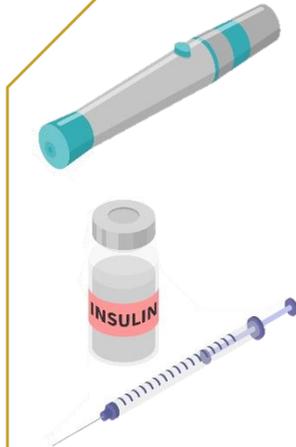




جامعة الإمام عبد الرحمن بن فيصل  
IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY

مستشفى الملك فهد الجامعي  
King Fahad Hospital The University

# Insulin Injection



## What are the methods of insulin injection?

**Insulin injections:** The most common injections, which are insulin needles, and there are different types.



**Insulin pens:** It is a device used to inject insulin, it consists of an insulin cartridge and a numbered handle to measure the dose, and it's used with non-reusable needles.

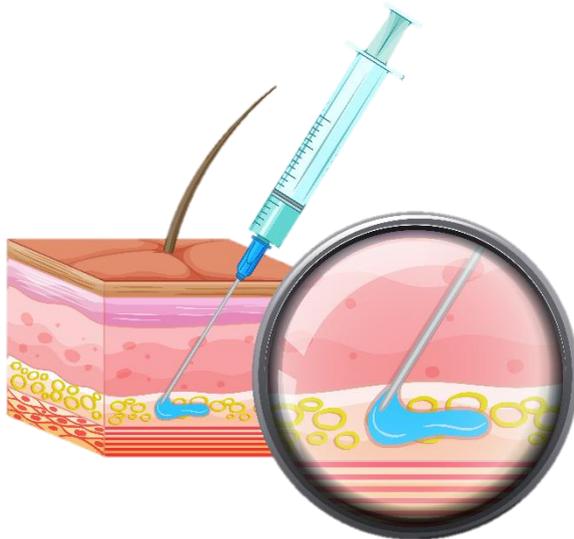


**Insulin pump:** It is an electronic device that works to pump insulin through a needle that is placed under the skin and works in the body permanently. It is placed in the abdomen or thighs, the place is changed periodically. An extensive number of checkups are made to avoid repeated low blood sugar levels.



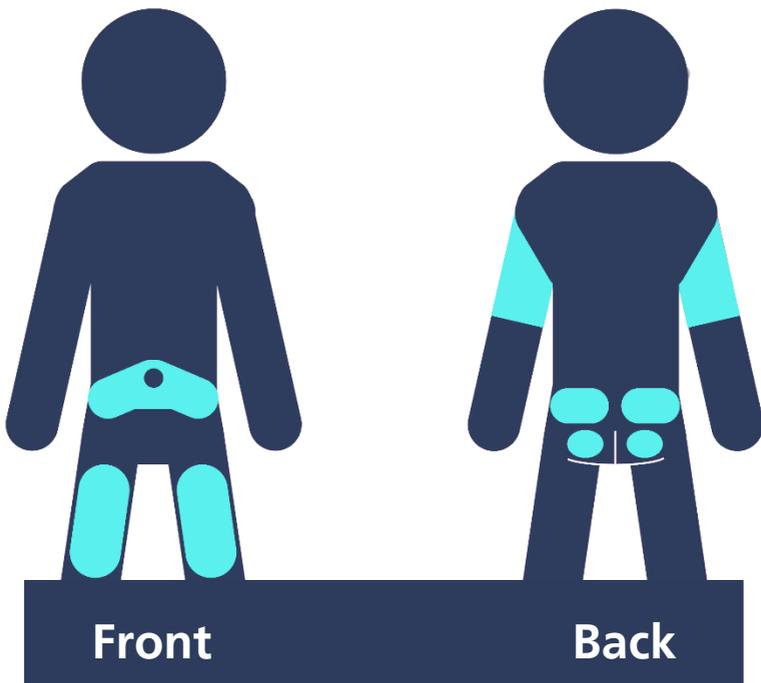
## Where is the insulin Injected?

The injection is always **under the skin** in the fatty layer, and you have the choice to choose the place each time. It's preferable to change the places of insulin injection daily to prevent any complications. It's best to **leave spaces** between each injection site and another if it's approximately in the same position **5-7 cm** apart.



## What are insulin injection sites?

- 1- In the upper part of the arm, move away 4 fingers from the shoulder joint and 4 fingers from the elbow joint.
- 2- In the abdomen, it's preferable to keep two fingers away from all directions around the navel (belly button).
- 3- The front of the thigh.



# How to prepare a single dose of insulin?

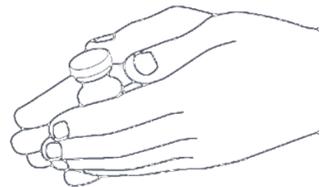
- 1- Wash your hand well with soap and water because it protects you from the risk of infection.



- 2- Review the information on the insulin bottle to ensure its type and expiration.



- 3- Roll the bottle between your hands to mix the contents if it's a mixed insulin.



- 4- Wipe the rubber cap with sterilizer.



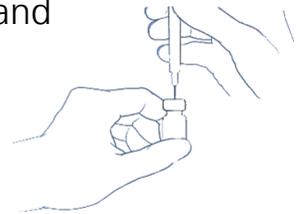
## How to prepare a single dose of insulin?

