



The female pioneers in Mohs micrographic surgery[☆]

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The history of Mohs surgery is a history of pioneers; it is a history of innovation, questioning the status quo, and bravely pushing for improvements, all for the benefit of patients and the advancement of the field.

Background

In 1936, a time when cutting through cancers was widely believed to cause dissemination of disease, Dr. Frederic E. Mohs first began treating skin cancer by removing sections in pieces. Although he was faced with skepticism and doubt, 26-year-old Dr. Mohs knew the potential benefit of his procedure for many patients. Fast forward 30 years, and an entire fellowship program dedicated to training physicians in Mohs' surgical methods was started by Dr. Perry Robbins at New York University in 1966, followed by the founding of the American College of Chemosurgery in 1968.

In 1969, Dr. Mohs presented follow-up reports for a more efficient method using fresh tissue as opposed to the traditional fixed-tissue technique to remove cancers of the eyelids. His findings were further supported by Dr. Tromovitch, who suggested that the use of fresh tissue was equally effective for the removal of any skin cancer. Once again, these physicians faced pushback; however, the methodology eventually became widely accepted and resulted in the ultimately improved cure rates that patients can appreciate today (Brodland et al., 2000).

In 2018, as we celebrate the 50th year of the American College of Mohs Surgery (ACMS), it is important to recognize the pioneers who crossed the gender divide and brought women into the field. These courageous trailblazers, who generally forged their paths alone, have made significant contributions to the field of Mohs surgery.

Data on women in the American College of Mohs Surgery

The ACMS has seen a steady rise in female membership from 21.7% female members in 2003 to 34.1% in 2018. Assuming a linear trend, 50% female membership in the ACMS can be predicted by the year 2042 (Fig. 1). In 2016 to 2017, 49.4% of micrographic surgery

and dermatologic oncology fellows were female, a percentage that is well above most other surgical subspecialties (ACGME Data Resource Book, Accreditation Council for Graduate Medical Education, 2018.). These numbers are especially impressive when considering that the first female Mohs surgeon did not complete her fellowship in the United States until 1979.

The female members of the college have also shown notable representation in leadership roles. Presently, 24% of current fellowship directors in micrographic surgery and dermatologic oncology are female. In addition, in 2017, Dr. Allison Vidimos became the first female president of the ACMS, 50 years after the college was started. The data trends for female representation in Mohs surgery are encouraging. However, gains in gender equality in the field did not happen overnight, nor did it happen by accident. As activist Mariam Wright Edelman said, "You can't be what you can't see," and it is thanks to the pioneers, the very first Mohs surgeons, that today's female medical students and residents can easily picture themselves in that role. Although there are many female pioneers in the field of Mohs surgery who have contributed significantly to the field, this article focuses on the first 3 fellowship-trained female Mohs surgeons in the United States.

The pioneers

June Robinson, MD

Dr. June Robinson became the first female fellowship-trained Mohs surgeon after completing her fellowship at the New York University Skin and Cancer Clinic in 1979. When asked why she chose Mohs, a field that included only men at the time, Dr. Robinson described the need she saw among her patients with large skin cancers who had inoperable recurrences. "Patients in New England were not able to obtain treatment with the [Mohs] technique at the time, and often received palliative care with radiation therapy."

Dr. Robinson's accomplishments clearly show that being the first woman in a role has never hindered her from professional pursuits. She was the first female dermatology resident at Dartmouth-Hitchcock Medical Center, the first female president of the American Society for Dermatologic Surgery, the first female president of the Illinois division of the American Cancer Society, and the first female Secretary-Treasurer of the American Academy of Dermatology. In addition, she was the first female editor of the *Archives of*

