**Appointed Professor in Ohio at 26 - 1903**

The early endeavours and achievements of Macleod as both researcher and teacher led in 1903, while still only 26 years of age, to his being invited to apply for the Chair of Physiology at Western Reserve University, Cleveland, Ohio. He was offered the post in June, was married in July to Mary Watson McWalter (a 2nd cousin from Paisley), and the couple sailed from Glasgow on 28th August to a new life in the New World. Macleod’s success continued over the 15 years he spent in Cleveland. His physiology and biochemistry teaching was highly regarded by his students; he put particular emphasis on practical classes as a means of teaching. His research was also successful and varied but, perhaps after writing a textbook chapter on the subject in 1906, became increasingly focussed on studies of carbohydrate metabolism and experimental diabetes. He developed a series of 8 lectures showing the relationship between his own research and on internationally published papers which led to his book called Diabetes: Its Pathological Physiology in 1913. A series of 12 publications on his original studies in the field were published over 10 years to 1917 in the American Journal of Physiology. He became a member of several prestigious societies (including in Germany and Italy!) and was invited widely to talk on his work – including a presentation at the meeting of the British Medical Association held in Aberdeen a few weeks before the outbreak of war in 1914. He contributed to the war effort from 1916 with studies on gas masks, aviation physiology, food conservation and societal nutrition. He was completing work on the first edition of a highly successful textbook called *Physiology and Biochemistry in Modern Medicine* (for which he wrote 90% of the chapters.

**Move to Toronto – 1918**

By the time his new textbook was published late in 1918, Macleod had left Cleveland and moved to the University of Toronto which had been trying for two years to persuade him to join as Professor of Physiology and to help with the redevelopment of their medical course; perhaps it is no coincidence that by 1927 it was to become the number one North American medical college. Macleod and his wife set up house at 45 Nanton Avenue in the Rosedale district of Toronto. The year after his move, Macleod was elected Fellow of the Royal Society of Canada and in 1920 began seven years as Associate Dean at his university. He continued with scientific presentations and publications at home and abroad based on his research studies on topics including effects of heat and cold exposure, metabolic acidosis, lactate measurement and regulation of blood sugar. His career as a research physiologist and as an innovative teacher continued to blossom – but he could not have imagined to what heights it was about to progress.

**Introduction to the Toronto Insulin Story 1921-22**

Several accounts have been written of this magnificent tale, the most comprehensively researched being the relatively recent book, ‘The Discovery of Insulin’ published by Toronto history professor, Michael Bliss in 1982. There were four main participants each of whom brought important attributes to the table. Professor Macleod, as we have seen, was already an experienced researcher with an international reputation in the field of the pathophysiology of diabetes. Bertram Collip, a Toronto graduate, was a professor of biochemistry in Alberta who was to spend several months doing research in Macleod’s department in 1921. Charles Best was a physiology student of Macleod graduating BA in late spring 1921 and due to do a summer attachment before continuing university studies in the autumn. The fourth participant, on whose ‘big idea’ the story is often focussed, was Canadian medical graduate, Frederick Banting.