

How Does Insulin Work?

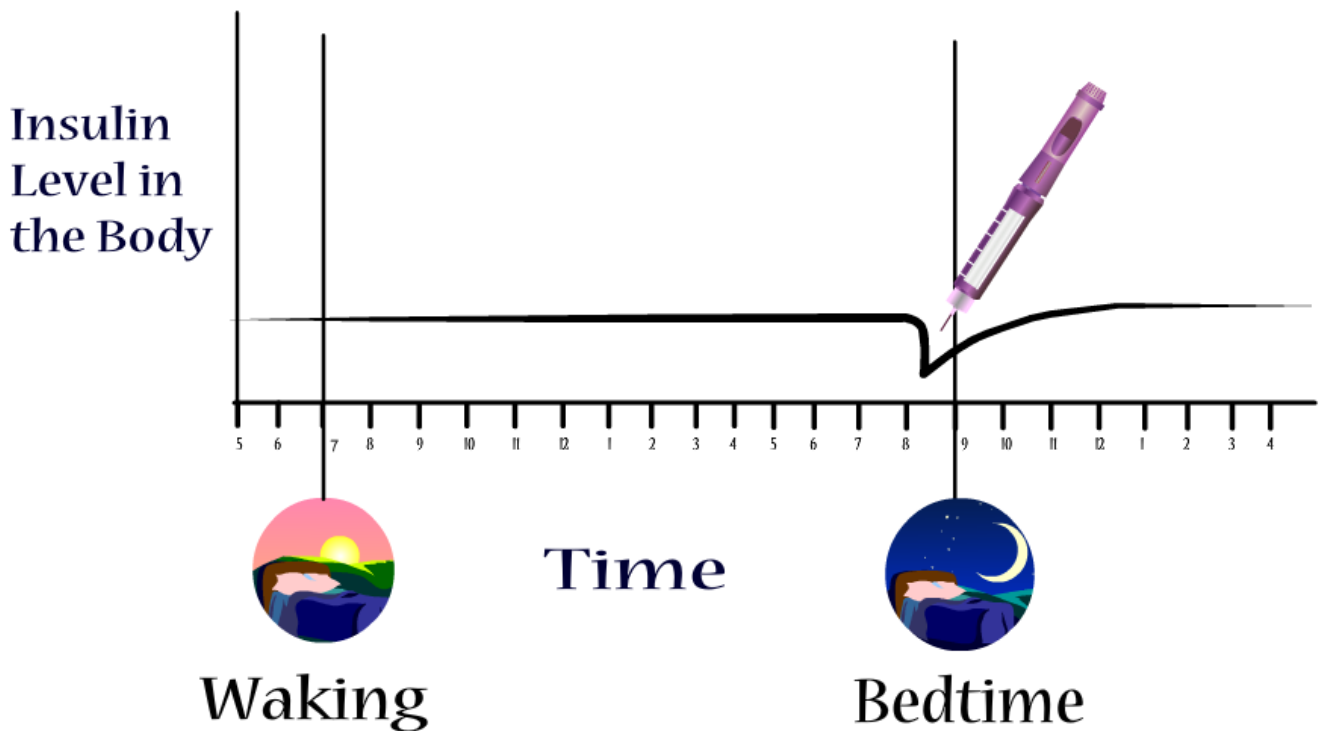
Our body needs insulin to handle glucose from two sources: 1) glucose that is secreted in the body from normal bodily functions and 2) glucose from food. To accomplish these two tasks, we use two types of insulin: basal insulin and bolus insulin.

