



Diabetes  
AUSTRALIA  
QUEENSLAND



# Diabetes: What you need to know



# Introduction

'Diabetes: What You Need to Know' is essential reading for people living with diabetes, their families, friends and carers. This comprehensive booklet provides the latest facts, figures, tips and tricks to ensure you live well with diabetes.

Most people are aware diabetes is on the rise in our community – around 200,000 Queenslanders are currently diagnosed with diabetes, and many more people are living with the condition, yet unaware that they have it.

Not surprisingly Diabetes Australia - Queensland is now busier than ever providing information and support to people living with diabetes. As the peak body for people with diabetes in Queensland, we have a strong track record in helping Queenslanders. For the past 40 years, we have worked hard to improve the lives of people affected by all types of diabetes by providing ongoing education, support and advice to health professionals, government, researchers, our members, National Diabetes Services Scheme registrants and the broader community.

You may have seen our green turn around arrow and wondered what it means. This logo means different things on different levels. For us, it reflects our mission to turn the diabetes epidemic around in Queensland, and on a more personal level, our mission to help individuals to turn their diabetes around.

Managing diabetes is not easy, but it's not impossible. We believe that with the right attitude, information and support, people with diabetes can live a long and healthy life. Being diagnosed with diabetes often leaves people feeling confused, anxious and overwhelmed, but with the right support and advice, people can gain control, turn their diabetes around and move forward with confidence.

Similarly we believe that turning the diabetes epidemic around in Queensland is not an easy task, but it too is not impossible. It requires a range of different programs and strategies including activities to raise awareness about the seriousness of diabetes and prevent people developing type 2 diabetes in the first place, better detection campaigns to ensure diabetes is diagnosed early, more management programs to support people who have diabetes and, more research to find a cure for diabetes.

With this in mind, Diabetes Australia-Queensland is involved in a range of initiatives and programs. We run a range of community education campaigns and media activities to promote lifestyle changes and raise community awareness about the seriousness of diabetes. The association runs two major public awareness campaigns during National Diabetes Week in July and on World Diabetes Day in November.

Every day we help people with, and at risk of, diabetes by providing comprehensive information and guidance on how to minimise their risk of complications. Our call centre responds to over 120,000 telephone enquiries each year about diabetes services and products and we disseminate more than one million information packages to members, supporters and the community. We conduct community

education programs to educate and inform the community about diabetes and complications of the condition. We also run a series of information and motivational expos that travel to regional and remote areas of the state, providing communities with invaluable and direct access to leading health professionals including ophthalmologists, diabetologists and podiatrists. We also support camps for young Queenslanders affected by type 1 diabetes, so that they can develop the skills required to live with this condition.

Diabetes Australia – Queensland works with all levels of government, other health organisations, media and community groups to implement policies and programs that improve the health of people living with diabetes. We strive to ensure people diagnosed with diabetes receive the best possible care, by supporting the latest research, creating practical treatment tools for health practitioners and bridging the gaps in care through programs targeting populations at higher risk of diabetes. We also fund state-based research programs in an effort to improve the lives of people affected by diabetes here in Queensland. Through the Diabetes Australia Research Trust grants, numerous research trials are now underway to more thoroughly understand, and ultimately combat diabetes.

We hope this publication helps provide you with some of the information you need to manage your diabetes well, but we realize you may have questions. Please remember we're always here to help and our friendly health team is just a phone call away. If you would like more information about diabetes and the support provided by Diabetes Australia – Queensland, or the diabetes services in your area please call us on 1300 136 588 or visit our website [www.diabetesqld.org.au](http://www.diabetesqld.org.au). Together, we really can 'turn diabetes around' in Queensland.

Thank you and happy reading!

*Michelle Trute*

Michelle Trute  
CEO,  
Diabetes Australia – Queensland



**Want to receive even more information about diabetes?**

Send an email request to 'The Editor – diabetesIQ' at [info@diabetesqld.org.au](mailto:info@diabetesqld.org.au) and we'll add you to our electronic mailing list to receive e-newsletters.



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# Healthy Eating

## IT'S IMPORTANT FOR ALL OF US

When it comes to diet and exercise, people with diabetes are no different from those who don't have the condition. Along with regular physical activity, a balanced diet helps manage blood glucose levels, reduces blood fats (cholesterol and triglycerides) and maintains a healthy weight range. Just because you have diabetes doesn't mean you need to prepare separate or special meals, so relax and enjoy meal times.

## GUIDELINES FOR HEALTHY EATING

**Choose the right foods.** Most of us know that an apple is a healthier snack than a piece of cake, but what exactly does a healthy diet entail? Generally, it involves a broad variety of foods from all the different food groups – protein, grains, vegetables, fruits and dairy – so that your body gets all the nutrients it needs. The Australian Guide to Healthy Eating provides advice on good choices and recommended serve sizes, but the kind of food we eat is only part of the puzzle.

**Watch your portions!** You need to match your energy intake (kilojoules consumed) with your energy output (exercise). If you eat too much, you will still gain weight even if you are eating healthy foods!

**Eat regularly through the day.** Start the day with breakfast and don't skip meals. If you're taking insulin or diabetes tablets you may need to eat snacks in between, but discuss this with your dietitian or diabetes educator.

**Include carbohydrate at each meal.** Carbohydrate foods are the best energy source for your body. When they are digested, they break down to

form glucose in your blood. The best way to include carbohydrates in your diet is to spread them evenly over the day so that your energy levels remain steady and you don't experience big spikes in your blood glucose. Having said that, not all carbohydrates are the same. You may have heard of the glycemic index (GI) which measures how fast a carbohydrate food affects blood glucose levels. Low GI foods cause a slower rise in blood glucose but it's still important to watch your portion sizes. The best results come

from eating a moderate amount of carbohydrates and including high fibre, low GI choices. Sweet foods like biscuits, jam and honey are also carbohydrate foods, but are often high in energy so they're likely to lead to weight gain. Treat yourself now and then, but don't overdo it.

**Your dietitian is the best person to advise you on what food, how much and how often you need to eat.**

## HEALTHY CARBOHYDRATE CHOICES

(Those in italics have a lower GI)

Bread or bread rolls – <i>wholegrain</i> and wholemeal varieties such as <i>Burgen® Breads</i> , <i>9-grain Multigrain®</i> , <i>PerforMAX®</i> are best	Fruit – all types such as <i>apples</i> , <i>oranges</i> , <i>peaches</i> , <i>bananas</i> , and melons. Whole fruit is better than juice and remember dried fruit is a concentrated form so keep portions small. Two or three serves of fruit a day.
High fibre breakfast cereals such as <i>rolled oats</i> , <i>All-Bran®</i> , <i>Guardian®</i> or <i>untoasted muesli</i> .	Milk products or dairy alternatives – <i>low fat varieties of milk</i> , <i>soy drinks (calcium fortified)</i> , <i>custard</i> and <i>yoghurt</i> . Two or three serves a day.
<i>Pasta</i> , <i>rice (Basmati, Moolgiri or Doongara)</i> and other grains such as <i>barley</i> , <i>bulgur</i> and <i>couscous</i> .	Vegetables – a wide variety including those with high levels of carbohydrate such as <i>potatoes</i> and <i>sweet corn</i> as well as salad items. At least five serves a day.
<i>Legumes</i> – <i>baked beans</i> , <i>kidney beans</i> , <i>chick peas</i> , <i>lentils</i> , <i>3 bean mix</i> .	

## CHALLENGING THE MYTHS OF HEALTHY EATING

**Just because it's low GI doesn't mean it's good for you!** Some high fat foods and many sugary foods – such as chocolate, ice cream and toasted muesli – have a low GI, but this doesn't mean they're healthy.

**Let's cut the fat.** Fats have the highest energy content of all foods so eating too much of them may make you gain weight, which can play havoc with managing your blood glucose levels. That doesn't mean you need to avoid them all together. Small amounts of healthier fats add flavour to food and some can reduce your risk of heart disease. Healthy fats are found in small amounts of canola, olive, sunflower, peanut, soybean, grape seed and sesame oils, avocado, seeds, nuts and nut spreads. Oily fish (such as salmon and mackerel) has some of the best fat (omega-3) and should be eaten at least two or three times a week.

Saturated fats and trans fats are the worst. That's because they raise your LDL or 'bad' cholesterol levels. Saturated fat is found in animal products like fatty meat, milk, butter and cheese. Vegetable fats that are saturated include coconut products like copha, coconut milk and cream, and palm oil (often found in snack foods). Trans fats are found in some processed and convenience foods.

