

# 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 *Blood Glucose Monitoring*).

## 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* 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 intake 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 eat a regular and consistent amount of carbohydrate containing foods throughout the day. 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.**



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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. Some people use carbohydrate 'exchange' or 'serve' lists to work out the amount of carbohydrate they eat and keep it consistent day to day (one carbohydrate 'exchange' contains 15 grams of total carbohydrate). 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. 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:

- 
- > 1 standard drink a day if you are female\*
  - > 2 standard drinks a day if you are male\*
- 

It is a good idea to include alcohol-free days a week. One standard drink is equal to 285mL regular beer, 425mL low alcohol beer, 100mL wine, 60mL fortified wine or 30mL spirits.

Some people may need to have less alcohol than these general recommendations. This may be due to their age, medication or their need to lose weight. If you are overweight, have poor blood glucose control, high blood pressure, high triglycerides or other complications, your diabetes health care team may advise you to drink less or not to drink at all.

Refer to the *Alcohol & Diabetes* information sheet.

\* NHMRC, Dietary Guidelines for Australian Adults (2003).

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

- > Make sure someone with you knows you have diabetes.
- > Drink in moderation.
- > 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 and bread.
- > Always eat some form of carbohydrate when drinking alcohol.\*
- > Eat a snack containing carbohydrate before bed.
- > Test your blood glucose level before bed.
- > Wear some form of diabetes identification (eg: MedicAlert®).

## 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 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.
- > If you are being active for a long time, make sure you have some carbohydrate food or drink during your activity.
- > Adjusting insulin may also help to reduce your risk of a hypo. Discuss with your doctor or diabetes educator 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.

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- > 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.
- > See a dietitian with expertise in diabetes and sports nutrition who 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.

## Other issues

People with diabetes also 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?

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

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- > Diabetes Australia – NSW
- > Diabetes Australia – Queensland
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- > Diabetes SA
- > Diabetes WA
- > Healthy Living NT
- > Diabetes Australia – Victoria
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