Basal and Bolus Insulin

Basal Insulin



Long-acting Insulin: Basaglar, Lantus, Levemir, Toujeo, Tresiba

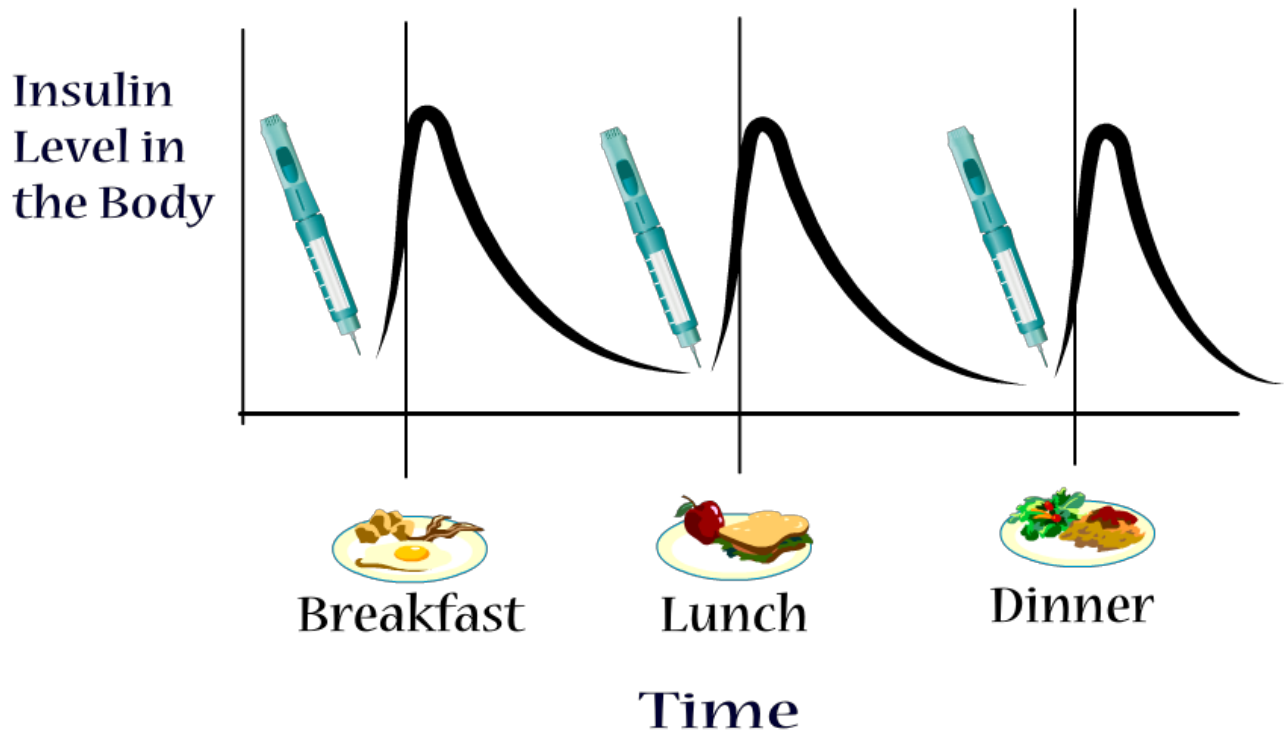


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Bolus Insulin



Rapid-acting Insulin Only: Apidra, Humalog, Novolog



Basal insulin is known as long-acting insulin. This is the insulin needed to handle normal bodily functions whether or not we are eating. It is usually taken once a day, (often at bedtime), lasts for 24 hours or more (in most cases), and has no peak. If you are not eating and your basal insulin amounts are set correctly, glucose levels will remain in range.

