, for 5-7mins or until cooked all the way through.
- Chop cucumber, capsicum, cherry to desired width, ie diced, grated, chopped etc. Place all salad ingredients, including cooled pumpkin, spinach, and olives in a bowl and mix. Add cooked and quinoa and lamb to salad bowl. Dress with a drizzle of lemon juice and enjoy.
- Serves 1



“ Quinoa can be made in large batches and stored in the fridge for up to 5 days. Pumpkin can also be roasted ahead of time and stored in the fridge for up to 3 days. ”

Total serves from each food group for 1 serve of Moroccan Lamb Salad:

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
1	0	2½	0	1	½	1



Pita Pizzas

Ingredients

- Medium pita bread rounds.
- 1 tbsp tomato paste (salt reduced).
- 100g tuna or cooked chicken breast (can use BBQ chicken).
- ¼ cup cherry tomatoes, halved.
- ¼ cup capsicum, seeds removed, cut into strips.
- 8 olives, pitted.
- ¼ cup button mushrooms, sliced.
- ¼ cup grated mozzarella cheese.



Method

- Preheat grill to medium heat. Place the pita on a baking tray lined with foil. Grill on one side for 1-2mins until crisp. Remove from heat.
- Turn over pita, grilled side down, on the tray and spread each with tomato paste.
- Spread tomato paste evenly.
- Add the pizza toppings above or a selection of your favourite toppings, sprinkling with the cheese last.
- Grill for 5-10mins or until the cheese has melted.

Total serves from each food group for 1 pita pizza:

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
2	0	1	¼	1	0	2¼



Pork and Lettuce Wraps

Ingredients

- 1 tbsp. rice bran oil.
- 1 onion, finely chopped.
- 1 garlic clove, finely chopped.
- 1 carrot, grated.
- 1 zucchini, grated.
- 500g pork mince (can also use chicken or turkey mince).
- 1 cup mushrooms, thinly sliced.
- 2 tbsp. hoisin sauce.
- 8 iceberg or cos lettuce leaves.



Method

- Heat the oil in a large frying pan over medium-high heat.
- Add the onion and garlic and cook until the onion softens.
- Add the pork and cook for 5 minutes or until the mince is cooked through.
- Add the mushroom, carrot and zucchini, and cook for 2-3 minutes.
- Add the hoisin sauce and simmer for 2 minutes or until is heated through.
- Spoon the mixture into the lettuce cups.
- **Serves 4**

Total serves from each food group for 1 serve (2 wraps) of Pork and Lettuce Wraps is:

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
0	0	2	0	2	0	0



Prawn Fried Rice

Ingredients

- 2/3 cups of uncooked rice (2 cups of cooked rice).
- 1 onion.
- 2 cloves of garlic .
- 4 eggs.
- 240g green prawns, peeled and deveined.
- 1 1/2 cups of capsicum, chopped.
- 3/4 cup of frozen peas.
- 1/2 cup of frozen corn.
- 2 tbsp. salt reduced soy sauce.



Method

- Rinse rice, and cook 2/3 cup of uncooked rice in saucepan with 1 1/3 cup of water.
- Cook rice as per instructions on the packet.
- Whisk the eggs together. Place in a hot non-stick fry pan and cook for 1-2mins, or until set. Set aside until cooled.
- Add chopped onion, garlic to hot non-stick fry pan and cook for 3-4mins, or until softened.
- Place prawn in fry pan, with 1 tbsp. soy sauce and cook for 2-3mins or until almost cooked through.
- Add capsicum, peas and corn to fry pan, with 1/2 tbsp. soy sauce and cook for 3-4mins.
- Roughly chop cooled egg, and place in fry pan with prawns and vegetables.
- Add rice and remaining 1/2 tbsp. of soy sauce to pan and stir for 1-2mins or until warmed.
- **Serves 4**

Total serves from each food group for 1 serve of Prawn Fried Rice:

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
1	0	2	0	1	0	1 1/4

Recipes



Shepherd's Pie

Ingredients

For the top:

- 6 medium potatoes, peeled and chopped.
- 1 egg.
- 20ml milk.
- ½ cup grated cheese.

For the pie filling:

- 500g lean beef mince.
- 1 tsp cooking oil.
- 1 medium brown onion, finely chopped.
- 1 tbsp crushed garlic.
- 2 celery sticks, finely chopped.
- 2 carrots finely chopped.
- 1 tbsp tomato paste.
- 50ml red wine.
- 1 cup beef stock.



