



type 2 DIABETES

PETER ROT
Peter has type 2 diabetes

Starting insulin





Changing lives since 1923

In 1923 the first diabetes patients were treated with insulin from Novo Nordisk.

Ever since, the company has been focused on developing new and better treatments for people with diabetes and is today the world's largest diabetes care company.

Novo Nordisk provides therapeutic treatment for millions of people with diabetes worldwide and produces around 50% of all insulin in the world.

ZUAL GÖZÜTOK
Zual has type 2 diabetes

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WHAT IS DIABETES?

Diabetes is a condition where the glucose (sugar) level in the blood is too high. It develops when your body can not make enough of a hormone called insulin or can not use the insulin your body produces.

The cells of your body need glucose for energy. You get glucose from the food you eat and your body also makes glucose. The majority of glucose is found in the blood. For your cells to use glucose you need insulin. The insulin helps move glucose from your blood into your cells. Without insulin, your cells are 'starved' of the vital fuel they need to function.

Is it normal to have some glucose in the blood?

Having diabetes means you have too much glucose in your blood.

Sugars and starches come from carbohydrate foods like bread, pasta, potatoes, cereals, fruit and biscuits. These are the main foods used for energy by the body.

Why worry about diabetes?

If not treated, high blood glucose levels can lead to serious damage to the body. Complications of diabetes include blindness, kidney failure, heart disease, stroke and limb amputation.

Symptoms of high blood sugar.

When you were diagnosed with diabetes, you may have had one or more of these symptoms:

- Itchiness
- Blurred vision
- Loss of weight
- Always thirsty
- Frequent urination
- Tiredness
- Leg cramps

If you are concerned with any of the above symptoms, please discuss with your doctor or diabetes care team.

LOOKING AFTER YOUR TYPE 2 DIABETES

There are some things that are important for you to do:

Test your blood glucose levels.



If your blood glucose level becomes too high or too low, it may cause you some problems.

Now that you have begun treatment with insulin, your doctor may have asked you to begin, continue, or increase testing of your blood glucose levels with a blood glucose monitor and test strips.

Record your blood glucose levels in your record book and bring with you to all medical appointments.

Consistent testing will allow you and your diabetes care team to determine what your blood glucose level needs to be.

Keep up a healthy diet.



Eating healthy food will help you to maintain a normal body weight, and lower your blood glucose, blood pressure, and cholesterol levels.

The glycaemic index (GI) ranks carbohydrate foods based on their effect on blood glucose levels. You should aim to choose foods which have a low GI, as they will cause a “slow and low” increase of your blood glucose levels. Conversely, by choosing high GI foods, they will cause a “fast and high” increase in your blood glucose levels.

Your dietitian and diabetes care team can help you with your own eating plan and provide further information on the glycaemic index.

Keep fit and active.

Exercise will make you feel better by:

- Lowering your blood glucose
- Lowering your blood pressure
- Lowering your cholesterol
- Helping you lose weight
- Helping you move blood around your body
- Helping reduce the amount of medication you need

Exercise includes any kind of movement that you enjoy and that makes your heart beat faster (like walking, swimming, dancing, or tennis). Exercise should be started gradually. Before commencing, seek advice from your doctor. You are encouraged to exercise for 20 - 30 minutes at least three times a week if possible.

TREATING DIABETES WITH INSULIN

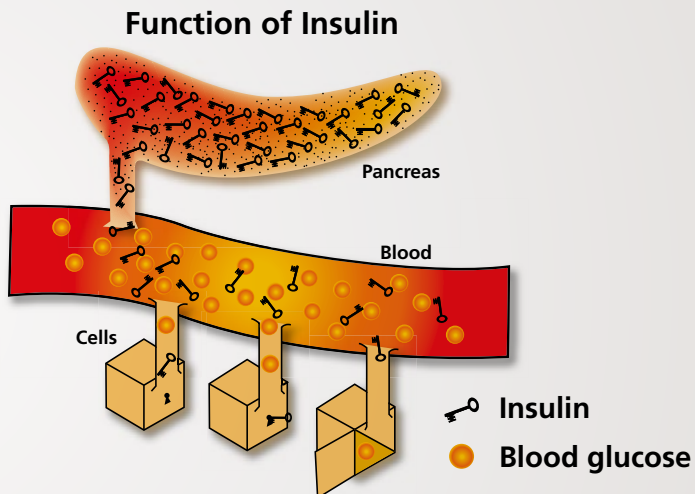
What does insulin do?

