



A patient guide to the use of insulin for diabetes

Building healthier lives

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This leaflet should only be used in conjunction with the 'safe use of insulin and you' leaflet published by the National Patient Safety Agency and advice provided by your diabetes nurse.

You have been given this leaflet to support the information provided by your diabetes nurse when starting insulin injections. It is important you take your insulin as instructed by your nurse or doctor and ask for help if required.

There are various types of diabetes which may require insulin.

- **Type 1 diabetes (Autoimmune condition)**

People diagnosed with type 1 diabetes cannot produce insulin and therefore will require insulin injections to live.

- **Type 2 diabetes**

People who are diagnosed with Type 2 diabetes still produce insulin, but not enough to maintain normal glucose levels. Also, the body cells do not react to the insulin produced, causing raised blood glucose and this is known as insulin resistance. You can help maintain normal glucose levels by eating a healthier diet and exercising but most likely you will require tablets and/or insulin injections.

- **Type 3c diabetes**

Type 3c diabetes is caused by damage to the pancreas. The Pancreas usually produces hormones to control blood glucose (Insulin and glucagon) and the enzymes or digestive juices needed to digest food. The pancreas produces less of the hormones and digestive juices causing problems with both digestion and blood glucose.

- **Steroid induced diabetes/ post transplant**

People who take steroids are at a higher risk of developing diabetes.

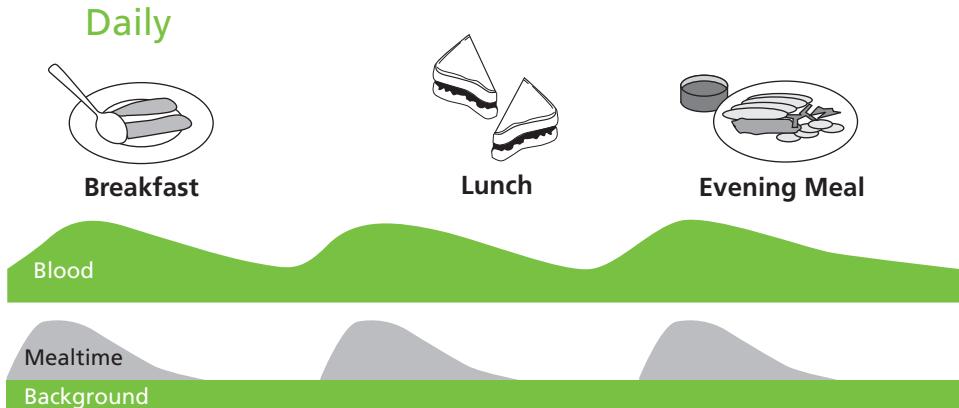
- **Gestational Diabetes**

During pregnancy some women develop higher than normal levels

of glucose in their blood, which leads to a greater risk of developing diabetes during this time.

My insulin and blood glucose profile

The type of insulin you will be taking, when and how often will be explained to you by your diabetes nurse.



Insulin:

When to take your insulin:

- Before breakfast
- Before lunch
- Before evening meal
- Before bed

About your insulin:

Name of your insulin/s		
Name of your injection device		
How long the insulin works		

Needle size: 4mm 5mm 6mm

10 STEPS TO INJECTION SUCCESS

The correct 10 step injection process is illustrated below:



Firstly wash hands with warm water and soap
Dry thoroughly



Remove pen cap
For cloudy insulins roll pen 10 times between the palms



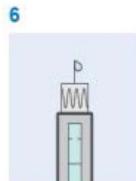
Next, gently invert the pen 10 times to achieve an even milky appearance



Select a new needle
Peel off paper seal
Apply new needle in line with pen



Screw on needle
Pull off protective caps



To ensure needle and pen are working correctly select 2 units on dose button
Hold pen with needle pointing upwards



Dial the required dose

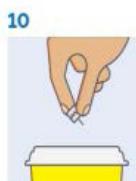


Fully insert the needle into the skin at 90 degrees, keeping the pen stable
Press dose button until dose fully injected

Fully depress dose button looking for insulin to appear from needle tip
If not seen, repeat steps until insulin seen at needle tip



Before removing the needle from the skin, count to 10 to ensure the full dose is given



Safely remove the needle from the pen
Dispose of the needle into a sharps bin

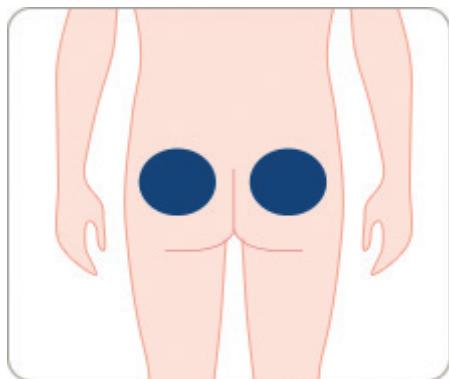
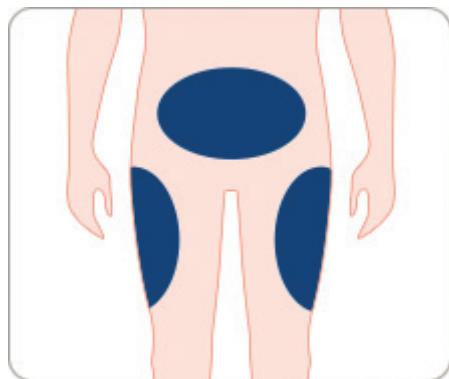
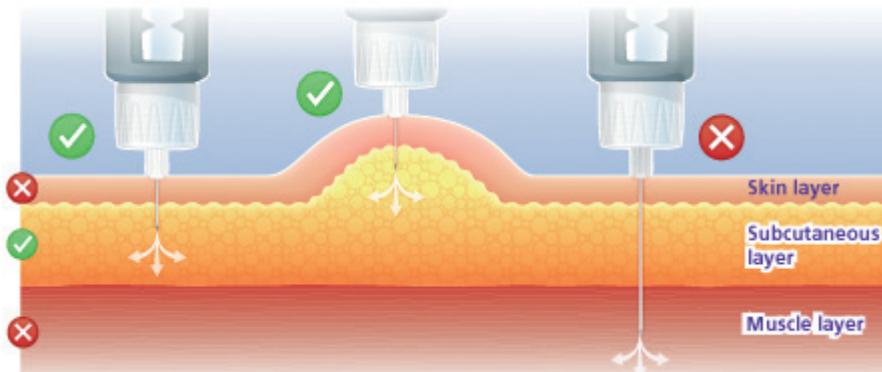
Images courtesy BD ©

