



Murray Barr MD

Sometimes, a big discovery comes from a microscopic level. When Drs. Murray Barr and E.G. Bertram published an article in Nature regarding their findings of a sex chromatin body, they inspired a whole new era in research and diagnosis of genetic disorders. This discovery, later referred to as the “Barr body”, gave way to the discipline of genetics and established the foundation for human cytogenetics.

In 1948, Drs. Barr and Bertram made a ground-breaking discovery when they identified a dense mass of chromatin (material containing the genetic code) present only in female nerve cells. With further research, Dr. Barr demonstrated that this phenomenon occurred in most mammalian cells. This discovery established, for the first time, a relationship between sex chromosome abnormalities and human disease. Dr. Barr’s investigations into certain chromosome defects led to a greater understanding of many congenital diseases including Down’s, Klinefelter’s and Turner syndromes, significantly improving their diagnosis and treatment.

In collaboration with Dr. K.L. Moore in 1955, Dr. Barr developed the buccal smear test, a non-invasive method of gathering human cells from the lining of the mouth for genetic testing. In combination with karyotyping, it allowed scientists to identify individuals with an abnormal number of sex chromosome bodies, furthering diagnosis and treatment of congenital diseases.

Dr. Barr’s contributions extend beyond his influential medical and clinical research. A generation of medical students were influenced by him as a devoted and captivating neuroanatomy professor. His textbook, *The Human Nervous System*, became a worldwide standard for neuroanatomy, and was translated into numerous different languages. In the Second World War, Dr. Barr served as a distinguished Wing Commander with the Royal Canadian Air Force.

Dr. Barr was the recipient of many national and international honours and awards, including a nomination for a Nobel Prize, receiving the Gairdner Award of Merit, the Joseph P. Kennedy Foundation International Award and one of the first appointments as an Officer of the Order of Canada. In his personal life, he is remembered as a modest family man; in his professional life, Dr. Barr earned fame and a respected reputation in Canadian history, where his important legacy persists today.