Insulin is a hormone that is produced by the pancreas. It lowers blood glucose levels. Insulin is the key that opens the cells in our body so that they can store glucose and use it for energy. The insulin that you inject works the same way as the insulin made by the body.

Why do I need insulin now?

You have been taking medications for your diabetes that control your blood glucose levels by helping your body produce more insulin, or making the insulin you produce more easily used by your body.

Insulin injections may now be required because your pancreas may not be making enough insulin or insulin cannot be used properly by the body. Therefore, your diabetes medications are no longer able to control your blood glucose levels alone.



TREATING DIABETES WITH INSULIN

Will I still have to take tablets for my diabetes?



Some people need to be treated with both insulin injections and tablets, while others only need insulin injections. Your doctor will decide which medication is best for you at this time.

How will insulin help me?

After starting insulin, most people with diabetes say they feel much better and have more energy. This is because their blood glucose levels have improved.

Studies show that you can reduce the risk of complications if you control your blood glucose, blood pressure, and cholesterol.

Using insulin to keep your blood glucose in control will reduce the complications of diabetes that can occur, including blindness, stroke, heart, kidney, and nerve problems.

In the long-term, if your blood glucose and blood pressure levels stay too high, you will increase your risk of developing complications.

Why must insulin be injected?

The insulin that you get from your pharmacist can only work when it is injected into fat under the skin. If insulin was made in tablet form, it would be destroyed in the stomach by digestion when swallowed.

How do I give insulin?



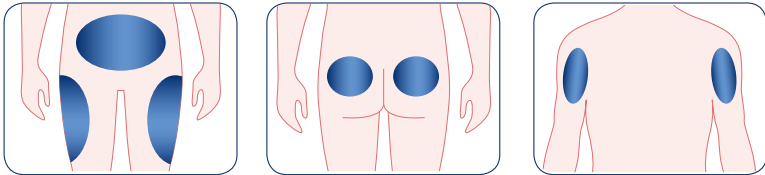
There are a variety of ways to give insulin injections. These include insulin delivery devices and syringes.

Your diabetes care team will discuss which method will suit you best.

TREATING DIABETES WITH INSULIN

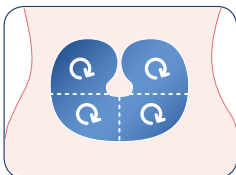
Where and how do I inject my insulin?

The best place to inject insulin is into the fatty areas of your abdomen, thighs, buttocks and upper arms. Do not inject insulin in the same spot all the time because it can cause lumps in your skin. These lumps can stop insulin from working as well as it should. For example, if you inject insulin in your abdomen, you should regularly move the injection from one part of your abdomen to another part of your abdomen (not from your abdomen to your thigh).

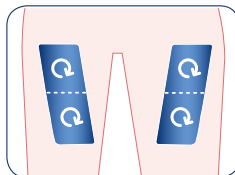


Rotate your injection site.

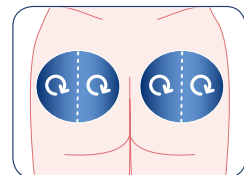
- It is important that injections are not made into the same spot every time.
- Rotating injection sites will give each site the opportunity to recover properly and will make injections more comfortable and effective.
- One way of keeping track is to divide the injection site into halves or quarters and use a different half/quarter every week – moving in a clockwise direction by about the width of a finger from the last injection point.
- Always choose the most suitable injection sites and site rotation regime with a diabetes specialist.



Abdominal rotational pattern by quarters



Thigh rotational pattern by halves



Buttocks rotational pattern by halves

TREATING DIABETES WITH INSULIN

What do I do with my used needles?