## HOW CAN I REDUCE MY SATURATED FAT INTAKE?

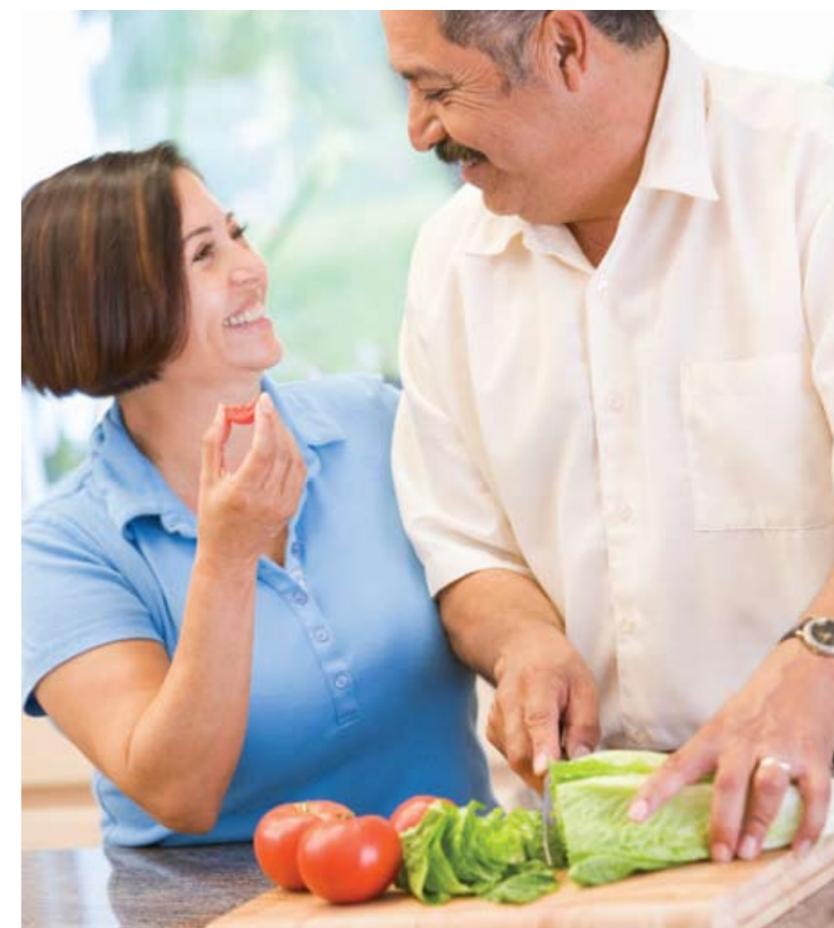
- Choose reduced or low fat milk, yoghurt, ice cream and custard.
- Choose lean meat and trim any fat off before cooking.
- Remove the skin from chicken (where possible, before cooking).
- Use as little butter, lard, dripping, cream, sour cream, copha, coconut milk, coconut cream and hard cooking margarines as possible.
- Try not to eat too much full fat cheese – use reduced fat and low fat varieties.
- Cut back on pastries, cakes, puddings, chocolate and

cream biscuits – keep these for special occasions.

- Limit pre-packaged biscuits, savoury packet snacks, cakes, frozen and convenience meals.
- Avoid eating processed deli meats (such as devon, polony, fritz and luncheon meat, chicken loaf, salami, etc) and sausages too often.
- Avoid fried take away foods such as chips, fried chicken and battered fish. Choose BBQ chicken (without the skin) and grilled fish instead.
- Cut back on pies, sausage rolls and pasties.
- Try to avoid creamy sauces and dressings. Choose tomato-based sauces and low fat dressings made from small amounts of polyunsaturated or monounsaturated fats (such as sunflower, grape seed, olive or canola oils). Also try to choose low-salt sauces and dressings.
- Limit creamy style soups.

## TIPS FOR COOKING WITH HEALTHY FATS

- Stir-fry meat and vegetables in a little canola oil (or oil spray) with garlic or chilli.
- Dress a salad or steamed vegetables with a little olive oil and lemon juice or vinegar.
- Sprinkle sesame seeds on steamed vegetables.
- Use linseed bread and spread with a little canola margarine.
- Snack on a handful of unsalted nuts or add some to a stir-fry or salad.
- Spread avocado on sandwiches and toast, or add to a salad.
- Eat more fish (at least twice a week) because it contains a special type of fat (omega-3) that is good for your heart.
- Do more dry roasting, grilling, microwaving and stir-frying in a non-stick pan.
- Avoid deep fried, battered and crumbed foods.



**Eat more fibre.** Apart from keeping your digestive system healthy, fibre also helps control your blood glucose level, your cholesterol and your weight. Find your fibre daily in wholegrain products, fruit, vegetables and legumes.

**What about sugar?** Small amounts of sugar are OK but high-energy foods like chocolate, cakes and lollies should be limited. A newer type of sugar on the market called “LoGiCane” has a lower GI than regular sugar but contains the same amount of energy. You can still enjoy your favourite recipes, however, by replacing sugar with an alternative sweetener,

but make sure you read the label carefully. There are two groups of alternative sweeteners – non-nutritive and nutritive sweeteners. Non-nutritive sweeteners are products like saccharine, cyclamates, aspartame, sucralose, acesulphame K and stevia. They are kilojoule-free and have no effect on blood glucose levels. Nutritive sweeteners such as fructose, sorbitol, maltodextrin and xylitol may be absorbed by the body more slowly but they have the same energy value as sugar.

**Cheers!** Most people with diabetes can enjoy a small amount of alcohol but you need to get the all-clear

from your diabetes health care team beforehand. Alcohol is high in energy and can contribute to weight gain. It can also affect your blood fats, blood pressure and make it more difficult to manage your diabetes. It can cause your blood glucose to drop so, for those taking insulin or some types of diabetes medication, it can lead to a ‘hypo’ (see page 16 for more information). The key is to make sure you eat some carbohydrate foods when you drink alcohol. The guideline is two standard drinks a day for men and one for women, with two alcohol-free days every week.



### DAILY MENU PLAN (carbohydrate foods are written in italics)

MORNING MEAL	LIGHT MEAL	MAIN MEAL*
3/4 cup of <i>high fibre breakfast cereal</i> with <i>low fat milk</i> <b>OR...</b> Two slices of <i>bread</i> or <i>toast</i> , preferably wholegrain, wholemeal or high fibre white with thinly spread margarine, peanut butter, <i>jam</i> , Vegemite® or try with <i>baked beans</i> , grilled tomato, or sardines <b>PLUS...</b> One piece of <i>fruit</i> Tea, coffee or water	One sandwich made with two slices of <i>bread</i> , or one <i>bread roll</i> or four <i>dry biscuits</i> – preferably <i>wholegrain</i> or <i>wholemeal</i> – with thinly spread margarine <b>PLUS...</b> Salad vegetables <b>OR...</b> A small serve of lean meat, skinless poultry, seafood, egg, fat reduced cheese or a more generous serve of <i>legumes</i> (such as <i>beans</i> or <i>lentils</i> ) <b>PLUS...</b> One piece of <i>fruit</i> Water, tea or coffee	One <i>bread roll</i> or two slices of <i>bread</i> (preferably wholegrain or wholemeal) <b>OR...</b> One cup of cooked <i>pasta</i> or <i>rice</i> <b>OR...</b> Two medium <i>potatoes</i> <b>OR...</b> One cup <i>sweet potato</i> or <i>corn</i> (include other vegetables freely) <b>PLUS...</b> A small serve of lean meat, skinless poultry, seafood, egg, fat reduced cheese or a generous serve of <i>legumes</i> (such as <i>beans</i> or <i>lentils</i> ) <b>PLUS...</b> One piece of <i>fruit</i> <b>OR...</b> A small amount of low fat <i>yoghurt</i> or <i>custard</i> Water, tea or coffee

\*You can eat your main meal at lunch or dinner

**Important!** This is only a rough guide – for more information and an individualised meal plan, consult an Accredited Practising Dietitian. Ask your doctor for a referral or contact the Dietitians’ Association of Australia on 1800 812 942 or go to [www.daa.asn.au](http://www.daa.asn.au).

# Physical Activity

## READY, SET, GO!

Apart from all those feel-good endorphins that swim around your body when you’re physically active, exercise can also lower your blood glucose levels. In fact, it helps to control your weight, reduce your blood pressure, keep your stress levels under control and lower your risk of heart disease. Depending on the type, duration and intensity of your chosen activity, the effects of exercise may last for several hours – but don’t discount the incidental activity you do every day. Cleaning and stair climbing count as physical activity! Before you sign up for a program, ask your doctor the following questions:

- Am I on any medication that will affect my ability to exercise safely?
- Am I physically fit enough to exercise? This may include checking your heart and blood pressure as well as your feet to make sure there are no underlying problems
- Which activities do you recommend? What length and duration?
- Under what circumstances should I stop exercising?
- Should I carry glucose with me, wear some identification, or carry a mobile phone?
- Should I exercise with someone else? Are there any groups that you could recommend?
- What about my feet? How do I make sure I look after my feet properly when exercising and what types of footwear do I need? (You may need help from a podiatrist for this – ask your doctor for a referral).

