Diabetes

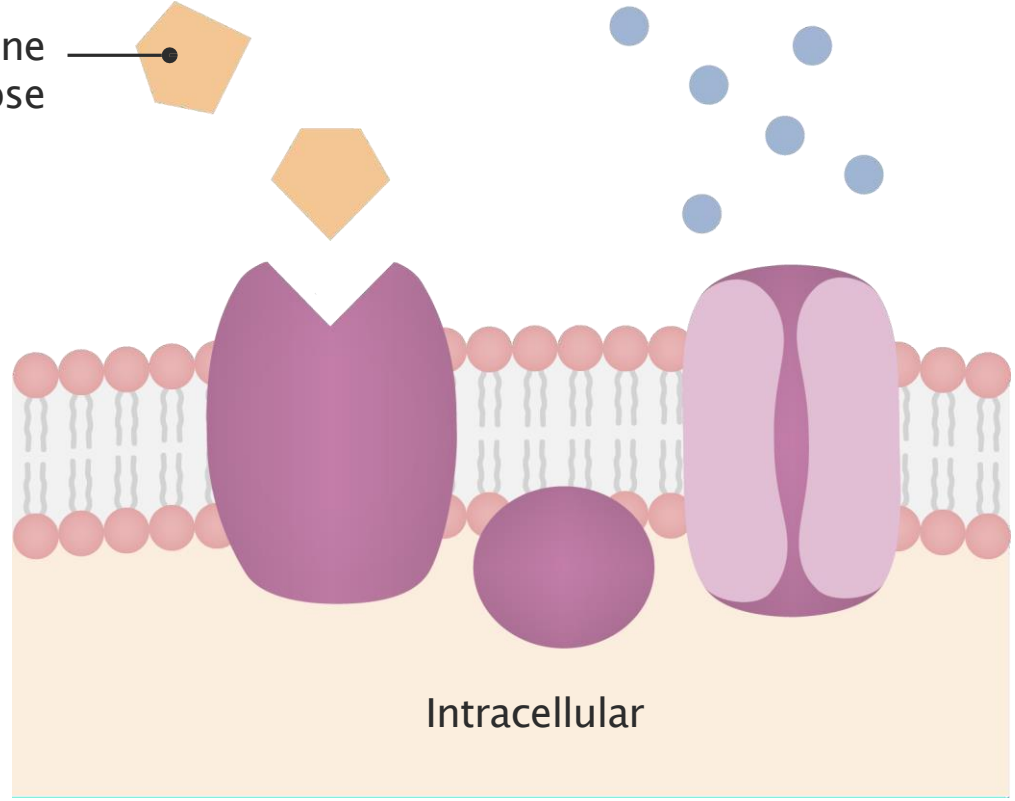
Normal Insulin and Glucose Control

What Is Glucose?