Pen needles and syringes are recommended for single use only. Used needles should be disposed of in approved containers. Availability of these containers can be discussed with your diabetes care team.



Will the injection hurt?

The needles used for insulin injection are very small. Insulin is injected into the fat under the skin and most people say it is less painful than a finger-prick or blood test.



NovoFine® Plus 4mm 32G
0.23/0.25 x 4mm



novofine® 6mm 32G Tip
0.23/0.25 x 6mm

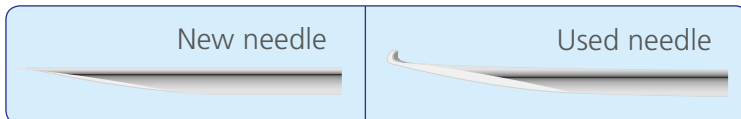


novofine® 8mm 30G
0.3 x 8mm

NovoFine® needles shown in actual size

Because the needles are so small, when you use the needle to inject your insulin, the needle is damaged slightly, so you must use a new needle for each injection.

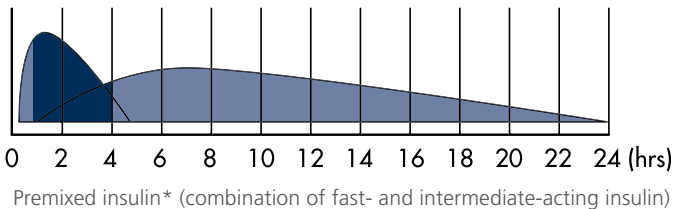
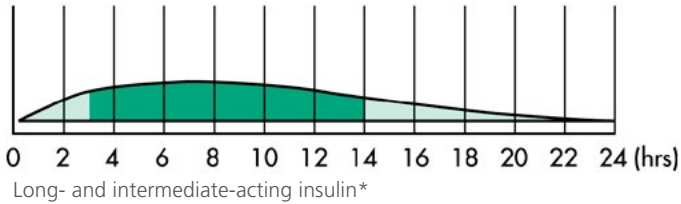
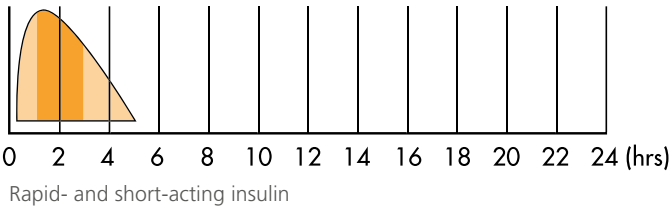
Reusing a needle may cause bruising and tissue damage, creating a problem called lipohypertrophy, where you actually damage the area where you inject, and cause the skin to look dimpled and scarred. It can also reduce the amount of insulin absorbed into your body.



TREATING DIABETES WITH INSULIN

Do all insulins work the same?

Some insulins work over a short period of time, some over a longer period of time, and others are a mixture of both. They are usually given before a meal or at bedtime.



**Please note that some insulins require gentle shaking to resuspend prior to injection.*

Always read the CMI or instructions prior to using your insulin. Please discuss insulin administration with your diabetes care team.

INSULIN STORAGE AND HANDLING

How do I store my insulin?



Make sure you:

- ✓ Store the insulin that you are not using in the middle of the fridge (between 2°C and 8°C).
- ✓ Keep the insulin that you are using at room temperature for up to a month (never use insulin beyond the expiry date).
- ✓ Get advice from your diabetes care team on how to store your insulin if you live in a hot climate or when travelling.

Make sure you **DO NOT**:

- ✗ **Freeze** your insulin. If insulin is frozen, you must not use it.
- ✗ Keep your insulin in **direct sunlight** (it may go yellow and not work properly).
- ✗ Keep your insulin in a **hot place** (it may not work properly).
- ✗ **Shake** your insulin too hard.
- ✗ Use your insulin **after the expiry date**.



INSULIN STORAGE AND HANDLING

Information for when travelling.