- ½ tsp ground bay leaves.
- ½ tsp dried thyme.
- 1 tbsp cornflour.
- 2 tbsp water.
- 1 tsp of Worcestershire sauce.

Method

Pie filling:

- Heat oil in a large saucepan over medium heat.
- Cook the onion, celery and carrot for 5 minutes or until soft.
- Add the beef and cook for a further 10 minutes or until the mince is brown.
- Add the garlic, tomato paste and cook for a further 2 minutes.
- Add the red wine and simmer for a further 2 minutes.
- Add the stock, Worcestershire sauce, bay leaves and thyme.
- Simmer for 5 minutes.
- Combine the cornflour and water together in a separate bowl.
- Gradually add the cornflour mixture to the beef mixture and allow to thicken.
- Allow the pie filling mixture to cool.

Potato top:

- Boil the potatoes until tender.
- Drain, then mash them until smooth.
- Mix in the egg and milk.

Next steps:

- Pre heat the oven to 180°C.
- Place the pie filling into a oven safe dish.
- Top with the mashed potato.
- Sprinkle cheese on top.
- Bake for 10-15 mins or until golden brown on top.
- **Serves 6**

Total serves from each food group for 1 serve of Shepherds Pie

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
0	0	2	¼	2	0	1



Simple Chicken and Vegetable Stir fry

Ingredients

- 400g precooked BBQ chicken breast (skin removed), and sliced.
- 1 tsp rice bran oil (or other cooking oil).
- 1 medium red capsicum sliced.
- 1 cup of broccoli or broccolini sliced thinly.
- ½ cup zucchini, sliced.
- ½ cup green beans, sliced.
- 1 cup cherry tomatoes, sliced.
- 2 cups baby spinach.
- 1 tbsp crushed garlic.
- 1 tbsp crushed ginger.
- 1 tbsp soy sauce.
- 120g (approx. 2 packs) of 2-minute noodles (without the seasoning).



Method

- Heat oil in a large frying pan over medium heat.
- Add the capsicum, zucchini, tomatoes and broccoli and cook over medium – high heat for 5 mins.
- Add the ginger, garlic and soy sauce and cook on medium heat for a further 5 minutes or until the vegetables are cooked but not soft.
- Add the baby spinach and chicken and heat through for 2-3 minutes.
- Prepare the noodles as per packet instructions without using the seasoning provided.
- Serve the stir fry over the noodles.

• **Serves 4**



“

For a vegetarian option, use tofu or chickpeas instead of the chicken

”

Total serves from each food group for 1 serve of Chicken and Vegetable Stir fry:

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
2	0	1½	0	1¼	0	2



Driving Diabetes

Slow Cooked Lamb Casserole

Ingredients

- 500g diced lamb or lamb chops.
- 1 medium onion, chopped into large pieces.
- 1 large parsnip, chopped into large pieces.
- 1 small sweet potato or potato diced.
- ½ cup water.
- 1 400g tin diced tomatoes.
- ½ cup frozen peas.
- 1 tbsp. vegetable or beef stock powder.
- 1 tbs crushed garlic.
- 1 500g tin of beef and vegetable soup or similar.
- Gravy mix for thickening.



Method

- Add all ingredients apart from the peas and gravy mix to a slow cooker.
- Cook on low for 6-8 hours, adding frozen peas in the last hour.
- Add gravy mix as per packet instructions to thicken if required.
- **Serves 4**

Total serves from each food group for 1 serve of Lamb Casserole is:

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
0	0	3	0	2	0	½



Spaghetti Bolognese

Ingredients

- 4 cups of cooked pasta.
- 1 can of diced tomatoes.
- 2 tbsp. tomato paste.
- 1 cup of mushrooms, (diced).
- 1cup of zucchini and carrot (grated).
- 1 onion.
- 2 cloves of garlic.
- 1 tbsp. dried basil.
- 500g of cooked lean turkey/ beef mince.
- 80g of parmesan cheese (optional).