Technology and modern living have reduced the amount of daily activity we do, so it’s important to incorporate as much incidental activity in our daily routines as possible. This is as easy as leaving the remote control on top of the TV so you have to get up and move around to adjust the volume or

channel. The National Physical Activity Guidelines recommend you view movement as an opportunity rather than an inconvenience and spend at least 30 minutes on most, if not all, days doing moderate physical activity.

## TYPES OF EXERCISE

Once you’ve got the all clear from your doctor, what kind of exercise should you do? Research shows some resistance training should be included in your physical activity regime to keep your bones healthy and strong. Lifting cans of food or bottles of water, sitting and standing from a chair, or doing push-ups against a wall are all types of resistance training. Weight training is another form of resistance training. If you’re using weights, they should be easy to lift the first two or three times but difficult on the last few repetitions (in a set of eight to 10). If you’re unsure how to do this safely, consult an exercise physiologist.

## LISTEN TO YOUR BODY

When you exercise, your body takes glucose from the blood and uses it to keep the muscles supplied with enough energy. After you have finished exercising, your muscles fully ‘restock’ their energy supplies, drawing on glucose from the blood. If you take insulin or some types of tablets for diabetes and don’t eat enough carbohydrate before, during and after the activity, your blood glucose levels will continue to drop and this can trigger a hypo. (see page 16). If you take insulin and experience hypo’s on the days you exercise, ask your diabetes health professional how to best manage this. On the other hand, some people with diabetes notice their blood glucose levels rise after exercise. This could be because of the amount, type or duration of activity, the level of your blood glucose when you started exercising, your food intake or the kind of treatment you’re using. Seek advice from your doctor on ways to prevent this from occurring.





# Weight Management

## THE BATTLE OF THE BULGE

Most people with type 2 diabetes have to work hard to keep their weight within a healthy range, but it's not just the scales that determine your risk. Waist measurement is also a strong indicator and health professionals recommend that men keep their girth below 94cm and women under 80cm – discuss this with your doctor as people from certain ethnic backgrounds have different recommended measurements. A true waist measurement is found halfway between your lowest rib and the top of your hip. If you find it difficult to measure yourself, ask for help. The best way to determine whether you're in a healthy weight range is to measure your Body Mass Index (BMI) which is calculated by dividing your body weight in kilograms by your height in metres squared. Your doctor or dietitian can tell you more about this. (see table on page 11).

However, if you are overweight and carry your excess kilograms around your waist, you're more likely to be insulin resistant. But, that's not all. People with a high waist measurement are also more likely to have high blood pressure, high cholesterol, sleep apnoea and dementia, as well as some cancers. Being overweight also puts pressure on joints – such as your hips and knees – and back, which makes physical activity more difficult.

## FOOD, FADS AND FORMULAS

If you are overweight, don't rush to follow the newest fad diet. Making small, sustainable changes to your eating behaviour and being more active are good ways to improve your overall health and wellbeing. Alternative methods – such as meal replacement programs – should only be used in consultation with your doctor. The starvation action of these low energy, high protein, low carbohydrate diets puts stress

and strain on your body which is already working hard to control your blood glucose, blood pressure and cholesterol. There could be side effects such as hypoglycaemia, kidney damage, hair loss and bad breath. Any medications you take will need to be adjusted by your doctor if you start an extreme weight loss diet.

Bariatric (weight loss) surgery can be an effective method of losing weight for people who have a BMI greater than 35kg/m<sup>2</sup> and who have been unsuccessful in losing weight by other means. The type of surgery recommended depends on a number of factors, including your eating and dieting history. If you choose to have a gastric banding or bypass operation, you will have to modify your diet further and take multivitamin and mineral supplements for the rest of your life. Although dramatic weight loss is possible, you'll still need to learn how to eat properly after surgery. You may also require plastic surgery to reduce the excess skin that often follows extreme and rapid weight loss.

## KEEP IT REAL

People often have unrealistic expectations of how much weight they are going to lose and how quickly. This pressure, combined with failure to make realistic changes to your lifestyle, will make long-term weight loss difficult. Losing five to 10 percent of your bodyweight a year until you reach a healthy target weight is the ideal way to shed those excess kilograms, and can improve your health and reduce your medication.

Start by having regular meals throughout the day. Remember that your energy in (kilojoules consumed) needs to be less than your energy expended (body function and physical activity) in order to lose weight. Portion sizes can make a big difference. Sometimes people eat healthy foods that are low in energy, fat, salt and sugar, but eat too much of them. Cut back on your portions and increase the amount of incidental activity and exercise you do. Before reaching for that snack, make sure you've met your daily requirements of five portions of vegetables, two portions of fruit and two serves of dairy. And, watch out for those 'extras' like alcohol. The Australian Guide to Healthy Eating and the Diabetes Australia Fact Sheets 'Do you need to lose some weight?' and the 'Healthy Eating Guide' are useful for more tips.

## BODY MASS INDEX CATEGORIES

BMI category	Weight/Height <sup>2</sup>
Underweight	less than 18.5
Normal	18.5 – 24.9
Overweight	25 – 29.9
Obese	30 or more



# Underweight

Being underweight can make it difficult to stay healthy. Losing weight when you are not trying to, can be a warning that there is something seriously wrong. Seek help from your doctor or trusted health professional as early as possible. You may be referred to a dietitian who will check your medical history, medication and blood tests, and provide an individualised treatment plan to help you meet your nutritional needs. This often includes increasing the protein, fat and energy content of your diet while managing the carbohydrate (starch and sugar) component to maintain healthy blood glucose levels. High blood glucose levels can make it difficult for you to gain weight. In addition to modifying your food intake, your doctor may recommend a temporary or more permanent change to your diabetes medication.



## DIETARY SUPPLEMENTS

People who are underweight sometimes take supplements to improve their nutritional intake, but you need to discuss the suitability of these products with your dietitian or doctor, especially if you have problems with your kidney function or diabetes control.

## PRACTICAL TIPS FOR GAINING WEIGHT

- Eat small frequent meals and snacks
- Add more mono or polyunsaturated margarine and oil to your food
- Add skim milk powder to drinks, soups and stews
- Add grated cheese to cooked foods
- Snack on small serves of crackers, cold meat, nuts and dried fruit.

Note: Increasing the carbohydrate content of your diet may cause your blood glucose levels to rise. Ask your dietitian about the quantity of fruit and other carbohydrates you should include to make sure your blood glucose levels remain in the target range. Regardless of whether you're overweight or underweight, a referral to a dietitian is worthwhile because there could be other factors at play, including poorly controlled diabetes, high cholesterol or high blood pressure.

# Coping with Diabetes



Anyone diagnosed with a chronic disease experiences a range of emotions. Often, it means making major changes to your lifestyle and behaviour and this can be challenging. But you're not alone! Apart from your diabetes health team, you also have family and friends to help you learn to cope. Coping, by definition, means 'managing a difficult problem or situation successfully'. To cope with your diabetes, you need to develop a range of tools and strategies.

## COMMUNICATE

You may feel angry or scared. You may be confused, or in a state of denial. These feelings are all part of the emotional processing and cognitive understanding of diabetes. Talk to family and friends and let them know how you are feeling. Your feelings may surface when adjustments are necessary so express these emotions when they arise. Relationships with your family, friends, colleagues or classmates can become strained because other people have a lack of knowledge and understanding of diabetes. Explain your diabetes to people who care about you, and tell them about the changes you need to implement to improve your health.

Encourage them to help you by making them part of your support network.

## ASK FOR HELP

Go to health professionals – such as your counsellor, doctor, diabetes educator, or community nurse. If you feel self-conscious or embarrassed talking about your diabetes, find out how you can connect with others who also have diabetes because they will understand how you are feeling (see page 27 for information about Diabetes Support Groups in Queensland). Asking for help enables you to explore and acknowledge the meaning of having diabetes and aids you in finding the motivation to make any necessary changes.

## COPING WITH STRESS

The daily management of diabetes in your everyday life can be very stressful. You may find that your stress levels increase your blood glucose levels – you may feel dizzy, suffer headaches or experience fatigue. The physical symptoms of both stress and diabetes can be similar, so it's important to develop strategies to relieve stress. Obviously, it's best to eliminate the cause of your stress, but this is often easier said than done.