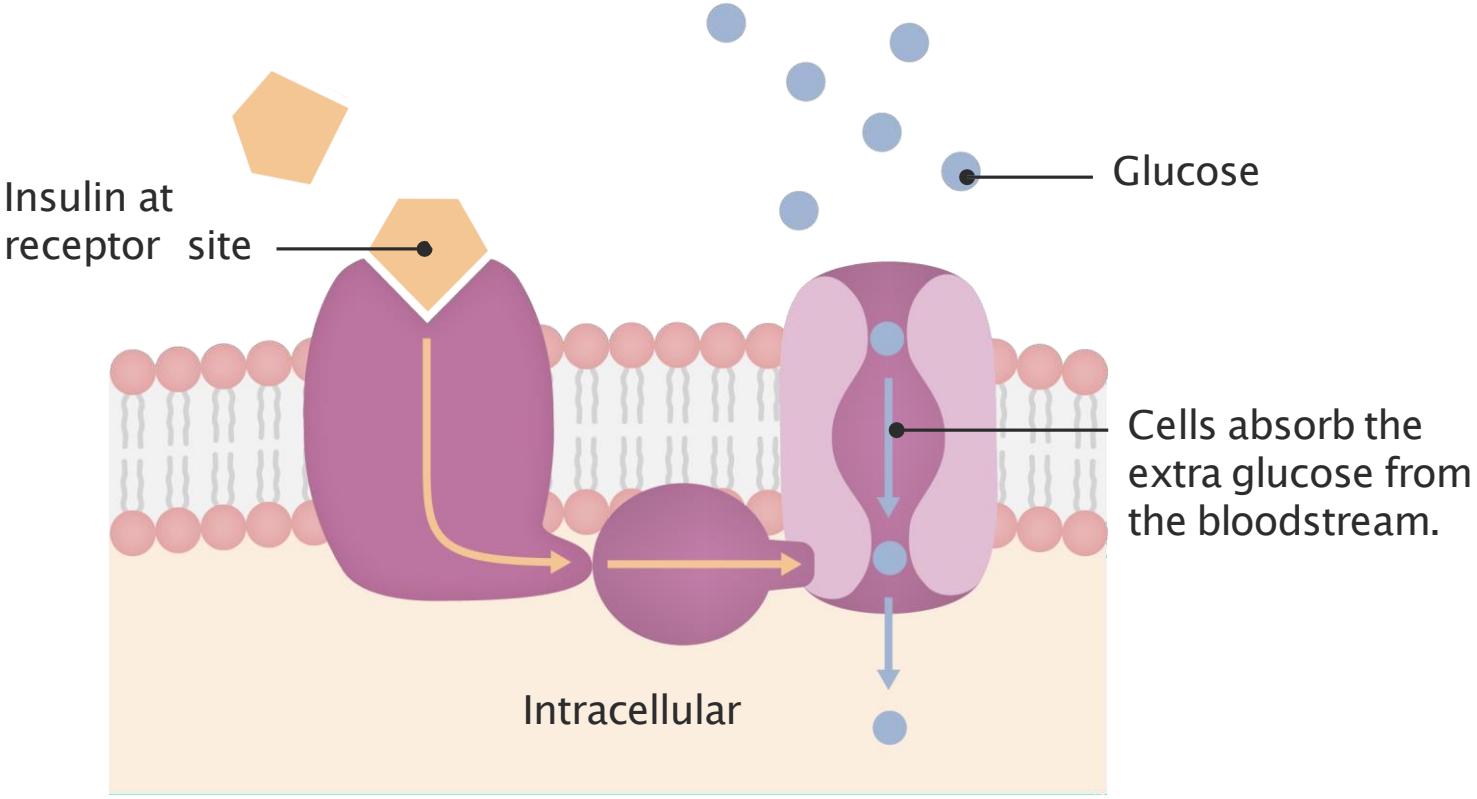
Glucose is the main carbohydrate the body uses for energy. It is always present in the blood, ready for tissues to use when needed.

Glucose Needs Insulin

Insulinis a hormone that allows glucose to be absorbed by muscles.