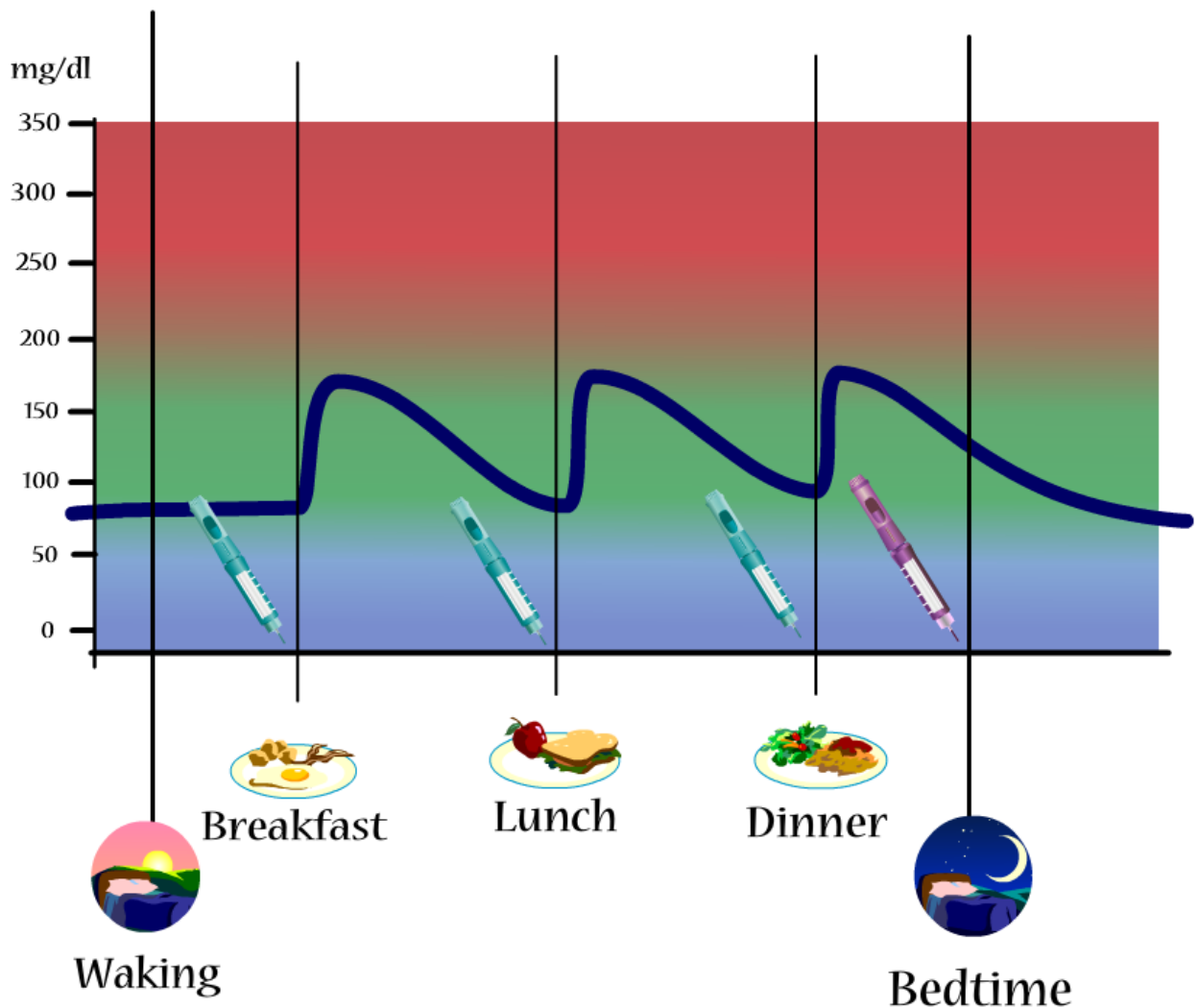
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Bolus insulin is also known as fast-acting insulin. It begins working quickly, peaks within 30 to 90 minutes, and can last for as long as 4 hours. It is taken to cover the glucose from meals and snacks (carb coverage) and to bring down high blood glucoses (correction).

