

# balancing food, activity & insulin

**To manage your blood glucose levels, you need to aim for a balance between the amount of food you eat, the physical activity you do and the insulin you take. It isn't always easy to find the right balance, but regular blood glucose testing will help. Your diabetes educator or doctor will tell you more about testing (also refer to the information sheet).**

## Finding the balance

You will need to consider the timing, amount and type of carbohydrate foods you eat, as well as the timing, amount and type of the insulin you take. Your dietitian can provide advice on an eating plan that's best for you.

## Carbohydrates

Carbohydrates provide energy and good nutrition. The *Food Choices for People With Diabetes* information sheet provides more about carbohydrate foods and why they are so important in managing diabetes.

### The timing – why is it important?

The aim of good diabetes management is to match your insulin dose with the carbohydrates you eat. There are many different types of insulin with different actions such as the time they start to take effect, reach their peak and run out. It is important to be aware of your insulin action/s to help plan your carbohydrate intake. If your carbohydrate meal plan is regular from day to day, it will be a lot easier to manage your blood glucose levels.

### The amount – too little or too much?

If you eat more carbohydrate than usual, without increasing your physical activity or your insulin, your blood glucose level can rise too high (hyperglycaemia). If you eat too little carbohydrate or skip a meal, your blood glucose level can drop too low (hypoglycaemia or hypo). That's why you need to find the right balance of carbohydrate-containing foods.

**Healthy eating is essential to managing diabetes, whether you take tablets, insulin or no medication. The *Food Choices for People with Diabetes* information sheet gives useful advice for all people with diabetes. However, if you use insulin to control diabetes, this information sheet gives extra tips about ways to manage your blood glucose levels.**



# balancing food, activity & insulin

There is no 'one size fits all' as the amount of carbohydrate that's right for you will depend on your age, body size and how physically active you are. Your dietitian or diabetes educator can advise you about what to do if you occasionally have more carbohydrate than usual. Some people use carbohydrate 'exchange' or 'serve' lists to work out the amount of carbohydrate they eat. Reading food labels or carbohydrate counters can help you calculate the amount of carbohydrate in various foods.

This may sound quite confusing at first, but with the help of a dietitian, you will soon know how to work out a regular meal plan that's right for you. Turn to the back page to find an Accredited Practising Dietitian in your area.

## The type – why does it matter?

The glycemic index (GI) is a ranking of the effect a carbohydrate food can have on your blood glucose levels. For example, foods with a low GI raise blood glucose levels more slowly than foods with a high GI. Knowing the GI of the foods you eat may help you to manage your blood glucose levels. But remember, eating too much of any carbohydrate will still raise your blood glucose levels higher than desired if insulin is not adjusted accordingly. To learn more, refer to the *Glycemic Index* information sheet.

## Alcohol

### Can I drink it?

Most people using insulin can drink alcohol in moderation. Be aware though that alcohol can increase the risk of a hypo. The common symptoms of a hypo (weakness, shaking, dizziness, sweating and lack of concentration) can be similar to the behaviour of someone who is drunk, so there is a risk that your hypo may go unnoticed if no one knows you have diabetes. A hypo can also be harder to treat after drinking large amounts of alcohol.

In general, the maximum amount of alcohol recommended for a person with diabetes is 2 standard drinks a day.\* It is best to drink alcohol with a meal or some carbohydrate-containing food and try to include alcohol-free days.

Some people may need to have less alcohol than these general recommendations, due to their age, medication or their need to lose weight. It is therefore important to discuss drinking alcohol with your diabetes health care team.

One standard drink is equal to 285ml regular beer, 425ml low alcohol beer, 100ml wine, 60ml fortified wine or 30ml spirits.

Refer to the *Alcohol & Diabetes* information sheet.

### Here are a some tips to reduce the risk of an alcohol-related hypo:

- > Make sure someone with you knows you have diabetes.
- > Drink in moderation.
- > Wear some form of diabetes identification (eg: MedicAlert®).
- > Don't drink alcohol on an empty stomach. Make sure you include carbohydrate foods in meals you eat before drinking alcohol eg: potato, rice, pasta or bread.
- > Always eat some form of carbohydrate when drinking alcohol.\*
- > Eat a snack containing carbohydrate before bed.
- > Test your blood glucose level before bed and consider an overnight test.