Look for the things that trigger emotional upset and develop a coping tool that can be used when you notice your stress levels starting to rise. For example, when you notice yourself beginning to feel agitated go for a walk, listen to relaxing music, phone a friend, do some deep slow breathing, or watch a funny video.

## TRY TO FIND WHAT WORKS FOR YOU

Self management is the key to coping with diabetes. You have to take ownership of your personal care. Professional health carers can help you find the coping skills you need because different strategies work for different people. Some like to get involved in volunteer work because helping others is a rewarding way to help yourself. Others take up a new hobby or join an arts and crafts group. Contact your local Diabetes Support Group for further support.

### Useful coping websites include:

[www.volunteeringaustralia.org](http://www.volunteeringaustralia.org)  
[www.2020ocs.com.au](http://www.2020ocs.com.au)  
[www.diabetescounselling.com.au](http://www.diabetescounselling.com.au)

# Blood Glucose Monitoring

## MONITOR YOUR OWN BLOOD GLUCOSE LEVEL

As you develop strategies to help you cope with your diabetes, you will find that monitoring your own blood glucose levels is a really valuable management tool. Self-monitoring involves a blood glucose meter, a lancet device with lancets and test strips. Your diabetes educator will help you learn how to conduct the test. People with type 1 diabetes usually need to test at least four times a day, but people with type 2 diabetes may not need to test as often. Your general health and wellbeing, as well as your activity level and medication, may determine how often you need to test yourself. Your doctor or diabetes

educator will help you decide how many tests you need to do and what your blood glucose targets should be. You may need to test more often if you are sick, change your level of physical activity or medication, or are having symptoms of either high or low blood glucose levels.

Measuring and recording your blood glucose levels is important because it reflects how your body is responding to changes in eating patterns, physical activity, medicines and other factors. Importantly, a change in the pattern can alert you and your health care team to a need to alter your diabetes management plan. Testing your blood glucose levels and reviewing the results will help you to:

- Become more confident managing your diabetes

- Better understand the relationship between your blood glucose levels and the amount of exercise you do, your diet and other lifestyle factors such as travel, stress and illness
- Understand how your lifestyle choices and medication can make a real difference
- Know immediately if your blood glucose levels are too high (hyperglycaemia) or too low (hypoglycaemia) and help you make important decisions, such as eating before exercise, treating a hypo or seeking medical advice if you are sick
- Know when to seek advice from your diabetes health team about adjusting your insulin, tablets, meal or snack planning when you are not achieving your blood glucose targets.

# Do you know what an HbA1c is?



The HbA1c test is reported as a percentage. It reflects the average of your blood glucose levels over the previous 8 to 12 weeks but is not itself the average. Think of it as a 'quality of life' number because the lower the number, the less chance that you will develop complications from your diabetes, such as kidney failure, loss of vision, limb amputation, stroke and heart attack.

The target we should be striving for in most people with diabetes is a value of seven percent or less. At this level, complications are minimised and the risks of hypos are low. But, we also know that for each one percent reduction in HbA1c value, people with

diabetes are rewarded with a 20 to 40 percent reduction in the risk of complications.

Did you know that half of all Queenslanders live with an HbA1c greater than seven percent, putting themselves at an increased risk of complications and reduced quality of life?

If each GP in Queensland helped just three of their patients with an HbA1c greater than seven percent each year to achieve a level less than seven percent and helped them stay there

for the next five years, a massive 80 percent of Queenslanders living with diabetes would have an HbA1c in the optimal range, improving their quality of life.

Do you know your HbA1c? Are you one of the three that can be helped by your GP? Do you want to be one of the three? If so:

- Talk to your GP today
- Know your HbA1c
- Understand it
- Act on it
- Choose to improve your future and your quality of life.

# Medication and Insulin

People with type 2 diabetes are often given tablets and/or injections to help control their blood glucose levels. Any medication needs to be used in combination with a healthy diet and regular physical activity. It is not a substitute! You may also be given tablets to help lower your blood fats (cholesterol and triglycerides) and blood pressure, or to prevent complications such as kidney disease.

## Tablets currently used in Australia for lowering blood glucose levels:

- **Biguanides (metformin)** – such as Diaformin, Diabex, Glucomet, Glucophage
- **Sulphonylureas** – such as Diamicon, Amaryl, Dimirel, Daonil, Minidiab, Glyade
- **Thiazolidinediones (glitazones)** – such as Avandia, Actos
- **Meglitinides (repaglinide)** – such as Novonorm
- **Alpha glucosidase inhibitors (acarbose)** – such as Glucobay
- **DPP-4 inhibitors (sitagliptin)** – such as Januvia.



Different medications work in different ways. Some help your body to become more sensitive to insulin so that the insulin produced by your pancreas works better. Others stimulate the pancreas to produce more insulin. Some slow down the digestion and absorption of glucose while others improve the body's ability to lower blood glucose when it is high. Your doctor may prescribe one medication to start with but later add a second or even third to help maintain normal blood glucose levels. For example, metformin plus a sulphonylurea is a common combination.

Recent drug developments mean there are now two classes of injectable medicines for treating diabetes: insulin and incretin mimetics (exenatide) – such as Byetta.

## HELPFUL HINTS

- Know the name of all your medications – it's a good idea to make a list and keep it in your wallet
- Know the correct dose of your medications
- Understand how your medications work
- Know the correct time to take your medications
- Know the side effects that your medications may cause.

## INSULIN

Insulin injections are required when the body produces little or no insulin, as with type 1 diabetes. People with type 2 diabetes may also need insulin injections because it's a progressive condition and over time the amount of naturally produced insulin decreases. In other words, a combination of healthy eating, regular physical activity and tablets may not always be enough to control your blood glucose levels.

**Why must insulin be injected?** Insulin is a protein so it can't be given in tablet form because the stomach would digest it, just like it digests protein in food.

**I'm frightened!** Starting on insulin can be scary but the various devices and tiny needles available today make injecting quite easy. Some people use syringes but most use newer devices which look like pens. Many people find these easier and more convenient than syringes. Needles for both syringes and pens are available in different lengths and should be changed with each injection. Syringes and needles are free for people registered with the National Diabetes Services Scheme (NDSS). But you don't need to worry. Your doctor and diabetes educator will help you adjust to your new routine.

**Are there different types of insulin?** There are many types of insulin ranging from rapid to long acting. Some insulins are clear in appearance

and others are cloudy. Your doctor will know which type is best for you.

**Where is insulin injected?** Insulin is injected into the fatty tissue known as the subcutaneous layer. You do not inject it into muscle or directly into the blood. How the insulin is absorbed depends on where you inject. For instance, the tummy (abdomen) is usually recommended because it absorbs insulin evenly. Each injection needs to be done in a slightly different area of the tummy each time to ensure the insulin is absorbed properly and prevent lumps from developing in your skin.

**Tips on storing insulin.** Keep unopened insulin in the fridge but don't allow it to freeze. Once open, it can be kept at room temperature (less than 30 degrees), out of direct sunlight, for one month. It can be safely carried in your handbag or pocket. Don't use insulin if:

- Clear insulin has turned cloudy
- The expiry date has been reached
- The insulin has been frozen or exposed to high temperatures
- Lumps or flakes can be seen in the insulin
- The vial has been open for longer than one month.

**Dispose of used needles and syringes carefully.** Used syringes, pen needles and lancets must be disposed of in an Australian Safety Standards-approved sharps container which is puncture-proof and has a secure lid. These

are usually yellow in colour and are available through pharmacies and Diabetes Australia – Queensland. Procedures to dispose of sharps containers vary from Council to Council and State to State. Contact your State or Territory Diabetes Organisation on 1300 136 588, your State Department of Health or your Local Council for information.

**What is an insulin pump?** An insulin pump is a small, computerised device that delivers rapid-acting insulin under the skin. The pump is worn outside the body, in a pouch or on your belt and has a flexible cannula (a small, tapered tube) that is inserted just below the skin, usually on the abdomen. The insulin pump delivers a small amount of 'background' insulin to cover your normal body functions and, each time you eat, you activate

the pump to give an extra burst of insulin to cover the carbohydrate you've consumed. An extra dose can also be given to treat a high blood glucose level. In short, the insulin pump simulates the actions of a healthy pancreas. The pump can be disconnected for short periods, such as for a shower or playing sport, but it's not automatic. Pumps must be programmed, based on at least four to six blood glucose readings per day, and careful thinking about food and physical activity. The cannula can stay in place for two to three days and can easily be changed at home. Pumps often require more work and effort than injections and are not suitable for everyone. The costs associated with a pump can be very high, particularly if you have type 2 diabetes, so if you're considering

using one, discuss this with your diabetes health care team.