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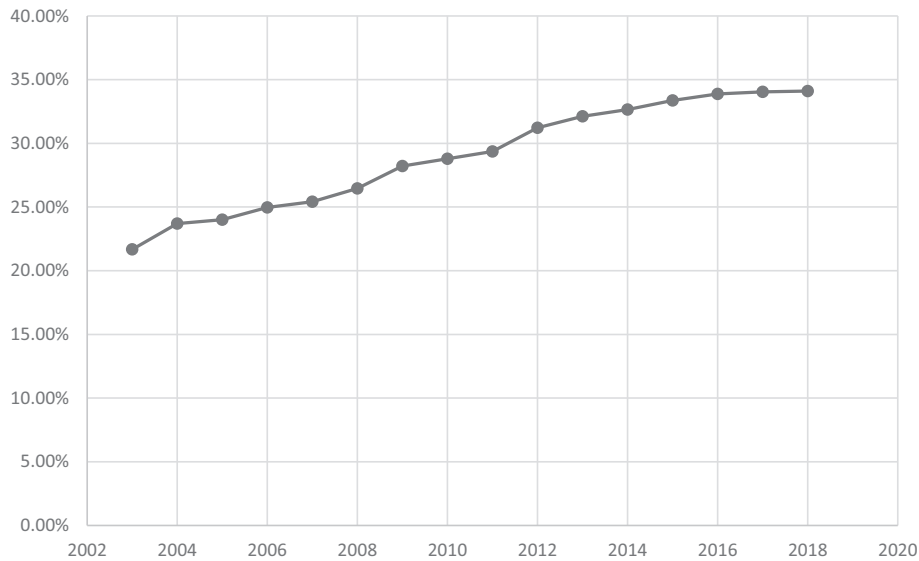


Fig. 1. Percentage of female members in the American College of Mohs Surgery.

Dermatology/Journal of the American Medical Association Dermatology. In 2008, Dr. Robinson was the first woman to be honored with the prestigious Frederick E. Mohs Award for Career Achievement.

Although Dr. Robinson's resume may make it look easy, a career full of "female firsts" came with its fair share of obstacles and barriers. "Yes, I got a lot of bed pans for patients, because it was assumed I was a nurse. Yes, I worked twice as hard as my male peers to gain respect, and to advance in my career. Yes, as a senior faculty member, I have stood up for junior women who I felt were being discriminated against, and I have been 'punished' for my impudence in speaking out." Despite this, her competence and collaboration ultimately led to respect and acceptance within the field, and a more than 40-year career that she describes as "very fulfilling."

One of the most rewarding parts of Dr. Robinson's career has been the research she has developed with her team to improve the early detection of melanoma and the primary prevention of skin cancer. Her research defining the clinical edge of skin cancer and improving laboratory techniques to ensure identification of tumor cells at the margin of the surgical resection has been widely adopted and improved the cure rate of surgical resection of melanoma in situ and non-melanoma skin cancer.

Moving forward, Dr. Robinson describes a need for female physicians to support one another. "We need a seat at the table, and then we need a place for other women to join us." Dr. Robinson gives acknowledgments to important female physicians in her life, such as Marie Louis Johnson, MD, whom Dr. Robinson says made her fellowship possible; Ruth K. Freinkel, MD, who mentored Dr. Robinson while preparing her first grant application to the Dermatology Foundation and supported the work in her laboratory at Northwestern; Wilma Bergfeld, MD, who gave support to overcome barriers within the American Society for Dermatologic Surgery; and Catherine D. DeAngelis, MD, who appointed Dr. Robinson as editor of the *Archives of Dermatology/Journal of the American Medical Association Dermatology*.

Dr. Robinson was the first female fellowship-trained Mohs surgeon in the United States and paved the way for many others. She has mentored medical students, research fellows, residents, and junior faculty members over the last 35 years, many of whom have followed in her path to become Mohs surgeons themselves. Her perseverance not only provided a tremendous benefit for her patients and our field of Mohs surgery, but she has also inspired the next generation of female dermatologists.

Mary Maloney, MD

Dr. Mary Maloney, another female pioneer in Mohs surgery, completed her fellowship at the University of California, San Francisco in 1983. When asked about pursuing a field with only one other female physician, Dr. Maloney explained that the gender disparity was significant in almost every field, and she did not expect to have many female colleagues regardless of the path she chose. When Dr. Maloney attended medical school, there were only 13 female students in her class, 7 in the preceding class, and only 3 in the class preceding that.

Dr. Maloney recalled that in medical school, female students were not allowed in the doctor's lounge with their male peers. It was here that students had the opportunity to meet physicians, receive advice, and ask for letters of recommendation. One of her female classmates asked why they were not allowed in the lounge, and she was told: "The attendings like to sit around in their underwear, and it would be inappropriate for you to go in there." Needless to say, in a culture that seemingly did not know what to do with female medical students, Dr. Maloney had a hard time finding mentors early in her career.

However, Dr. Maloney perceives a change that is occurring in medicine and says that now, "women see that women need support systems and women have different questions and different problems, and do in fact deserve the support that men have had in locker rooms all of these years." This culture shift within medicine is largely due to organizations and societies specifically for women, such as the Women's Dermatologic Society, of which Dr. Maloney is the immediate past president.