5- Prepare the syringe and remove the cap.

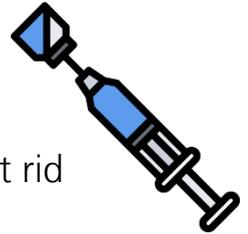


6- Fill the syringe with air with the required dose.

7- Place the bottle in the upright position and insert the needle, push the plunger to deflect the air into the bottle.



8- Turn the bottle over and draw out the required amount of insulin.



9- If you notice air bubbles in the syringe, get rid of them by lightly tapping the syringe.

10- Check the correct insulin dose again. Keep the syringe in a safe place until you use it if you will not use it immediately.



## How to prepare a mixed dose of insulin?

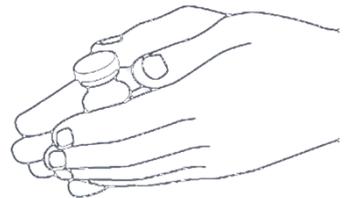
1- Wash your hands well with soap and water, because it protects you from the risk of infection.



2- Review the information written on the two insulin bottle to ensure their validity and type.



3- Shake the bottle of mixed insulin between your hands (by rolling) to blend their content.



## How to prepare a mixed dose of insulin?

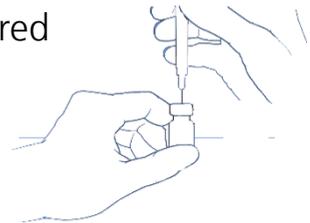
- 4- Wipe the rubber cap with alcohol-based sanitizer for each bottle, prepare the syringe, and remove the cap.



- 5- Fill the syringe with air and the required amount of mixed insulin.

- 6- Place the bottle in the upright position and insert the needle.

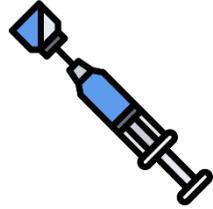
- 7- Fill the syringe with air with the required amount of regular insulin. Put the regular bottle in the upright position



- and insert the needle, push the plunger to get air into the bottle.

## How to prepare a mixed dose of insulin?

8- Turn over the bottle of regular insulin and draw the required amount from it, make sure that there is no air in the syringe.



9- Turn over the mixed bottle and draw out the required amount of insulin from it.

10- If you notice air bubbles in the syringe, get rid of them by lightly tapping the syringe.

11 - Check the correct insulin dose again.



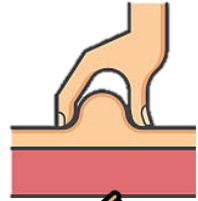
12 - Keep the syringe in a safe place until you use it.

## What is the method of needles injection?

1- Clean the injection site well and let it dry.



2- Hold the needle like a pen, use your second hand to create a small bump.



3- Insert the needle quickly and straight into the skin, make sure that the needle is completely inserted.



4- Inject insulin, the needle may tilt slightly, depending on the density of fatty layer.



The person who is overweight is more likely to have a straight needle than thin people.

5- Pull the needle out of the skin and press the skin with an alcohol swab, and do not massage the injection site.

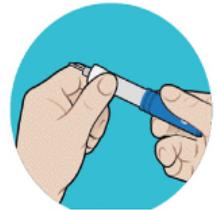


## How to inject insulin using insulin pens?

1- Remove the pen cap and wipe the tip of the pen with an alcohol swab.



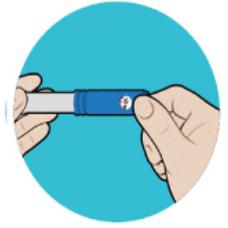
2- Remove the paper cap from the needle, place it on the pen, and tighten it by turning it clockwise until it stops turning.



3- If the pen is new (first time to use), prepare the pen by taking out two units of insulin, Place the **number 2** on the screen with the needle facing the ceiling, press the handle until you see drops of insulin come out of the needle. If you don't see the drops, repeat the step again.



4- Place your prescribed dose of insulin on the screen by turning the handle up until you see your dose number on the screen.



5- Hold the pen vertically (90 degrees) and the needle toward the injection site. Insert all the needle into the skin and press the handle.



6- Hold the pen for 10 seconds before removing it to make sure that the insulin dose is complete.



7- Re-cover the needle with the plastic cap and remove it by turning it counter clockwise and get rid of it.

## How do I get rid of syringes and needles?

Get rid of syringes by placing it in a sharp's container or an empty metal can made especially for that, or in empty water bottle and it should be closed with adhesive tape, to prevent infection.





## Remember:

- When swelling occurs at an injection site, avoid injecting in it until it heals, the recovery period could be up to three weeks.
- Ask a doctor or health educator about the appropriate size of needles.
- Make sure to withdraw the specified amount of insulin every time you use it.
- Make sure to change the injection area each time within a specific area (arms, abdomen, and buttocks), inject each dose 5-7 cm away from the previous time.
- If you do some exercise, inject insulin in places that you will not use in your activity.

### Sources and References:

American Diabetes Association, ADA

### Review and audit:

The content of this booklet has been reviewed by  
consultants of the Diabetes Unit at King Fahad University  
Hospital

## Health Awareness Unit

IAU-20-2



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