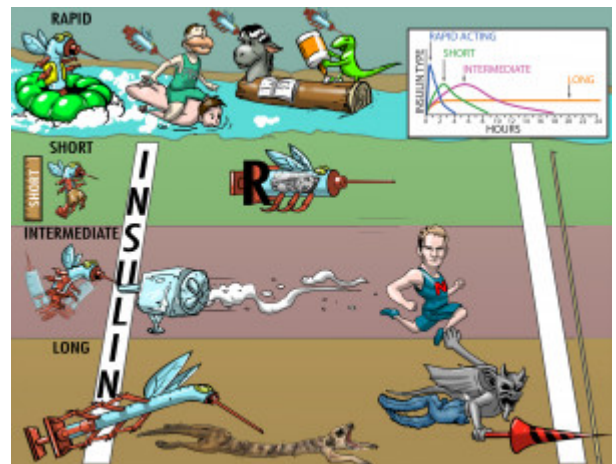


Insulin

Insulins for medical use are synthetically created analogs of the human hormone. Some are chemically altered in structure to change the rate of absorption and duration of action within the human body. When classified according to time course, insulin preparations fall into three major groups: short duration, intermediate duration, and long duration.



PLAY PICMONIC

Rapid Acting

[River-rapid Insect-syringe](#)

Rapid acting insulin covers insulin needs for meals eaten at the same time of injection. This type is often combined with longer-acting insulin. Onset of action is 10-30 minutes, peak action of 1-3 hours, and duration lasting 3-6 hours. Rapid onset, quick peak, and short duration.

Insulin Lispro (Humalog)

[Insect-syringe Lips-pro on Human-log](#)

Insulin lispro (Humalog) is a rapid-acting (15-30 minutes) analog of regular insulin with a short duration (3-6 hours). Because of its rapid onset, it can be administered immediately before eating, or even after eating.

Insulin Aspart (Novolog)

[Insect-syringe Ass-parted-hair on Novel-log](#)

Insulin aspart (Novolog) is an analog of human insulin with a rapid onset (10-20 minutes) and short duration (3-5 hours). Due to its rapid onset of action, injections should be made 5-10 minutes before meals.

Insulin Glulisine (Apidra)

[Insect-syringe Glue-lizard](#)

Insulin glulisine (Apidra) is a synthetic analog of natural human insulin with a rapid onset (10-15 minutes) and short duration (3-5 hours). Like insulin lispro and aspart, this drug should be administered close to the time of eating.

Short Acting

[Short Insect-syringe](#)

Short acting insulin covers insulin needs for meals eaten within 30-60 minutes as the onset of action is 30-60 minutes, peak action within 2-4 hours, and duration lasting 6-10 hours.

Regular Insulin (Humulin R)

[Regular-vial Insect-syringe](#)

Regular insulin (Humulin R) is unmodified human insulin. For routine treatment of diabetes, it can be administered before meals to control postprandial hyperglycemia or infused subQ to provide basal glycemic control. It is supplied as a clear solution.

Intermediate Acting

[In-the-middle Insect-syringe](#)

Intermediate acting insulin covers insulin needs for about half the day or overnight. It is often combined with rapid or short acting insulin. Onset of action is 1-2 hours, peak within 4-12 hours, and duration lasting 16-24 hours.

Isophane NPH (Humulin N)

[Ice-fan on Neil-Patrick-Harris](#)

Isophane NPH (Humulin N) is considered intermediate acting because onset of action is delayed and duration is longer. Therefore, this insulin type cannot be administered at mealtime to control postprandial hyperglycemia, but instead is used to provide glycemic control between meals and during the night.

Long Acting

[Long Insect-syringe](#)

Long acting insulin covers insulin needs for about one full day. This type is often combined, when needed, with rapid or short acting insulin. Onset is typically within 1 hour, with no peak time as the insulin is delivered at a steady level.

Detemir (Levemir)

[Dead-meer cat](#)

Insulin detemir is a long-acting insulin analog used for basal control of insulin. It is distributed under the trade name Levemir, and has been shown to cause less weight gain or episodes of hypoglycemia than the intermediate-acting insulin NPH. Detemir is indicated only as a subcutaneous injection and should not be mixed with other insulins in the same injection. Do not administer detemir IV or IM. Detemir insulin is a clear solution and should not be given if viscous or cloudy.

Glargine (Lantus)

[Gargoyle-jeans with Lance](#)

Insulin glargine (Lantus) is usually given once per day to mimic the basal rate of insulin normally in the body as a long acting insulin. Insulin glargine is indicated only as a subcutaneous injection and should not be mixed with other insulins in the same injection. Do not administer insulin glargine IV or IM. Glargine insulin is a clear solution and should not be given if viscous or cloudy.