



## Sir Frederick Banting MD

October 31, 1920, after preparing for a lecture on the pancreas, Sir Frederick Grant Banting arose from a restless sleep and wrote down words that would forever change his life and the lives of millions suffering from Diabetes: "Diabetes [sic]. Ligate pancreatic ducts of dog. Keep dogs alive till acini degenerate leaving islets. Try to isolate the internal secretion of these and relieve glycosurea [sic]." This 25-word hypothesis would eventually lead to one of the most important medical discoveries of the 20th century and would gain Banting international fame and admiration.

Determined to investigate his hypothesis, Banting was recommended to Dr. J.J.R. Macleod at The University of Toronto, where he was hesitantly given laboratory space to conduct experiments on the pancreas using dogs. Dr. Charles Best, a medical student at the time, was assigned to assist Banting's research. Within a few months, Banting and Best had successfully isolated a protein hormone secreted by the pancreas, which was named insulin.

With assistance from Dr. James Collip, the insulin was successfully refined and produced for clinical trials, which were immediately successful. Demonstrating his altruistic commitment to advance medicine, Banting sold the patent rights for insulin to The University of Toronto for \$1, claiming that the discovery belonged to the world, not to him. This allowed insulin to be mass-produced, making it widely available to the public for the treatment of Diabetes. Although not a cure, this breakthrough would save millions of lives and, to this day, provides treatment for a disease that was previously considered a death sentence.

Following the highly publicized discovery, fame came quickly to the soft-spoken and modest Banting. He was jointly awarded the 1923 Nobel Prize in Physiology or Medicine with Dr. J.J.R. Macleod for the discovery of insulin. Amid controversy, Banting chose to share his prize with his partner, Dr. Best and Macleod chose to share his prize with Dr. Collip. The youngest recipient of a Nobel Prize in Medicine, Banting suddenly became a celebrity and was revered as a hero worldwide. In 1934, he was knighted by King George V and was among the last group of Canadians to be honoured with this esteemed title.

In response to Banting's popularity and successful research, the Ontario Legislature awarded The University of Toronto an annual grant to establish the "Banting and Best Research Fund". With this financial support, the university hired Banting as Canada's first Research Professor and established the Banting and Best Department of Medical Research in 1930, with Banting as the chair of the department and Best as a research associate. Banting remained committed to medical research and scientific discovery and participated in research relating to silicosis, cancer and aviation medicine, among many other projects.

Banting was also an avid painter and was close friends with A.Y. Jackson of the Group of Seven, who mentored and encouraged Banting's artistry. Banting's pursuit of painting allowed him refuge from the pressures and fame of his early success and, today, he is regarded as one of Canada's most important amateur artists.

Banting was also a decorated soldier and served Canada in both World Wars. During the First World War, he served in the Canadian Army Medical Corps and was awarded the Military Cross in 1919 for his “distinguished and meritorious services” during the Battle of Cambrai in 1918. At the outbreak of the Second World War, Banting again volunteered to serve Canada, coordinating the National Wartime Medical Research effort with the National Research Council of Canada, where his team researched treatments for mustard gas, anti-gravity suits and oxygen masks. He served as a liaison officer between British and North American medical services; in this capacity, he was travelling to England in February 1941, when his plane crashed in Newfoundland and his life was tragically cut short.

Banting’s legacy lives on in the numerous researchers who followed in his footsteps and who made medical breakthroughs at the research institutions bearing his name. His childhood farm in Alliston, now called The Banting Homestead Heritage Park, attracts school and community groups annually. The house in London, Ontario, where he originally conceived the idea that led to the discovery of insulin, is now Banting House National Historic Site of Canada, a museum dedicated to preserving Banting’s important legacy. Later coined the "Birthplace of Insulin," the museum has become an unofficial pilgrimage site and attracts visitors from around the world each year who wish to pay tribute to the famous co-discoverer of insulin.

*~Author credit: A. Mandich*