



Pacific
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Information factsheet for people with type 2 diabetes



PHD

Public
Health
Division

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Information factsheet for people with type 2 diabetes

Public Health Division



Suva, Fiji, 2021



1. About diabetes

1.1 What is diabetes?

Diabetes means too much sugar in your blood, which can damage your body. Normally, insulin helps to control your blood sugar level. You get diabetes when insulin in your body does not work properly or when your body cannot produce enough insulin. There are several types of diabetes, although the most common is type 2.

1.2 How do I get diabetes?

There are risk factors that will increase your chance of developing type 2 diabetes. They are:

- a family history of diabetes
- increasing age
- being overweight or obese
- being physically inactive
- eating an unhealthy diet, particularly foods and drinks that are high in sugar
- having diabetes during pregnancy

1.3 Can my diabetes be treated?

Diabetes cannot be cured but it can be controlled. If you manage your diabetes well, you will live as healthy as someone without diabetes.

1.4 How can I control my diabetes?

You can control your diabetes through:

- eating a healthy, balanced diet and being physically active
- taking medication (diabetes tablets and/or insulin injection) regularly as advised by your health care providers

1.5 Why is it important to control my diabetes?

The longer you have uncontrolled diabetes, the higher the risk of developing complications including:

- brain – stroke
- heart – heart attack
- eye – blindness and other eye problems
- kidney – kidney failure
- foot – foot numbness, ulcers and amputation

The complications of diabetes can be prevented through practising healthy lifestyles and taking regular medication.

2. Blood glucose monitoring

2.1 What is low blood glucose?

Low blood glucose, also known as hypoglycaemia, occurs when your blood glucose level is lower than 3.9 mmol/L.

2.2 What are the causes of low blood glucose?

Common causes of low blood glucose include:

- missing or delaying meals
- not eating enough carbohydrate foods
- taking too much glucose-lowering medications
- too much physical activity
- drinking too much alcohol

2.3 How do I know if my blood glucose is low?

If you measure blood glucose level using a glucometer, readings below 3.9 mmol/L are considered low. Common signs and symptoms include:

- feeling very hungry
- having a headache or feeling dizzy
- feeling weak, trembling or shaking
- sweating
- feeling irritable
- blurred vision
- a fast heartbeat

If not treated, later signs and symptoms include:

- lack of concentration or confusion
- loss of consciousness

2.4 What do I need to do if my blood pressure is low?

Treat hypoglycaemia as soon as possible as it is dangerous.

- Take some easily absorbed carbohydrate, for example lollies, sugar, honey, sweet drink (not a diet drink).
 - You will need to eat extra carbohydrates to avoid another drop in glucose level. If your next meal is ready, you can eat immediately. If your next meal is more than 20 minutes away, you need to eat foods such as:
 - 1 slice of bread or
 - 2 crackers or
 - 1 glass of milk.
- Then have your next meal.
- Seek advice from health care providers and follow their instructions.

2.5 What is a high blood glucose?

High blood glucose, also known as hyperglycaemia, occurs when your blood glucose level is greater than 7mmol/L if you have not eaten or greater than 11mmol/L after you have eaten.

2.6 What are the causes of high blood glucose?

Common causes include:

- eating too much carbohydrate foods
- not taking glucose-lowering medications, taking medication at the wrong time or not taking enough medication
- illness or some infection in the body
- not enough physical activity
- taking certain medication such as steroids
- hormonal changes
- emotional stress or excitement

2.7 How do I know my blood glucose is high?

If you measure your levels using a glucometer, your blood glucose is high if it has a reading greater than 7mmol/L if you have not eaten, or greater than 11mmol/L after you have eaten. Mostly there are no symptoms, but you may experience some of the symptoms below:

- frequent urination
- always feeling thirsty
- blurred vision
- feeling weak and fatigued
- headache

- dry mouth
- wound taking long to heal

If not treated, later signs and symptoms include:

