



Diabetescare

Gentle and safe injections.



**Tips and tricks
for injecting insulin.**



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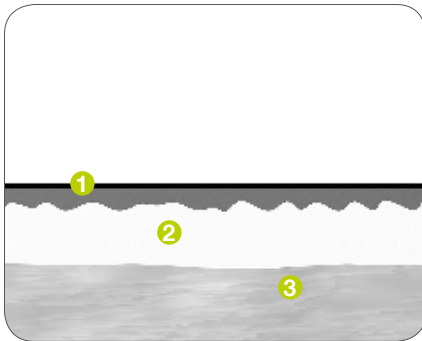
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Gentle and safe injections

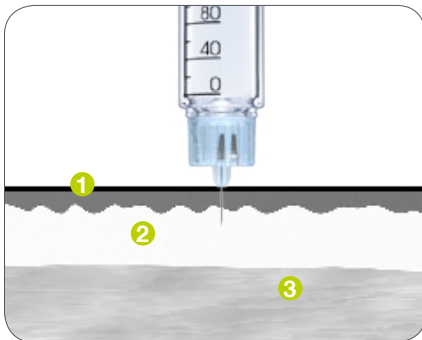
The correct injection technique

The insulin is injected into the subcutaneous fatty tissue.

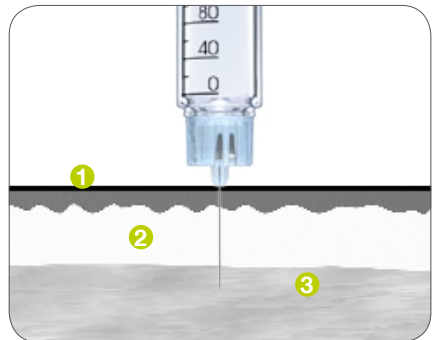


- 1 Skin
- 2 Subcutaneous fatty tissue
- 3 Muscle

To achieve a good insulin dose effect, it is essential to inject the insulin into the subcutaneous fatty tissue (subcutaneous injection) and not into the muscle. Injecting insulin into the muscle can lead to severe hypoglycaemia.



✓ Inject insulin into the subcutaneous fatty tissue.



✗ **Do not** inject insulin into the muscle.

i Broad selection of pen needle lengths Supports your individual needs¹

DIAMOND TIP



mylife™ Clickline® 4 mm



mylife™ Clickline® 5 mm



mylife™ Clickline® 6 mm



mylife™ Clickline® 8 mm


mylife™ Penfine® Classic
4 mm

mylife™ Penfine® Classic
5 mm

mylife™ Penfine® Classic
6 mm

mylife™ Penfine® Classic
8 mm

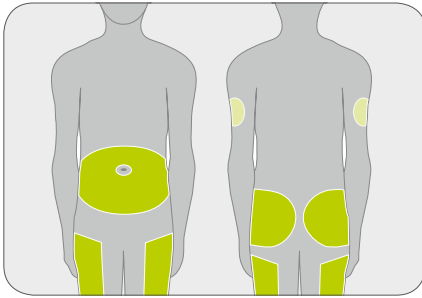
- A trend towards shorter and finer pen needles is apparent.
- Injections with ultra short pen needles provide reliable insulin delivery into the subcutaneous fatty tissue (subcutaneous injection) and simplify injection technique.
- The thickness of the skin (epidermis and dermis) is rarely greater than 3 mm, regardless of BMI (Body Mass Index).
- The correct pen needle length is crucial and is determined by your healthcare professional at the start of pen therapy.
- As a rule, therapy is started with shorter pen needles.
- Correct injection technique together with correct pen needle length can avoid injecting into the muscle.

¹ The information provided in this brochure is a recommendation and under no circumstances should replace advice and/or treatment by a trained healthcare professional.



Suitable injection sites

Insulin is not absorbed at the same speed at all sites



- Abdomen and thighs are the most common injection sites.²
- At least 1 cm distance from the navel for adults. At least 3 cm distance from the navel for children.
- Injection sites on the abdomen allow rapid insulin absorption.
- Injection sites on the thighs and buttocks allow slower insulin absorption for some insulins.
- The effect of analog insulins is less dependent on the injection site.
- Follow the recommendations given by your healthcare professional.



Rotation principle for injection sites

Avoiding lipohypertrophy

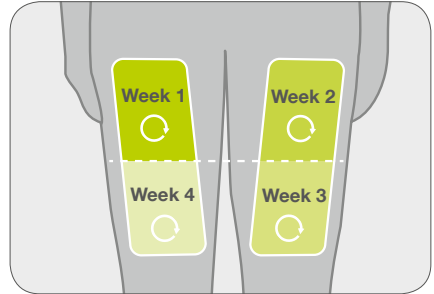
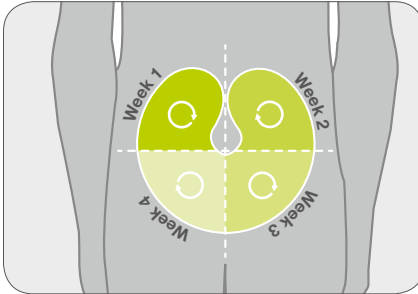


- Change the injection site after every injection (rotation principle).
- For adults, the injection sites should be at least 1 cm away from each other to avoid frequent injections into so-called “favourite sites” and thus leading to tissue hardening (lipohypertrophy).

