

Complications of Diabetes

Over time, high glucose levels can lead to the following complications:

- Stroke
- Eye disease
- Heart disease
- High blood pressure
- Kidney disease
- Pain or loss of the lower leg(s) due to impaired blood flow
- Peripheral neuropathy (nerve disease)

The National Women's Health website has accurate and up to date information which you may find helpful.

www.nwhealthinfo.co.nz

You can find this leaflet in the

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Information for women needing insulin in pregnancy

Tena koutou katoa | Kia orana | Talofa
lava | Malo e lelei Fakaalofa lahi atu |
Taloha Ni | Ni Sa Bula Vinaka

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Greetings and Welcome to

National Women's Health
Auckland District Health Board

What is Diabetes?

Our body gets its major source of energy from glucose. Glucose is a form of sugar that comes from carbohydrate foods (e.g. bread, rice, potatoes, kumara, taro, corn, pasta, cereals, dried beans, lentils, milk, cakes, biscuits and fruit). After these foods are digested they enter the blood stream as glucose. The body requires the assistance of a hormone called insulin to get glucose from the blood stream to the muscle and other tissues of the body to be used as energy.

During pregnancy, the placenta nourishes your baby as it grows. Hormones from the placenta also help your baby develop. But these hormones can also block the normal action of insulin during pregnancy. This is called **insulin resistance**. **Insulin production needs to increase four-fold in pregnancy.**

Insulin resistance means insulin does not work effectively in the mother's body. Without enough insulin the glucose accumulates in the blood and your blood sugars rises abnormally high.

Remember

The blood sugars we aim for are:

Fasting (Before breakfast)	Less Than 5.0mmol/L
2 Hours after meals	Less Than 6.0mmol/L

A HYPO IS LESS THAN 4.0 mmol/L IN PREGNANCY

Again, in women who do not have diabetes in pregnancy the fasting levels are less than 5.0 mmol/L and the test 2 hours after meals is less than 6.0mmo/LI

If you have any questions phone your diabetes midwife

Driving

It is dangerous to drive while you have a low blood sugar level or soon after you have treated a hypo. We recommend you treat a hypo and wait for 45 minutes before driving. Remember the rhyme “**5 before you drive**”. It is best to ensure your blood sugar level is 5.0 or above before driving .

Sick Days

Illness such as colds, flu, infections, vomiting or diarrhoea can cause problems for people with diabetes.

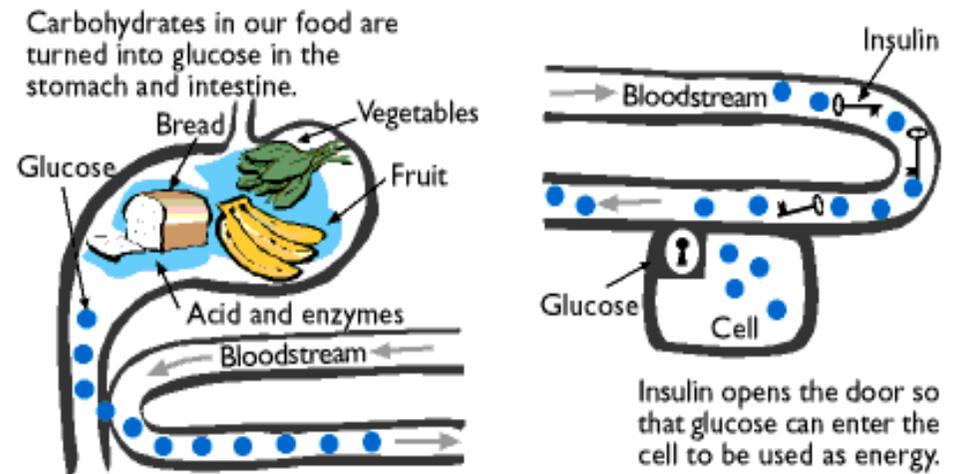
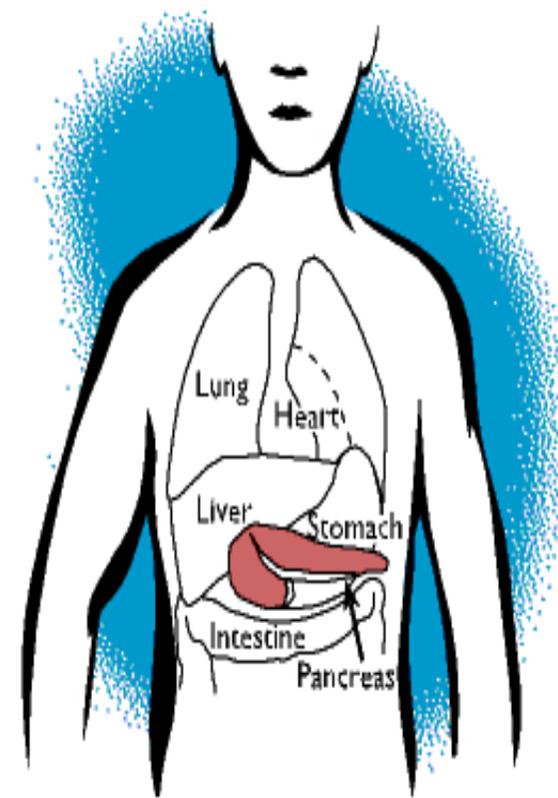
Illness can cause you blood sugar levels to rise.