Where should I inject my insulin?

Your injection can be given in different sites and should **always be injected into subcutaneous fat** (the layer just beneath the skin).

You should not inject directly into your muscle as the insulin will be absorbed too quickly.

It is important that you rotate your injection sites. If you do not, your skin may become lumpy and the insulin will not be properly absorbed.



Images courtesy BD ©

Insulin should be administered via the following sites. Please remember you need sufficient fatty tissue to do this injection.

- Around the navel of your stomach (belly button)
- The upper outer area of your thighs (not the top of your leg, as you risk injecting into muscle)
- The upper outer area of the buttocks

How should I dispose of my waste?

Dispose of your used injection needles, cartridges, blood test lancets (a device used to prick the skin) and blood test strips safely in a sharps bin.

You must NOT put any of these listed materials in your household waste bin. Disposable pens once empty can be discarded in bin but please ensure you remove the needle.

For a yellow sharps bin:

If you live in Birmingham contact the clinical waste department to register your address for delivery and collection of sharps bins.

Birmingham Clinical Waste Department – **0121 303 1112**

If you live in Solihull the delivery and collection of the sharps boxes is done through Solihull Council. This can be arranged using the following online form: https://solihullcouncil.custhelp.com/app/smbc/dio/request_it/forms/waste_recycling/request_sharps_collection

Alternatively you can contact **0121 704 8000**.

If you live out of area please contact your General Practitioner and ask for local provision of sharps bin.

Where should I store my insulin?

Unopened supplies of insulin should be kept in the fridge. Opened insulin that you are using should be stored out of the fridge, at room temperature in a cool and dry place, directly out of sunlight. If you have not used the insulin after 28 days it should be discarded.

DO NOT heat or freeze your insulin.

If your insulin is normally clear and there are particles floating in it you should throw it away in your sharps bin, and start a new pen/ cartridge. DO NOT use insulin that has expired (out of date).

Equipment and safety advice

Insulin, injection pens for cartridges, disposable pens, needles and BD Safe Clips (a clipping device used to remove the used needle from your syringe or pen) are all available on prescription from your GP. Always make sure you have a spare pen in the event you lose or break the pen. You will be given an insulin passport/insulin ID card. Please always carry this card with in the event of a medical emergency. When you collect your injection supplies from your pharmacy always check;

1. You have been given the correct insulin and the correct strength. It is important to know the full name of your insulin type. Using the wrong insulin can be dangerous
2. You have been given the insulin in the correct container e.g. cartridge or disposable pen
3. The injection pen needles are the correct length

Your prescriptions

If you use insulin or any other medication to manage your diabetes you are entitled to free prescriptions. However, if you are under the age of sixty and live in England you must have a Medical exemption certificate before you claim.

If you do not have a medical exemption certificate and you wish to claim free prescriptions then you and your doctor will need to fill out a FP92A form to apply. You can get this from your GP surgery. Failure to produce this certificate could incur a fine.

Common questions

I cannot remember if I have had my injection, what should I do?

Do not take extra insulin. Monitor your glucose level frequently throughout the day. If you have any concerns please contact your diabetes nurse.

I have accidentally taken the wrong insulin dose. What should I do?

A reduced dose of insulin may result in increased blood glucose levels. If you realise that you have given too little insulin do not take more. You should take your next injection at the usual time. If you have any concerns please contact your diabetes nurse.

An increased dose of insulin results in reduced blood glucose (hypo). If you realise that you have given too much insulin then you should eat carbohydrate foods such as fruit, yoghurts or drink milk, as well as your usual meals, to compensate. You should monitor your blood glucose levels more frequently for the next 24 hours, to see the effect of the incorrect dose, and then resume your usual monitoring.

If you have type1 diabetes and your blood glucose is above 14.0 mmol/l more than once or you are unwell you should check for ketones, (chemicals produced when the body burns fat). If you test positive for ketones, you should report this to your diabetes nurse or doctor.

If you have any other concerns please contact your diabetes nurse.

Contact details

Queen Elizabeth Hospital Birmingham	0121 371 4523 or
	0121 371 4535
Good Hope Hospital	0121 424 9465
Heartlands and Solihull Hospital	0121 424 1176
Solihull Community Team	0121 770 4432

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Diabetes
University Hospitals Birmingham NHS trust