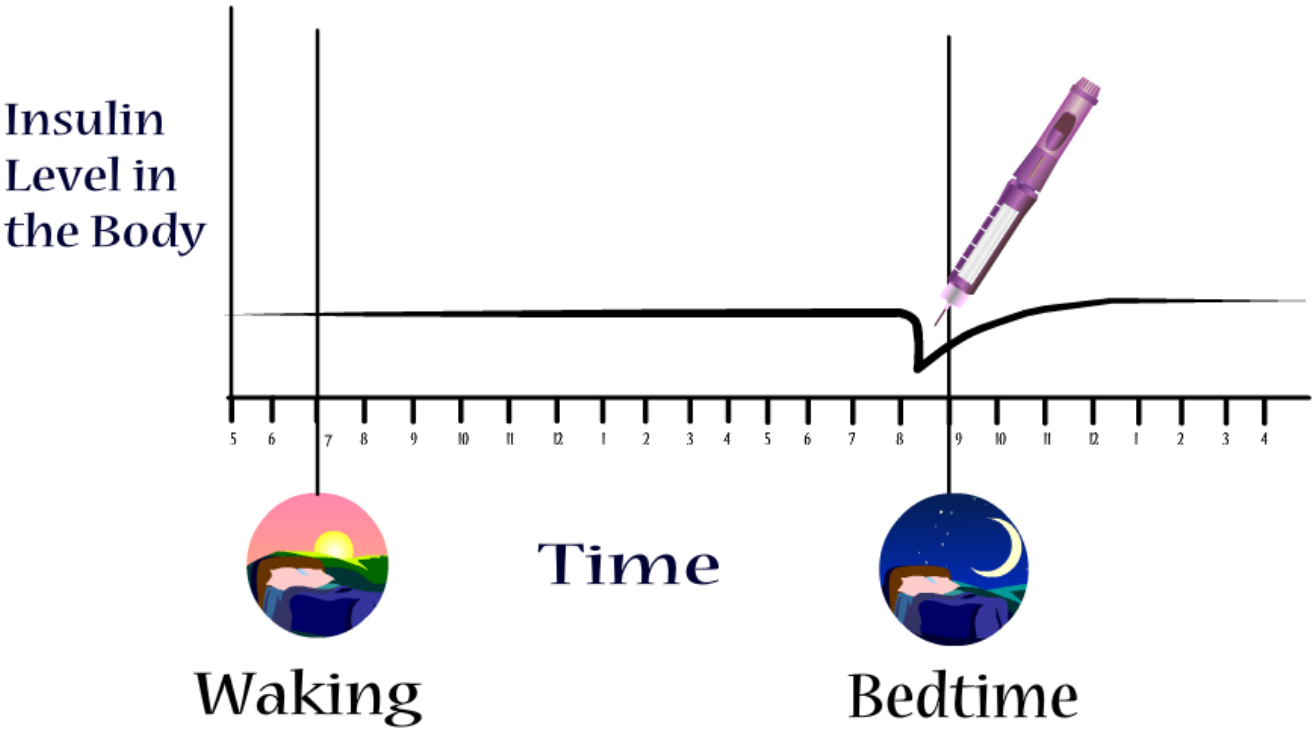
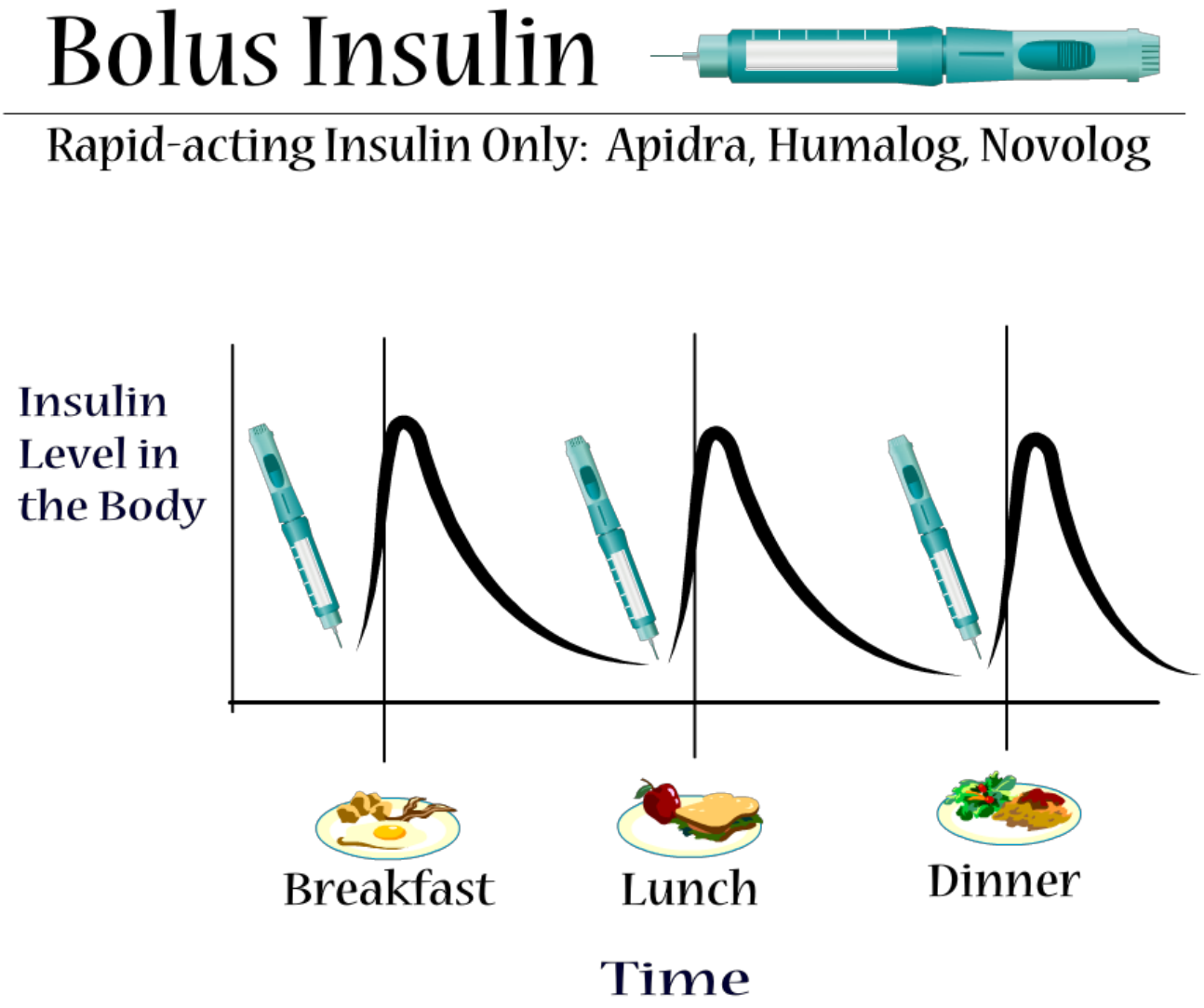
Our body needs insulin to handle glucose from two sources: 1) glucose that is secreted in the body from normal bodily functions and 2) glucose from food. To accomplish these two tasks, we use two types of insulin: basal insulin and bolus insulin.

