

Alexa Irene Canady: The First African-American Woman Neurosurgeon

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Background: The advances of the civil rights movement in the mid-20th century made it possible for many African Americans to have the opportunity to enter the distinguished field of neurosurgery, beginning in 1953 with Clarence S. Greene, Sr. This report details the career and exploits of the first African-American woman neurosurgeon, Alexa Irene Canady, MD.

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

Results: Born on November 7, 1950, in Lansing, MI, Canady received her MD from the University of Michigan in 1975, graduating with distinction and being elected into the Alpha Omega Alpha Honor Society. Training in neurosurgery under Dr. Shelley Chou from 1976–1981 at the University of Minnesota, she became the program's first female graduate. Following residency, she trained as a pediatric neurosurgery fellow at the Children's Hospital of Philadelphia. In 1984, Canady became the first African-American woman certified by the American Board of Neurological Surgery. She subsequently continued a long, distinguished career in pediatric neurosurgery, first at Henry Ford and later as chief of neurosurgery at Children's Hospital of Michigan before retiring in 2001. Among her many accolades, she was named 1993 Woman of the Year by the American Woman's Medical Association.

Conclusion: Canady's diligence, perseverance and commitment enabled her to overcome tremendous odds to become the first African-American woman neurosurgeon, trained at the University of Minnesota. A true pioneer, her achievements have inspired many, opening the door for subsequent women and African Americans to enhance the field of neurosurgery.

Key words: Alexa Irene Canady ■ African Americans ■ neurosurgery ■ education ■ Shelley Chou

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INTRODUCTION

The advances of the civil rights movement in the mid-20th century made it possible for many African Americans to have the opportunity to enter the distinguished field of neurosurgery, beginning in 1947 with Clarence S. Greene, Sr. (trained by Dr. Wilder G. Penfield at the Montreal Neurological Institute), becoming the first African-American board-certified neurosurgeon in 1953.^{2,6,8} Three years later, E. Latunde Odeku trained under Dr. Edgar A. Kahn at the University of Michigan as the first African American to receive neurosurgery training in the United States, becoming the second African American to be certified by the American Board of Neurological Surgery in 1961.^{1,2,9} However, it was not until more than two decades later that the field of neurosurgery was blessed with its first African-American woman. This report details the background, training, career and exploits of Alexa Irene Canady, MD, the first African-American woman neurosurgeon. Information was gathered from a comprehensive review of pertinent modern and historical records spanning the past century, both in print and in electronic form.

BIOGRAPHY

Canady (Figure 1) was born on November 7, 1950, in Lansing, MI.⁸ The only daughter of Hortense (educational administrator) and Clinton Canady, Jr. (dentist), Dr. Canady demonstrated exceptional aptitude at an early age, scoring extremely highly on standardized tests during grade school.^{5,11} However, during this time as the only African-American woman in her school, she was also witness to the racism and sexism she would later have to overcome, exemplified by a teacher who falsified her score on a standardized reading test due to disbelief that an African-American woman's score could be superior to those of the Caucasian men in her grade.⁵

Undaunted, she became a National Achievement Scholar in 1967, and was accepted to the University of Michigan. Although initially majoring in mathematics, exposure to a minority health careers program transformed her interest towards the field of medicine.¹¹ Receiving her BS in zoology from the University of Michigan in 1971, she was accepted into the University

of Michigan's School of Medicine. During her time in medical school, her interest in the neurosciences became stimulated by a two-year interdisciplinary neurobehavioral science course, eventually resulting in a passionate interest in neurosurgery. Receiving her MD in 1975 with cum laude distinction, Canady was nominated by the University of Michigan for the Franklin C. McLean Scholarship, and was elected into the Galens Honorary Medical Society and the Alpha Omega Alpha Medical Honor Society.¹¹

Despite the myriad of people who attempted to discourage her from neurosurgery due to her race and gender, Canady spent the next year as a surgery intern at Yale University–New Haven Hospital in Connecticut, rotating under Dr. William F. Collins, Jr. in neurosurgery.⁵ Following her internship at Yale, she was accepted by the legendary Dr. Shelley N. Chou for neurosurgery residency at the University of Minnesota. Most recognized for pioneering the use of dexamethasone for the treatment of cerebral edema in the early 1960s, the University of Minnesota neurosurgery program is one of the oldest and most distinguished in the world, having trained several neurosurgery chairmen including Chou, Dr. Lyle A. French, Dr. Bo Sung Sim, Dr. Kil Soo Choi, Dr. Jim L. Story, Dr. George S. Allen, Dr. Robert E. Maxwell, Dr. James I. Ausman, and Dr. Donlin M. Long.^{3,4,10}