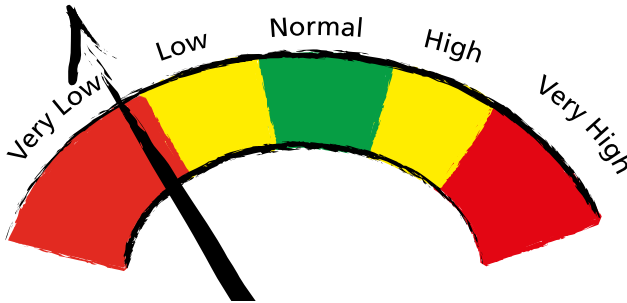


- When travelling keep your insulin cartons in as cool a place as possible.
- Storage of insulin in a small insulated container is advisable to protect the insulin from extremes of temperature.
- Carry at least twice your calculated insulin requirements to allow for breakages etc during your trip.
- Do not keep insulin vials or cartridges in the glove box of a car, as the high temperatures, which may occur especially in summer, may damage insulin.
- Any supplies should be divided and transported in different pieces of hand luggage, so that if one piece of luggage is mislaid, supplies are still available.
- Remember that insulin should not be stored in luggage that will enter the hold of an aircraft as the insulin may freeze during the flight and its action may be altered.
- Contact NovoCare® Customer Care Centre (numbers on back page) regarding the availability of your insulin overseas, since exact equivalents are not always available.

Do not use insulin if:

- ✗ The clear soluble insulin has turned cloudy.
- ✗ The expiry date has been reached as shown on the vial, cartridge or prefilled device label and carton.
- ✗ The insulin has been frozen or exposed to high temperatures.
- ✗ Lumps or flakes are seen in the insulin.
- ✗ The insulin is discoloured.
- ✗ Deposits of insulin are seen on the inside of the vial which remains after initial shaking.

IMPORTANT INFORMATION WHEN USING INSULIN



Hypoglycaemia or 'hypo'.

Hypoglycaemia, or 'hypo', is the term used to describe when your blood glucose level is too low. The normal blood glucose level is between 4.0-8.0 mmol/L. If your blood glucose is less than 4.0 mmol/L, this is called a 'hypo'. 'Hypos' may occur if you are doing more exercise than usual, having too much insulin, miss or are late with a meal, or not having enough carbohydrate to eat.

How will I know if I am having a 'hypo'?

Your body will usually give you warning when your blood glucose level is too low. The signs and symptoms of a 'hypo' are different for different people. The following are the most common:

- Feeling shaky, sweaty or tired
- Feeling hungry or confused
- Heart beating quickly
- Blurred vision or headache
- Tingling or numbness around the lips

If you experience any of these symptoms test your blood glucose level and treat immediately. Discuss this with your diabetes care team to assess whether your treatment needs to be altered.

'Hypo' – What should I do?



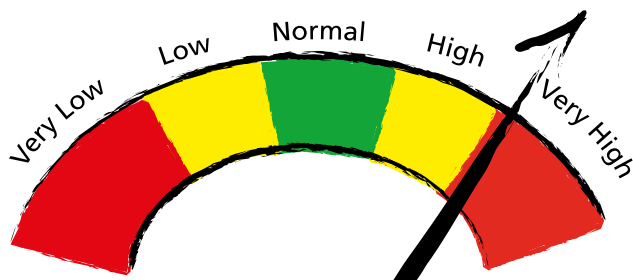
1. Eat or drink some sugar. Options include:

- Jelly beans (5 - 7)
- Sugar (1 - 3 teaspoons)
- Glucose tablets (1 - 3) or glucose gel
- Half a glass of soft drink or cordial (not diet)

'Hypos' can happen when you least expect them, so it is a good idea to carry 'hypo' food with you, for example, in your pocket, school bag, school locker, handbag, brief case, desk draw, sports bag or car. The best option for you should be discussed with your diabetes care team.

