



# Injection technique guide for adults

We've put almost 100 years of work into injection technique expertise, so that you get the best from your treatment

It's crucial to control your blood glucose levels to ensure you reduce the risks associated with having diabetes. But getting the right balance between activity, diet and insulin is sometimes difficult.

**To help you get the most from your injection treatment we've put together this simple 5 step guide.**



## 5 steps to success

- 1 Be kind to yourself
- 2 Injection steps
- 3 Correct injection technique
- 4 Look out for Lipohypertrophy
- 5 Storage and disposal

# 1

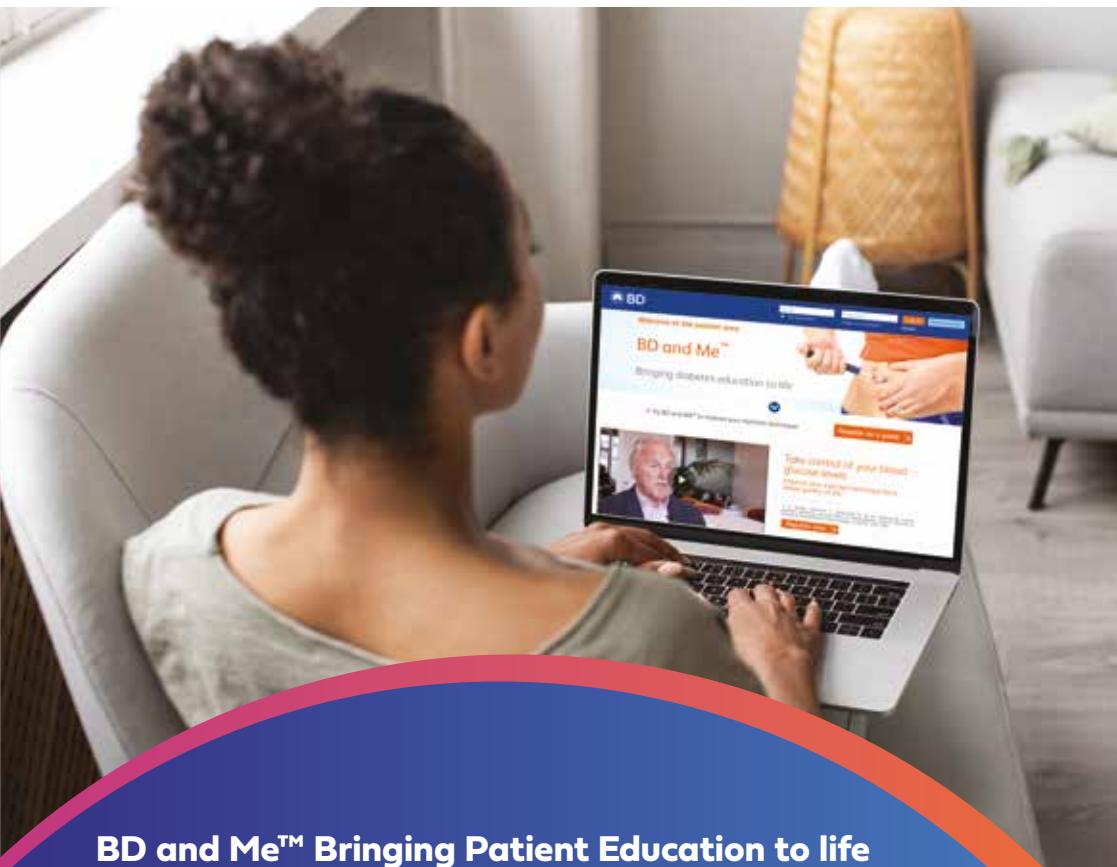
## Be kind to yourself

Don't worry if you feel anxious at the start of injecting, it is quite normal to! But remember, by injecting insulin you will start to feel better as your blood glucose levels stabilise.



# Get access to injection technique tools

Your nurse or doctor will give you advice and guidance but you are the most important part of the team! Learn what works best for you and seek advice when needed.



## BD and Me™ Bringing Patient Education to life

An online patient education programme on injection technique

- ✓ Easy to use
- ✓ Personalized
- ✓ Evidence based<sup>1</sup>

Ask your nurse or doctor about BD and Me™ – the online learning centre for optimizing injection technique! [bdandme.bd.com](http://bdandme.bd.com)

## 2

# How to inject

With the support of your diabetes healthcare professional, consider using a BD 4mm pen needle.

The 4mm pen needle is considered the safest pen needle for adults and children regardless of age, sex, ethnicity, or BMI.<sup>1</sup>



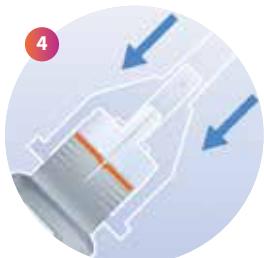
Wash hands with warm water and soap, rinse and dry.