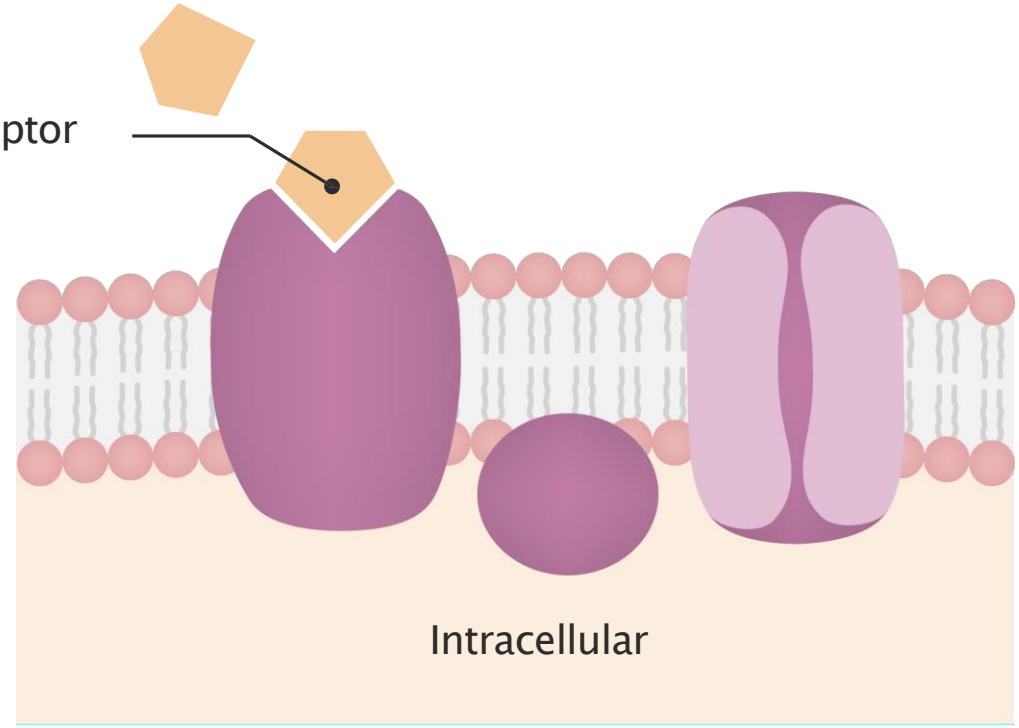


Glucose Needs Insulin



Glucose Needs Insulin

Insulin binds to receptor sites on the plasma membrane of cells




What response does food trigger in my body?

What Response Does Food Trigger in the Body?

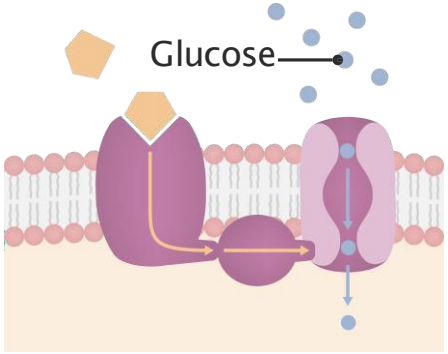
Blood glucose levels rise after meal

Response to rising glucose

Beta cells in pancreas stimulated to release insulin into the bloodstream

Response to insulin secretion

Body cells take up glucose from the bloodstream



What Response Does Food Trigger in the Body?

