Leonard Thompson, 14 year old with diabetes, was the first person to receive an insulin injection.

Prior to Thompson, the injection had never been tested on human's.

At first, the insulin failed to improve Leonard's condition. However, after a purer form was administered, his blood glucose levels returned to normal.

Leonard's recovery led to news about insulin spreading like wildfire and gaining recognition.

**INSULIN PATENT SOLD FOR $1**

With commitment to advance medical research, Banting sells insulin patent to University of Toronto for $1 in 1923.

"Insulin belongs to the world, not to me" - Banting

With the Patent sold, production, research and distribution becomes widespread.

**Production of Insulin**

**FIRST PRODUCTION**

1923

Medical firm, Eli Lilly, begins mass producing insulin, supplying diabetics across North America.

**SLOWER-ACTING INSULIN**

1936

To reduce the number of injections required daily, researchers at Novo-Nordisk worked to prolong insulin's duration of action.

**FIRST PROTEIN SEQUENCED**

1955

Insulin is sequenced by British biochemist Frederick Sanger, and is the first protein to be fully sequenced.

**SYNTHETIC HUMAN INSULIN**

1982

Insulin was being developed from cattle and pigs, treating millions, but also causing allergic reactions.

Genentech used Ecoli bacteria to genetically engineer synthetic human insulin.

Eli Lilly sells the first commercially available biosynthetic human insulin.

Human insulin is sold under the brand name, Humulin.

**Diabetes Complications**

As insulin research continues to develop and became more widespread, patients with diabetes started to live longer, contributing to the discovery of chronic complications of diabetes.