

William D. Stevenson: Atlantic Canada's first neurosurgeon

Karim Mukhida, MD; Ivar Mendez, MD, PhD

The origins of neurosurgical services in Atlantic Canada are tied to the individual efforts of William D. Stevenson. Born in Hamilton, Ontario, Stevenson completed his senior matriculation in Dunnville, Ontario, before studying medicine at the University of Toronto. He completed the Gallie surgical course in Toronto and then spent 1 year training with Edward Archibald at McGill University. After working for 2 years with the Canadian Mobile Neurosurgical Unit in Europe during the Second World War, Stevenson undertook formal neurosurgical training with Kenneth G. McKenzie, Canada's first neurosurgeon. Stevenson was thereafter recruited to Halifax to start the neurosurgical service at the Victoria General Hospital in January 1948, and he remained head of the division for the next 26 years. His pioneering work laid the foundations for the establishment of a major academic neurosurgical service at Dalhousie University and was crucial for the establishment of neurosurgery in Atlantic Canada. After his retirement, Stevenson moved back to Ontario and began his second career, transferring his passion for neurosurgery to oil painting. His legacy to neurosurgery in Atlantic Canada will be remembered in perpetuity with the annual Neurosurgery Resident Research Award at Dalhousie University, established and named in his honour. This paper focuses on Stevenson's life and work in neurosurgery as Atlantic Canada's first neurosurgeon.

Les services neurochirurgicaux dans la région de l'Atlantique sont issus des efforts individuels de William D. Stevenson. Né à Hamilton (Ontario), le D^r Stevenson a terminé son immatriculation senior à Dunnville avant d'aller étudier la médecine à l'Université de Toronto. Il a terminé le cours de chirurgie Gallie à Toronto et il a passé ensuite un an en formation avec Edward Archibald à l'Université McGill. Après avoir travaillé pendant deux ans à l'unité mobile canadienne de neurochirurgie en Europe au cours de la Seconde Guerre mondiale, le D^r Stevenson a entrepris une formation structurée en neurochirurgie auprès de K.G. McKenzie, le premier neurochirurgien du Canada. On l'a par la suite recruté à Halifax pour qu'il mette sur pied le service de neurochirurgie à l'Hôpital Victoria General en janvier 1948 et il est demeuré chef de la division pendant les 26 années qui ont suivi. Son travail de pionnier a jeté les bases de la création d'un important service de neurochirurgie universitaire à l'Université Dalhousie et a joué un rôle crucial dans l'établissement de la neurochirurgie dans la région de l'Atlantique. Après son départ à la retraite, le D^r Stevenson est redéménagé en Ontario pour entreprendre sa deuxième carrière, consacrant à la peinture à l'huile autant de passion qu'il en avait pour la neurochirurgie. Le patrimoine qu'il a légué à la neurochirurgie dans la région de l'Atlantique est perpétué par le prix de recherche établi et nommé en son honneur que l'Université Dalhousie décerne à un résident en neurochirurgie. Ce document porte avant tout sur la vie du D^r Stevenson et son travail en neurochirurgie à titre de premier neurochirurgien de la région de l'Atlantique.

The establishment of a dedicated neurosurgical service in Halifax in January 1948 is tied to the pioneering efforts of William D. Stevenson — Atlantic Canada's first neuro-

surgeon (Fig. 1).¹ Although details regarding the inception of such services have been described,¹ less has been written of Stevenson's thoughts regarding the organization and run-

ning of the service at that time and of more personal aspects of Stevenson's life; thus, we describe these details, based on an interview with Stevenson.

Division of Neurosurgery, Dalhousie University, Halifax, NS

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Correspondence to: Dr. Ivar Mendez, Rm. 3806, Division of Neurosurgery, Halifax Infirmary, 1796 Summer St., Halifax NS B3H 3A7; fax 902 473-3343; mendez@dal.ca

Stevenson was born in Hamilton, Ontario, on December 24, 1913. After completing senior matriculation in Dunnville, Ontario, he studied medicine at the University of Toronto and graduated in 1937. He completed 4 years of training in general surgery with Dr. William Gallie, the head of the department of surgery at the Uni-



FIG. 1. Dr. William D. Stevenson, head of the Department of Neurosurgery at Dalhousie University from 1948 to 1974, circa 1965.

versity of Toronto, and then an additional year with Dr. Edward Archibald, the head of the department of surgery at McGill University.

