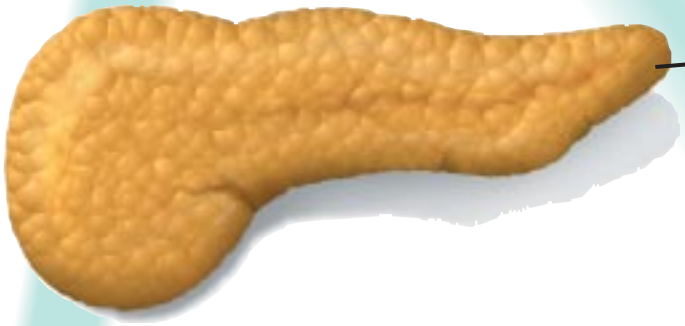
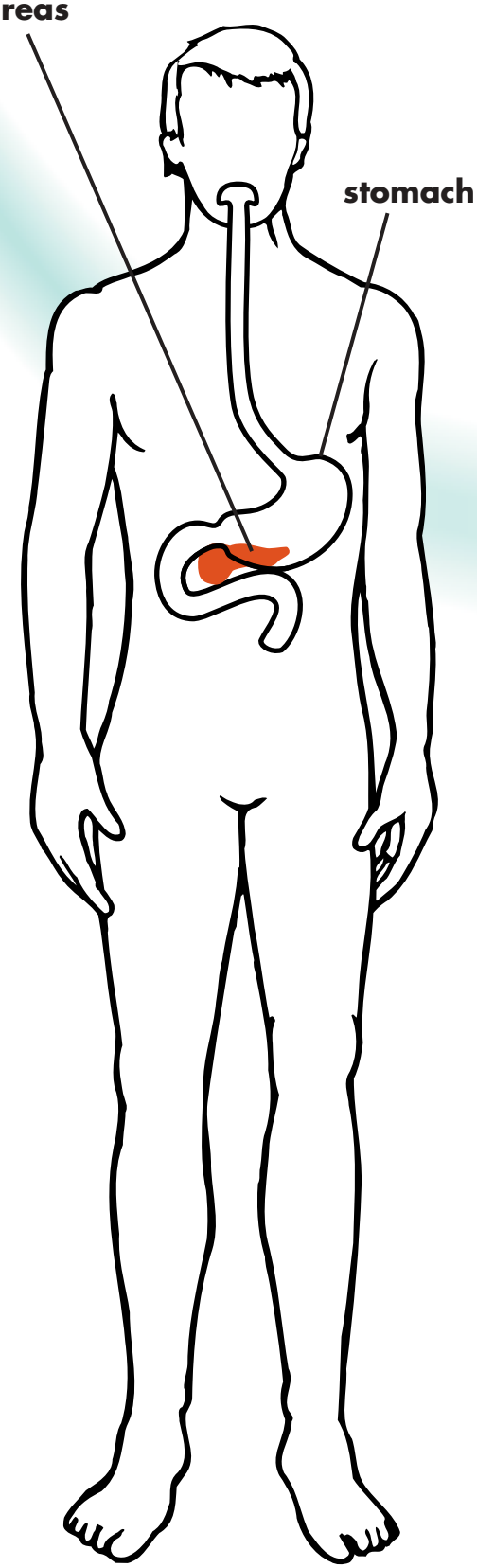
The pancreas, insulin and glucose – what they do

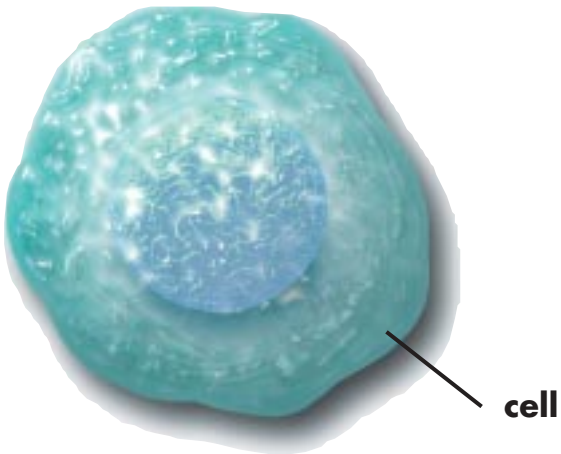




The pancreas is an organ situated behind and below the stomach. One of its functions is to produce insulin, a substance that regulates the amount of sugar (glucose) in the blood. The pancreas also produces enzymes that break down food in the stomach into smaller substances that pass into the bloodstream and are transported around the body.