Canady trained from 1976–1981, finishing as the first woman and first African American to graduate neurosurgery residency in the state of Minnesota.^{5,11,12} Known for her photographic memory, thoughtfulness, and consistent clinical and surgical excellence, her performance made her highly regarded by Chou and the rest of the University of Minnesota faculty, as evidenced by several letters of recommendation describing her as a “superior

resident in every respect ... a highly competent neurosurgeon, particularly in pediatric neurosurgical problems. She deals with patients and their families in a very compassionate fashion and is of high moral and ethical character ... her professional ethics are outstanding ... a super resident in every way.” Not satisfied with clinical excellence, Canady was also active in academic pursuits, receiving a grant from the Minnesota Medical Foundation in 1979 for investigation of surface receptors and blocking factors in human brain tumors, and passing the written examination for a PhD prior to graduation.

Canady's excellence as a resident enabled her to be awarded a fellowship in pediatric neurosurgery at the world-renowned Children's Hospital of Philadelphia under Dr. Luis Schut from 1981–1982. During this time, she also taught neurosurgery at the University of Pennsylvania School of Medicine and was described by Schut as “one of the best trainees that I have had in a long time.”¹¹

The next year, after weighing several job offers, she returned to Michigan and joined the neurosurgery faculty of Henry Ford Hospital in Detroit, MI, before joining the pediatric neurosurgery team at Children's Hospital of Michigan the following year.^{5,11} On May 11, 1984, Canady made history as the first African-American woman certified as a diplomat by the American Board of Neurological Surgery one year prior to contemporary Dr. M. Deborah Hyde.⁷ Appointed assistant director of neurosurgery two years later, Canady was named an associate professor at Wayne State University School of Medicine in 1987, and in 1993 she was appointed chief of neurosurgery at Children's Hospital of Michigan.¹¹ A visionary in pediatric neurosurgery, her pioneering of new techniques in treating trauma in children made her world renowned.

Canady's other accolades include being named 1984 Teacher of the Year by Children's Hospital of Michigan, 1986 Woman of the Year by the Detroit chapter of the National Association of Negro Business and Professional Women's Club, the 1986 Candace Award by the National Coalition of 100 Black Women and the 1995 Athena Award by the University of Michigan Alumnae Council.¹¹ She was also a member of the Congress of Neurological Surgeons, the American Association of Neurological Surgeons, the American Society of Pediatric Neurosurgery, the American College of Surgeons, the Society of Neurological Surgeons and the Neurosurgical Society of America. In addition, she was elected to the Michigan Women's Hall of Fame in 1993, the same year she was named Woman of the Year by the American Woman's Medical Association.¹¹

Aided by Canady's neurosurgery leadership, the Children's Hospital of Michigan rose in stature to make *Child* magazine's inaugural “10 Best Children's Hospitals in America” list in 2001, with Canady selected as the most outstanding representative physician of the

Figure 1. Alexa Irene Canady, MD—the first African-American woman neurosurgeon



Courtesy of the University of Minnesota Department of Neurosurgery

Table 1. Contributions of Dr. Canady to the neurosurgical literature during her academic career

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hospital. Throughout her career, she served as an active mentor to minority high-school students interested in pursuing careers in medicine. Not satisfied with these accomplishments, she also contributed substantially to the neurosurgery literature, publishing 49 articles in peer-reviewed journals (Table 1). She continued a long, distinguished career as vice chairman of the department of neurosurgery at Wayne State University and as an

endowed professor of pediatric neurosurgery until retiring in June 2001.

CONCLUSION

The diligence, perseverance and commitment of Alexa Irene Canady, MD, enabled her to overcome intense racism and sexism to train at the University of Minnesota, become the first woman or African Amer-

ican to receive neurosurgery training in the state of Minnesota and the first African-American woman neurosurgeon. A true pioneer, her achievements, determination and excellence have inspired people of all races and opened the door for subsequent women and African Americans to enhance the field of neurosurgery.

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