Method

- Chop onion and garlic, and add to a hot, non-stick fry pan. Cook for 2-3mins.
- Add diced mushrooms and cook for 3-4mins.
- Add mince to fry pan and cook for 3-4mins or until browned. Stir to break up lumps. Stir in grated zucchini and carrot. Add in tomatoes and tomato paste.
- Reduce to low heat and simmer for about 15-20mins. Add a little water if needed.
- While the mince, vegetables and tomatoes are simmering, cook the pasta as per the directions of the packet.
- Drain and return to saucepan.
- Add the mince, vegetables and tomato sauce to cooked pasta. Add dried basil and stir. Sprinkle with cheese and serve.

• **Serves 4**

Total serves from each food group for 1 serve:

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
2	0	1½	½	1½	0	2

Recipes



Driving Diabetes

Sweet Potato and Lentil Patties

Ingredients

- 1 large peeled sweet potato, cut into 2cm cubes.
- ½ tsp ground cumin.
- ½ tsp ground coriander.
- 400g can brown lentils, rinsed, drained.
- 2 tbs chopped fresh coriander leaves.
- ½ cup of breadcrumbs.
- 2 tsp extra virgin olive oil.
- ⅓ cup tzatziki, to serve.
- 1 cup baby spinach leaves.
- 1 cup cherry tomatoes, halved.



Method

- Preheat oven to 200C/180C fan forced. Line a large baking tray with baking paper. Place sweet potato on prepared tray. Lightly spray with olive oil and sprinkle with ground cumin and coriander. Cook for approximately 20 minutes or until tender. Place in a bowl. Coarsely mash. Let cool.
- Add drained lentils, fresh coriander and breadcrumbs to the sweet potato mixture. Stir until well combined. Shape mixture into eight 2cm-thick patties.
- Heat the oil in a large non-stick frying pan over medium-high heat. Cook patties, in batches, for 2-3 minutes on each side or until golden.
- Top with spinach and tomato.
- Serve with tzatzki.
- **Serves 4**

Total serves from each food group for 1 serve of Sweet Potato and Lentil Patties (2 patties):

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
2	0	2	0	2	0	3



Vegetable Slice

Ingredients

- 5 eggs.
- 1 cup self-raising flour.
- 1½ cups zucchini, grated.
- 1 large carrot or 1 small sweet potato grated.
- ¼ cup grated cheddar cheese.
- ¼ cup vegetable oil.
- 1 large tomato, sliced.



Method

- Preheat oven to 170C.
- Beat the eggs in a large bowl. Add the flour and beat until smooth. Add grated vegetables, cheese and oil. Stir to combine.
- Grease and line a 30 x 20 cm pan. Pour mixture into the prepared pan and place sliced tomato on top.
- Bake in oven for 30mins or until cooked through. Cool for 5mins before cutting into slice.

• Serves 6



“

Serve with 1 cup of green salad for an additional serve of vegetables.

”

Total serves from each food group for 1 slice:

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
1	0	½	¼	½	0	1½



Hummus Dip

Ingredients

- 600g canned Chickpeas drained and rinsed.
- 1 tsp ground cumin.
- 2 tbsp tahini paste.
- 3 garlic cloves, crushed.
- Juice of 1 lemon.
- ¼ cup water.
- Pinch of salt.
- ½ cup olive oil.
- Coriander leaves, to serve.



Method

- Place the chickpeas, salt, cumin, tahini paste, garlic and lemon juice in a food processor and process until combined.
- Add the water and process again.
- Slowly add the oil and process until quite smooth.
- Place hummus in a bowl, add chopped coriander leaves over the top.
- **Makes 3 cups**



“

Hummus with wholegrain crackers or vegetable sticks are great for a snack. Pita bread (baked in the oven) with hummus is also a great snack. Make sure you add 1 carb for each ½ small round pita.

”

Total serves from each food group for ¼ cup serve of Hummus:

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
0	0	½	0	½	0	½



Tzatziki Dip

Ingredients

- 2 cups grated cucumber (no need to peel or seed the cucumber first).
- 1 ½ cups plain Greek yogurt.
- 2 tbsp olive oil.
- 2 tsp finely chopped fresh mint.
- 1 tsp lemon juice.
- 1 medium clove garlic crushed.
- ½ teaspoon fine salt.



