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**Charles George Drake, Neurosurgeon**

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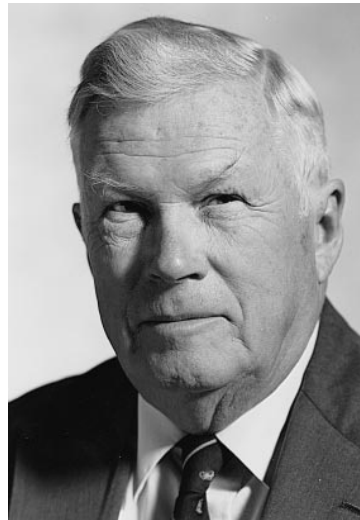
### Charles George Drake, Neurosurgeon

Charles Drake died September 15, 1998 in London, Ontario after an extended bout with lung cancer. Just a few weeks before his death, he was awarded the highest honor in Canada, the Companion of the Order of Canada, recognition equal to a lordship in Great Britain. This was the ultimate esteem for a career highlighted by the development of surgical treatments for basilar and giant aneurysms.

He had already been recognized internationally by his peers for many years. He served many medical associations. He acted as president of the Royal College of Physicians and Surgeons of Canada (1971–1973), the American Association of Neurological Surgeons (1977), the American College of Surgeons (1984–1985), the World Federation of Neurological Societies (1977–1981), the Society of Neurological Surgeons (1980), and the American Surgical Association (1986–1987).

Charlie was born in 1920 in Windsor, Ontario, grew up in southwestern Ontario, and attended the University of Western Ontario (London, Ontario) where he earned his undergraduate and medical degrees. During his training in neurosurgery at the University of Toronto, he was greatly influenced by the renowned neurosurgeons, E.H. Botterell and K.G. McKenzie. He was challenged with the difficulties of treating ruptured cerebral aneurysms in the late 1940s, especially aneurysms in the impossible locations of the vertebrobasilar system. He also had interests in neuroradiology from early on: in 1951, he published *Arteriography: a Useful Addition to the Technique* (1). After sojourns for extra neurosurgical experiences at the National Hospital, Queen's Square and at various other European teaching hospitals, he returned to become the first neurosurgeon in London, Ontario.

By 1960, he had published results of his first aneurysm cases, followed a year later by his publication of his first successes in treating basilar aneurysms (2). By that time his close relationship with the neuroradiologist John M. Allcock (former executive member of the ASNR) was already well entrenched. Together the two promoted and practiced thorough angiographic examination of patients with aneurysms before and after treatment (3). From this close relationship came the recognition of the importance of vasospasm (4). Innovation in the treatment of difficult basilar aneurysms in the 1960s included, for Drake, surgery during hypothermia and cardiac arrest. Ultimately the monumental series of treatment of posterior circulation aneurysms (5) and the innovative occlusive treatments for giant aneurysms (6) were important fruits of this work. The idea for the “Drake tourniquet” was known to have come from Dr. Allcock, and allowed patients with unclippable aneu-



rysms (as determined by Drake during exploratory surgery) to be monitored awake on the angiography table while undergoing basilar artery occlusion.

As the success with basilar, other aneurysms, and other hemorrhagic diseases expanded and became well known, there were numerous patients referred to Charlie from all over the world. As well, there were also offers for Charlie to take leadership positions within academic centers in larger cities, especially in the United States. Locally, in London, Ontario, community business leaders and benefactors worked to ensure Charlie would not want to leave for greener pastures. Out of that goal came the excellent support from the Ivey Family Foundation for the University Department of Clinical Neurosciences, and the establishment of the University Hospital in London, Ontario (now the University Campus of the London Health Sciences Center) that opened in 1972.

There were many patients, visitors, and trainees in both neurosurgery and neuroradiology who passed through that edifice, drawn by Dr. Drake's successes and leadership. Patients were most often referred with ruptured basilar aneurysms. Invariably the patients needed angiographic assessment for vasospasm and special views (i.e., different angles, vertebral injection with compression of the carotid arteries to evaluate the patency of the posterior communicating arteries). Therapies that would be unheard of and often impossible elsewhere (bilateral vertebral artery occlusion, basilar or middle cerebral artery occlusion) were normal in London, Ontario. With the elevation of skills in endovascular techniques to the state of the art in the late 1970s in London, Charlie was always urging his neuroradiology colleagues to innovate, create, and take risks in order to expand the horizons

of the embolization of aneurysms, arteriovenous malformations, and fistulas.

Even well into his second 1000 cases of vertebrobasilar aneurysms, Charlie always reviewed imaging studies for each patient directly with the neuroradiologist. He would question what angle of surgical approach would be best, what branches to monitor, and included the neuroradiologist as the most important confidant and adviser in every case. When a case under his care "went bad," his first response was to arrange for more neuroradiologic study of the disaster, especially of how angiographic records showed what led to the problem. It seemed as if the neuroradiologists with whom he worked took part in more discussion about the approach used and the problems in each case than the neurosurgical house staff.

Even when Charlie was the sole neurosurgeon in the region, he would intermittently escape. He found freedom and relaxation flying his plane. His vacation home at Lion's Head, in the northern Bruce Peninsula of Lake Huron, was a refuge, as were his hunting trips. He flew everywhere he could, and there is even a story told of the time he forgot his plane somewhere in the midwest, and flew home on a commercial airline after a captivating neurosurgical meeting! Golf was also a passion, and after he retired from active surgical practice, he kept himself occupied with golf in London, at his family place in Florida, and in many other sites around the world. He would like to include a round of golf during professorial visits, and especially enjoyed talking about his golf experiences in Saudi Arabia where the fairways were all brown.

Some think it ironic that the surgical techniques so well developed by Charles Drake for the "impossible" basilar aneurysms have now been abandoned by many neurosurgeons for the endovascular platinum coil approach. Perhaps the coils are better, or alternatively, perhaps there are not enough neu-

rosurgeons with the skills, ingenuity, and courage Charles Drake had to achieve success in these most difficult cases. His full record of vertebral-basilar aneurysms has now been published (7), and the results and successes documented provide an important model with which endovascular and all other treatment should be compared.

There are many the world over who miss Charlie. His contributions to the treatment of "untreatable" hemorrhagic cerebrovascular diseases are monumental examples of pushing frontiers far beyond what was thought possible. He remains a remarkable role model for neuroradiologists as well as neurosurgeons. He created exemplary relationships with neuroradiologists, and always recognized that his work wouldn't have progressed far without quality neuroradiology, and the advancement of safe neuroradiological techniques.

He has been survived by his wife, Ruth, four sons (including Jimmy, a pediatric neurosurgeon in Toronto), and many grandchildren. He is remembered and missed by many.

ALLAN J. FOX, MD  
*Editorial Board*

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