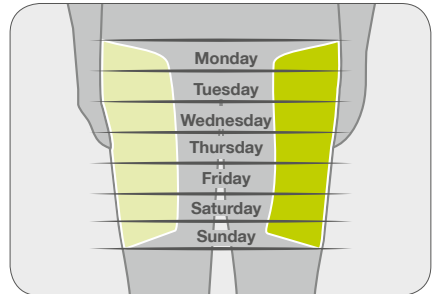
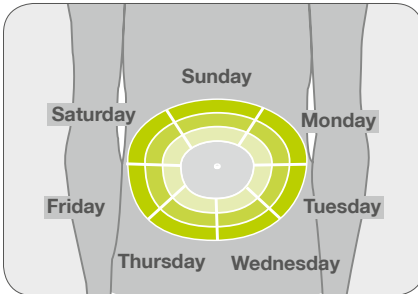
² Upper arms as injection sites: injections into the upper arms should only be performed after training with your healthcare professional. The reason is a higher risk of injecting into the muscle as the subcutaneous fatty tissue is very thin and injection sites are not easily accessible.

Examples for the rotation principle:

Example 1



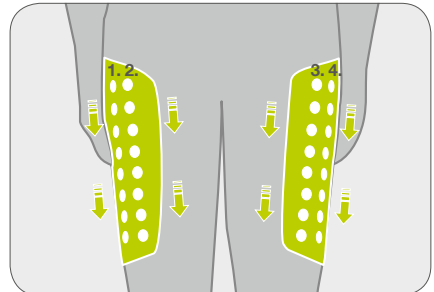
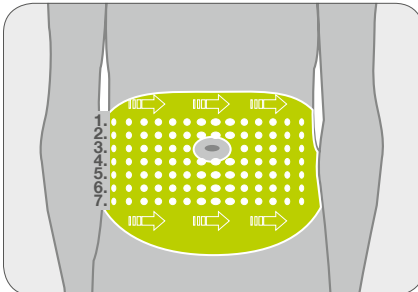
Example 2



■ morning ■ midday ■ evening

■ morning ■ evening

Example 3





The correct injection technique

For different pen needle lengths



For 4 mm and 5 mm pen needle length

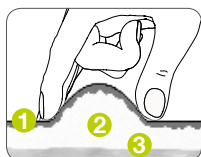
Hold the pen needle at a 90 degree angle from your skin so it is straight, without creating a skin fold (for children, young adult, very slim adults and when injecting into the thigh, forming a skin fold may prove necessary).



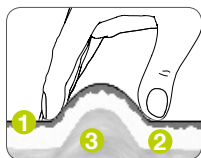
For 6 mm and 8 mm pen needle length

Injection at an angle of 90 degrees with a skin fold or 45 degrees without a skin fold.

Correct forming of a skin fold



- Form the skin fold using thumb and index finger (possibly also using middle finger).
- Keep skin fold loose and relaxed. Do not press together hard, resulting in pain or turning the skin white.



- If all fingers are used, there is a risk of also including the muscle. This can lead to an unwanted intramuscular injection.

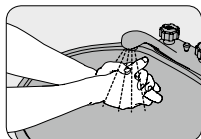
- ① Skin
- ② Subcutaneous fatty tissue
- ③ Muscle



Injection procedure

Step by step

Before injection

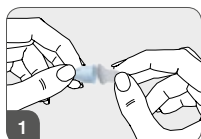


Wash hands with soap and water.

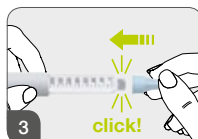


Note: mix cloudy insulin (NPH or premixed insulin). Roll and tip the pen 10 times before each injection, according to the instructions of your healthcare professional and the instructions of the insulin manufacturer.

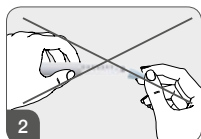
During injection



Remove the protective foil.



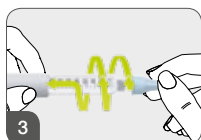
mylife™ Clickfine® – Click on pen needle and press it straight down – firm seating is ensured through an audible click.



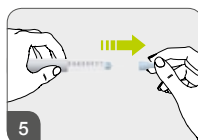
Important: do not screw on or click on the pen needle at an angle.



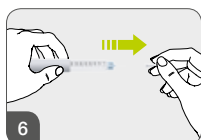
Tip **mylife™ Clickfine®**: place the pen needle vertically on a table and click the pen onto it from above.



