

# Insulin

Insulin is a hormone that allows glucose to move from the bloodstream into the body's cells, where it can be used for energy. When you have diabetes, your pancreas either can't make any or enough insulin, or the insulin it makes doesn't work properly. This results in too much glucose in the bloodstream.

## When you have type 1 diabetes

When you have type 1 diabetes, your body can no longer make insulin, as the cells in the pancreas have been destroyed by the immune system. To compensate for the insulin that your body can no longer make, you will need insulin injections several times a day, or insulin via an insulin pump.



## When you have type 2 diabetes

When you have type 2 diabetes, the pancreas can still make insulin but not enough to keep your blood glucose levels in the target range. If the insulin being produced does not work properly – or if there is not enough insulin – your blood glucose levels will rise.

Type 2 diabetes is managed through healthy eating and regular physical activity. You may also need glucose lowering medications such as tablets. As type 2 diabetes progresses, you may also need injectable medications (insulin and non-insulin types) to help keep your blood glucose levels in the target range.

## When you have gestational diabetes

Gestational diabetes is a type of diabetes that can occur during pregnancy. During pregnancy, some of the hormones that the placenta produces make it more difficult for insulin to work properly. The pancreas then needs to produce extra insulin to keep blood glucose levels in the target range. If the pancreas is unable to produce enough insulin, blood glucose levels rise, and gestational diabetes develops.

Gestational diabetes is managed by following a healthy eating plan, doing regular physical activity and monitoring blood glucose levels. You may also need medication or insulin injections to help manage gestational diabetes.

## Starting insulin

Starting insulin can be challenging, and it's understandable if you feel anxious. At the beginning, you will need to be in regular contact with your doctor and credentialed diabetes educator (CDE) to help work out the right dose for you.

It can also take time to adjust to using insulin injections (or an insulin pump) and your new routine. Your diabetes health professionals and your family and friends can provide the support you need.

## Types of insulin

Different people need different types of insulin, so your treatment needs to be tailored to suit you. Your GP – or an endocrinologist – will prescribe the insulin that best suits your lifestyle and blood glucose level targets and advise you on how to use this insulin properly.

The different types of insulin are grouped together based on how long the insulin works in the body. Insulin can be given as a basal or bolus dose. Basal insulin is a background insulin (intermediate or long acting). Bolus insulin is an ultra-short or short- acting insulin that is usually given with meals.

You may be prescribed more than one type of insulin depending on the type of diabetes you have and your individual management plan. Your insulin needs can also change over time, so it's important to have regular reviews of your diabetes management with your GP or credentialed diabetes educator.



## Tips for taking insulin

Insulin works best when it's injected into the fatty layer just beneath the skin and above the muscle. It's recommended that insulin is injected in the abdomen (tummy). In some cases, the thigh or buttocks may be used. The length of the needle is important. Talk to a credentialed diabetes educator about injection sites and what needle length is right for you.

### When you inject insulin, you should:

- use a new needle every time
- check you are giving the right type and dose of insulin
- prime the needle every time to remove air and start the flow of insulin (also known as an "air shot")
- insert the needle at 90 degrees (a right angle), unless advised otherwise by your health professional
- after injecting the insulin, hold the needle under the skin for 10 seconds to make sure you get the full dose
- rotate injection sites so that you use a different site every time to avoid developing fatty lumps
- if using an insulin pen, remove the needle from the pen after each injection
- dispose of all sharps safely.

### Do not:

- use the insulin after the expiry date
- use the insulin if it doesn't look the way it should, or if it has been frozen or exposed to extreme heat
- shake the insulin too hard
- inject in areas where there are scars, stretch marks or lumps
- inject through your clothes.

## Storing insulin

It's important to store insulin correctly:

- » Store your unopened insulin in the fridge (away from the freezer/chiller section). Don't let your insulin freeze.
- » Keep the insulin you are using at room temperature (below 25 degrees Celsius). Once insulin has been opened, it can stay at this temperature for up to 28 days.
- » It's fine to keep your current insulin pen in your handbag or bag.
- » Don't keep it in a place where it might get hot, like in your car or near a window.
- » Once open, dispose after 28 days.

For specific information about the insulin you are using or about to use speak to your treating doctor, credentialed diabetes educator or pharmacist and get a copy of the Consumer Medicines Information leaflet.



## Community sharps disposal

Sharps include syringes, pen needles, lancets (finger prickers) and needles used for insulin pumps and sensors for continuous and flash glucose monitors.

Make sure you dispose of sharps safely by placing them in a strong, Australian-standard approved plastic container. Australian-standard sharps containers are available from NDSS Access Points (usually a community pharmacy). Don't use glass or cardboard containers, tins or plastic bottles.

You can dispose of sharps containers at some public hospitals, participating pharmacies, community sharps disposal bins and some councils.

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### More information

For more information, and to locate community sharps disposal facilities across Australia, go to [safesharps.com.au](https://safesharps.com.au)

You can also call the NDSS Helpline on **1800 637 700** or call your local council for more information.



## The NDSS and you

A wide range of services and support is available through the NDSS to help you manage your diabetes. This includes information on diabetes management through the NDSS Helpline and website. The products, services and education programs available can help you stay on top of your diabetes.