Using Basal and Bolus Insulin in Managing Glucose Levels

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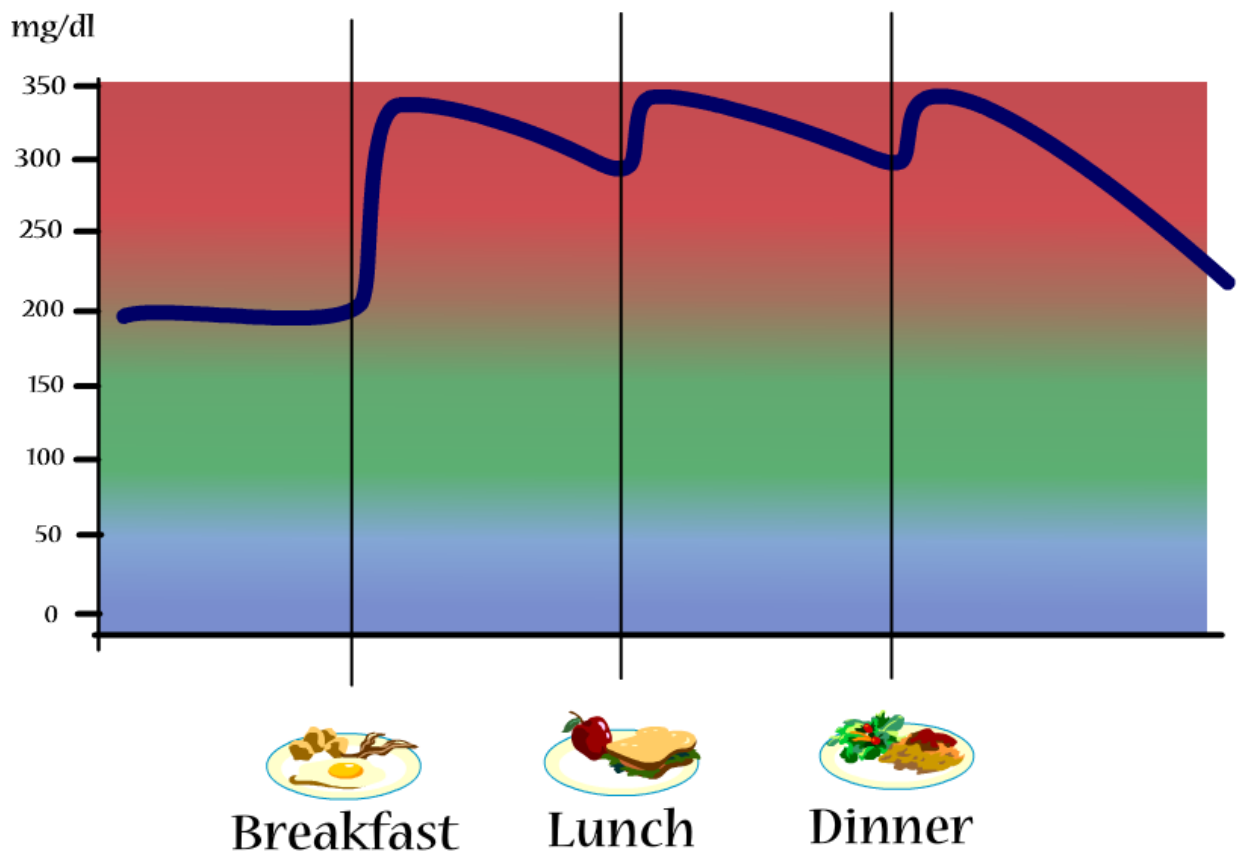
Glucose Levels with Basal and Bolus Insulin



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Glucose Levels with No Insulin