Dr. Maloney has held numerous leadership positions over the course of her career. She has served on the Board of Directors for the American Academy of Dermatology, the American College of Mohs Micrographic Surgery and Cutaneous Oncology, the American Society for Dermatologic Surgery, the Association of Professors of Dermatology, and the Association of Academic Dermatologic Surgeons. She has also held the position of president of the Association of Academic Dermatologic Surgeons and served as the secretary-treasurer for the American Academy of Dermatology.

Dr. Maloney's advice for other female physicians who seek to pursue leadership roles is to "do something that will make you grow" and remember that "leadership is something that is learned." She shared that her humble first step into a leadership position was as chairman of a pamphlet committee. Dr. Maloney's service and dedication to the field was recently recognized when she received the

Frederic E. Mohs Award for Career Achievement at the 2018 annual ACMS meeting. Dr. Maloney reflected on her journey as one of the first female Mohs surgeons and shared: "It is not easy to do, and we need our sisters and some of our brothers, if you will, in medicine to help us. And we need to not feel like we are doing it alone."

Thankfully, we have other women now with whom to collaborate because of the path paved by Dr. Maloney.

Jessica Fewkes, MD

Dr. Jessica Fewkes, the first female Mohs fellow at Duke University, also completed her fellowship in 1983. When asked about her decision to pursue a career in Mohs, Dr. Fewkes said that she always knew she was "a surgeon at heart" and that she "automatically gravitated toward anything that was surgical within the discipline." When discussing entering a field with so few other women, Dr. Fewkes shared: "I was quite aware of the glass ceiling, certainly having been a resident at Harvard. But it never stopped me."

Being the first Mohs/dermatologic surgeon in the department of dermatology at Harvard, Dr. Fewkes knew she had a responsibility to share her knowledge and surgical talents with those around her. She took seriously her duty to teach residents, organizing seminars, running a weekly resident's clinic, and giving monthly lectures. Her efforts in teaching were recently recognized in 2016 when she won the Harvard Dermatology Resident Award for Excellence in Teaching.

Dr. Fewkes could be considered sort of a Mohs Missionary, as she spread the good news of Mohs surgery by establishing units at various hospitals. She created the Mohs unit at Beth Israel Hospital and established a sorely needed surgical clinic at the West Roxbury Veterans Administration Hospital. Dr. Fewkes also established a Mohs and dermatology surgery unit at the Massachusetts General Hospital, where she continues to practice today and is the director of Mohs and cutaneous surgery.

Throughout her career, Dr. Fewkes has also contributed to research and served in crucial leadership roles within the field. Her work has been published in numerous journals including, the *Journal of the American Academy of Dermatology*, *Dermatologic Surgery*, and the *Archives of Dermatology/Journal of the American Medical Association Dermatology*. She coauthored the first color-illustrated book of

dermatologic surgery. Additionally, Dr. Fewkes has served on the Board of Directors for the American College of Mohs Surgery.

To any female students who would like to become a Mohs surgeon today, she says: "Follow your passion." By following her heart nearly 40 years ago, Dr. Fewkes has made being a Mohs surgeon an easier decision for women today.

Conclusions

As Angela Duckwork describes in her New York Times bestseller, *Grit: The Power of Passion and Perseverance*, the secret to outstanding achievement is not talent but a special blend of passion and persistence she defines as grit. Pioneers, by definition, were required to have grit. Being the first includes changing people's minds and attitudes, which usually requires pain and suffering. Although they are extremely talented, grit is what pushed these women past the gender divide and allowed them to create very successful careers for themselves while opening the door for hundreds of other women to follow in their footsteps. We have come a long way since 1978 when Dr. Robinson was accepted into a Mohs fellowship. The journey for these trailblazers was not easy, but the impact they have had on the field of Mohs surgery has been tremendous. All of us who have followed in their steps should recognize the contributions of these pioneers to our careers.

Creating a list of pioneers in any field is always challenging, and there were countless other women we wished to include in this piece. For the sake of creating a list, we chose to highlight the first 3 fellowship-trained female Mohs surgeons in the United States. We acknowledge that there are many other female pioneers in the field, including those from other countries and those who trained under Dr. Friedrich Mohs himself. These women have also played a crucial role in the story of women in Mohs.

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