Method

- Lightly squeeze the grated cucumber between your palms over the sink (one handful at a time) to remove excess moisture. Transfer the squeezed cucumber to a serving bowl.
- Add the remaining ingredients and stir to blend. Let the mixture rest for 5 minutes. Taste and add additional mint, lemon juice, and/or salt, if necessary.
- Serve tzatziki immediately or chill for later. Leftover tzatziki keeps well, chilled, for about 4 days.
- **Makes 2½ cups**

💡 Dip carrot, celery, capsicum or cucumber sticks into Tzatziki for a snack.

Total serves from each food group for ¼ cup serve of Tzatziki:

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
0	0	½	¼	0	0	¼

Recipes



Blueberry Smoothie

Ingredients

- 1 cup of almond milk.
- ½ banana.
- ½ cup frozen or fresh blueberries.
- ½ tsp vanilla extract.



Method

- Blend all ingredients together until smooth.
- **Serves 1**

Total serves from each food group for 1 blueberry smoothie:

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
0	1	0	½	0	0	1½



Banana & Blueberry Muffins

Ingredients

- 2 medium bananas, mashed.
- 1 egg, lightly beaten.
- ½ cup water.
- ½ cup vegetable oil.
- 2 cups wholemeal flour.
- 1 tsp bi-carb soda.
- 2 tsp baking powder.
- 1 cup fresh or frozen blueberries.



Method

- Preheat an oven to 180°C. Grease and line muffin tray.
- Mix together mashed bananas, egg, water, and oil in a large bowl. Mix in flour until mostly smooth.
- Gently fold in the blueberries.
- Spoon equal amounts into muffin tray.
- Bake for 20mins. Remove muffins from tray and cool on a wire rack.
- **Makes 12 muffins**

Total serves from each food group for 1 Banana & Blueberry Muffin:

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
1	½	0	0	0	0	1½



Chocolate Zucchini Muffins

Ingredients

- 1½ cups grated zucchini (about 2 medium zucchini).
- 2 eggs.
- ⅓ cup plain yogurt.
- ¼ cup vegetable oil.
- ½ cup sugar.
- 2 tsp vanilla extract.
- 1½ cups wholemeal flour.
- ½ cup cocoa powder.
- 1 tsp cinnamon.
- 1 tsp baking powder.



Method

- Preheat oven to 180°C. Grease and line muffin tray.
- Place zucchini into paper towel and squeeze over the sink to release excess water. Set aside.
- In a large mixing bowl, beat eggs. Add yogurt, oil, sugar and vanilla then beat again.
- Add dry ingredients and zucchini. Mix until just combined.
- Spoon equal amounts into muffin tray.
- Bake for 20mins. Remove muffins from tray and cool on a wire rack.
- **Makes 12 muffins**

Total serves from each food group for 1 Chocolate Zucchini Muffin:

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
1	0	¼	0	¼	0	1



Damper with Oats

Ingredients

- 2 cups plain flour.
- 1 cup wholemeal Flour.
- 1 cup rolled oats (ground in blender).
- Pinch of salt.
- 3 teaspoons baking powder.
- ½ cup boiling water.
- ¼ cup vegetable oil.
- 1 cup milk.



Method

- Stir dry ingredients together in a large bowl.
- Make a well in the centre of the dry ingredients, pour vegetable oil and milk, and mix to a soft dough.
- Turn out onto a lightly floured surface and knead into a smooth ball. (Add another ¼ cup of milk if mixture is too dry).
- Place in a greased dish, and bake in a hot oven (200°C) for 40 minutes, or until golden and the damper sounds hollow when tapped on the bottom.

Remove from dish, wrap in a clean tea towel and cool on a wire rack.

1 small slice of damper = 1 slice of presliced sandwich loaf:

Wholegrains Cereals	Fruit	Vegetable	Dairy/ Alternatives	Meat / Alternatives	Oils	TOTAL CARBS
1	0	0	0	0	0	1



MEAL PLAN EXAMPLE

Meal plan example (see Recipes from page 128).