- significant weight loss
- nausea and vomiting
- fruity smelling breath
- loss of consciousness

2.8 What do I need to do if my blood glucose is high?

Seek advice from health care providers and follow their instructions. Untreated hyperglycaemia will cause severe complications. Generally:

- avoid sugary foods and drinks
- eat a healthy, balanced diet and do regularly physical activity
- take medication regularly as advised by health care providers

2.9 What do I do if I feel sick?

Feeling unwell, for example having the flu, can cause your blood glucose level to rise. Be sure to:

- check your blood glucose levels regularly
- continue taking your diabetes medication
- keep drinking lots of fluids and eating a balanced diet
- seek medical advice

2.10 What test may I have if I have diabetes?

Depending on the availability of testing services, the following tests should be carried out:

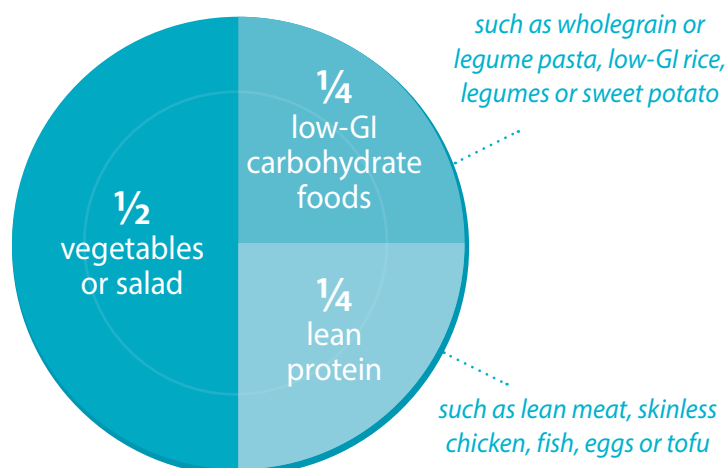
- **blood sugar and HbA1c:** This checks your blood sugar levels and tells you how well your body is controlling your blood sugar
- **blood cholesterol:** This checks the level of bad fats in your blood
- **blood pressure:** This checks for signs of heart problems/hypertension
- **foot examination:** This check looks for signs of ulcers, infections or abnormalities in your feet
- **eye examination:** This is to look for problems with your eyes which could affect your vision
- **kidney function:** This checks for any kidney damage

3. Controlling diabetes

3.1 Food and diabetes

3.1.1 What can I eat if I have diabetes?

Aim to eat three meals during the day and avoid missing meals. Fill half your plate with vegetables, a quarter of the plate with lean meat, and the other quarter with carbohydrate food.



3.1.2 What foods contain carbohydrates with a low glycaemic index (GI)?

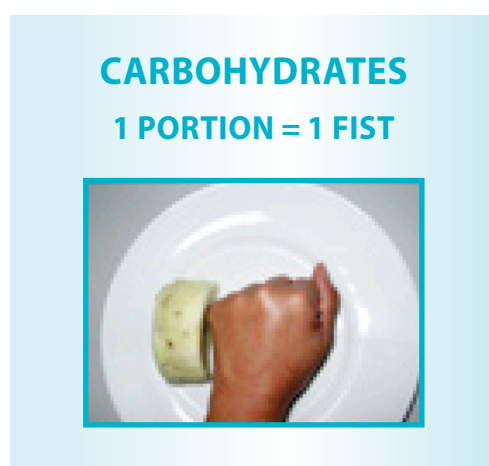
Carbohydrates are good sources of energy. Carbohydrates are broken down into glucose (sugar) in the body through the process of digestion. Low GI carbohydrate foods break down into glucose over a long period of time which results in smaller and slower rise in blood glucose levels after eating. Sources of low GI carbohydrate foods include:

- taro, cassava, yam, breadfruit, *kumara*, green banana and plantain
- wholegrain rice, cereals and pasta, corn, legumes and wholegrain bread

3.1.3 How much carbohydrate should I eat in a day?

Aim to fill one-quarter of your plate with starchy carbohydrate (refer to diagram above). You can have up to six portions each day, but check with your dietitian, nutritionist, nurse or doctor.