Stevenson was prepared to embark on a career in general surgery with his father, a general surgeon in Hamilton, when he joined the Canadian military to serve during the second world war. He arrived in Europe just before D-day in 1944 to work on the Canadian Mobile Neurosurgical Unit in continental Europe and on the Canadian Neurological and Plastic Surgery Hospital in Basingstoke, England. Prior to his service overseas, he completed 6 months of neurosurgical training with Canada's first neurosurgeon, Dr. Kenneth McKenzie, at the University of Toronto (Fig. 2). He ultimately spent 2 years in Europe, working with Dr. Norman Delarue. After returning to Canada, Stevenson joined his father's practice in general surgery but began to receive referrals for neurosurgical problems because of his neurosurgical experience with McKenzie. As the complexity of referrals for neuro-

surgery increased, he felt the need for additional training. He returned to Toronto for formal neurosurgical training with Dr. McKenzie and Dr. Harry Botterell. Stevenson was familiar with Botterell because he had been his anatomy demonstrator during medical school, and Stevenson respected him as a teacher. Stevenson finished his neurosurgical training in 1947 and was one of McKenzie's first neurosurgical residents.

Although Stevenson's intention was to return to Hamilton, where there was no neurosurgeon, he was recruited to Halifax on behalf of the Nova Scotia Ministry of Health by Victoria General Hospital neurologist Dr. Clyde Marshall. Stevenson was especially attracted by the opportunity to start a neurosurgical academic unit but admitted that "the fact that I had left for overseas from Halifax and the kind and gentle Scottish people in Nova Scotia was a real incentive for me to come down." (personal communication, September 1998). The hospital in Hamilton graciously sent all of the supplies that they had pre-