Response to rising glucose

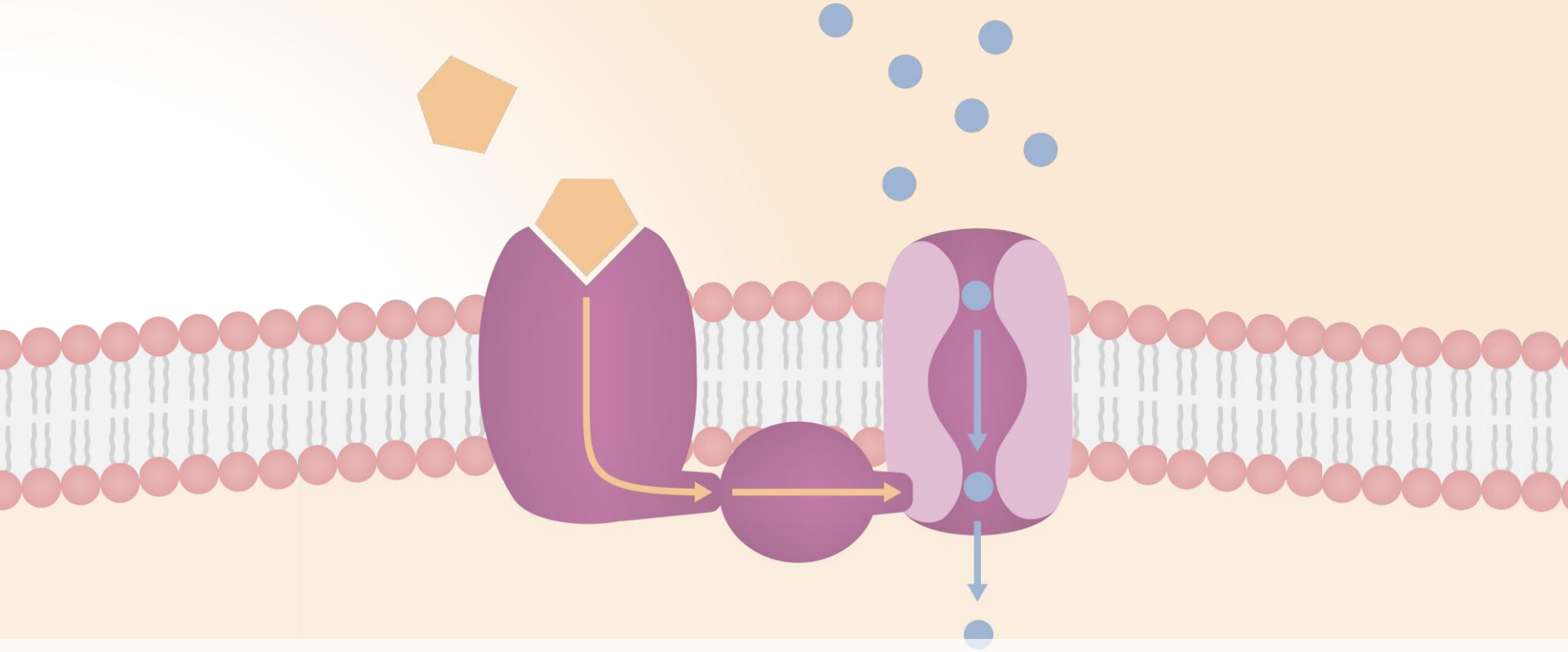
Response to insulin secretion

Blood glucose levels rise after meal

Beta cells in pancreas stimulated to release insulin into the bloodstream

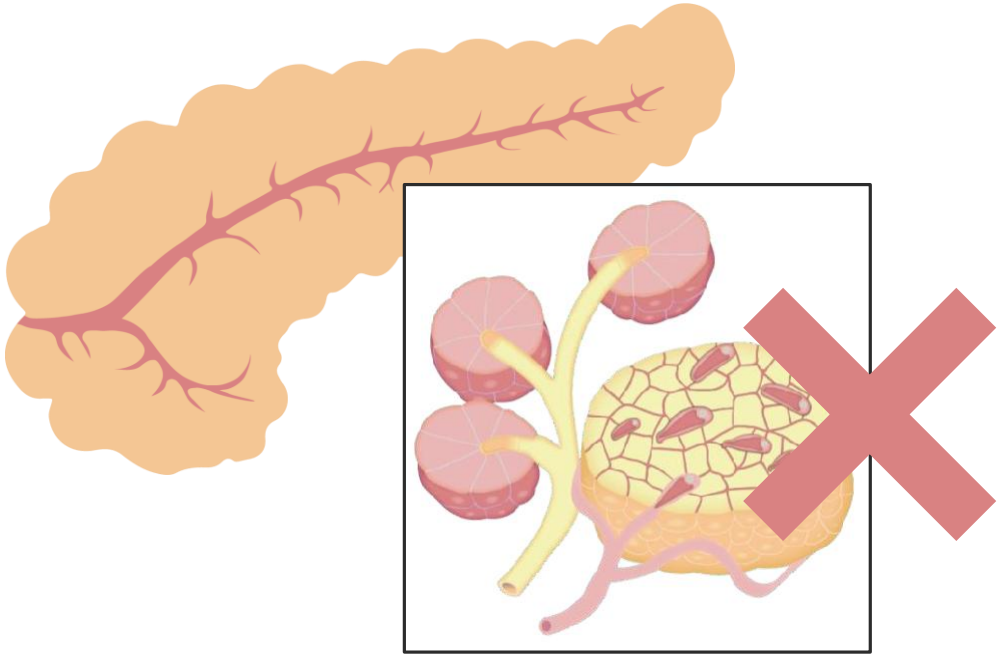
Body cells take up glucose from the bloodstream

Blood glucose levels return to normal (90–100 mg/dL) and stimulus for insulin diminishes



What is different about glucose control in diabetic clients?

