Insulin
...before its discovery

**Symptoms**
- Blurry Vision
- Increased Hunger
- Frequent Urination
- High Blood Sugar
- Increased Thirst

**Treatment**
- Tobacco
- Fasting
- Green Vegetables
- Syrup of Poppies
- Digestable Foods

*Sushruta, Charaka (400-500 A.D.) and later, Aretaeus the Cappadocian (1st Century, A.D.) developed the disease named "Diabetes"*

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**History**

- **1869**: Paul Langerhans uncovers a rare group of cells in the human pancreas
- **1889**: Oskar Minkowski and Joseph von Mering conducted invasive procedures on dogs where their pancreases were removed for analysis of the progression of diabetes
- **1901**: Eugene Opie concludes that the destruction of insulin producing cells, islets of Langerhans, results in diabetes
- **1916**: Nicolae Paulescu creates a substance from the pancreas that reduces sugar levels in diabetic dogs
- **1920**: Dr. Frederick Banting meets with Dr. John Macleod and is given lab space at UofT. Banting and medical student, Charles Best, continue conducting research and experiments on the pancreases of animals

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**DID YOU KNOW?**

01. Before insulin was invented, health care professionals would not do much to treat diabetic patients with an end-stage failing pancreas. Instead, patients were given just weeks to live as all treatment options would eventually fail.

02. In the year of 1996, a teenage girl living in the USA had passed away in her home due to her parents not wanting to use any form of medication, for her diabetes. Both her mother and father were later charged for their negligence.

03. Insulin was first discovered and invented as an optimal treatment for diabetes by a physician, biochemist, and medical student at the University of Toronto, in Canada

04. The first insulin injection that was given to a human being was made from the pancreas of an ox. It was extremely impure, however, it did do the job of lowering a patient's blood sugar levels at the time.