## INCRETIN MIMETICS

Incretin Mimetics are a relatively new class of drug for type 2 diabetes. They work by mimicking the effects of some of the body's own hormones (the incretin hormones) which help to control blood glucose levels after meals. They need to be given by injection. Whichever medication you have been given, it is vital that you take it as prescribed and discuss any problems or side effects with your doctor. **Don't just stop taking it.** By working with your doctor to find a treatment regime that suits you, you can stay healthy, manage your diabetes successfully and prevent or at least delay complications.

# Other Medicines



## COMPLEMENTARY MEDICINES

Complementary medicines complement rather than replace conventional medications and include herbal, traditional, natural and alternative preparations. They need to meet Australian Government standards for quality and safety, but not for effectiveness. Just as conventional medicines have risks and side effects, so do complementary medicines. Some complementary medicines have been shown to improve health, however many have not been shown to be effective for people with diabetes. Some complementary medicines may interact with each other or with prescription and over-the-counter medicines.

## OVER-THE-COUNTER MEDICINES

Over-the-counter medicines are those that you can buy from your local pharmacy or supermarket without a prescription.

In order to minimise any risk when using either over-the-counter or complementary medicines, you need to:

- Be honest with your doctor, diabetes educator and dietitian about all the medication you are taking
- Not stop taking any prescription medications without first discussing it with your doctor
- Consider the cost
- Remember that some can interfere with prescription medications
- Bear in mind that these medications have possible risks and side effects just like prescription drugs.

# Hypoglycaemia

You may remember we referred to hypo's earlier in this diabetes self-management guide. 'Hypo' is a shortened name for hypoglycaemia, which occurs when your blood glucose level drops too low (usually less than 4mmol/L). It is important to treat hypos quickly to stop your blood glucose level from falling even lower.

## CAUSES OF HYPOGLYCAEMIA

- Delaying or missing a meal or not eating enough carbohydrate
- Unplanned physical activity or more strenuous exercise than usual
- Drinking alcohol
- Too much insulin or too many diabetes tablets.

**NOTE:** Sometimes, no specific cause can be identified for hypoglycaemia.

## SYMPTOMS OF HYPOGLYCAEMIA

- Shaking and/or sweating
- Dizziness and/or headache or feeling lightheaded
- Tingling in lips and tongue
- Palpitations
- Ravenous hunger and/or butterflies in your stomach
- Lack of concentration and/or mood changes or unusual behavior
- Unconsciousness.

If you feel any of these, you should test your blood glucose level. If you can't test yourself, treat the symptoms as a hypo just to be safe.

## HOW DO I TREAT A HYPO?

The first thing to do is make sure you're safe. For example, if you're driving a vehicle, pull over to the side of the road. Then complete the following steps.

**Step 1:** Have some (about 15g) quick acting glucose IMMEDIATELY, such as:

- Half a glass of Lucozade OR
- Half a dozen small jellybeans OR
- Three 5g dextrose/glucose tablets OR
- 100mls of non diet soft drink OR
- 125 to 200ml of fruit juice.

**NOTE:** For those taking Glucobay® (Acarbose) in addition to other diabetes medication, hypoglycaemia must be treated with glucose (dextrose or glucose tablets).

If you can, re-test your blood glucose levels after about 15 minutes to make sure they have risen above 4mmol/L. If the symptoms don't go away or the test reveals you're still below 4mmol/L, then **REPEAT Step 1.**

**IMPORTANT:** If after repeating **Step 1**, your blood glucose level still doesn't rise above 4mmol/L, get help immediately. Your blood glucose level could continue to drop and you could become unconscious!

**Step 2:** If your next meal is more than 20 minutes away, eat some longer acting carbohydrate, such as:

- A sandwich OR
- A glass of milk OR
- One piece of fruit OR
- A tub of natural low fat yoghurt OR
- Six small dry biscuits.

Tell your family, friends and colleagues about hypo's – how to recognise the symptoms and how to treat them. Make sure you also tell them:

- If I become unconscious, drowsy or unable to swallow, call an ambulance immediately
- Call 000 and state that it is a 'diabetic emergency'
- Do not feed me, instead place me on my side making sure my airway is clear, and wait with me until the ambulance arrives.

# Hyperglycaemia and sick days

While hypo's are caused by your blood glucose levels dropping too low, hyperglycaemia occurs when the levels are too high (usually above 15mmol/L).

## WHAT CAUSES HYPERGLYCAEMIA

- Not enough insulin or diabetes tablets
- Eating too much carbohydrate food
- Sickness or infection
- Stress
- Reduced physical activity.

## SYMPTOMS OF HYPERGLYCAEMIA

- Excessive thirst
- Lethargy
- Frequent urination
- Blurred vision
- Lack of concentration
- Change in behaviour (usually irritable).

If your blood glucose levels are usually well controlled, an occasional higher reading is nothing to worry about. However, if your readings continue to rise, or if they are higher than they should be over a period of time, you need to tell your doctor because it could mean your treatment regime

needs to be reviewed. Everyday illness or infections will nearly always cause your blood glucose levels to rise, so make sure you take action at the first sign of a cold or virus.

## WHAT IF I BECOME SICK?

- Test your blood glucose levels at least every two to four hours.
- Keep drinking and (if possible) eating as usual.
- Continue to take your diabetes tablets or insulin if you can eat and drink normally, however you may need some adjustments to your medication, so seek some advice if your blood glucose levels are too high or too low.
- If you take tablets or insulin for your diabetes, it is important to avoid hypoglycaemia. If you can't eat, then drink carbohydrate-containing fluids if your blood glucose levels are under 15mmol/L (see below).

- **If you can eat normally:** Do so and sip extra fluids each hour, about half a cup. To prevent dehydration, also drink unsweetened fluids such as water, diet soft drinks, diet cordial, weak tea, coffee, vegetable juice or broth.
- **If you can't eat normally:** Have some easy-to-manage carbohydrate drinks, snacks or small meals every two hours. To prevent dehydration, also drink unsweetened fluids up to one cup per hour.
- Tell someone: If you live alone, let someone know that you're unwell so they can check on you. If you're not well enough to follow the steps above, ask someone to help or to call your doctor.

## WHEN DO I NEED TO CALL MY DOCTOR?

There are certain times during illness when you will need the advice of your diabetes health professional. Contact your doctor or diabetes educator if:

- You can't eat normally – you probably still need to keep taking your diabetes tablets or insulin so will need advice about what to do
- You're not well enough to follow the important steps outlined above
- Your blood glucose level is consistently above 15mmol/L for more than 12 hours
- Vomiting or diarrhoea continues for more than 12 hours
- You continue to feel unwell or become drowsy.

**For more advice on how to treat hypoglycaemia or hyperglycaemia, speak to your diabetes health professional.**



# Complications



## COMPLICATIONS

If your diabetes is not managed effectively, the reality is that high blood glucose levels can cause serious damage to your body over time. The good news, however, is that most of this damage can be prevented and if it has started to occur then progress can be delayed. The most common complications are:

### DAMAGE TO THE LARGE BLOOD VESSELS

Cardiovascular disease (blood vessel disease, heart attack and stroke) is the leading cause of death in Australia and diabetes increases your risk of developing these problems. People with diabetes often have high cholesterol and blood pressure. When these are combined with raised blood glucose levels, the risk of cardiovascular disease increases. Smoking, having a family history of cardiovascular disease and being inactive also increase risk.

### DAMAGE TO THE SMALL BLOOD VESSELS

People with diabetes can suffer problems with their eyes which can include cataracts and glaucoma. Damage to the retina (retinopathy) is often silent with very little change to vision until it is well advanced. If left unchecked, this can cause blindness, so you need to have your eyes examined regularly by a qualified optometrist or ophthalmologist. High blood glucose levels can also cause significant damage to your kidneys

over time, especially if you have high blood pressure.

### DAMAGE TO THE NERVES

Lastly, diabetes-related nerve damage can be particularly difficult to manage and includes pain and loss of feeling in the hands and feet (peripheral neuropathy), gastro-intestinal problems and erectile dysfunction.

### HOW CAN I REDUCE MY RISK OF DEVELOPING COMPLICATIONS?

- Keep your blood glucose, blood fats (cholesterol and triglyceride levels) and blood pressure at target levels
- Test your blood glucose levels as recommended and alert your doctor or diabetes educator of any persistent changes
- See your doctor regularly and complete all recommended screening tests
- Take all medications as prescribed
- Don't smoke. If you need help quitting, call Quitline 137 848
- Be physically active by doing at least 30 minutes of moderate physical activity on most, if not all, days of the week
- Follow a healthy eating plan (consult a dietitian for advice on food choices and portion sizes, especially if you change your medication)
- Limit your alcohol intake – no more than two standard drinks a

day for men and one for women and have at least two alcohol-free days a week.