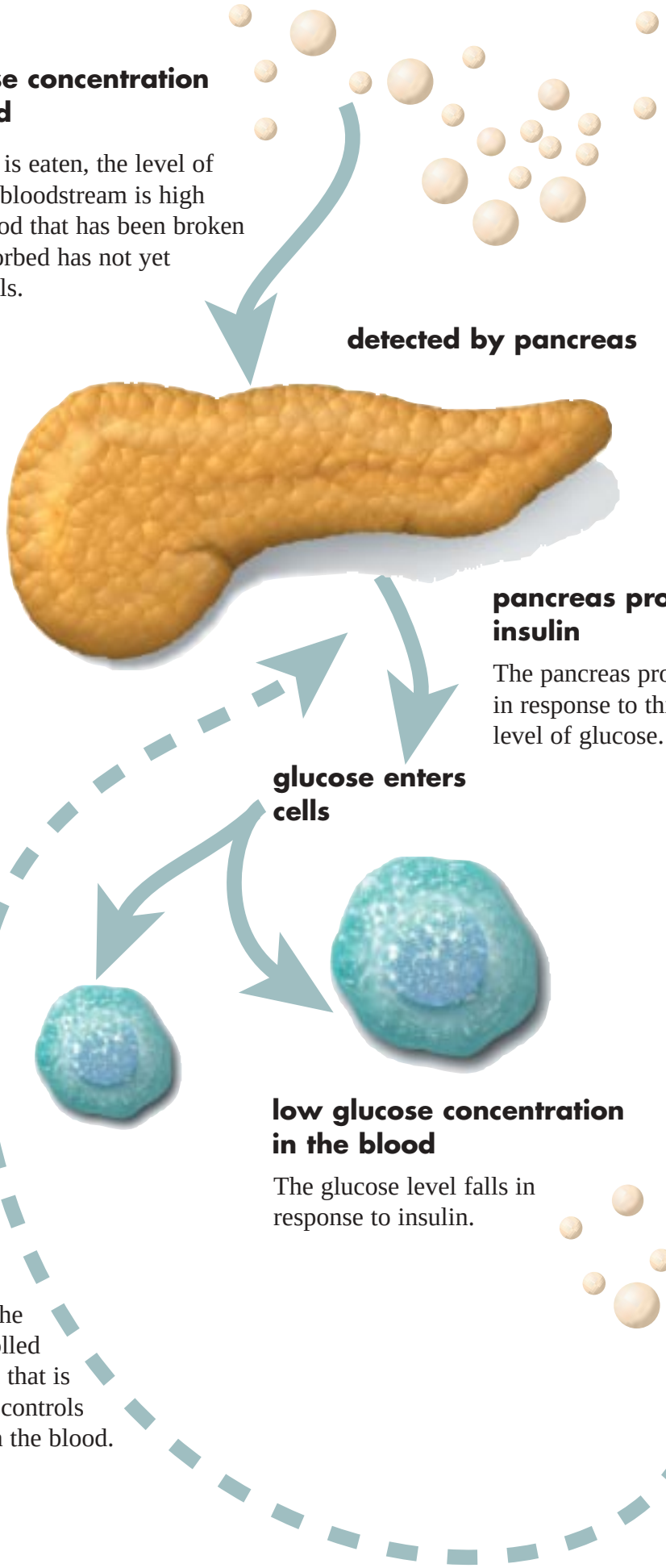
Different foods are broken down into different substances. Carbohydrates, such as pasta, or potatoes, are broken down into glucose, the substance that the millions of cells that make up our bodies need as a source of energy.

Glucose travels through the body in the bloodstream to the cells. However, it cannot pass directly into the cells without insulin. Insulin helps glucose get into the cells.



WorldWIDE
Worldwide Initiative for Diabetes Education

Glucose regulation



high glucose concentration in the blood

Just after food is eaten, the level of glucose in the bloodstream is high because the food that has been broken down and absorbed has not yet entered the cells.

detected by pancreas

pancreas produces insulin

The pancreas produces insulin in response to this rise in the level of glucose.

glucose enters cells

low glucose concentration in the blood

The glucose level falls in response to insulin.

insulin secretion halted

The pancreas senses the fall in glucose and stops producing insulin. The level of glucose in the blood is therefore controlled by the amount of insulin that is produced, which in turn controls the amount of glucose in the blood.