

The Montreal Neurological Institute: Training of the First African-American Neurosurgeons

Shearwood McClelland III, MD

Background: Since its inception in 1934 by the legendary Dr. Wilder Penfield, the Montreal Neurological Institute (MNI) has provided world-renowned instruction in neurosurgery and related neurosciences, training many of the most prominent figures in the history of neurosurgery. Less well known is the role of the MNI in training the first African-American board-certified neurosurgeons.

Methods: A comprehensive review of pertinent modern and historical records spanning the past century was performed.

Results: From 1947–1965, the MNI trained the first African-American board-certified neurosurgeon, and three of the first four. The first, Dr. Clarence Greene, Sr., trained at MNI from 1947–1949. The next, Dr. Jesse Barber, Jr., trained at MNI from 1958–1961. Like Greene, Barber received his MD from the Howard University College of Medicine, was on the general surgery faculty at Howard before training at MNI under Penfield and returned to Howard following his training. The third, Dr. Lloyd Dayes, matriculated at MNI in 1960 after receiving his MD from the Loma Linda University School of Medicine and trained from 1961–1965 under Dr. Theodore Rasmussen, after which he returned to Loma Linda. Greene, Barber and Dayes were certified by the American Board of Neurological Surgery in 1953, 1963 and 1967, respectively, as the first, third and fourth African-American neurosurgeons.

Conclusion: The willingness of the world-renowned MNI to train the first African-American neurosurgeons during a time of intense racial segregation in the United States played a major role in enabling subsequent African Americans to enter and enhance the field of neurosurgery.

Key words: Clarence S. Greene Sr. ■ Jesse B. Barber Jr. ■ Lloyd A. Dayes ■ Theodore Rasmussen ■ Wilder Penfield ■ neurosurgery ■ African Americans

© 2007. From the Department of Neurosurgery, University of Minnesota Medical School, Minneapolis, MN. Send correspondence and reprint requests for *J Natl Med Assoc.* 2007;99:1071–1073 to: Dr. Shearwood McClelland III, Department of Neurosurgery, University of Minnesota, Mayo Mail Code 96, 420 Delaware St. SE, Minneapolis, MN 55455; phone: (612) 624-6666; fax: (612) 624-0644; e-mail: mccl0285@umn.edu

INTRODUCTION

Driven by a dream in the late 1920s to establish an institute for the study and treatment of neurological disorders, and aided by the financial support of the Rockefeller Foundation, the legendary Dr. Wilder G. Penfield inaugurated a hospital and research center “dedicated to relief of pain and suffering and to the study of neurology” in 1934, known as the Montreal Neurological Institute (MNI) of McGill University.¹⁻³ The MNI quickly became a model emulated worldwide for its integration of clinical neurology/neurosurgery with the basic neurosciences.⁴

Since its inception, the MNI has trained many of the foremost leaders in the field of neurosurgery and impacted countless others, with graduates becoming chairmen at several prestigious institutions in the United States, including the University of California at San Francisco, Duke University, Stanford University, the University of Chicago, the University of Oregon, Loma Linda University, Henry Ford Hospital, and the Lahey Clinic, among others.⁵⁻⁷ Other graduates have propagated the MNI model throughout Canada and in many countries worldwide, such as Scotland, Brazil, Poland, China and India.⁸

Less well known is the role of the MNI in training the first African-American board-certified neurosurgeons.^{9,10} This important yet relatively unknown contribution of the MNI to the field of neurosurgery is detailed in this report. Information was gathered from a comprehensive review of pertinent modern and historical records spanning the past century, both in print and in electronic form.