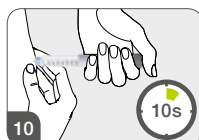
mylife™ Penfine® Classic – screw pen needle onto pen with outer pen needle protective cap until it stops.



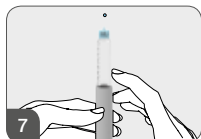
Remove the outer protective cap of the pen needle and save the cap.



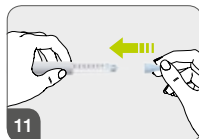
Remove the inner protective cap.



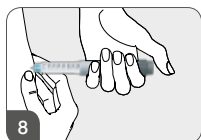
Allow the pen needle to remain in the fatty tissue (slowly count to 10).



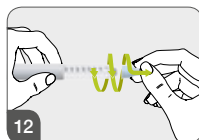
Check whether the injection pen is ready for injecting before every injection according to the instructions for use of the injection pen (priming).



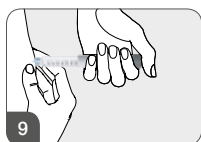
Carefully secure pen needle with the outer protective cap (only for self-injection).



Set the correct dose. Place pen needle on suitable injection site.



Screw off pen needle.



Slowly inject the insulin according to the instructions of your healthcare professional: to do this, press dosage button.



Safely dispose of the used pen needle.

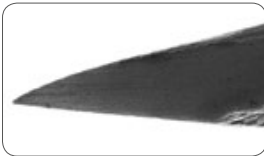


Single use of pen needles

Risks of multiple use

Multiple use of the pen needle can lead to the following risks:

- The pen needle is somewhat blunted after single use, the lubricant film can show signs of wear and the tip of the pen needle can be deformed:
 - Injections become more painful.
 - This can lead to small injuries or bruising.
- The pen needle is no longer sterile after initial use:
 - Re-use is not hygienic.
 - Increased risk of infections.
- Insulin can crystallise in the pen needle:
 - The pen needle may become clogged and a safe insulin injection is therefore no longer guaranteed.
 - This can lead to dosage errors and unexpectedly high blood glucose levels.
- Presence or increase in size of air bubbles in the cartridge:
 - Insulin may drip out of pen needle (during storage).
 - Insulin dose becomes inaccurate.



New pen needle



Needle after multiple use



Needle after multiple use with
tissue residue attached



Tissue hardening (lipohypertrophy)

Consequences of multiple use of pen needles

What is lipohypertrophy?

- This means changes, hardening of the subcutaneous fatty tissue.

What causes lipohypertrophy?

- The re-use of damaged pen needles can lead to skin and tissue injuries.
- This, together with frequent injections in so-called “favourite sites”, can lead to lipohypertrophy.

What are the consequences of lipohypertrophy?

- This can lead to unexplainable blood glucose fluctuations.
- Injections into hardened tissue affect insulin absorption making the insulin dose effectiveness difficult to calculate.

How can lipohypertrophy be avoided?

- Use a new pen needle for every injection.
- Change the injection site after every injection (rotation principle).
- Check injection sites regularly and consult your health-care professional in case of conspicuous occurrences.



Examples of lipohypertrophy



Recommendation:

Lipohypertrophy can often be felt better than seen!



Avoid injecting through clothing

Not recommended

Injecting insulin through clothing is not recommended for the following reasons:

- There is a risk of injecting insulin into the wrong tissue as the usual length of the pen needle may prove inadequate depending on the thickness of the clothing.
- When injecting through clothing, both the sensitive pen needle tip as well as the surface coating of the pen needle may get damaged.
- There is also a risk that the cannula might become clogged with cloth fibres.



Tips and tricks

Avoiding difficulties during injection

Problem	Possible causes	Recommendation:
Painful injection	Multiple use of pen needles	Change the pen needle after each injection.
Insulin flows back from injection channel	Pen needle removed too fast (incomplete insulin delivery)	Inject slowly and do not remove the pen needle immediately (count slowly to 10).
	Injection too fast, insulin was unable to distribute	
Lacking or too pronounced efficacy of insulin	Unsuitable injection site: tissue hardening (lipohypertrophy), scar tissue, hardening of skin	Avoid unsuitable sites.
	Pen needle removed too fast after injection	Inject slowly and do not remove the pen needle immediately (count slowly to 10).
	Poor mixing of insulin in cartridge (only in case of cloudy insulins)	Roll and tip the pen 10 times before each injection, according to the instructions of your healthcare professional and the instructions of the insulin manufacturer.
	Pen needle is clogged	Use a new pen needle and use every pen needle only once.
The dosage button of the pen cannot be pressed	Rubber membrane of the cartridge was not pierced	Use a new pen needle. Change the pen needle after each injection.
	Pen needle too loose	Ensure that the pen needle is securely fixed.
	Pen needle is clogged	Use a new pen needle and use every pen needle only once.



Diabetescare

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Pen needles

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