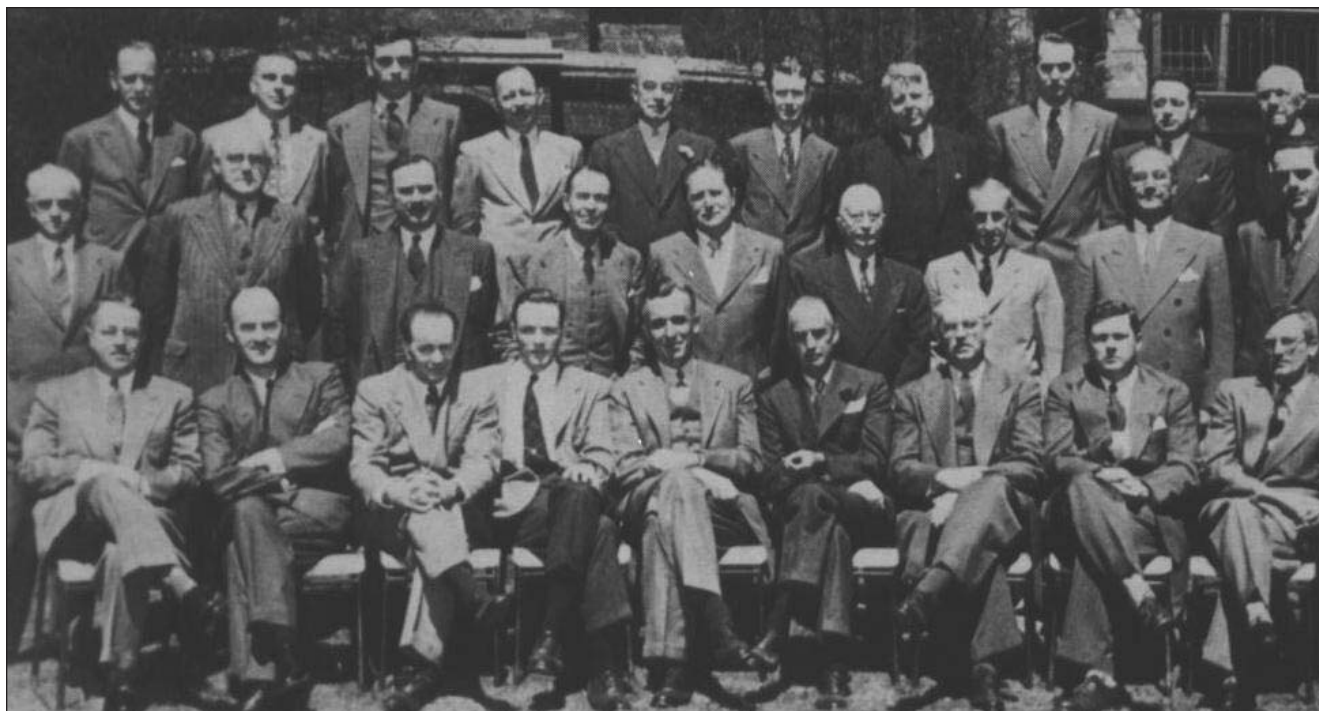


FIG. 2. Dr. Kenneth G. McKenzie's tenure as chief of the neurosurgical service at the Toronto General Hospital was celebrated on May 3, 1952, with his neurosurgical trainees. Dr. Stevenson is seated in the front row on the far left; Dr. Harry Botterell and Dr. McKenzie are seated in the front row, fifth and sixth from the left, respectively.

pared for Stevenson's arrival to Nova Scotia, including an operating room table and surgical instruments.

Stevenson found Halifax to be a receptive environment for the development of a neurosurgical service. F.R. Davis, the provincial Minister of Health, provided Stevenson with a salary of \$12 000 annually for the first 5 years of his practice. Funds for Stevenson to attend medical conferences were provided by Dr. Alexander Kerr, President of Dalhousie University. Dr. Harold Grant, Dean of the Faculty of Medicine, helped to ensure that all the necessary supplies for the new neurosurgical service were provided.

The greatest recalcitrance to acceptance of the new neurosurgical service came from the general surgeons, who either opposed surgical specialization² or resented losing their responsibilities for providing care for patients with neurosurgical problems. Minor neurosurgical procedures, like burr holes, had previously been done by Drs. Alan Curry, Arthur Murphy, John Merritt and Norman Ghose. Stevenson recounted an example of general surgeons' close guarding of patients who required neurosurgical care: one of the general surgeons

had a patient one time with a subdural hematoma ... He had left, and I found the patient with the hematoma, and he was seriously ill, and I took him right into the operating room and took out his hematoma. The [general surgeon] hadn't known that I had done that ... and when he came back and found that I'd operated on his patient, he was mad at me, and he remained mad at me for quite a while. And then he took me on a fishing trip and he was one of the first who taught me to do a little fly fishing, and it was wonderful; we became good friends (Personal communication, September 1998).

The neurosurgical service initially did not have a dedicated operating room. Only 2 operating rooms were available in the Victoria General Hospital for all surgical services, and neurosurgical operations could only be performed after the surgeons had

finished for the day. All of the necessary furniture for the cases, including an operating room table designed by Dr. Harry Botterell, had to be moved to the room each afternoon after the general surgeons had finished for their day. By the end of 1948, the service obtained a dedicated room on the twelfth floor when a new operative suite was built at the top of the Victoria Building. If intraoperative radiographs or angiograms were necessary, patients were taken to the radiology department on the third floor and then brought back up to the operating room. With the opening of the Centennial Wing on April 15, 1967, neurosurgery was among the services that clearly benefitted from an increase in beds and space. Stevenson met with the architects for almost 2 years before the new wing was built, to help design a self-contained neurosurgical unit on the second floor. The operating rooms, which could handle 3 times the caseload, were at one end of the unit, compared with the service's previous design (Fig. 3A). The ward and radiological diagnostic services like radiography were available on the same floor (Fig. 3B), as were facilities for electroencephalographic recording, the neurosurgical and physiotherapy clinics, the neurosurgeons' offices and a library. As Stevenson admitted, "I know very well that we were the envy of quite a number of neurosurgical departments across the country, because they talked to me about it."

The unit was equipped and prepared to use hypothermia for spinal cord injury and aneurysm treatment.³ Despite these improvements, the waiting times for neurosurgical operations were up to 3 or 4 months. At one point, over 400 patients who were waiting for lumbar disc surgery were accommodated by having their surgeries performed at the Victoria General Hospital and then transferred to the Halifax Civic Hospital for postoperative care.