2. Test your blood glucose. Wash your hands to ensure an accurate result (especially if you have consumed sugary food).
3. You should start to feel better within 5 - 10 minutes. It is important to eat again (eg, have a low-moderate GI carbohydrate meal or snack).
4. Test your blood glucose.
5. If you do not feel any better after 15 minutes, have some more sugar (as mentioned above), and re-test your blood glucose.
6. In a severe 'hypo' (if you become unconscious) a friend or family member will need to seek medical attention. It is important not to give food or drink to an unconscious person. You need to be given an injection of a hormone called glucagon. This hormone causes the release of stored glucose from your liver and muscle. It is a good idea to have glucagon at home and at your workplace in case you have a severe 'hypo'. Talk to your diabetes care team about obtaining glucagon, and teaching a friend, family member or your partner to use glucagon.*

***It is important to wear a Diabetes ID for this reason.**



Hyperglycaemia.

Symptomatic hyperglycaemia occurs when your blood glucose levels are greater than 15.0 mmol/L. You could have high blood glucose and not know it, other times you might feel one or more of these things:

- Tired
- Thirsty
- Blurred vision
- Going to the toilet often (passing a lot of urine)

What causes hyperglycaemia?

- Not enough insulin or tablets
- Not enough exercise
- Stress
- Some medications
- Sickness
- Weight gain
- Too much of the wrong kind of food

What should I do?

- Do not panic.
- It is normal for blood glucose levels to change a little during the day. If your blood glucose is high for a few days in a row, you may need to see your diabetes care team.
- Test your blood or urine for ketones.
- If you can not work out why your blood glucose is high, see your diabetes care team.

DIABETES AND SICK DAYS

When you are sick or stressed, your body reacts by producing hormones. These hormones can increase your blood glucose levels.

What should I do if this happens?



- Test your blood glucose more often than normal.
- Drink plenty of liquids.
- **Take your normal diabetes medication or insulin.**
- Maintain your normal meal plans if possible.
- Get plenty of rest.

You should call your diabetes care team if:



- Your blood glucose is consistently high (above 15 mmol/L) for two tests in a row.
- You have ketones present in your blood or urine.
- You have diarrhoea or vomiting (more than once).
- You can not keep food down and are struggling to eat.
- You have a high temperature.
- You are not feeling better in 24 hours.

For more information on managing hypoglycaemia please visit www.novonordisk.com.au (Australia)

LOOKING AFTER YOUR FEET

Research has shown that people with diabetes who take good care of their feet and protect them from injury can significantly reduce the risk of developing foot ulcers.

If you do develop foot ulcers it is good to know that they often respond well to treatment. DO remember however that if left untreated, even the smallest foot ulcers can develop into serious problems. The following information will help you to look after your feet:

It is ESSENTIAL to examine your feet daily for cuts or anything unusual.

Recommended daily routine.

1. Wash your feet daily.

Test the water temperature with an elbow to avoid scalding accidents.

2. Dry – especially between toes. Cut and file toenails to the shape of the nail. Contact a podiatrist if you have any problems.
3. Apply moisturiser (or hand cream) to keep your skin supple and prevent cracking. Do not put creams or oils between the toes, as they may trap moisture and cause infection.



LOOKING AFTER YOUR FEET

First Aid.



1. Check inside shoes for sharp objects, etc. Also check inside your socks.
2. Signs of infection: Learn to spot the first signs of infection. Your skin may be warmer than usual, red or swollen. Pain and tenderness suggest that your pain alarm system is still working but infections need to be treated straight away.
3. Breaks in the skin should be covered with a dry, sterile dressing. If any problems occur seek advice from your GP, diabetes clinic or podiatrist.



Ongoing Care.

1. AVOID direct heat and hot water bottles – loss of pain and temperature sensitivity make these dangerous. Turn off your electric blanket before going to bed.
2. Remember diabetes can affect the rate of healing and breaks in the skin may take a little longer to heal.
3. Ensure shoes fit well – have your feet measured. Never go barefoot.
4. Remember to have an annual foot check with a podiatrist or GP.