When you feel sick you may not feel like worrying about your diabetes but it is more important that you do to stop more serious problems developing.

What to do

1. Contact your Doctor or Diabetes Midwife
2. Keep taking your Insulin though this will need to be adjusted.
3. Keep testing your blood sugar as requested – more often if high.

Drink plenty of water – one glass every hour.



Treatment of your diabetes?

Diabetes is treated by balancing your food, exercise and insulin or tablets to keep your blood sugar level as close to normal as possible. A normal blood sugar helps you to keep well and prevent complications for you and your baby.

People with Diabetes do not need special “diet” foods.

The healthy eating plan for people with Diabetes is good for everyone.

Step 1: Meal Plan

A Dietitian will help you develop a meal plan. This healthy eating plan should be low in fat, no added sugar and high in fibre. The Carbohydrate (glucose making foods) that you eat will be evenly

spread over the day. This will result in smaller rises in blood sugar after meals and make good use of a limited insulin supply. The meal plan will also provide a nutritious diet.

The reason for having low fat is because when fatty food is digested, the fat that enters the blood stream can also interfere with insulin action and worsen insulin resistance

What to do to treat a “Hypo” or Low Blood Sugar

TEST – if your blood sugar is below 4.0mmol/l – **TREAT.**

FIRST have some simple sugar:-

- 1 tablespoon of jam, honey or sugar **or**
- ½ glass of ordinary lemonade **or**
- ½ glass of unsweetened fruit juice **or**
- 6 large jelly beans or soft jubes

If you feel no better in 5 – 10 minutes test your blood sugar again and if it is not above 4.0mmol/L repeat one of the above.

Then when your blood sugar is above 4.0mmol/L you have to eat more complex carbohydrate to stay in the normal range.

- If a meal is due have it **otherwise have**
- a snack such as:-
- a slice of bread **or**
- a sandwich **or**
- a glass of milk **or**
- 2 – 3 crackers **or** a plain biscuit.

If your meal is due, and you would normally take insulin before the meal. Take the insulin ½ way through the meal.

How you may feel when your blood sugar is low?

- **Headache**
- **Sweating**
- **Dizziness**
- **Pins & needles feeling on your lips & tongue**
- **Impaired vision**
- **Fast heartbeat**
- **Hunger**
- **Shaking**
- **Irritability**
- **Anxiety**
- **Weakness/fatigue**

You may have some or all of these symptoms.

Make sure your family and friends know how to treat a “Hypo”.

Step 2: Exercise

Being physically active helps the body control the level of glucose in the blood stream by helping insulin to work properly. Aim to do 30 minutes of moderate intensity activity on most days of the week.

- Walk
- Swim/water walk

Any exercise is better than none

Step 3: Blood tests

You will need to monitor your blood glucose frequently. Each blood glucose result must be recorded accurately so that the Diabetes Team can observe any trends and advise on appropriate treatment. Aim for blood sugars less than 5.0 mmol/L before breakfast and less than 6.0 mmol/L 2 hours after **the start** of each meal. In women who do not have diabetes in pregnancy the fasting levels are 3.5 – 5.0 mmol/l and the test 2 hours after meals is less than 6.0mmol/l

Insulin information

Your Diabetes Physician will prescribe Insulin according to your blood sugar results. It is very important that you test your blood sugars and record them accurately.

