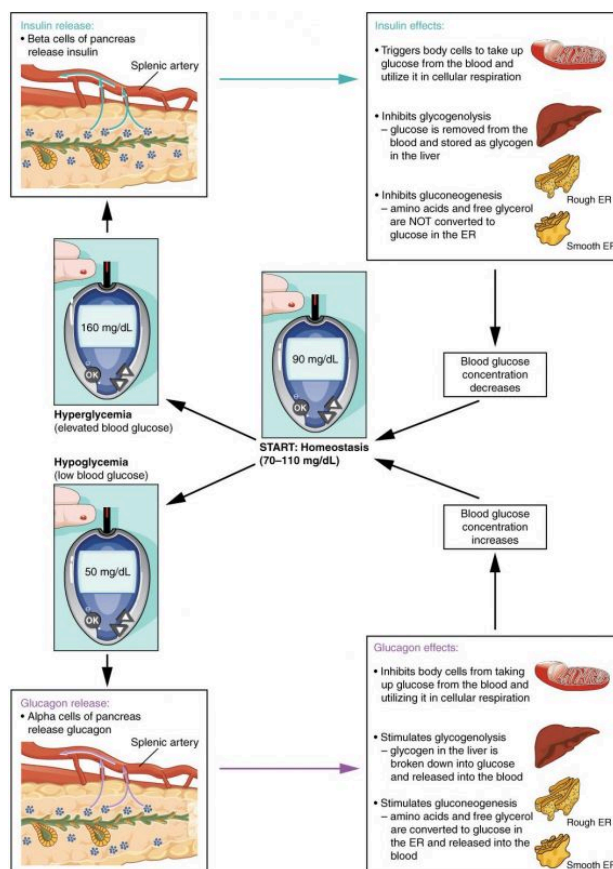


9.4.3

Glucagon

Glucagon, which is secreted by the alpha cells of the islets, generally opposes the actions of insulin in the liver. Glucagon stimulates the breakdown of glycogen to glucose and stimulates gluconeogenesis, both of which serve to increase the release of glucose into the blood and raise plasma glucose levels. The secretion of glucagon is stimulated by low blood sugar levels as well as increased levels of plasma amino acids. Recall that increased levels of amino acids also stimulate insulin secretion. This may seem as somewhat of a paradox. However, the simultaneous release of glucagon and insulin helps to prevent hypoglycemia (low blood glucose levels), especially with low carbohydrate diets. Thus, the ratio of glucagon to insulin plays a very important role in glucose metabolism.



Regulation of Blood Glucose Levels.

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