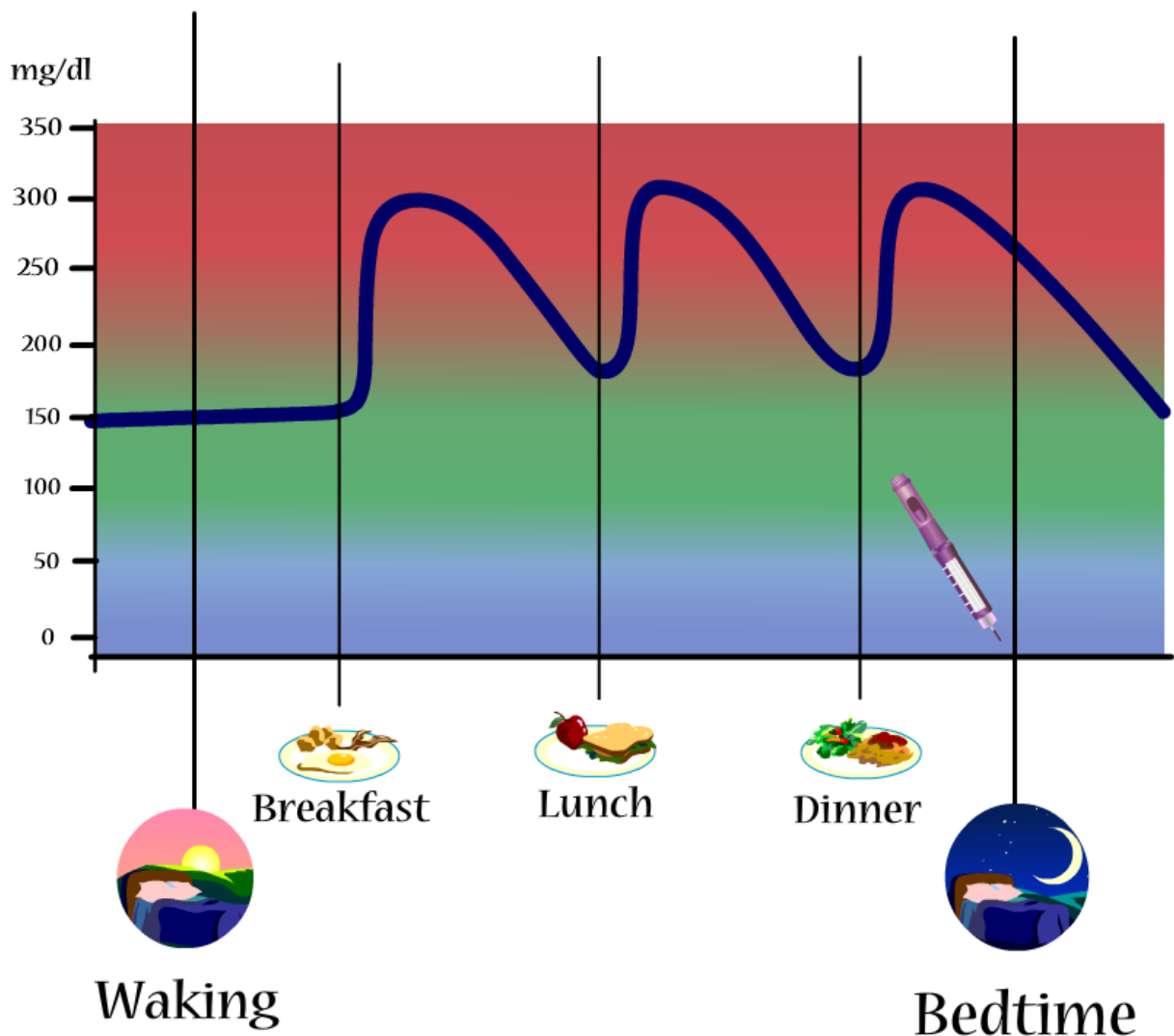
Together, basal and bolus insulin work to keep glucose levels in range. Since food is digested at a faster rate than injected insulin can get to work in the body, there will be an increase in blood sugar levels until the insulin “catches up” to handle the sudden rush of glucose created by food. This is why it is recommended that you inject insulin 15 minutes prior to eating so it has a head-start on the glucose created from food.

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Without basal and bolus insulin, glucose levels will rise to dangerously high levels.