## Physical activity

### How does it help?

Regular physical activity helps to:

- > Improve insulin sensitivity which makes insulin work better and lowers blood glucose levels.
- > Control blood fats (cholesterol and triglycerides), blood pressure and body weight.
- > Increase bone strength and improve your general sense of well being.

### How can I avoid an exercise-related hypo?

Physical activity can cause your blood glucose levels to drop low. People taking insulin or medication that stimulates insulin release need to plan ahead before physical activity.

### Here are some tips to reduce the risk of hypos due to physical activity:

- > If your blood glucose level is below 6mmol/L, you may need an extra carbohydrate snack before starting your activity. This is dependent on the duration and intensity of the physical activity.
- > If you are being active for a long time, make sure you have some carbohydrate food or carbohydrate drink during your activity.
- > Adjusting insulin may also help to reduce your risk of a hypo. Discuss this with your doctor or diabetes educator and ask how to adjust your dose depending on the type and length of your activity.
- > Testing your blood glucose level before, during (if exercising for a long time) and after your physical activity will help you to find the right balance.
- > Physical activity can lower blood glucose levels for up to 24 hours afterwards.

\* If there are no carbohydrate foods available, use a standard soft drink or fruit juice when mixing drinks. Otherwise, use a low joule (diet) soft drink as a mixer.

# balancing food, activity & insulin

- > Having more carbohydrate at your next meal or snack and a carbohydrate-containing food before bed can help. Adjusting your insulin at bedtime may also be an option – discuss this with your doctor or diabetes educator.
- > A dietitian with expertise in diabetes and sports nutrition will be able to help you to manage your diet to reduce your risk of a hypo during exercise. Sometimes, physical activity may cause a temporary rise in blood glucose levels, particularly if the activity has been competitive or stressful. Despite this rise, you need to have adequate carbohydrate-containing foods afterwards, as a delayed hypo may still occur. People with diabetes are generally discouraged from strenuous physical activity when blood glucose levels are above 15mmol/L as it can cause levels to rise even further and can contribute to dehydration.

**People with diabetes need to consider factors relating to their feet, eyes, kidneys and heart, so it is important to talk to your doctor before starting any new physical activity program.**

## To find a local dietitian and for more information contact:

- > Your State or Territory Diabetes Organisation on 1300 136 588
- > The Dietitians Association of Australia on 1800 812 942 or [www.daa.asn.au](http://www.daa.asn.au)

### Would you like to join Australia's leading diabetes organisation?

- > Dietary services
- > Educational literature
- > Free magazines
- > Product discounts
- > Children's services
- > Support groups

For more information phone **1300 136 588** or visit your State/Territory Organisation's website:

<b>ACT</b>	<a href="http://www.diabetes-act.com.au">www.diabetes-act.com.au</a>	<b>NSW</b>	<a href="http://www.australiandiabetescouncil.com">www.australiandiabetescouncil.com</a>
<b>NT</b>	<a href="http://www.healthylivingnt.org.au">www.healthylivingnt.org.au</a>	<b>QLD</b>	<a href="http://www.diabetesqueensland.org.au">www.diabetesqueensland.org.au</a>
<b>SA</b>	<a href="http://www.diabetessa.com.au">www.diabetessa.com.au</a>	<b>TAS</b>	<a href="http://www.diabetestas.com.au">www.diabetestas.com.au</a>
<b>VIC</b>	<a href="http://www.diabetesvic.org.au">www.diabetesvic.org.au</a>	<b>WA</b>	<a href="http://www.diabeteswa.com.au">www.diabeteswa.com.au</a>

The design, content and production of this diabetes information sheet have been undertaken by:

- > **ACT** Diabetes ACT
- > **NSW** Australian Diabetes Council
- > **NT** Healthy Living NT
- > **QLD** Diabetes Australia – Queensland
- > **SA** Diabetes SA
- > **TAS** Diabetes Tasmania
- > **VIC** Diabetes Australia – Vic
- > **WA** Diabetes WA

The original medical and educational content of this information sheet has been reviewed by the Health Care and Education Committee of Diabetes Australia Ltd. Photocopying this publication in its original form is permitted for educational purposes only. Reproduction in any other form by third parties is prohibited. For any matters relating to this information sheet, please contact National Publications at [dapubs@tpg.com.au](mailto:dapubs@tpg.com.au) or phone 02 9527 1951.

**Health professionals:** For bulk copies of this resource, contact your Diabetes State/Territory Organisation as listed.