

## HOW DOES THE BODY CONTROL GLUCOSE IN THE BLOOD?

To help understand diabetes, let's look at how the body controls glucose in the blood in people without diabetes.

### Where does glucose come from?

- Glucose comes from foods that contain carbohydrate. Carbohydrate is another name for starch and sugar.

**Q What foods contain starch?**

A Bread, rice, pasta, grains, cereals and starchy vegetables, such as potatoes and corn.

**Q What foods contain sugar?**

A Fruit, milk and yogurt contain natural sugars. Soft drinks, confectionery, cake and sweet biscuits contain added sugars.

### The Great Glucose Journey – from food to fuel via the blood stream.

Follow glucose on its journey through the body. See how the body uses glucose for fuel.

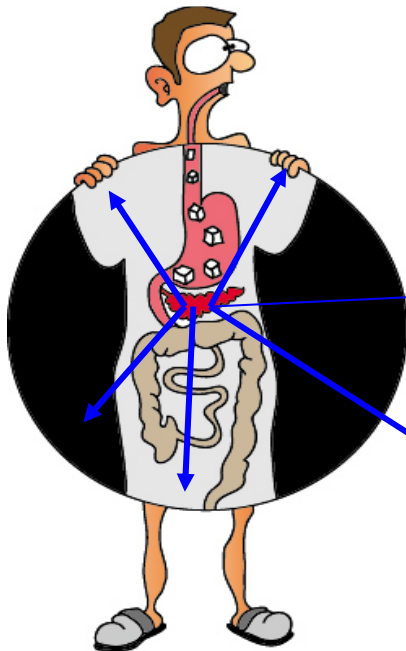
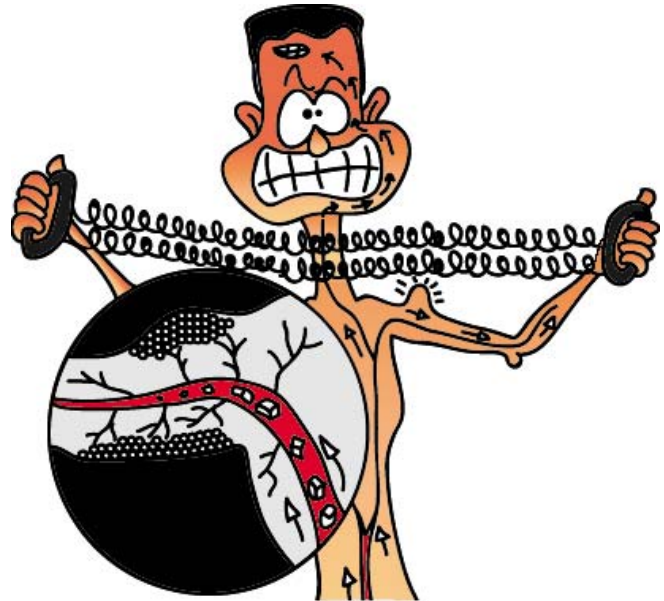
- Glucose starts its journey as a carbohydrate food.
- When the food is eaten, it passes through the mouth, stomach and small intestine.

All of these areas help to digest (break down) the food to glucose



### First Stop – Bloodstream

- The glucose is absorbed from the small intestine into the blood stream.
- The blood stream carries the glucose to its next stop, either the **muscle** or the **brain**.



**PANCREAS**

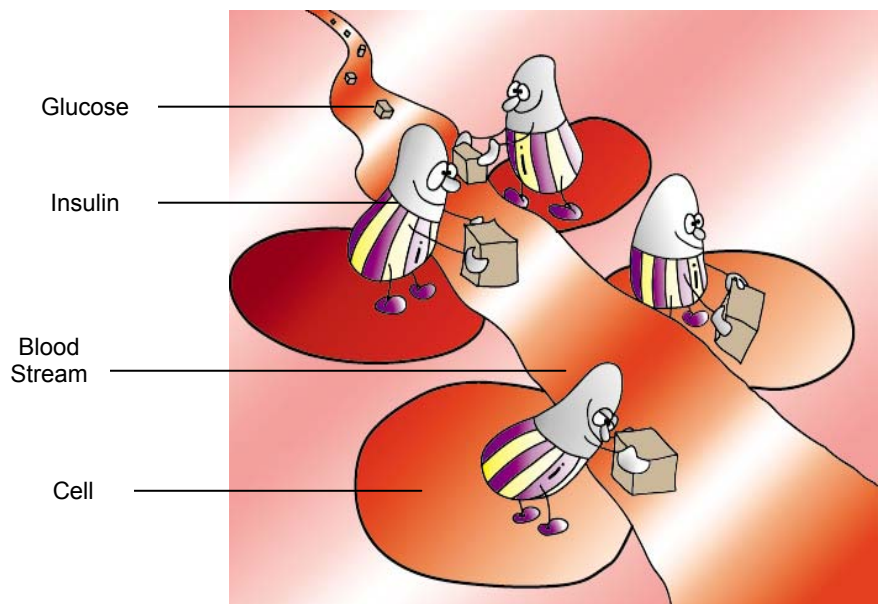
**INSULIN**



### Second Stop – Muscle

- The glucose can only enter the muscles with the help of insulin, which is made in the pancreas.

- As the blood glucose level rises after eating, the pancreas releases insulin into the blood, and insulin allows the glucose to enter the muscle cells.



## How Does The Body Control Glucose In The Body

### Third Stop – Brain

- Some of the glucose is directed to the brain and it can enter without insulin.

**Q What happens to the blood glucose level after eating?**

**A** It rises.

**Q What happens to the blood glucose level as glucose enters the muscles and brain?**

**A** It returns to normal.

### Final Destination – Fuel

- Once inside the muscle or brain, glucose completes its journey by providing fuel.
- With this fuel, the body is able to perform everyday tasks.

**Q What everyday tasks does glucose provide energy for?**

**A** Tasks such as thinking, walking, talking, eating, breathing etc

**Q Does all the glucose go to the brain or muscles?**

**A** No. Any excess glucose is detoured from the blood stream to the liver, where it is stored as GLYCOGEN. At times when extra fuel is needed, such as exercise, the glycogen is turned back to glucose and returned to the blood stream to continue the journey to the brain and muscles.

- 🌐 **Foods containing starch or sugar provide the brain and muscles with much needed fuel in the form of glucose.**
- 🌐 **Glucose has free entry into the brain and can enter without insulin.**
- 🌐 **Entry of glucose into the muscles does require insulin.**
- 🌐 **Any excess glucose is detoured to the liver where it is stored for future use.**

