



جامعة الإمام عبد الرحمن بن فيصل
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Insulin



How insulin works?

The insulin hormone works by shifting the sugar into the body's cells. Therefore, it is used as a source of energy where it serves as body's fuel. In diabetic patients, Insulin is used to control high blood sugar levels.

What are the Uses?

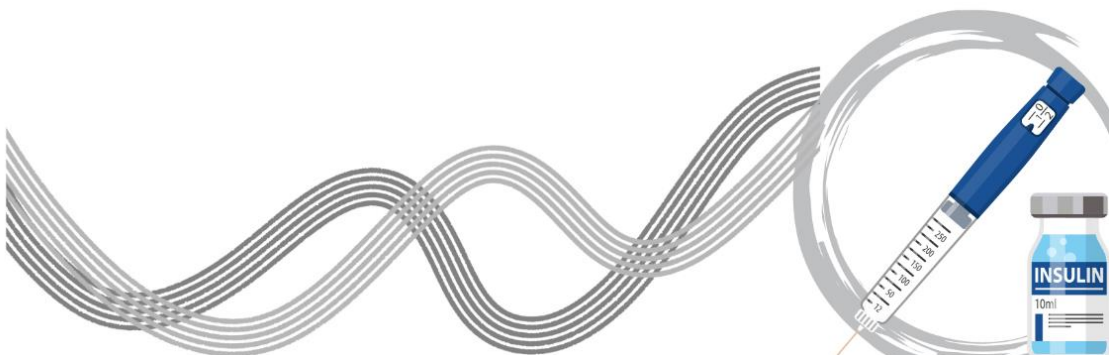
- Type 1 Diabetes
- Type 2 Diabetes
- Gestational Diabetes



What are the Insulin Types?

1- Rapid-acting insulin:

- Rapid-acting insulin has clear appearance.
- It works in **5-15 minutes**, and lasts for **3-4 hours**.
- It is taken usually immediately before the meals and snacks.
- Belongs to this group the following Insulins:
Novorapid (insulin aspart), Humalog (insulin lispro),
Apidra (insulin glulisine).



2- Regular or Short-acting insulin:

- Short-acting insulin has clear appearance.
- Starts working within **30 minutes** and lasts for **4-6 hours**.
- Belongs to this group the following Insulins: Actrapid (regular insulin), Humulin R

3-Intermediate-acting insulin:

- Intermediate-acting insulin has cloudy appearance.
- Starts working within **60-90 minutes** and lasts for **16-24 hours**.
- Belongs to this group the following Insulins: Humulin N.



4-acting insulin:

- Long-acting insulin has clear appearance
- Starts working within **60-90 minutes** and lasts for **24-48 hours**.
- Belongs to this group the following Insulins: Levemir (insulin detemir), Lantus, Toujeo (insulin glargine), Tresiba (insulin degludec)

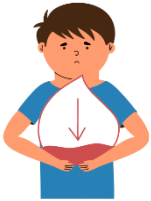


5-Pre-Mixed insulin:

- It has **2 different** types of insulin (rapid or short acting insulin with intermediate or long-acting insulin).
- Usually taken **twice daily** and the patient must adhere to a specific timing for injections and meals.
- Belongs to this group the following Insulins: Mixtard 70/30, Novomix 70/30, Humalog Mix 50/50, ryzodeg



What are the insulin side effects?



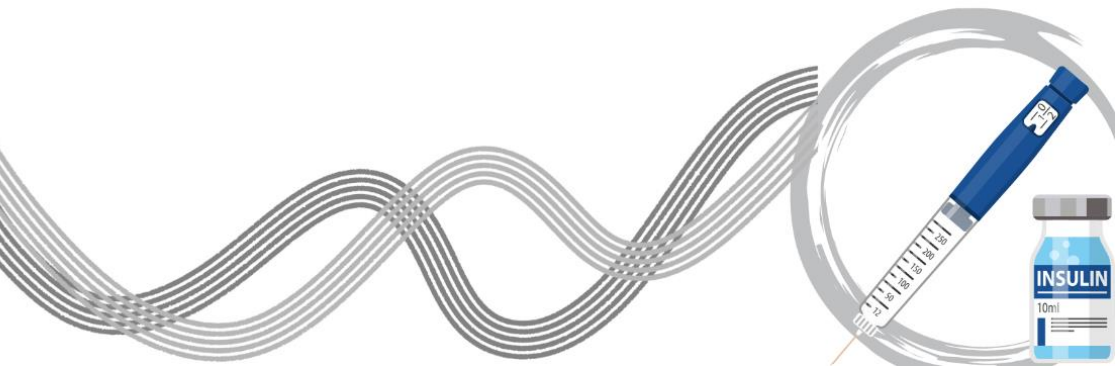
Low blood sugar



Wight gain



Redness, itching,
Or irritation at the

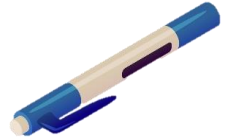


What are the insulin types of injection?

- **Insulin Injections:** Using the needle, insulin is drawn from a vial into a syringe. The insulin is injected under the skin.



- **Insulin pen:** Disposable insulin pens which have prefilled insulin that injected under the skin using a replaceable needle.

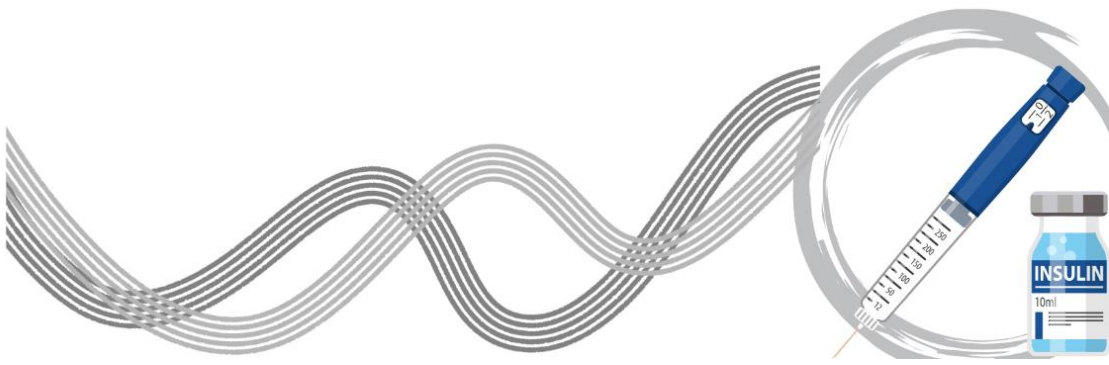


- **Insulin pump:** It is an electronic device placed under the skin and works in the body permanently .it is pump insulin through a needle and placed in the thighs or abdomen, the place is changed periodically.



How do you store Insulin?

- Store unopened Insulin in the refrigerator and avoid freezing it
- Protect from heat and sunlight
- Check Insulin expiry before use
- Dispose any vials or pens **28 days** after opening



Sources and references:

All pictures used from canva.com

:Review and audit

The content of this booklet has been reviewed by
pharmacy consultants at King Fahd University Hospital

Pharmacy department

Health Awareness Unit
IAU-22-358



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