

# Insulin Therapy

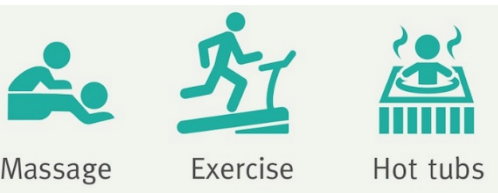
All people with Type 1 diabetes and some people with Type 2 diabetes need to replace the insulin that they are unable to produce to maintain glucose levels.

Insulin is given by subcutaneous injection using a vial & syringe, pen device, or insulin pump.



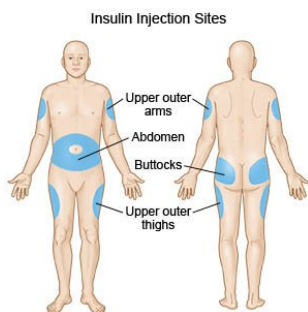
Insulin is injected into the fat tissue and is absorbed into circulation over several hours. The rate of absorption may be affected by several factors such as:

- The type and amount of insulin
- The injection site
- The depth of the injection
- Temperature of the skin
- Physical activity



There are 4 main areas of the body where insulin is injected:

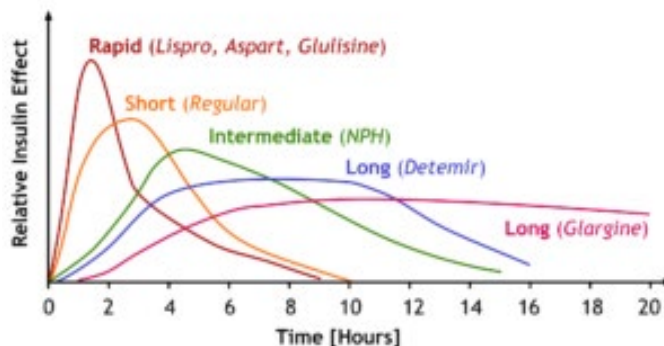
- Abdomen
- Arms
- Thighs
- Buttocks



It is important to change the site of injection. This will help make sure the insulin works the same way each time and it helps prevent “lumpy areas”.

There are 4 different classes of insulin available today, named for their mechanism of action. These include: long acting, intermediate acting, short acting and rapid acting insulin.

Intermediate and long acting insulins act to provide background or basal needs and should maintain the blood sugar at a stable level during periods of no food intake.



Short and rapid acting insulins cover the carbohydrates consumed at meals or snacks and lower blood glucose levels when it is higher than your target level.

The insulin vial or pen that is actively in use does not require refrigeration, as long as the insulin does not reach a temperature higher than 85 degrees Fahrenheit.

New/unopened vials or pens of insulin should be stored at a consistent temperature in the refrigerator.

# Different Types of Insulin and Their Action

**Different Types of Insulin and Their Action**

Type of Insulin	Action	Onset	Peak	Duration
Glargine	Long acting insulin	2 – 3 hours	No peak	24 – 26 hours
Detemir	Long acting insulin	1 – 2 hours	No peak	Up to 24 hours
Degludec	Long acting	1 – 2 hours	8 – 12 hours	Up to 42 hours
NPH	Intermediate acting	2-4 hours	6 – 8 hours	10-18 hours
Lispro	Rapid acting	10–15 mins	30 - 90 mins	3 - 4 hours
Aspart	Rapid acting	10 –15 mins	30 - 90 mins	3 – 5 hours
Glulisine	Rapid acting	1-15 mins	30 - 90 mins	3 - 4 hours