If cloudy insulin, roll insulin pen or cartridge 10 times.



And invert insulin pen or cartridge 10 times until evenly cloudy.



Fit a new needle to the pen, making sure that the needle is in line with the pen.



Screw on pen needle then remove outer and inner caps.

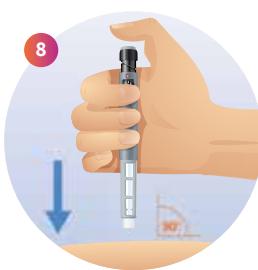


Prime the needle with 2 units of insulin so that at least one drop is seen on the needle tip.

Please check the type and expiry date of your insulin.



Dial the correct dose.



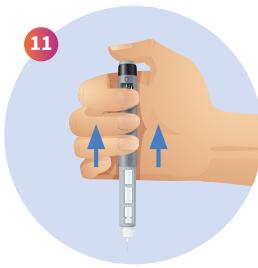
Inject into the skin at 90°.\*



Once needle is inserted, press dose button smoothly until full dose is given.



Then count slowly to 10 before withdrawing the needle.



Keep pressure on the dose button as needle is withdrawn.



Remove and safely discard the pen needle in a sharps bin immediately after injection.

\* Your healthcare professional can advise whether you need to have a skin fold.

# 3

## Correct injection technique

Correct injection technique and site rotation has been shown to help:<sup>2-5</sup>

- ✓ Protect healthy tissue\*
- ✓ Avoid the formation of lipohypertrophy (see step 4)
- ✓ Improve glycaemic control

### How to lift a skinfold



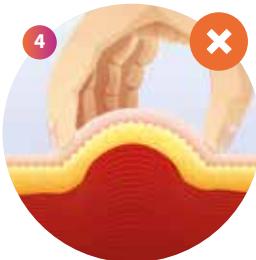
Use first finger and thumb or first and second finger and thumb.



Inject insulin slowly at 90° angle to surface of skin lift.



Don't pinch your skin so tightly that it hurts.

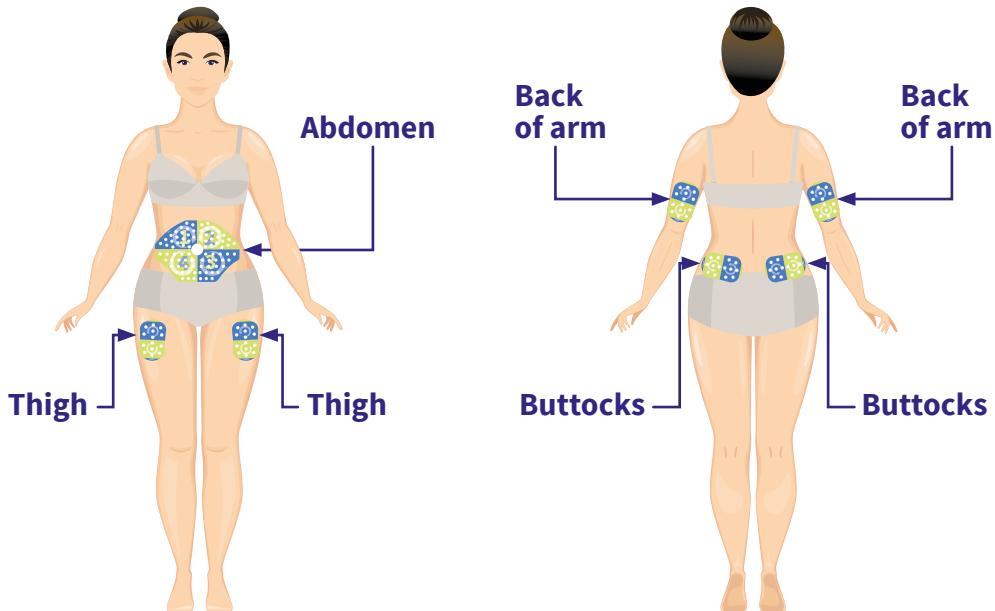


Ensure that you don't pinch up muscle as well.

\* Incorrect or not rotating injection sites has been shown to significantly increase risk of lipohypertrophy which can lead to malabsorption of insulin.

# Where to inject

The new insulin injection and infusion recommendations state that recommended injection sites are<sup>1</sup>:



## Avoid injections into muscle

Insulin should be injected into the fat layer and not into the muscle! Use a short 4mm pen needle and skinfold if necessary to reduce the chances of injections into the muscle. Injections into muscle can upset your blood glucose control.<sup>1</sup>

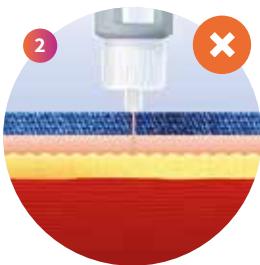


# Looking after your injection sites

Looking after your injection sites is important. Get into the habit of checking your sites regularly and discussing any concerns with your nurse or doctor.