It is important to include starchy/complex carbohydrates in each meal, in the right amount for good glycaemic and weight control.

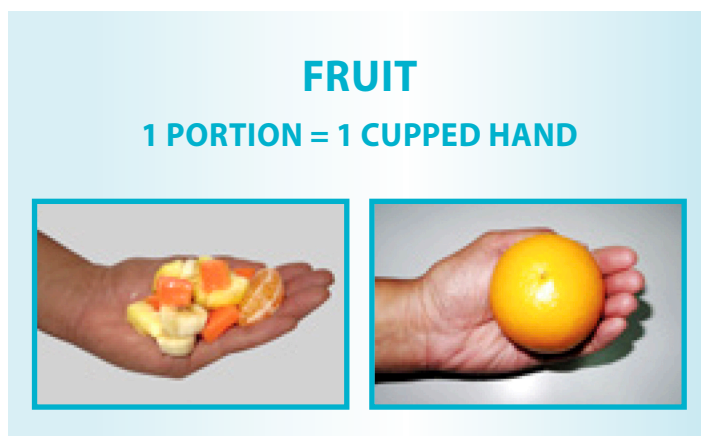


3.1.4 What about sugar and sweeteners?

Sugar is a type of carbohydrate which people with diabetes need to avoid because it will increase blood sugar level, increase weight and cause dental problems. Sweeteners can be used to add sweetness to food/drink but are not necessarily the healthy choice.

3.1.5 Can I eat as much fruit as I want?

The type of sugar naturally found in fruits is called fructose and it will increase blood sugar level although not as much as sugar. As the fruit ripens, it tastes sweeter due to the breakdown of carbohydrates and increasing sugar level. The general recommendation is that you can have fruits but only up to four portions per day.



3.1.6 Why is it important to have three meals a day?

Your intake of carbohydrate foods needs to be consistently distributed throughout the day to avoid having too low or too high levels of blood glucose. Having regular meals will also avoid overeating and weight gain. More importantly, diabetes medications are to be taken with meals, for example, Gliclazide is to be taken 30 minutes before meals; Metformin to be taken with a meal, etc.

3.1.7 Do I need to worry about anything else in my diet or just sugar and carbohydrate?

Your meals need to be balanced, as shown in the diagram. This means you need to have:

- Foods from the energy group (carbohydrates), for example root crops, multigrain bread, brown rice, etc.
- Foods from the body building group (protein), for example meat with fat removed, low fat dairy products, nuts, etc.
- Foods from the protective group – vegetables and fruits



3.1.8 What do I need to know about the consumption of fat?

Fats are high in energy and consumption will lead to weight gain. Consumption of fats, especially saturated fats (fatty meat, fried foods, lard, chicken skin, full cream milk and dairy products, palm oil, etc.), will increase the risk for cardiovascular diseases. The following are ways to reduce fat intake:

- trim fat from meat and eat less processed meat such as canned meat
- choose low fat milk and dairy products
- avoid eating fried foods
- choose foods that are low in saturated fats, for example nuts and seeds (raw), fish (sardines, salmon and tuna), avocado, oils such as sesame, olive and canola
- limit eating baked goods such as pastries, cakes, pies
- limit takeaway foods