Stevenson provided leadership for

the neurosurgical service from the time of his arrival until his retirement in 1974. Under his tenure as head of the service, he recruited several neurosurgeons to the Atlantic region, including Dr. Harold Tucker in 1955, Dr. Stuart Huestis and Dr. Roland Langille in the 1960s and Dr. William Howes and Dr. Renn Holness in the 1970s. Stevenson advocated for the neurosurgical service to have independent department status in the university to facilitate the service's growth, but he faced some administrative hurdles. In 1948, the service began as a division of general surgery, which was not favourable for neurosurgery because of the strained relations between the 2 services. Because neurosurgical care had been provided by general surgeons before Stevenson's arrival, some general surgeons resented the service because they were opposed to surgical specialization or because they wanted to maintain responsibility for neurosurgical patients. By 1950, the hospital administration created a new department that combined neurosurgery with neurology and psychiatry, with Dr. Clyde Marshall as the department head. Stevenson still found little advocacy for the neurosurgical service's issues, and as he explained,

I think the Dean knew it ... I was down at a meeting one time in Philadelphia with Dr. McKenzie, and while I was there, I got a telegram from Harry Grant saying "Come back, we'll see that everything is alright." I think they were afraid we were going to move off to the States at that time, although we had no intention of doing so (Personal communication, September 1998).

Finally in 1969, neurosurgery became a department in the university as well as the hospital, which enabled Stevenson to participate in faculty meetings with the Dean of Medicine. Stevenson's leadership in neurosurgery transcended Dalhousie University and the Victoria General Hospital; he served as President of the Canadian Neurosurgical Society in 1965 and as

the first president of the Canadian Congress of Neurological Sciences.

Stevenson strove to improve neurosurgical outcomes by critically reviewing the service's clinical work.⁴ He worked with general surgeon Gordon Bethune on a study of the efficacy of total hypophysectomy as a palliative treatment for recurrent breast cancer and presented their re-

sults at the Annual Gallie Club Meeting in Toronto in 1955. In his 1957 review of traffic-related head injuries, Stevenson advocated for injury prevention measures, including physician education of their patients on automobile safety devices and medical conditions that could render them unfit to drive and physician lobbying of government regulatory

agencies to develop driving standards.^{5,6}

Stevenson's accomplishment of developing the first academic neurosurgical program in Atlantic Canada laid the foundation for Neurosurgery in Halifax to grow to include 10 neurosurgeons and clinical programs spanning all the subspecialties of neurosurgery. Stevenson's pioneering efforts in Halifax were crucial for the establishment of neurosurgical services in Atlantic Canada. His residents have practised not only in Halifax but in all major cities of Atlantic Canada and have themselves trained a new generation of neurosurgeons for the region. Stevenson's legacy endures, as well, through the W.D. Stevenson Award for Research that is given annually to the neurosurgical resident who has made the most significant research contribution. Stevenson's support for the division endures to this day — oil painting has become a sort of second career for Stevenson since his retirement from neurosurgery, and each recipient of the award receives 1 of his artworks (Fig. 4).

Over his 26-year academic career, Stevenson was regarded as a gentleman whose vision, humility and unassuming manner enabled him to rise above the politics that initially confronted the new neurosurgical service. Donald Carruthers, Victoria General Hospital's first neurosurgical operating room nurse, got to know Stevenson well during the early years of the division's history. In addition to scrubbing with Stevenson for almost all neurosurgical operations, he travelled with him to other Maritime centres to assist with procedures for patients who were unable to make the trip to Halifax. Carruthers recalled Stevenson's operating room as one of calm and quiet; Stevenson would typically communicate with Carruthers during the cases using hand gestures to indicate the instruments he wanted. Other nurses who watched the pair at work commented, "You guys never *speak!*"

