

Dr. Charles Herbert Best Co-Discoverer of Insulin & Distinguished Naval Officer

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Charles Herbert Best is renowned in Canada and throughout the world as the co-discoverer with Frederick Banting, of insulin – the treatment for diabetes. Less well known is that Dr Best served with the Canadian Army during World War I and had a short but distinguished career in the Royal Canadian Navy Voluntary Reserve during World War II.



Born on 27 February 1899, Charles Herbert Best was the youngest of the co-discoverers of insulin. His parents Luella Fisher Best and Herbert

Huestis Best, a doctor, were Canadian citizens from Nova Scotia living in West Pembroke, Maine, where C.H. Best spent his childhood and received his early education. After graduating from high school in 1915, Best moved to Toronto, briefly attending Harbord Collegiate and then commencing his B.A. at University College in the University of Toronto where he was president of his first year. In 1918 he enlisted in the Canadian Army, serving at Petawawa, Ontario, with the 70th battery of the Horse Artillery, becoming a sergeant, and then, overseas in Wales with the 2nd Canadian Tank Battalion. He returned to Toronto in 1919 to complete his undergraduate degree in Physiology and Biochemistry.

In 1921 Best joined Dr Frederick Banting as a research assistant on the project that was to define his career and later life. In May 1922 their efforts came to fruition

and the Eli Lilly Pharmaceutical Company was invited to collaborate in the large-scale production of insulin. Best, at only 23 years of age and having just completed his M.A., was put in charge of the production of insulin for Canada. In the summer of 1922 large-scale clinical trials of insulin began at the Toronto General Hospital and the Christie Street Hospital.

Best entered Medical School at the University of Toronto in the fall of 1922, while still the director of the insulin Division of the Connaught Laboratories. That spring the Banting and Best Medical Research Act became law and the university established the Banting and Best Chair of Medical Research, with Banting as its first director. In July, C.H. Best was appointed a research associate with a budget of \$2500 for the "promotion of Medical Research under his direction."

In 1925 he graduated from medical school at the top of his class. Later that year he went to England, where he spent the next two and a half years doing postgraduate work. In 1928, Best was awarded a D.Sc. from the University of London and returned to Toronto, this time as Head of the Physiology Department,

Best's most acclaimed scientific accomplishment after insulin was a project he began after becoming Head of the Physiology department. In 1929, Best assembled a team to research the purification of heparin in the 1930s. Heparin, a blood anticoagulant, had been discovered in 1916 at Johns Hopkins University but remained toxic until Best and his co-workers succeeded in developing a purified heparin extract safe for human use. By 1935 heparin was being tested in surgery at Toronto General

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Hospital and by 1940 was available on a large scale. None of the open heart surgery or organ transplants undertaken today would be possible without heparin.

In 1939 Best joined the war effort, initiating the Canadian Blood Serum Project, which produced dried human serum for military use. This project involved the collaboration of Best, his staff, the Connaught Anti-toxin Laboratories, the Canadian Red Cross, and the financial support of the Canadian government. Best's war work increased in the 1940s when he assumed the position of Director of the Banting and Best Department of Medical Research. He channelled that department's resources towards research for the Royal Canadian Navy when, in 1942, he was appointed director of the medical research unit of the Royal Canadian Navy with the rank of Surgeon, Lieutenant-Commander. In this capacity he began studies on night vision, motion sickness, nutrition and other conditions affecting naval personnel at sea. Best was promoted to Surgeon Captain in 1943. Surgeon Captain Best's naval uniform is held by the Canadian War Museum but is not currently on display.

After the war, Best turned his attention back to diabetes. Following a severe illness, he retired from his university positions in 1965. He died at Toronto General Hospital in 1978, one week after hearing the news that his eldest son had succumbed to a heart attack. He was 79 years old.

References:

University of Toronto Web Site
www.utoronto.ca/bandb/best.htm



**Captain Best's Naval
Uniform**

CWM Collection