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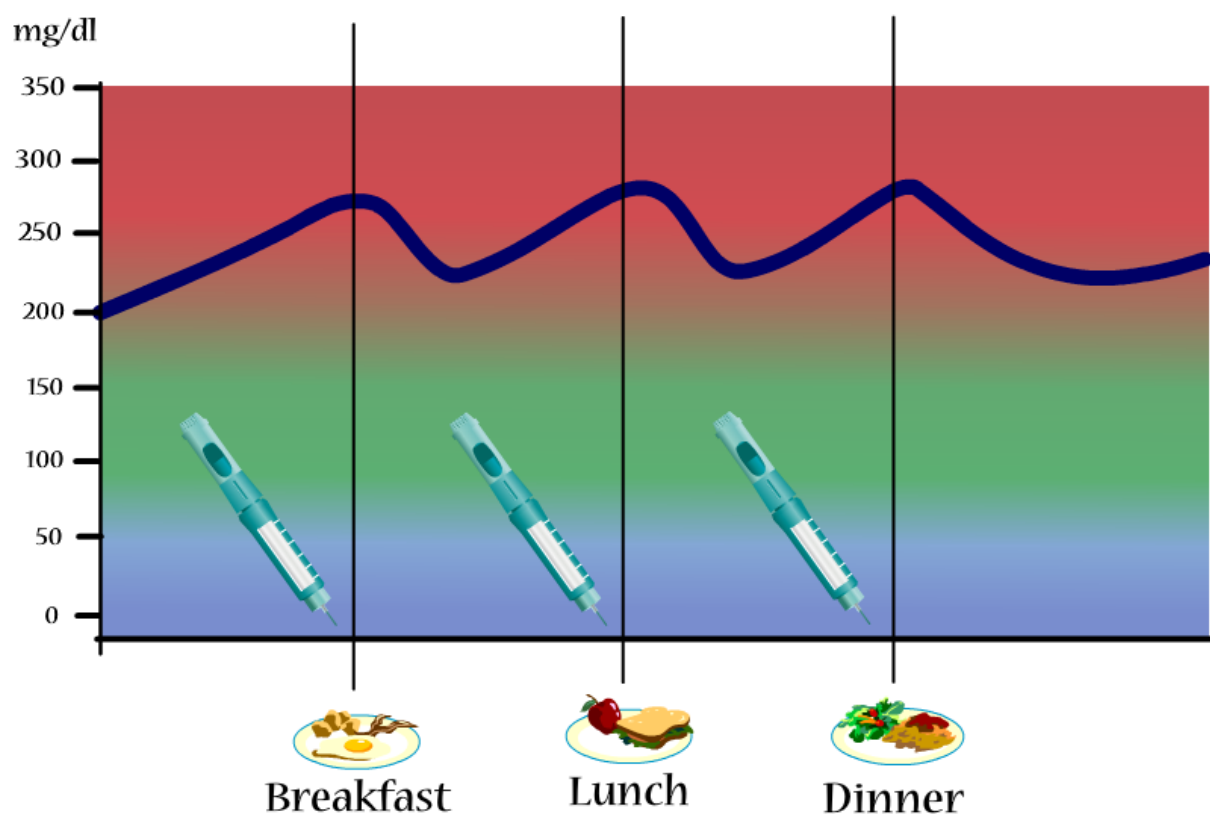
Glucose Levels with Basal Insulin Only



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Glucose with Bolus Insulin Only: Apidra, Humalog, Novolog



If you are eating, basal insulin alone is not enough to keep glucose levels in range.

Bolus insulin alone will also not keep glucose levels in range.

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Reviewed by [Anastasia Albanese O'Neill, PhD](#), 7/15/19

This document is not intended to take the place of the care and attention of your personal physician or other professional medical services. Our aim is to promote active participation in your care and treatment by providing information and education. Questions about individual health concerns or specific treatment options should be discussed with your physician.

Recommended

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[Care and Storage of Insulin](#)

[Drawing Insulin from a Vial](#)

[Using an Insulin Pen](#)

[Rotating Injection Sites](#)

Research Articles

[Continuous subcutaneous insulin infusion \(CSII\) versus multiple insulin injections for type 1 diabetes mellitus — PubMed Health](#)