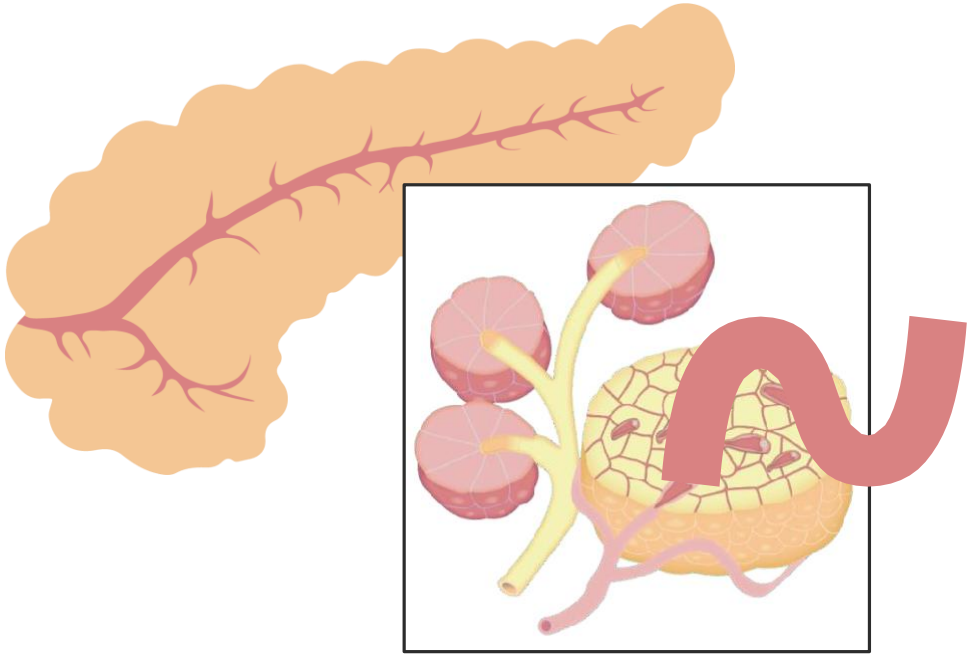
Type 1 Diabetes



Autoimmune destruction of pancreatic beta cells

Beta cells cannotsecrete insulin
(all insulin must be given as medication).

Type 2 Diabetes

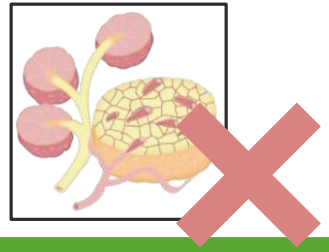


Beta cells can secrete some insulin.

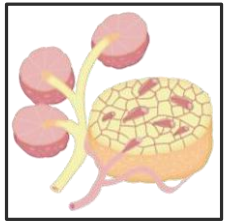
Insulin resistance is likely present.

Lifestyle choices can impact the progression of disease.

Type 1 and 2 Diabetes in Comparison



Type 1 Diabetes
Probable autoimmune destruction of pancreatic beta cells; no insulin produced by the pancreas
All insulin must be taken as medication.
No oral medications for insulin replacement
Progress with the use of one oral antidiabetic in conjunction with insulin
Requires frequent monitoring and titration

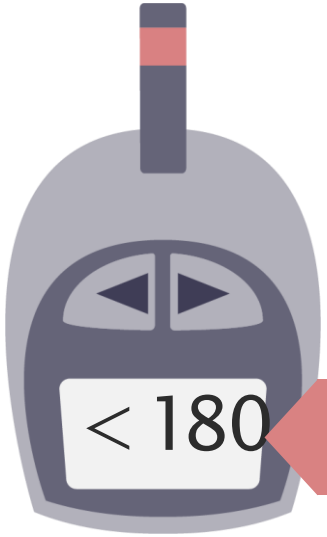


Type 2 Diabetes
Insulin released by the pancreas variable
Insulin resistance likely present
Lifestyle changes, oral meds +/- insulin
Progression of disease impacts treatment.
Requires frequent monitoring and titration

What Response Does Food Trigger inthe Body?

Postprandial blood sugar two hours after the start of a meal

Nondiabeticclient



Postprandial glucose is higher!

Diabetic client

In a Nutshell

- ✓ Glucose is the main carbohydrate the body uses for energy, and it is always present in your bloodstream and body.
- ✓ Insulin is a hormone that helps the cells move the glucose from the bloodstream into the cells.
- ✓ Patients with diabetes have abnormal glucose metabolism due to lack of insulin or insulin resistance and will have generally higher blood glucose levels than nondiabetic clients.