- Lose any excess weight (losing even a small amount of weight can improve your health)
- Look after your feet – see a podiatrist if need help and choose footwear that protects your feet
- Tell your doctor about any problems.

### TEETH AND GUMS

Another health concern for people with diabetes is tooth decay and gum infections, caused by high blood glucose levels. This, in turn, can increase your risk of heart disease. Signs to watch out for include a dry mouth, burning tongue, red, sore, swollen or bleeding gums, and white film on your gums, on the inside of your cheeks or tongue.

Make sure your dentist knows you have diabetes and pay regular visits so you can learn more about caring for your teeth and gums. If you have a dry mouth, drink water rather than beverages laden with sugar or alternative sweetener. Sugarless gum can help increase saliva production.

**Remember:** Most diabetes complications can be prevented! Your doctor and health care team can help you manage your diabetes and will advise you on the best techniques to help you live longer and stay well with diabetes.

# Foot Care

## LET YOUR FEET DO THE TALKING

People with high blood glucose levels can experience damage to their blood vessels and nerves, including those in their feet. Nerve damage may manifest as a burning pain or loss of feeling (diabetic neuropathy) while damage to your blood vessels means your feet are not getting enough blood supply through them (peripheral vascular disease). This can cause delayed healing if a problem – such as a small blister or sore on your foot – occurs. However, if you have lost feeling in your feet, it can be hard for you to tell if there is anything wrong. If the sores aren't cared for properly, they can develop into ulcers and if these serious, deep sores become infected, you may have to go to hospital to have them treated. In very serious cases, surgery may be necessary and amputation may be required.

## HOW CAN I AVOID PROBLEMS WITH MY FEET?

- Keep your blood glucose levels well controlled and follow your doctor's advice on diet, physical activity and medication.
- Quit smoking.
- Wash your feet every day with lukewarm water and mild soap.
- Dry your feet well, especially between the toes (use a soft towel and pat gently).

- Keep the skin smooth by applying a cream or lanolin lotion, especially on the heels but not between the toes. If the skin is cracked, talk to your doctor about how to treat it.
- Keep your feet dry by dusting them with non-medicated powder (if necessary) before putting on shoes, socks and stockings.
- Check your feet every day and call your doctor at the very first sign of redness, swelling, lasting pain, numbness or tingling. Use a mirror to inspect your feet if you can't easily reach or see them.
- Don't treat calluses, corns or bunions without talking to your doctor or podiatrist first, and do not use corn pads or corn kill ointments from the chemist.
- Cut toenails straight across to avoid ingrown toenails. Use a nail file to remove any sharp edges after cutting. It might help to soak your toenails in warm water to soften them before you cut them.
- Don't let your feet get too hot or too cold.
- Don't go barefoot.
- Cover any small cuts with a mild antiseptic and dressing.
- Make sure your doctor, podiatrist and/or nurse check your feet regularly and tell them of any problems – such as loss of feeling, sores or ingrown toenails.



## TIPS FOR CHOOSING SHOES AND SOCKS

- Shop for new shoes at the end of the day when your feet are a little swollen.
- Look for lace up or buckled shoes which are supportive and have a non slip sole.
- Break in new shoes slowly by wearing them for no more than an hour a day for several days.
- Change your socks and shoes every day. Look inside the shoe, tap it upside down and put your hand in to ensure there are no loose stones or shoe tacks and check them regularly for wear and tear.
- Wear well-padded wool or cotton socks or stockings that are slightly longer than your longest toe.
- Don't wear shoes without socks, sandals or other open-toed shoes.
- Avoid high-heeled shoes and shoes with pointed toes.
- Don't wear stretch socks, nylon socks, socks with an elastic band or garter at the top, or socks with inside seams.
- Don't wear uncomfortable or tight shoes that rub or cut into your feet. Consider being fitted for a custom-moulded shoe.
- Talk to your doctor before you buy special shoes or inserts.

# Treating to Target

People with diabetes need to be actively involved in their own care and they need to know whether their treatment plan is working. The Royal Australian College of General Practice recommends you know the results of six crucial tests to help you keep on top of managing your disease.

**1. HbA1c Test:** This is a blood test which reflects your average blood glucose reading for an eight to 12 week period. It is performed by a health professional and provides you with a comprehensive snapshot of your diabetes management. The test should be taken every three to six months. As a general rule, your HbA1c value should be seven percent or less. The trick is to get it as low as possible without increasing the risk of other complications, such as hypoglycaemia. If your HbA1c is elevated, you may need to increase your physical activity, lose weight or talk to your health care team about altering your medication (also see page 13).

**2. Blood Pressure:** Checking your blood pressure and treating elevated levels reduces your risk of blood vessel damage. High blood pressure is a silent killer, so have it checked by your health care team at each appointment (at least twice a year). Generally, your blood pressure should be less than 130/80 mm Hg. Physical activity, weight loss, quitting smoking and some medication can help lower it if it's too high, but your health care team will advise you on how to keep it down.

**3. Urinary Microalbumin:** This detects any evidence of kidney disease and your doctor should do it at least once a year. Keeping your HbA1c and blood pressure at target levels is the best way to prevent and treat albuminuria. Your doctor may also prescribe medication if needed.



**4. Lipids (blood fat levels):** These need to be monitored annually because diabetes and high fat levels place you at significant risk of heart attack and stroke. There are two types of cholesterol: HDL (the good cholesterol that protects against heart disease) and LDL (the bad kind that can damage your heart). See the table opposite to find out targets.

These can be achieved by regular physical activity, weight loss, a healthy diet that's low in saturated fats and cholesterol-lowering medication (if your doctor thinks they're necessary).

**5. Eye Exam:** Diabetes puts people at risk of developing cataracts,

glaucoma and diabetic retinopathy – a leading cause of blindness. An annual dilated-pupil eye exam can identify complications early. If your doctor finds signs of eye disease, laser eye surgery, contact lenses, glasses and medications may be recommended. Keeping your HbA1c level on target, controlling blood pressure and quitting smoking all help to prevent vision loss.

**6. Foot Exam:** Diabetes can also affect the circulation and impair sensation (neuropathy) in your feet so you need to have them checked at least once a year for altered or lack of sensation, decreased circulation and infection.

# Annual Cycle of Care

## ANNUAL CYCLE OF CARE CHECKLIST

- Review goals of management
- Check for diabetic complications
- Update immunisation schedule
- Consider specialist referral

People with diabetes need a yearly review – it's an opportunity to have a full system review, checking for damage to the blood vessels, kidneys, eyes, nerves and feet. It involves reviewing your goals and management plan to ensure you are doing everything possible to manage your diabetes successfully. This is also the time to look at your eating plan, lifestyle, home glucose monitoring and treatment. This is called your annual cycle of care review. The review includes:

- A full physical assessment of your:
  1. Cardiovascular system (blood pressure, pulse, heart rate, etc)
  2. Peripheral nervous system (checking for damage to the blood vessels and nerves in the feet)
  3. Eyes
  4. Weight and waist circumference
  5. Weight (for children and adolescents)
- Immunisations – including influenza once a year, pneumococcal and Tetanus booster at age 50 (unless booster has been given within 10 years)
- Blood tests for blood fats (lipids) – triglycerides; good (HDL), bad (LDL) and total cholesterol
- Kidney function tests – microalbuminuria and plasma creatinine.

**Note: Some of these tests may need to be done more often if you are experiencing problems.**

Your annual check-up may also lead to referrals to:

- Ophthalmologist/optometrist – every two years if you do not have any damage to the retina, or more frequently if there are problems with your eyes



- Diabetes educator, dietitian and podiatrist – for any problems, review and updating of information
- Pharmacist – for a home medication review (if you take several different types and require help)
- Oral health professional – especially if you show signs of dental problems.

In addition to these investigations, you are likely to be asked about:

- Smoking
- Dietary issues
- Alcohol intake
- Physical activity
- Any problems with medication or any changes in medication
- Chest pain
- Vision
- Foot discomfort
- Family history and update
- Symptoms of and risk factors for complications
- Your self-monitoring record
- Achievement of diabetes management targets
- Frequency and awareness of hypoglycaemia
- Conception and pre-pregnancy counselling, if appropriate
- Sexual dysfunction
- Driving license renewal
- Knowledge and understanding of diabetes and self-care
- NDSS registration and membership of Diabetes Australia – Queensland.

