



**University Hospitals Birmingham**  
NHS Foundation Trust



# A patient guide to the use of insulin for diabetes

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To see all of our current patient information leaflets please visit  
[www.uhb.nhs.uk/patient-information-leaflets.htm](http://www.uhb.nhs.uk/patient-information-leaflets.htm)

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.

These are listed below;

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

People diagnosed with type 1 diabetes need insulin injections to live; their pancreas can no longer produce insulin.

- **Type 2 diabetes**

This type of diabetes is diagnosed when the pancreas does produce insulin, but not enough to maintain glucose levels (sugar in the blood) or body cells that do not react to the insulin produced (insulin resistance). People with type 2 diabetes can help maintain their glucose levels by eating a healthier diet, however in some cases tablets and or insulin injections are also required.

- **Steroid induced diabetes/ post transplant**

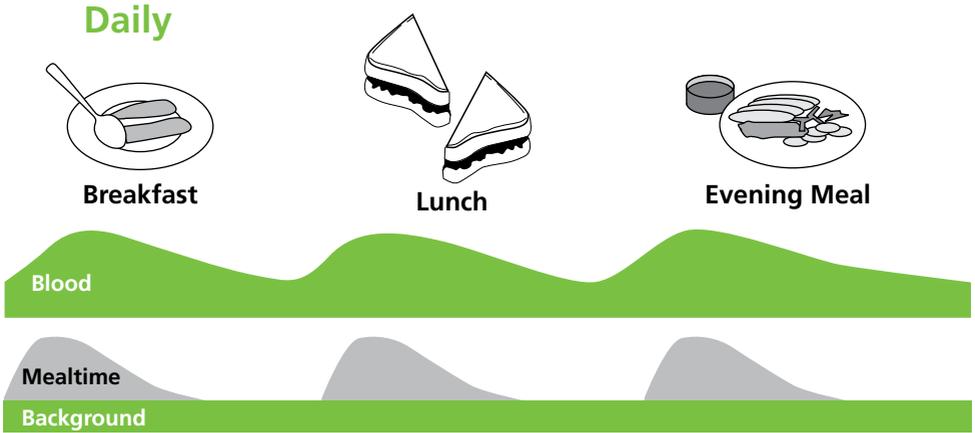
People who take steroids are at a higher risk of developing diabetes.

- **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 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

## Preparing to use your insulin:

If your insulin is cloudy you will need to reconstitute (mix) it before every injection by shaking it vigorously.

Once the insulin is mixed, you will need to prime the pen (to remove air bubbles). Before every injection dial two units and hold the pen with the needle pointing up and push the injection button. Look for a fountain of insulin. If you do not see one repeat the above steps again. If after three attempts no insulin is visible – change the needle and repeat the above steps.

## How do I insert my injection needle?

Needles come in different lengths and your diabetes nurse will discuss the appropriate size for you.

Always inject at a **90 degree** angle and keep the needle in for 10 seconds after injecting to allow the insulin to move away from the puncture site. Very occasionally you may experience some discomfort, bleeding or bruising following your injection. Do not be concerned.

## 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 a 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**

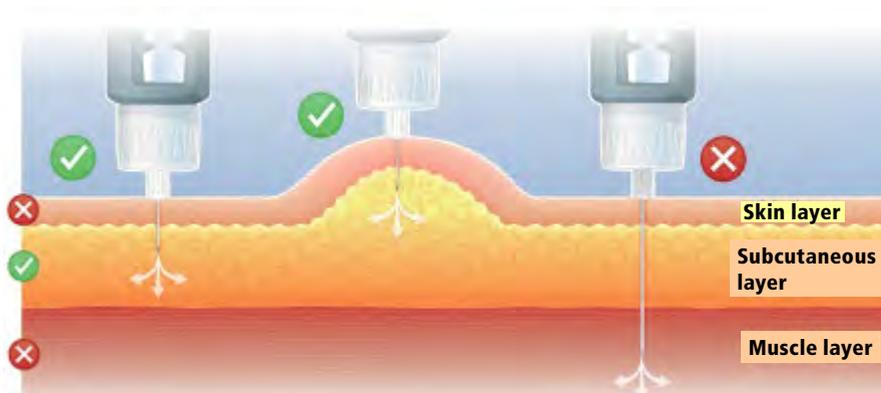
If you live out of area please contact your General Practitioner and ask for local provision of Sharps Bin.

## 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 ©

You should administer your insulin via the following sites;

- Around the navel of your stomach (belly button)
- The upper outer area of your thighs
- The upper outer area of the buttocks

## How quickly is my insulin absorbed?

The rate insulin is absorbed into the blood stream differs from site to site. Insulin is absorbed more quickly if injected into the stomach, then the legs and is absorbed the slowest when injected into the buttocks.

Insulin is absorbed more quickly following exercise or if your skin temperature is raised, for example in hot weather and after a bath or shower.

## 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.

## 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 you 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. You should 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 type 1 diabetes and your blood glucose is above 15.0mmol/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

The diabetes office is open from Monday to Friday between the hours of 08:00–16:00

An answer phone service is available for patients, please leave your name and number and a member of the diabetes team will respond to your call.

Direct line – **0121 371 4523** or **0121 371 4535**

The trust provides free monthly health talks on a variety of medical conditions and treatments. For more information visit [www.uhb.nhs.uk/health-talks.htm](http://www.uhb.nhs.uk/health-talks.htm) or call **0121 371 4323**.

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