Inspect your injection sites regularly.



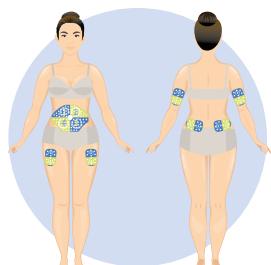
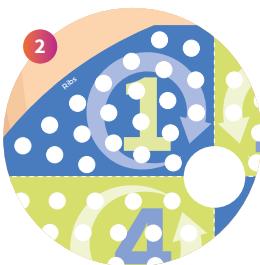
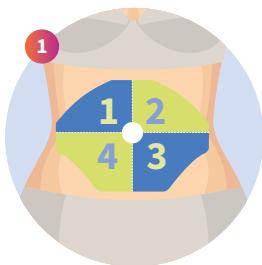
Don't inject through clothing.



Avoid injecting into lumps and areas of damaged skin (see step 4).

## Rotate your injection sites

Injections can be made in the abdomen, buttocks, thighs and backs of both arms<sup>1</sup>. Use a single injection spot no more frequently than every 4 weeks<sup>1</sup>. Speak to your nurse or doctor and ask for an embecta injection site rotation grid pack.



Injections in each spot should be 1cm from the last injection.

# 4

## Look out for Lipohypertrophy

Lipohypertrophy (lipo) is a thickened, rubbery swelling under the skin that can develop in people who inject insulin or other medications.<sup>1</sup>

These lipo lumps may be soft or firm. You may not be able to see it, but when you press on your skin you should feel it.

If you inject into a lipo nodule, insulin may not be absorbed the way it should. This may result in ups (hyper) and downs (hypo) in glucose control and the need for more insulin.<sup>1</sup>

Switching injections away from an area of LH and to normal tissue may require a decrease in the dose of insulin injected.<sup>1</sup>

Ask your healthcare professional whether you need to titrate your insulin.



## **Detect**

Look and feel for lipos around your injection sites. If you feel any lumps, talk to your nurse or doctor.

## **Protect**

Avoid injecting into a lipo. Seek advise from your Healthcare Professional on how to protect the area.



## **Prevent**

You can reduce your risk of lipo formation,<sup>1</sup> by

- ✓ Rotating your injections each time
- ✓ Using a new needle each time you inject

# Use a new needle with every injection

## Use needles once only

- ✓ Less painful injections – research has shown that injection pain increases in proportion to needle re-use.<sup>2\*</sup>
- ✓ Repeated use of needles amplifies the risk of needle contamination.<sup>2\*</sup>
- ✓ Reduced damage to the skin – research has shown that repeated use of the needle can increase skin inflammation at the injection site.<sup>2\*</sup>



### Did you know?

Pen needles are sterile and designed for single use only. This special symbol on every box of pen needles mean use once only.



\*\*45 insulin injecting patients in Moscow were randomized into 3 groups, Pain was assessed using VAS (Visual Analog Scale) and was significantly higher in 2nd (used needle for 4 days) and 3rd group (used needle for 7 days), compared to the 1st group (single use). Growth of micro flora was detected in 40% of patients in the 3rd group.

# 5

## Storage and disposal

Store insulin at room temperature for a more comfortable injection. Injecting insulin while it is still cold often produces more pain.<sup>1</sup>



Store unopened insulin in a fridge.



Store opened insulin at room temperature for up to a month.



Always dispose of used needles in a sharps bin.

Check the type and expiry date of your insulin. Refer to your insulin manufacturers instructions for use as storage times may vary.



# Trouble shooting

Here's some useful tips to help you along your diabetes journey.

## Bleeding and bruising?

Bruising and bleeding do not adversely affect clinical outcomes or the absorption of insulin,<sup>1</sup> but it may be a sign of incorrect injection technique.

Apply pressure to the site for 5-10 seconds to stop bleeding.

If bleeding and bruising are frequent or excessive, tell your doctor or healthcare professional.

## Insulin on the skin after injection?

Count to 10 after the plunger is fully depressed before removing the needle from the skin.<sup>1</sup>

## Pain or discomfort?

There is an association between needle reuse and injection pain or bleeding, so make sure you use a new needle with every injection.<sup>1</sup>

BD MicroFine Ultra™ Pentapoint™ technology provides more comfortable and less painful injections.<sup>6\*</sup>

Be careful to avoid intramuscular injections, which can lead to a greater risk of bleeding, bruising, and pain.<sup>1</sup>

## If problems persist talk to your nurse or doctor

\*Compared to 3-bevel pen needles; 86 patients with diabetes participated in a randomized, non-inferiority crossover trial. During the blinded portion of the study there was no difference in pain; during the non-blinded portion of the study there was statistical difference,  $P<0.01$ .



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