## AVERAGE TARGETS FOR PEOPLE WITH DIABETES

BGL	4 -6 mmol/L (fasting)	HbA1c	7% or less
LDL – C	< 2.5 mmol/L	Total Cholesterol	< 4.0 mmol/L
HDL – C	> 1.0 mmol/L	Triglycerides	< 1.5 mmol/L
Blood Pressure	130/80 mm Hg or less	BMI	25
Urinary albumin excretion	< 20 ug/min (overnight collection), <20 mg/L (spot collection)		
Albumin Creatinine ration	< 3.5 mg/mmol: women, <2.5 mg/mmol: men		
Cigarette Consumption	Zero		
Alcohol intake	2 or less standard drinks daily (men)		
	1 or less standard drinks daily (women)		

**NOTE: Targets are different for different people. What's important is that you know your targets. Ask your doctor and health care team for help if you're not achieving them.**

Reference: Diabetes Management in General Practice Guidelines for Type 2 Diabetes 2009/10.

# Driving

## BEHIND THE WHEEL

There's no need for diabetes to restrict your independence or make moving around in your daily life difficult. The reality, however, is that complications from the disease – including vision problems, heart disease and nerve damage – can affect your ability to drive. Therefore, it's vital that you know what to do to keep yourself and others safe while on the road.

If you're using insulin or tablets that can cause hypo's, you need to test your blood glucose level before driving. It should not be below 5mmol/l. This is known as the 'Five to Drive' rule. You need to have quick acting carbohydrate food with you at all times and, for long distance drives, you need to stop often to test your blood glucose levels and eat regular meals and snacks.

If you do suffer a 'defined hypoglycaemic event' (see definition below\*), you're advised not to get behind the wheel again for about six weeks and your doctor will need to give you the all clear before you can drive again. If this episode is associated with an accident, the Driver Licensing Authority must be notified.

There are several medical conditions – diabetes is just one – for which specific medical standards and guidelines must be met for licensing and insurance purposes. Austroads, the road transport and traffic safety authority for Australia and New Zealand, has developed guidelines for doctors to help them assess their patients' fitness to drive.

## MEDICAL STANDARDS FOR LICENSING

Treatment type for diabetes	Drivers licence for private use	Drivers licence for commercial use
Managed without medication	No restrictions; not required to notify Queensland Transport.	No restrictions; not required to notify Queensland Transport. Must be reviewed regularly to assess progression of the disease
Managed with medication (not insulin)	Notify Queensland Transport in person** Be reviewed every five years to ensure all other Austroads criteria are met.	Notify Queensland Transport in person** A conditional driver's licence may be granted subject to the opinion of a specialist, the nature of the driving task and a yearly review to ensure all other Austroads criteria are met.
Managed with insulin	Notify Queensland Transport in person** A conditional licence may be granted subject to the opinion of a specialist, the nature of the driving task and a biannual review to ensure all other Austroads criteria are met.	Notify Queensland Transport in person** A conditional licence may be granted subject to the opinion of a specialist, the nature of the driving task and an annual review to ensure all other Austroads criteria are met.

\* A defined hypoglycaemic event relevant to driving is one of sufficient severity to cause impairment of perceptions or motor skills, abnormal behaviour or impairment of consciousness

\*\*This involves the completion of a *Medical Condition Notification Form* (obtainable from the Driver Licensing Authority) by a health professional. The Driver Licensing Authority will also accept a letter signed by the health professional describing the patient's condition and the nature of any recommended driving restrictions.

For further details: <http://www.transport.qld.gov.au>.



# Pregnancy

Women with diabetes have every chance of having a healthy baby if their diabetes is well managed at the time of conception and their general health is good. Women with both type 1 and type 2 diabetes must plan their pregnancy so they can minimise the risk of complications. A team of health professionals – which could include an endocrinologist or diabetes specialist, an obstetrician, a midwife, a diabetes educator and a dietitian – will assist you before and during your pregnancy to help you and your baby stay healthy.

If you are already pregnant, it's time to get your body on track. During the first eight weeks of pregnancy your baby's major organs develop, so it is important to gain tight control of your blood glucose levels. An optimal blood glucose range (4 to 7mmol/L) at the time of conception and during your first two months of pregnancy is a major factor in preventing miscarriage and birth defects. Persistently high blood glucose levels (HbA1c over seven percent) dramatically increase the risk of abnormal development and complications. The risks rise progressively as the HbA1c goes above seven percent. Following appropriate dietary advice, frequent blood glucose testing and regular physical activity are critical for expectant mothers with diabetes.

You must also be honest with your doctor about any medication (including complementary), vitamins or mineral supplements you're taking, as some medications are not recommended in pregnancy. Tablets for diabetes usually need to be stopped and substituted with insulin during pregnancy. After delivery, your baby may need to be observed in special care for a day or two. The chance of your children developing type 1 diabetes in the future is only five percent – or seven percent if the father also has type 1 diabetes.



# Travel

People with diabetes are often anxious about travelling. Plan ahead and follow the advice of your health team so you can enjoy safe, pleasant trips.

## TIPS FOR SUCCESSFUL TRAVEL

- If flying, make sure you're aware of all the latest Australian airline security regulations.
- If travelling with a non-Australian carrier, check well in advance for any specific security guidelines.
- Estimate the amount of medication, test strips, insulin and syringes you will need for the entire trip and then pack more in case some is lost or damaged.
- For insulin, make sure you maintain the correct storage conditions.
- With insulin and medication, split your supplies and carry in two separate hand luggage pieces, so if one goes missing you still have supplies to keep you going.
- Before travelling, get a letter from your doctor outlining your medical conditions, the medication you take, the devices you use and explaining that you need to carry sharps (needles, syringes or finger pricking devices).
- Pack a spare meter – foreign glucose meters may not register in mmol/L.
- If you are using an insulin pump, take extra batteries, consumables, your manual and a list of your pump settings. You may also like to contact the manufacturer to find out what pump resources are available at your travel destination. Always take an insulin syringe or pen as backup.
- Take clearly written details of your next of kin or family members and a letter from your doctor outlining your medical conditions, the medications you take and the devices you use.
- Buy travel insurance for yourself and your belongings, and make sure your accident and health cover applies to both pre-existing conditions and the destinations you plan to visit. The Australian Government has arrangements with a range of countries providing travellers with benefits similar to Medicare if needed, but only for acute or emergency care. In this event, you would need to produce your Medicare card. For more information, call Medicare Australia on +61 246 333 or visit their website at [www.medicareaustralia.gov.au](http://www.medicareaustralia.gov.au).
- If you are taking insulin or diabetes tablets, carry some form of quick-acting carbohydrate (such as glucose tablets or jelly beans) in case you experience a hypo
- Take some biscuits or dried fruit in case of delayed or unsuitable meals, but make sure these comply with the regulations!
- If you do require treatment whilst travelling, try to get advice from your insurer and seek medical assistance when needed. Most costs can be recovered through health benefits or your travel insurance when you get home.

# Your Expert Health Team

## YOU ARE PART OF A TEAM

Your health care team has been referred to several times throughout this diabetes management guide. The most important member of that team is you but a range of specialists and health practitioners will be backing you up with advice on how to manage your diabetes properly. Team members include:

### GENERAL PRACTITIONER (GP OR DOCTOR)

Apart from you, your GP or doctor holds the central role in coordinating your diabetes management. They are your first point of contact and usually assume responsibility, along with you, for the overall management of your diabetes. They will send you for blood tests regularly, prescribe medication when needed and adjust it when required. Your doctor organises the crucial yearly review or annual cycle of care – which involves a variety of tests and checks and could, as a result, lead to referrals to other practitioners such as a diabetes educator, dietitian, optometrist or podiatrist.

### DIABETES EDUCATOR

Diabetes educators are nurses, dietitians, podiatrists or pharmacist who have a special interest in diabetes. To become a Credentialed Diabetes Educator (CDE), they must complete a university course as well as a significant period of practical training.

Your diabetes educator assists you in understanding and managing your disease better by:

- Showing you the different types of blood glucose meters available and helping you decide which one is best for you
- Explaining, in detail, your diabetes medication and helping you to learn more about the day-to-day self management of your diabetes
- Discussing the importance of regular physical activity and eating a healthy diet
- Helping you to correctly look after your feet
- Teaching you what to do on sick days and when you travel
- Discussing how to deal with stress effectively and referring you for help if necessary
- Advising you about joining the National Diabetes Services Scheme (NDSS) so you can buy your diabetes supplies at a reduced rate.

### DIETITIAN

Lifestyle changes such as healthy food, regular physical activity and weight loss can be enough to achieve blood glucose control in many patients with newly diagnosed type 2 diabetes. Even after other treatments (like tablets and insulin) are introduced, a healthy diet and physical activity remain essential for the successful management of your diabetes. Your dietitian, therefore, plays a pivotal role in your team. Whenever your doctor changes your treatment, your dietitian may

recommend individualised adjustments to your diet. It's important to recruit a dietitian to your team as early as possible after diagnosis to ensure comprehensive and accurate education on one of the most important aspects of diabetes management.