HISTORICAL VIGNETTE

During the early to mid-20th century, racial tensions ran high in the United States as the establishment of racial segregation was being severely challenged, often at the expense of many African-American lives.¹¹ In this midst of this environment, with the doctrine of “separate but equal” prominent throughout education and the workplace, Clarence Sumner Greene Sr., MD, FACS, became one of the first African-American general surgeons in the United States, having received his MD from

the Howard University College of Medicine in 1936 and becoming certified by the American Board of Surgery in 1943.^{10,12} After four years on the general surgery faculty at Howard, Dr. Greene (Figure 1) sought to pursue neurosurgery, yet despite his striking credentials, he was denied admission by several U.S. residency programs.⁸ However, in 1947, Penfield chose to accept him for a two-year residency in neurosurgery at the MNI during the time that Penfield and Dr. Theodore B. Rasmussen pioneered the technique of brain mapping during the surgical treatment of epilepsy.^{5,7,13} Making the most of the opportunity, Greene graduated in 1949, highly regarded by Penfield, one year prior to the landmark publication of *The Cerebral Cortex of Man*, which resulted in the first depiction of the human somatosensory cortex (Figure 2).^{10,14} Returning to Howard in 1949 as chief of neurosurgery, Greene transformed neurosurgical care at Freedman's Hospital, which had previously been managed by general surgeons. In 1953, Greene became the first African American to be certified by the American Board of Neurological Surgery (ABNS) (Figure 3), and

subsequently became chairman of Howard University's department of surgery.^{9,10,13,15} Unfortunately, he passed away only a few years later, in 1957, at the age of 55.

Shortly after Greene's passing, Penfield accepted a second African American, Jesse B. Barber Jr., MD, FACS, to train in neurosurgery at the MNI, undoubtedly encouraged by Greene's excellent performance as a resident. Dr. Barber (Figure 4) had been inspired to pursue neurosurgery by Greene while on his neurosurgery service. Like Greene, Barber received his MD. from Howard University in 1948, was certified by the American Board of Surgery in general surgery, and was on the general surgery faculty at Howard.⁹ Accepted by Penfield in 1958, Barber began a three-year residency at the MNI. Following graduation in 1961, Barber returned to Howard and became chief of neurosurgery, a position he held for 22 years.^{9,16} Upon his return from the MNI, aware of the high mortality rate of stroke among African Americans, he spearheaded a stroke team modeled after the MNI, which reduced the stroke mortality rate at Freedmen's Hospital from 65% to 15% over a three-year period.¹⁷ Additionally, he recruited many African-American medical students into neurosurgery during this time period, including Marx Bowens, Roger Cunnette, Joseph Epps, Bernard Robinson, Clarence Greene Jr., Alton Roberson, Charles Mosee, Wilbur Sanford, Yonas Zegege, Gary Dennis, Tyrone Hardy, Isaac Thapedi, Charles West and Earl Mills, each of whom became a successful neurosurgeon.⁹ In 1963, he became the third African American certified as a diplomat by the ABNS, two years after E. Latunde Odeku MD, FACS, became the second African-American board-certified neurosurgeon.^{10,18} Founder of the Health Care for the Homeless Project Inc., he was a tireless advocate for the medically underserved until his death in 2002 at the age of 78.

Following Barber's completion of residency in 1961,

Figure 1. Clarence S. Greene Sr., MD, FACS, the first African-American neurosurgeon



Courtesy of the American Board of Neurological Surgery

Figure 2. Group photograph from the Montreal Neurological Institute during Dr. Greene's (arrow) training under Dr. Penfield



Figure 3. Official letter from the American Board of Neurological Surgery confirming Dr. Greene's board certification as a neurosurgeon



the MNI, now headed by Rasmussen, accepted a third African American, Lloyd A. Dayes, MD, PhD, FACS, into neurosurgery residency training. Dayes (Figure 5) received his MD from the Loma Linda University School of Medicine in 1959 and completed two years of internship at Montreal General Hospital prior to starting neurosurgery residency. Graduating in 1965, he returned to join the faculty of Loma Linda and in October 1967 became the fourth African American to be board-certified by the ABNS).³ Rising through the academic ranks, in 1987 he became chairman of Loma Linda's Division of Neurosurgery, becoming the first African American to chair a certified neurosurgery residency program and the second MNI alumnus to chair Loma Linda's program.¹⁹ He held this post until 1989, and presently remains professor of neurosurgery at Loma Linda, engaging in brain tumor research, with multiple publications and awards to his credit.

Figure 4. Jesse B. Barber Jr., MD, FACS



Courtesy of the American Board of Neurological Surgery.