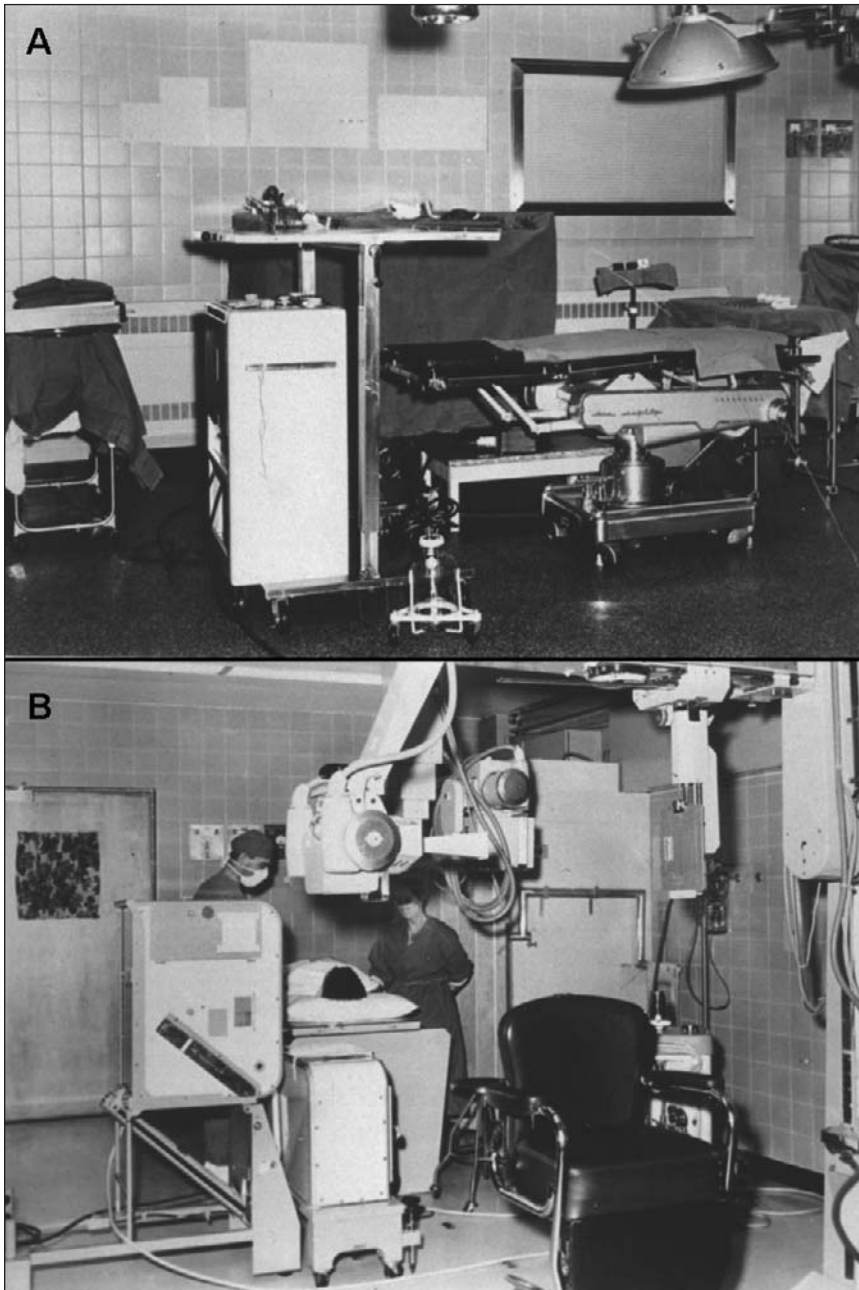


FIG. 3. One of the new neurosurgery operating rooms of the Centennial Wing, circa 1967. The operating room table was designed by Dr. Harry Botterell (A). Diagnostic radiologic services were available in the new neurosurgery section of the Centennial wing, including equipment to perform ventriculograms, circa 1967 (B).



FIG. 4. Oil painting became one of Dr. Stevenson's hobbies after his retirement from neurosurgery.

(personal communication, October 1997). Stevenson's calm nature was obvious as well in his manner of resolving conflicts, as he related the following:

I remember we used to have a weekly meeting in my office, and in would come the head nurse in the operating room, the head nurse from the wards, and all the neurosurgeons and the residents — there might be 10 of us there, perhaps. We'd say, "well, what's going wrong now, tell me about any problems on the ward. What do you need in the operating room? Have you got everything that you want? Have you any problems with your patients?" An open discussion, a frank agreement to be pleasant with each other while this goes on is important. I think the human relationship is as important as anything. (Personal communication, September 1998.)

On the 50th anniversary of the establishment of neurosurgical services in Atlantic Canada in 1998, Stevenson provided guidance for the future generation of neurosurgeons — guidance that he thought would be relevant regardless of technological advances in the specialty. He advised residents to always be honest and open in their discussions with patients, with patients' families and with colleagues.

Dr. William D. Stevenson, Atlantic Canada's pioneer neurosurgeon, passed away in Ajax, Ontario, on September 28, 2006, at the age of 93.

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