Basal and Bolus Insulin

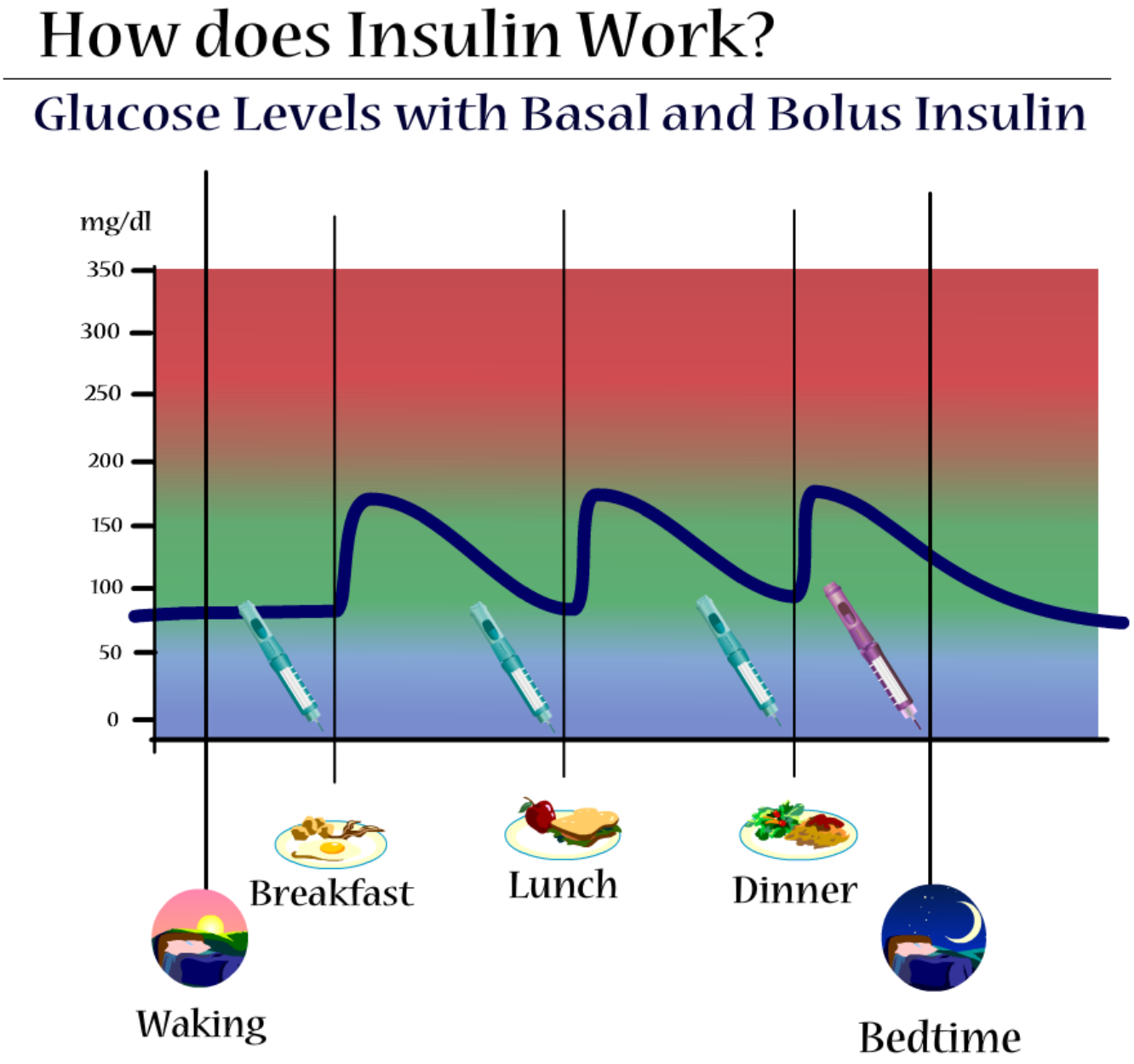


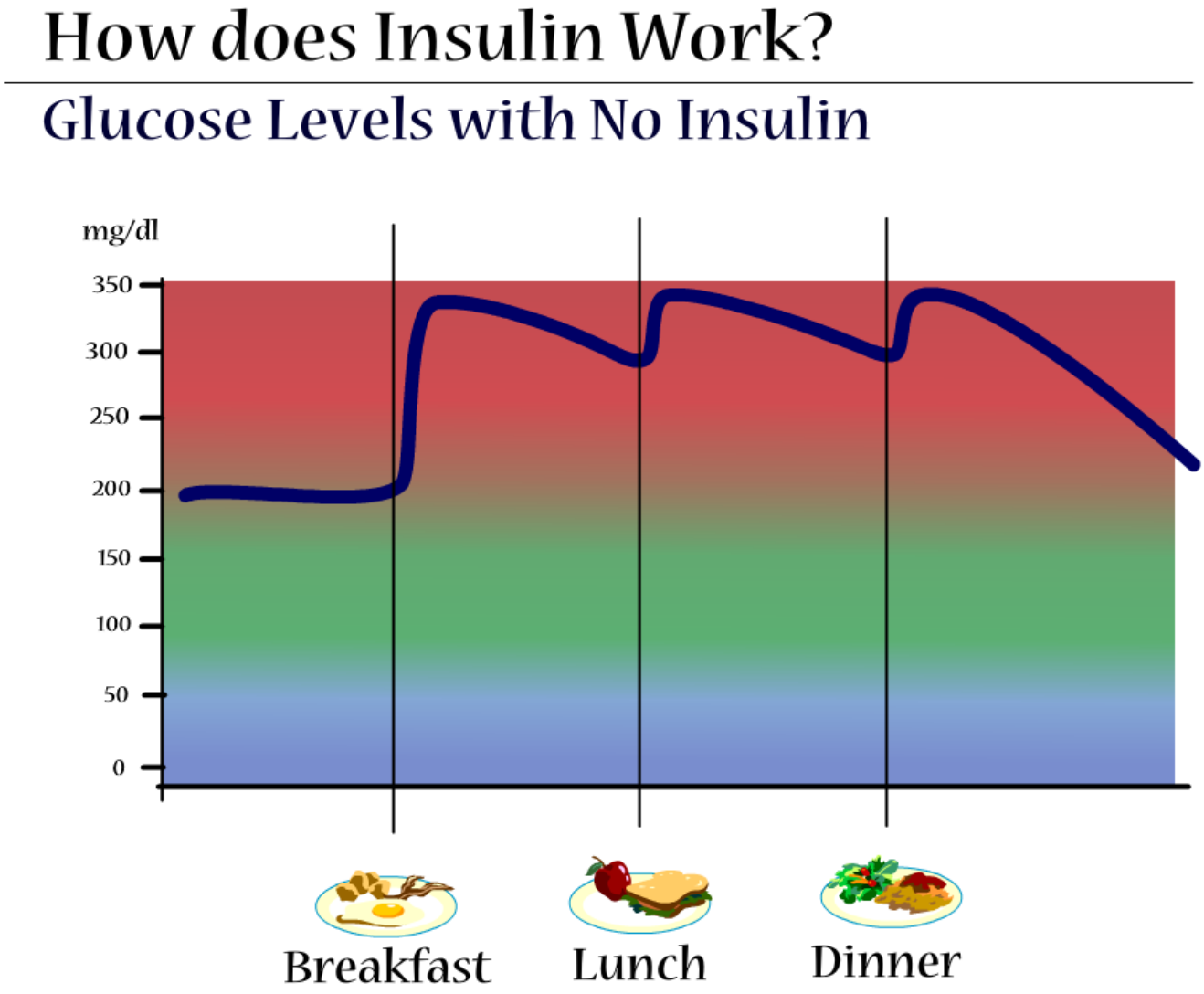


Basal insulin is known as long-acting insulin. This is the insulin needed to handle normal bodily functions whether or not we are eating. It is usually taken once a day, (often at bedtime), lasts for 24 hours or more (in most cases), and has no peak. If you are not eating and your basal insulin amounts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

Bolus insulin is also known as fact-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).