3.1.9 What do I need to know about the consumption of salt?

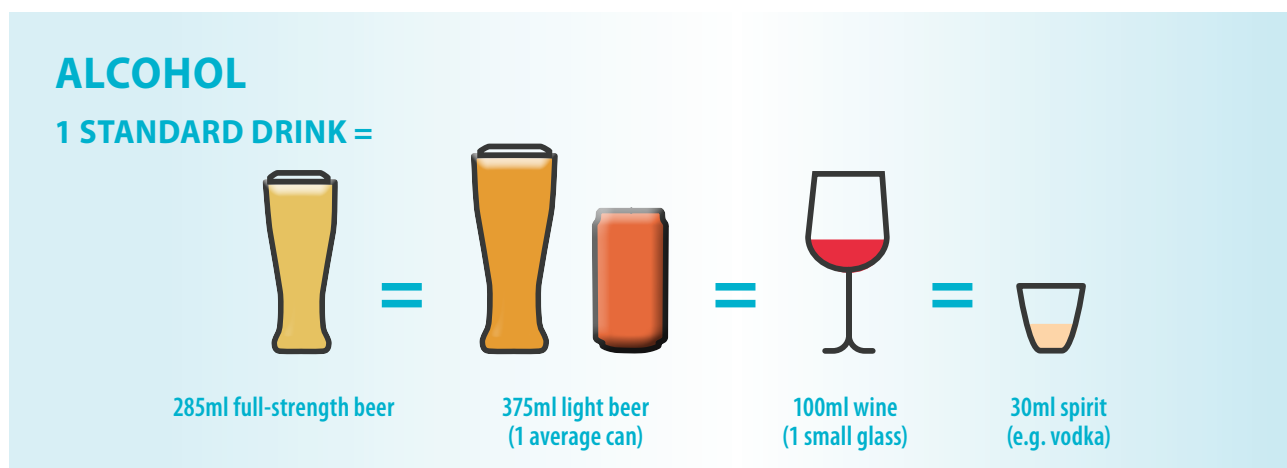
Salt plays an important role in maintaining fluid balance. Eating too much salt can cause high blood pressure and increase the risk of heart disease and stroke. Salt is also present in food such as soya sauce, processed meat, food flavourings, etc. If you are to add salt to your food to improve the taste, try to use less than one level teaspoon per day.

3.2 Alcohol and diabetes

3.2.1 What do I need to know about the consumption of alcohol?

Different types of alcohol have different energy content. Consumption of alcohol can cause low blood glucose, especially for those on diabetes medications. There is no safe level for alcohol intake but if you do drink alcohol, the recommendation is to:

- Limit alcohol to less than two standard drinks for men and one standard drink for women
- Aim to avoid binge drinking, which is drinking more than the recommended drinks at one time.



3.3 Physical activity and diabetes

3.3.2 How does physical activity help to control my diabetes?

Doing regular physical activity:

- helps the body use glucose and control blood glucose level
- lowers cholesterol levels
- lowers blood pressure
- helps with weight reduction and maintaining weight
- helps with bone and muscle strength
- improves circulation
- relieves the stress

3.3.3 What kind of physical activity should I do?

Any type of physical activity is good depending on your age and other medical conditions. Do the physical activity you enjoy the most, for example dancing, walking, gardening, swimming, etc.

3.3.4 How long and how often should I do physical activity?

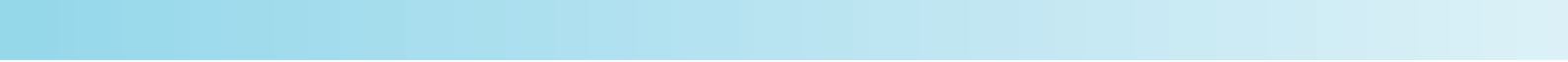
Doing some physical activity is better than doing none. If you are not physically active, start by doing small amounts of physical activity. Aim to spend at least 30 to 60 minutes of moderate intensity aerobic physical activity (brisk walking, cycling, swimming, dancing, etc.) five days a week.

3.4 Medications and diabetes

3.4.1 Why do I need to take medications and what medications are best for me?

The aim of diabetes management is to control your diabetes and avoid or delay the development of diabetes complications. Your doctor and the medical team will discuss with you the best way to control your diabetes. Always take your diabetes medication and in the way your doctor advises you to.

Adapted from *Pacific Healthy Dietary Guidelines for People with Diabetes* (2020) and *Pacific Guidelines for Healthy Living* (2018)



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