Canadian Medical Hall of Fame
Temple de la renommée
médicale canadienne

100 Kellogg Lane, London ON N5W 0B4 T. 519.488.2003 www.cdnmedhall.ca www.trmc.ca

Harold Johns, PhD

Trained in mathematics and physics, Dr. Harold Johns is famed for applying the principles of physics to medicine and making significant contributions to cancer research. Following his work during the Second World War, where he trained commonwealth air force pilots in radar and radiology, Dr. Johns joined the faculty at the University of Saskatchewan where he established the medical physics group at the Saskatchewan Cancer Commission. This led to his ground breaking research and development of the first Cobalt-60 Beam Therapy Unit, a revolutionary device that would advance cancer diagnosis and treatment and saves millions of lives worldwide.

The Cobalt-60 Beam Therapy Unit was a critical advancement in the fight against cancer and offered a treatment for deep-seeded tumours and cancer cells that previous low-energy x-ray technologies were unable to penetrate. In October 1951, Dr. Johns and his team made history when his innovative device was put to use in London, Ontario with the first successful treatment on a human cancer patient. The treatment had an immediate impact on the survival rates of a number of cancers, particularly cervical cancer, and is still in use today in many third world countries due to its simplistic yet effective design.

Dr. Johns' lifelong research and devotion to cancer research has shaped the modern field of medical biophysics and advanced imaging in Canada. He was influential in the early development and use of computed tomography (CT) scanning in cancer diagnosis and treatment, and established the use of mammographic imaging for the diagnosis of breast cancer. In 1956, Dr. Johns became Head of the Physics Division of the Ontario Cancer Institute in Toronto while simultaneously building the Department of Medical Biophysics at the University of Toronto.

Now known as the father of medical biophysics in Canada, Dr. Johns contributed more than 200 publications to the field including his influential textbook, The Physics of Radiology, which was originally published in 1953 with four subsequent editions, and was considered a leading and authoritative textbook in the field for decades. One of his greatest contributions lies in the legacy of Dr. Johns' many students, who are now working and teaching in fundamental areas of research and advanced imaging throughout Canada.