	Breakfast	Morning Tea	Lunch	Afternoon Tea	Dinner	Night Time Snack
Mon	Poached egg on 1 piece of wholegrain toast with sautéed tomato, spinach and mushroom	½ cup of berries with 5 tablespoons of low-fat plain yoghurt	1 x small wrap with cold meat, cheese and salad	10 almonds or similar sized nuts	Chicken (150g) and vegetable stir-fry with 1/2 cup of cooked rice	1 medium piece of fruit
TUE	1 piece of sourdough toast with ¼ avocado, tomato slices and cheese	10 almonds or similar sized nuts	1 x 95g tin flavoured tuna with 2 cups of salad and 1/3 cup of three bean mix	Chopped carrot, celery and cucumber sticks with 2 tablespoons of hummus	150g Fish (grilled or baked) with stir-fried or steamed vegetables	1 medium piece of fruit
WED	2 egg omelette with ham, tomato, spinach	Blueberry smoothie	Moroccan lamb salad	1 medium piece fruit	Chickpea, sweet potato and ginger soup	4 Vita Weat or 2 Ryvita crackers with cheese
THU	2/3 cup of porridge (made from whole oats) with unsweetened almond milk	1 medium piece of fruit	Chicken, feta & salad wrap	Small handful of nut and seed mix (30g)	Spaghetti Bolognese (with 1 cup of cooked pasta)	Blueberry smoothie
FRI	1 cup of diced fruit salad with 5 tablespoons of low-fat plain yoghurt	1 cold boiled egg	Cold meat, ¼ avocado and salad wrap (1 medium, wholegrain)	Small handful of nut and seed mix (30g)	Chickpea Korma Curry with 1/3 cup cooked rice	2 tablespoons tzatziki dip with ½ small round pita bread (heat pita until warm)



continued...

	Breakfast	Morning Tea	Lunch	Afternoon Tea	Dinner	Night Time Snack
SAT	1 cup baked beans on 1-piece of wholegrain toast	1 slice of fruit bread	Chicken, cheese and tomato toasted wholegrain sandwich	Vegetable sticks with tzatziki dip	Slow cooked lamb & vegetable casserole with mashed sweet potato	1 cup of unflavoured popcorn
SUN	Banana oat pikelets (2 small) with low-fat Greek yoghurt and berries	4 Vita Weat or 2 Ryvita crackers with cheese	Sweet potato and lentil patties (1-2 patties) with salad	1 medium piece of fruit	150g Fish with steamed or stir-fried vegetables and 1 medium baked potato with light sour cream	1 cup diet jelly and ½ cup tinned or fresh fruit

MEAL PLANNER

	BREAKFAST	MORNING SNACK	LUNCH	AFTERNOON SNACK	DINNER	EVENING SNACK
Sunday						
Saturday						
Friday						
Thursday						
Wednesday						
Tuesday						
Monday						

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MEAL PLAN TRACKER

	Grains/ Cereals	Fruit	Veg	Diary/ Alternative	Meat/ Alternative	Oils	Total Carbs
Recommended Serves							
Actual Serves							
	Grains/ Cereals	Fruit	Veg	Diary/ Alternative	Meat/ Alternative	Oils	Total Carbs
Recommended Serves							
Actual Serves							
	Grains/ Cereals	Fruit	Veg	Diary/ Alternative	Meat/ Alternative	Oils	Total Carbs
Recommended Serves							
Actual Serves							
	Grains/ Cereals	Fruit	Veg	Diary/ Alternative	Meat/ Alternative	Oils	Total Carbs
Recommended Serves							
Actual Serves							



EXERCISE PLANNER

		Workout	

		Workout	

		Workout	

		Workout	

		Workout	

		Workout	

		Workout	

		Workout	

		Workout	

		Workout	



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Get Smart with Type 2 Diabetes is an essential guide for all people with prediabetes, type 2 diabetes or metabolic syndrome. In this book, we talk about the changes to your body with diabetes, how diabetes can affect your life moving forward, and simple steps to help you live healthy with diabetes.

We explain diabetes signs and symptoms, medications, the best food options, exercise, stress, problem solving, monitoring blood glucose, emergency planning and much more! Information you'd usually gain from attending multiple appointments with a Credentialed Diabetes Educator and Dietitian all in one book. We know you'll find it helpful.



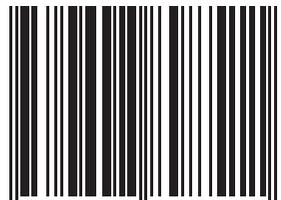
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With 30 years combined experience in diabetes management, we are passionate advocates for ensuring people with type 2 diabetes can access correct information.

Our goal is to help people develop the skills to self-manage their condition and dramatically reduce the risks of preventable diabetes complications.

Helen + Amanda

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