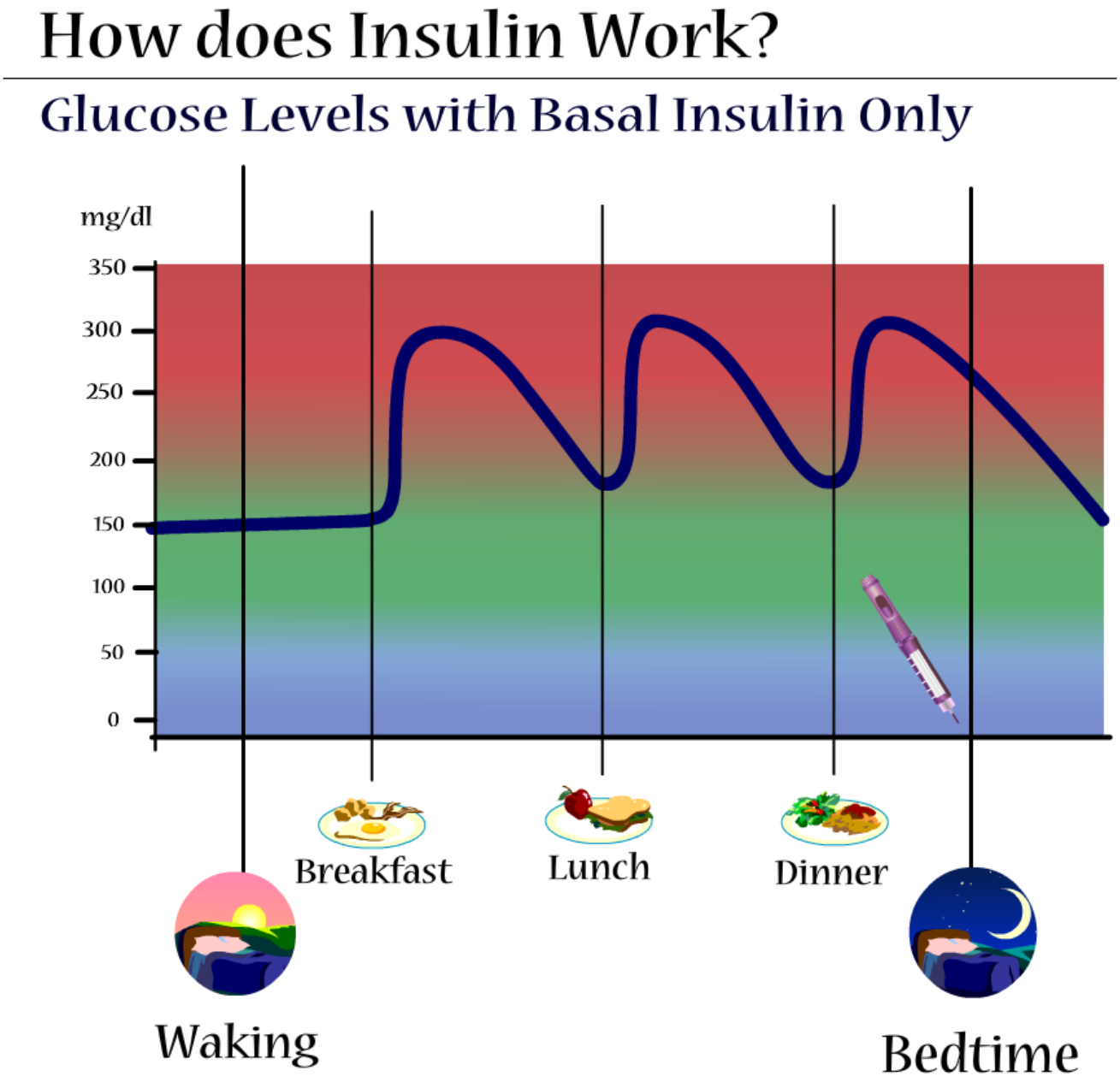
Using Basal and Bolus Insulin in Managing Glucose Levels