IMPORTANT TIPS FOR YOU TO REMEMBER

- Ideal blood glucose, blood pressure, and cholesterol control can improve your quality of life and reduce the risk of long-term complications.
- Visit your doctor regularly to have your glucose control, feet, blood pressure, cholesterol, heart, eyes and kidneys checked.
- See a dietitian to ensure you are making healthy food choices.
- Choose an exercise that you are able to do regularly and enjoy.
- Talk to your diabetes care team or doctor for information updates on your type of diabetes. Ask them to explain to you what it means to have 'good control' of your diabetes.



YOUR CHECKLIST

Before starting insulin injections you will need to discuss the following topics with your diabetes care team.

- How and when to monitor your blood glucose levels.
- Target blood glucose levels.
- How to give an insulin injection.
- When to have your blood pressure checked.
- Where to give your injection.
- When to give your insulin.
- How to store your insulin.
- How long you can use your insulin after it is open.
- How your insulin works.
- How to recognise when your dose needs changing.
- How to treat a 'hypo' (low blood glucose).
- How to manage a sick day.
- Where to get supplies of insulin, insulin delivery devices, NovoFine® needles and syringes.
- How to dispose of your NovoFine® needles and syringes.
- Where to obtain a Medic Alert® bracelet or Diabetes ID.
- Who to contact for any questions or problems, and who are the members of your diabetes team.

DIABETES CENTRES AND EDUCATION

Most major hospitals and many community health centres have Diabetes Centres and/or Diabetes Educators that you can contact for advice on the management of your diabetes.

1. Date: ___/___/___ Time: _____ Phone: _____
Name: _____ Speciality: _____
Address: _____

2. Date: ___/___/___ Time: _____ Phone: _____
Name: _____ Speciality: _____
Address: _____

3. Date: ___/___/___ Time: _____ Phone: _____
Name: _____ Speciality: _____
Address: _____

4. Date: ___/___/___ Time: _____ Phone: _____
Name: _____ Speciality: _____
Address: _____

5. Date: ___/___/___ Time: _____ Phone: _____
Name: _____ Speciality: _____
Address: _____

6. Date: ___/___/___ Time: _____ Phone: _____
Name: _____ Speciality: _____
Address: _____

7. Date: ___/___/___ Time: _____ Phone: _____
Name: _____ Speciality: _____
Address: _____

RESOURCES

Novo Nordisk

www.novonordisk.com.au

www.novonordisk.co.nz

Device instructional videos

www.novonordisk.com.au – Diabetes Care page

Diabetes Australia*

Infoline: 1300 136 588

www.diabetesaustralia.com.au

Diabetes New Zealand*

General enquiries: 0800 DIABETES (0800 342 238)

www.diabetes.org.nz

*The views expressed on these websites do not necessarily reflect the views of Novo Nordisk. Please see your Healthcare Professional for any further information about your diabetes treatment.



A complete range of needles for all Australians living with diabetes

NovoFine® are the most widely used pen needles in the country today.¹ With a range of devices, treatments and ongoing support, we're there to help all Australians of all ages who have diabetes.



novofine®

NovoFine® Plus 4mm 32G
0.23/0.25 x 4 mm

novofine® 6mm 32G Tip
0.23/0.25 x 6 mm

novofine® 8mm 30G
0.3 x 8 mm

NovoFine® needles are for single use. Remember to use a new needle every time. Please see your healthcare professional for any further information about your diabetes treatment. NovoFine® needles are for use with drug pen injectors. Reference: 1. National Diabetes Services Scheme (NDSS) Data (2017). © Registered trademark of Novo Nordisk A/S. Novo Nordisk Pharmaceuticals Pty. Ltd. ABN 40 002 879 996, Level 3, 21 Solent Circuit, Baulkham Hills NSW 2153. www.novonordisk.com.au. NOFI8597. April 2017.

This booklet has been provided by your Healthcare Professional to help you understand how you can treat your diabetes.

Please see your Healthcare Professional for any further information about your diabetes treatment.

Needles featured within this booklet may differ from those available. Please consult your Healthcare Professional.



Australia NovoCare® Customer Care Centre

1800 668 626

www.novonordisk.com.au

New Zealand NovoCare® Customer Care Centre

0800 733 737

www.novonordisk.co.nz

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