There are two main types of Insulin that we use:-

- **Rapid Acting or “Clear” Insulin** (Novorapid or Humalog)

You have this **with** meals. Give the injection when your food is on your plate and you are about to eat. It starts acting within ten minutes and reaches its peak action between one and two hours after administration. Its action is usually complete within 4 hours.

- **Intermediate or “Cloudy” Insulin** (Protaphane or Humulin NPH)

You have this before bed. **Always shake gently before giving.** It starts working two to four hours after administration, reaches its peak action between six to twelve hours after administration and its action is usually complete within twenty hours. *Your Physician may advise you to have this Insulin twice a day.*

1. Your Doctor will give you a prescription for Insulin Cartridges for 3 months. (Includes 2 free repeats) It is important that you give the amount of insulin that your doctor has advised.
2. Take the prescription to your Chemist. There will be a charge, which will be reduced if you have a Community Services Card.

Why it happens?

1. Missing a meal or a snack. Being late for a meal or snack. Having a meal but not enough starchy food (carbohydrate)
2. More exercise than usual.
3. Too much Insulin
4. Drinking alcohol without food. In pregnancy alcohol should be avoided.

If you keep having “HYPOS” call your Diabetes Clinic for advice

Hypoglycaemia or Low Sugar in your Blood

Please make sure you read the next pages on “HYPOS” they are very important

The treatment of your diabetes is to “balance”

- Your food
- Your exercise
- Your insulin

to keep your blood sugar as close to normal as possible.

When your blood sugar drops below 4.0 mmol/L in pregnancy the “balance” has been upset and you may feel unwell.

A blood sugar below 4.0 mmol/L is called a “HYPO” – **IT MUST BE TREATED IMMEDIATELY**

It is important that you know:

- Why it happens (causes)
- How you may feel when your blood sugar is low
- What to do to treat a low blood sugar (hypo)

Your blood sugar is too low if it is below 4.0mmol/L

3. Store the insulin you are not using in the main part of the fridge.
4. Keep the insulin pen you are using in a safe place, away from children and out of direct sunlight.
5. Insulin is given using Insulin Pens. Your Diabetes Midwife/ Nurse will show you how to use these.

To prepare your Insulin Pen for use

Wash your hands and prepare on a clean surface. Check the cartridge to make sure there are no cracks in the glass, no solids in the Insulin and that the expiry date has not been reached.

Remove the cover, unscrew the top and insert the cartridge and reattach to base. Attach a pen needle, dial up 8 units and squirt this out to make sure the pen is “primed.” If no insulin comes out – repeat the priming process.



Where to give your insulin

Give your injection into your abdomen. Choose a different place on your abdomen for each injection or a tough fatty lump may form.

How to give your insulin

“Dial up” the amount of Insulin prescribed. **With the “Cloudy” insulin always shake gently before giving.** With one hand, pinch up a layer of your abdomen and with the other hand hold the pen (see picture) and using a 90 degree angle push the needle into the pinched area as far as the needle will go then push the plunger to inject the insulin.

When the dial is at 0 - count to five slowly, and then remove the needle. Let go of your abdomen. Recap the needle, put the pen back in its case and return it to a safe place.

- **Rapid Acting or “Clear” Insulin:** - change the needle every 3 – 5 days. After the new needle is on dial up and squirt out 2 units.
- **Intermediate or “Cloudy” Insulin:** - change the needle every 7 – 10 days. After the new needle is on dial up and squirt out 2 units.

Dispose of used needles safely into a hard plastic container – keep away from children.

REMEMBER TO TAKE YOUR INSULIN – if you forget your pre-meal Insulin you can take it directly after your meal.

DO NOT USE ANY INSULIN CARTRIDGE IF:-

- The clear insulin has turned cloudy.
- The expiry date has been reached as shown on the cartridge.
- The insulin has been frozen or exposed to high temperatures.
- Lumps or flakes are seen in the insulin or deposits of insulin are seen on the inside of the cartridge which remain after initial shaking.
- The insulin has discoloured.
- The cartridge is cracked.