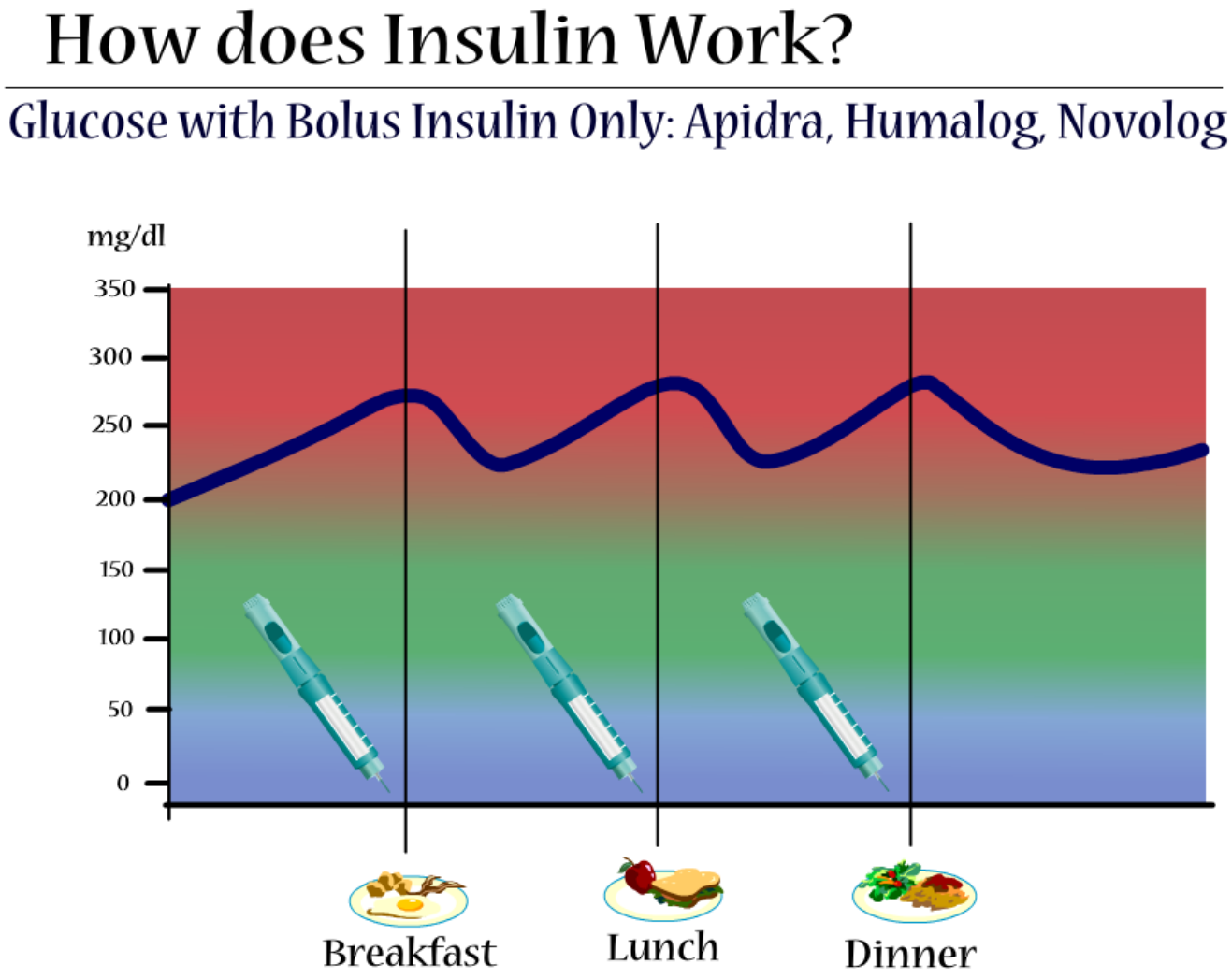




Together, basal and bolus insulin work to keep glucose levels in range. Since food is digested at a faster rate than injected insulin can get to work in the body, there will be an increase in blood sugar levels until the insulin "catches up" to handle the sudden rush of glucose created by food. This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

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





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.

Reviewed by Anastasia Albanese-O'Neill, PhD, APRN, CDCES on 11/26/25

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

Different Types of Insulin

Care and Storage of Insulin

Drawing Insulin from a Vial

Using an Insulin Pen

Rotating Injection Sites

Resources

Continuous subcutaneous insulin infusion (CSII) versus multiple insulin injections for type 1 diabetes mellitus – PubMed

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