

The Life And Times Of George Washington Crile: An Outstanding Surgeon

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Citation

R Kazi. *The Life And Times Of George Washington Crile: An Outstanding Surgeon*. The Internet Journal of Otorhinolaryngology. 2002 Volume 2 Number 2.

Abstract

George W. Crile was one of the finest American surgeons who was born on November 11, 1864, near Chili, Ohio, and died on January 7, 1943. He was renowned for his pioneering work on shock, blood pressure, blood transfusion and widely admired for his excellent surgical hand especially in thyroid & neck surgery. He was instrumental in the setting up of the American College of Surgeons and is credited with writing more than 20 medical books

George Washington Crile^{1,2} was born to a family of Dutch and Scottish-Irish descent, the fifth of eight children. He grew up on a farm near Chili, Ohio, and received his first schooling in a one-room school house two miles from his home. In 1881, aged 17 years, he entered Northwestern Ohio Normal School, later renamed Ohio Northern University, at Ada, Ohio. He worked his way through school by teaching in elementary schools.

After receiving a teaching certificate, he was appointed Principal of the Plainfield (Ohio) School. Soon his interest turned to medicine, mainly as a result of his contacts with a local physician, Dr. A. E. Walker, who loaned him books and with whom he visited patients. Some of the events of this period are related in his autobiography, among them exciting details of “quilling” an obstetric patient by blowing snuff through a goose quill into her nose. The sneezing that this induced led to prompt delivery of the baby.

In the spring of 1886 he entered Wooster medical School, Cleveland, an inexpensive school that met in summer sessions. He graduated M.D. with highest honours in July 1887. Subsequently Crile became a House Officer in the newly organised University Hospital in Cleveland, under the tutelage of Dr. Frank C. Weed. Following his internship, Crile joined Frank Weed in private practice with Dr. Frank E. Bunts, another graduate of Wooster Medical College. Together they built a surgical practice on an industrial scale. During these years Crile pursued his main medical interest, the study of shock. In order to prepare himself for this he spent three months studying physiology, histology and pathology at the College of Physicians and Surgeons of

Columbia University. Crile⁴ originated the theory that shock is due to exhaustion of the vasomotor centre.

In 1892 and 1895 he went abroad, visiting Theodor Billroth (1829-1894) in Vienna and Victor Horsley (1857-1916) in London. In Horsley's laboratory at University College in London he met the physiologist Charles Scott Sherrington (1857-1952), who was also interested in the problems of shock and hypertension. Following his return to Cleveland, Crile continued his studies on shock. In 1897 he won the Cartwright Prize, awarded by Columbia University, for his manuscript “An Experimental Research into Surgical Shock”. This manuscript was published in 1899 by J. B. Lippincott – his first book.

At this time Crile was becoming a popular lecturer. His enthusiasm, ability to speak, and the quality of his research studies on shock all combined to make him a well-known young surgeon. He taught at the University of Wooster from 1889 to 1900, and from 1900 at the Western Reserve University.

In 1903 Crile⁴ described his “pneumatic rubber suit,” a device designed to decrease postural hypotension in neurosurgical patients. Crile's design was later used in the second world war to prevent blackout of pilots subjected to high gravity forces. During the Vietnam war it was used to stabilise patients with haemorrhagic shock during transportation.

In 1910 the medical schools of Western Reserve and Wooster Medical College amalgamated; the curriculum was

expanded to four years, and Crile was appointed Clinical Professor of Surgery. At this time, Crile was Chief of Surgery at the Lakeside Hospital, the main teaching hospital at the medical school.

In his large practice, Crile saw a large number of patients with multinodular goitres that often grew to large size. He became intensely occupied with the operative treatment of Morbus basedow and with the causes of spontaneous and operative Basedow death. This became a speciality for Crile, who performed over 25,000 thyroidectomies during his career. He performed as many as 20 operations a day at St. Alexis Hospital, and in the 1930s, on one date, Crile performed 32 thyroidectomies at the Cleveland Clinic. In the beginning of the 20th century, Crile described and performed the first radical neck dissection for laryngeal and other cancers of the neck. In 1887 he was the first to perform major operations with intraneural injections of cocaine.

His interest in shock persisted and he carefully monitored blood pressure during operations. His studies, culminated in the book *Blood Pressure in Surgery*, published in 1903. In this book he documented the results of some 251 experimental studies on shock in dogs. Three years later, in August 1906, at St. Alexis Hospital in Cleveland, Crile performed the first successful transfusion of blood from one human to another in the United States.

In 1912, Crile was part of a group that founded the American College of Surgeon, a national surgical organisation modeled on the Royal College of Surgeons of England.

In August 1913, along with Harvey Williams Cushing (1869-1939), William James Mayo (1861-1939), John Benjamin Murphy (857-1916), he was elected an honorary Fellow of the Royal College of Surgeons of England.

During the First World War, Crile and his colleagues William E. Lower and Frank E. Bunts served in the United States Army together. Crile organized the unit from Lakeside Hospital, US Army Base Hospital 4, the first detachment of the American Expeditionary Forces to arrive

in France, on March 25, 1917.

After the war, Crile, Lower and Bunts continued their practice of surgery together in an office building in Cleveland, The Osborn Building, and began to discuss a more formal group practice. In 1921 they were joined in their practice by Dr. John Phillips, who was Assistant Professor of Therapeutics in Medicine in Western Reserve University Medical School. At that time group practice was unusual and somewhat unpopular with private physicians, who felt that a group clinic would give unfair competition. Crile, Lower, Bunts and Phillip borrowed money from the Cleveland Trust Bank and established the Cleveland Clinic Foundation as a non-profit Foundation. Crile was its director from 1921.

On May 15, 1929, disaster struck when X-ray films which had been stored in a basement room of the clinic building suddenly spontaneously combusted and toxic nitrogen peroxide fumes and carbon monoxide spread through the building. This spontaneous combustion caused several explosions and caused the death of 123 persons, among them Dr. John Phillips, one of the founders.

In his seventies, Crile developed bilateral cataracts and gradually lost vision. Following a bilateral cataract excision in 1940, his right eye became infected and had to be removed. In December 1942 he developed an endocarditis, and the next year he suffered a stroke and died shortly thereafter. He is buried in Lake View Cemetery, Cleveland.⁶

During his time, Crile published 24 books and more than 400 papers.

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