Figure 5. Lloyd A. Dayes, MD, PhD, FACS



Courtesy of the American Board of Neurological Surgery

CONCLUSION

The willingness of the world-renowned MNI to train three of the first four African-American board-certified neurosurgeons during a time of intense racial segregation in the United States played a major role in enabling subsequent African Americans to enter and enhance the field of neurosurgery. The open-mindedness of the MNI to train qualified people for neurosurgery regardless of race or skin color is yet another reason for the MNI model to be emulated worldwide.

ACKNOWLEDGMENTS

The author would like to thank Kimbra S. Harris, Doris Sherer, Jane Rein, Dr. Lloyd A. Dayes and Dr. Clarence S. Greene Jr. for invaluable assistance.

REFERENCES

1. Penfield W. *No Man Alone: A Neurosurgeon's Life*. Boston, Little, Brown & Co.; 1977.
2. Penfield W. The significance of the Montreal Neurological Institute, in *Neurological Biographies and Addresses* [Foundation volume published for the staff to commemorate the opening of the Montreal Neurological Institute of McGill University (September 27, 1934)]. London, UK: Oxford University Press; 1936:37-54.
3. Lewis J. *Something Hidden: a Biography of Wilder Penfield*. Garden City, NJ: Doubleday; 1981.
4. Eccles (Sir) J, Feindel W. Wilder Graves Penfield: 1891-1976-Biographical Memoirs of Fellows of the Royal Society (London) [includes a bibliography of Penfield]. 1978;24:473-513.
5. Feindel W. Neurosurgery at the Montreal Neurological Institute and McGill University Hospitals. *Neurosurgery*. 1996;39:830-839.
6. Rosegay H. A History of Neurological Surgery at the University of California, San Francisco. *Neurosurgery*. 1996;38:794-805.
7. Feindel W. Toward a surgical cure for epilepsy: the work of Wilder Penfield and his school at the Montreal Neurological Institute. In: Engel J Jr, ed. *Surgical Treatment of the Epilepsies*. New York, NY: Raven Press; 1993;2:1-10.
8. Preul MC, Stratford JG, Bertrand G, et al. Arthur Elvidge (1899-1985): Last of the MNI neurosurgical triumvirate. *J Neurosurg*. 1996;84:362A (abstr).
9. Leffall Jr LD, Syphax BM. The Howard University department of surgery and Freedmen's hospital. In: Organ CM, Kosiba MM, eds. *A Century of Black Surgeons: the U.S. Experience*. Vol. I. Oklahoma: Transcript Press, 1987;1-62.
10. Cobb WM, Epps Jr CH, Kosiba MM. Certification Pioneers. In: Organ CM, Kosiba MM eds. *A Century of Black Surgeons: the U.S. Experience*. Vol. II. Oklahoma: Transcript Press; 1987;483-528.
11. Bellesiles MA. ed., *Lethal Imagination, Violence and Brutality in American History*. New York and London: New York University Press; 1999.
12. *Fireside, Harvey, Separate and Unequal: Homer Plessy and the Supreme Court Decision That Legalized Racism*. New York, NY: Carroll & Graf; 2004.
13. McClelland S III, Harris KS. Clarence Sumner Greene, Sr.: the first African-American neurosurgeon. *Neurosurgery*. 2006;59:1325-1327.
14. Penfield W, Rasmussen T. The cerebral cortex of man: a clinical study of localization of function. New York, NY: Macmillan; 1950.
15. Syphax B. The Howard Department of Surgery. *J Natl Med Assoc*. 1967;59:441-446.
16. Barber JB Jr. The Howard Division of Neurosurgery. *J Natl Med Assoc*. 1967;59:477-479.
17. Sigma Pi Phi Fraternity: In Memoriam. *Boule J*. 2003;67:190-198.
18. McClelland S III, Harris KS. E. Latunde Odeku: the first African-American neurosurgeon trained in the United States. *Neurosurgery*. 2007;60:769-772.
19. Yamada S. George Austin, MD. *Neurol Res*. 2001;23:1-4. ■