### PODIATRIST

Podiatrists are university trained health professionals who assess and provide treatment for foot problems. They will teach you how to care for your feet, the importance of suitable footwear and provide general information about how diabetes affects your feet. Diabetic foot complications are very common and the cause of a great deal of pain and discomfort. You should see your podiatrist at least once a year. If you have foot problems or diabetic foot complications – such as ulcers, ingrown toenails, poor circulation or loss of feeling in your feet – see your podiatrist even more regularly.

### OPHTHALMOLOGIST / OPTOMETRIST

Your optometrist or ophthalmologist will detect the impact of diabetes on your eyes before it affects your vision. They may take photographs of your retina, at the back of your eye, to make comparisons and track any changes. Early detection of damage to the retina markedly lessens the risk of losing your sight. Annual eye tests are essential for effective diabetes management but you should see your specialist sooner if you notice any changes to your eyes.

### ORAL HEALTH PROFESSIONAL

Dental and periodontal problems are common in people with diabetes. Make sure your dentist knows you have diabetes and pay regular visits to keep on top of any problems.

### EXERCISE PROFESSIONAL

An exercise professional such as an Accredited Exercise Physiologist or a physiotherapist can advise you on how to increase your physical activity levels. If it has been some time since you were physically active, your doctor could refer you to an exercise professional who can tailor a fitness program to your needs and physical capabilities.

### ENDOCRINOLOGIST / DIABETOLOGIST

Endocrinologists and diabetologists are doctors that specialise in diabetes and similar conditions. Not everyone with diabetes needs to see an endocrinologist or diabetologist but your GP may refer you to one. Your GP will work with the specialist (and yourself) to develop the best diabetes management plan for you, including dealing with any diabetes-related complications.

### INDIGENOUS HEALTH WORKER

Indigenous health workers can join your team to provide you with culturally appropriate information. They provide clinical and primary health care for individuals, families and community groups. They deal with patients, clients and visitors of hospitals and health clinics, and can assist in arranging, coordinating and providing health care.

### COUNSELLOR

Talking about living with diabetes can help you better manage the condition and identify problem areas. A qualified, registered counsellor is a professional trained to help you with personal, social and psychological or emotional problems. Counselling is an important part of your diabetes management plan because it helps you deal with problems and create achievable goals. Your GP can refer you to a psychologist or professional counsellor in your area.





# Membership



## DIABETES AUSTRALIA – QUEENSLAND

Diabetes Australia – Queensland is the peak body for diabetes in Queensland. The organisation is a powerful voice for all Queenslanders living with diabetes, their families and carers.

The 50,000 members of Diabetes Australia – Queensland are able to access an extensive range of benefits including advocacy, free diabetes fact sheets, advice from health professionals and quarterly magazines packed with evidence-based and practical information. They also receive exclusive member benefits such as discounts and subsidies from a range of providers who support Diabetes Australia – Queensland.

With an annual fee of \$45 for a full-paying member and \$25 for those on full concession, membership of Diabetes Australia – Queensland is affordable for everyone and most health funds provide rebates on membership fees.

## NDSS

national diabetes services scheme

### NATIONAL DIABETES SERVICES SCHEME (NDSS)

The NDSS provides essential supplies for people with diabetes – such as blood and urine testing strips, syringes, insulin pen needles and insulin pump consumables – at substantially reduced prices. Registration with the NDSS is free and lasts a lifetime (unless you have gestational diabetes). However, only people who have been diagnosed with diabetes and hold current Medicare cards are eligible to register. Your GP or diabetes educator can help you complete the registration form.

More than 200 pharmacies and health centres in Queensland are registered NDSS sub-agencies. These outlets distribute a range of NDSS products to people with diabetes in their local community. To find your local NDSS sub-agency, call Diabetes Australia – Queensland on 1300 136 588 or log onto [www.diabetesqld.org.au](http://www.diabetesqld.org.au) and select the NDSS link.

## medicare Entitlements



Your GP can determine if you qualify for these services under Medicare and provide the necessary referrals:

- Five visits per calendar year for individual health consultations with any accredited allied health professional (diabetes educator, dietitian, podiatrist or exercise physiologist)
- Up to 12 individual sessions per year with an accredited psychologist
- Eight group sessions and assessments held by allied health professionals
- \$4,000 dental treatment annually
- Four annual cycle of care visits with your GP
- Five consultations with an Aboriginal Health Worker or Practice Nurse (employed within a GP Practice)
- A medication review conducted in your home.

# Diabetes Fact Sheets

The following Diabetes Fact Sheets can be ordered from Diabetes Australia – Queensland by calling 1300 136 588 or visiting [www.diabetesqld.org.au](http://www.diabetesqld.org.au):

1. Alcohol and Diabetes
2. Alternative Sweeteners
3. Balancing Food, Activity and Insulin
4. Blood Glucose Monitoring
5. Blood Pressure and Diabetes
6. Coeliac Disease and Diabetes
7. Day Surgery and Diabetes
8. Depression and Diabetes
9. Diabetes and Your Feet
10. Diabetes and Good Health
11. Do You Need to Lose Weight: Men?
12. Do You Need to Lose Weight: Women?
13. Eating Out and Diabetes
14. Info about Sugar
15. Food Choices
16. Gestational Diabetes
17. Glycaemic Index
18. Healthy Eating Guide
19. Healthy Eating for Gestational Diabetes
20. Healthy Hints for Modifying Recipes
21. Healthy Snacks and Diabetes
22. Heart Disease and Diabetes
23. Hypoglycaemia and Diabetes
24. Insulin and Diabetes
25. Medications for Type 2 Diabetes
26. Oral Health and Diabetes
27. Physical Activity and Diabetes
28. Polycystic Ovarian Syndrome
29. Pre-diabetes
30. Reading Food Labels
31. Sexual Health and Diabetes
32. Sick Days and Type 1 Diabetes
33. Sick Days and Type 2 Diabetes
34. Smoking, Pre-diabetes and Diabetes
35. Staying Well
36. Stress and Diabetes
37. Support Persons: Type 1
38. Support Persons: Hypoglycaemia
39. Support Persons: Physical Activity
40. Type 2 Diabetes in Children and Adolescents
41. Travel and Diabetes
42. What is Diabetes?
43. Diabetes and Your Eyes
44. Illicit Drug Use and Diabetes.

# Diabetes Support Groups

Below is a list of all the Diabetes Support Groups affiliated with Diabetes Australia – Queensland. To make contact with your local Diabetes Support Group, please call Diabetes Australia – Queensland on 1300 136 588.



- Acacia Ridge:** Acacia Ridge Diabetes Support Group
- Barcaldine:** Barcy Diabetes Crowd
- Beenleigh:** Beenleigh Support Group
- Blackall:** Blackall Diabetes Support (Group 60 and Better)
- Boonah:** Boonah Diabetes Support Group
- Bribie Island:** Bribie Island Diabetes Support Group
- Bundaberg:** Bundaberg Diabetes Support Group
- Caboolture:** Caboolture Diabetes Support Group
- Cairns:** Dynamic Intent
- Chermside:** Chermside Diabetes Support Group
- Cleveland:** Bayside Diabetes Support Group
- Douglas Shire:** Douglas Diabetes Support Group
- Gladstone:** Gladstone Diabetes Association
- Goondiwindi:** Goondiwindi Diabetes Support Group
- Gympie:** Gympie Diabetes Support Group
- Innisfail:** Cassowary Coast Diabetes Support Group
- Ingham:** Ingham Diabetes Support Group
- Inglewood:** Inglewood Diabetes Support Group
- Ipswich:** Ipswich Diabetes Support Group
- Laidley:** Laidley Diabetes Support Group
- Lockyer Valley:** Type 1 Mums AND Friends
- Mackay:** Mackay Diabetes Support Group
- Moranbah:** Moranbah Diabetes Support Group
- Mungindi:** Mungindi Healthy Lifestyle Support Group
- Oakey:** Oakey Diabetes Support Group
- Palm Beach:** Palm Beach Diabetes Support Group
- Pine Rivers:** Pine Rivers Diabetes Support Group
- Redcliffe:** Redcliffe Diabetes Support Group
- Sunshine Coast:** Sunshine Coast Diabetes Support Group
- Tamborine:** Tamborine Mountain Diabetes Support Group
- Toowoomba:** Toowoomba and Darling Downs Diabetic Group  
Toowoomba Junior Diabetes Support Group
- Townsville:** Townsville and Thuringowa Diabetes Support Group  
Townsville Aboriginal and Torres Strait Islander Diabetes Support Group
- Weipa:** Weipa Diabetes Support Group
- Wondai:** Wondai and District Support Group

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The National Diabetes Services Scheme (NDSS) is an initiative of the Australian Government administered by Diabetes Australia.



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