

# Early Women Pioneers and the Evolution of Women in Plastic Surgery

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**Summary:** The history of women in surgery has been documented since ancient times. Despite this, women physicians have historically encountered unique obstacles in achieving the same respect and privileges as their male counterparts. Early female physicians overcame many challenges to complete their training following graduation from medical school. The first woman in the field of plastic surgery in the United States was Dr. Alma Dea Morani, who became a member of the American Society of Plastic and Reconstructive Surgeons (ASPRS, now ASPS) in 1948. She applied for plastic surgery training six different times over 6 years, until she was accepted at a position where she had shadowing-only privileges. Yet, her steadfast determination and perseverance led her to build a successful career, becoming a role model and advocate for women in plastic surgery. The Women Plastic Surgeons Forum within ASPRS was officially established in 1992; however, informal events began as early as 1979. This group fostered mentorship among emerging female leaders, allowing women to take on leadership roles within national plastic surgery organizations. These women, in turn, have become role models for subsequent generations of women in this field. Plastic surgery has historically seen a higher percentage of female residents relative to other surgical specialties. Studies have shown that female role models are the most influential factor for female medical students interested in plastic surgery, a powerful fact considering women now comprise over 50% of graduating medical students. Female mentorship is essential in fostering the future generation of female plastic surgeons. (*Plast Reconstr Surg Glob Open* 2023; 11:e5165; doi: [10.1097/GOX.0000000000005165](https://doi.org/10.1097/GOX.0000000000005165); Published online 11 August 2023.)

## INTRODUCTION: WOMEN IN SURGERY

Records of women in surgery have been documented in surgical and medical texts throughout ancient history, extending worldwide throughout Greece, Egypt, and Italy. The history of women in surgery is known as far back as 3500 BCE, with Queen Shubad of Ur.<sup>1</sup> Women played active roles in surgery worldwide, until regulations during the Middle Ages forbade them from practicing surgery unless they either undertook their deceased husbands' practices, or were provided privileges by a jury. Women soon began to impersonate men to be allowed to practice surgery.<sup>2</sup> Many of the female trailblazing physicians and surgeons in contemporary medicine, notably

Dr. Elizabeth Blackwell, the first woman to receive a medical degree in the United States, and Dr. Mary Edwards Walker, the first female surgeon in the United States and the only woman to win a Congressional Medal of Honor, overcame many challenges to complete their training. One of these significant hurdles included challenges with obtaining residency positions following the completion of medical school.<sup>2</sup> In the late 1800s, female physicians often were required to go to Europe for advanced training, or attend one of the several women's hospitals. These hospitals were founded both to provide care for women and children, but also to serve as training hospitals for women who otherwise could not find such opportunities.

Representation of women in national medical societies also reflects these challenges. The American Medical Association, founded in 1847, took nearly 30 years before it had its first woman member in 1876. The first woman to be accepted to the Royal College of Surgeons in the United Kingdom was in 1911, 68 years after it was established. The first woman to become a member of The American College of Physicians was in 1920, 5 years after its establishment. The inaugural class of 1057 fellows of

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the American College of Surgeons (ACS) in 1913 had five women, including Drs. Alice Bryant, Emma Culbertson, Florence Duckering (often cited as the first woman fellow of the ACS), Jane Sabine, and Mary Smith.<sup>3</sup> This was a time that predated women in plastic surgery, but these women represented the specialties of general surgery, ENT, and gynecology.

### WOMEN IN PLASTIC SURGERY: THE EARLY YEARS

The first recognized woman in the field of plastic surgery in the United States was Dr. Alma Dea Morani, who was the first woman to be admitted to the American Society of Plastic and Reconstructive Surgeons (ASPRS, later ASPs) in 1948. After graduating from the Women's Medical College in Pennsylvania (now Drexel University) in 1931, Dr. Morani completed her internship at St. James Hospital in Newark, N.J. As there were no other female physicians, she resided in the nursing quarters. After passing her general surgery boards, she became a fellow of the ACS in 1941. She combined her surgical interests with her passion for art and began to focus on the emerging field of plastic surgery. Like the handful of women surgeons before her, obtaining a training position proved to be difficult. She applied for plastic surgery training six times over 6 years, and was turned down each time until Dr. Barrett Brown of St. Louis accepted her as a pupil, but with several conditions not required of her male colleagues. During the weekdays, she was not allowed to scrub or assist in cases, and she could only participate by observing. She was only allowed to operate on Saturdays when her male colleagues had the day off. She completed her formal training in plastic surgery in 1948, after which she traveled the world to learn from other plastic surgeons, including Dr. Severino-Roselli in Italy, Drs. Gillies and McIndoe in Great Britain, and Drs. Aufrecht, Conway, Barsky, and Sheehan in New York.<sup>4</sup> There are also reports that she met with Dr. Suzanne Noel, a French physician who was the first female cosmetic surgeon and trained other female plastic surgeons including Drs. Paula Regnault and Madeleine Lejour.

### ESTABLISHING THE FEMALE PRESENCE IN PLASTIC SURGERY

Dr. Morani returned to the Women's Medical College in Pennsylvania, where she practiced the full spectrum of plastic surgery, including general reconstruction, facial trauma, burns, and hand surgery. It was here where she earned the rank of clinical professor 44 years after receiving her medical degree.<sup>5</sup> She founded The Hand Clinic at Women's Medical College Hospital in 1948, the first hand surgery specialty clinic in Pennsylvania.<sup>6</sup> She remained active in medical societies, including the American Medical Women's Association and the Medical Women's International Association, acting as an advocate for women in both medicine and plastic surgery.<sup>4</sup> She helped found the Pennsylvania Plastic Surgery Society (Robert H. Ivy Society) in 1954. She was the third president, second

#### Takeaways

**Question:** How did the first women in plastic surgery impact today's female surgeons?

**Findings:** The early women of plastic surgery, who were trailblazers in a male-dominated medical society, overcame unique obstacles to achieve the same privileges as their male counterparts. These women served as role models for subsequent generations of women and leaders in plastic surgery.

**Meaning:** Mentorship among female plastic surgeons is essential in fostering the growth of women in the field.

historian, and was referred to as the “mother” of the society by Dr. Ivy.<sup>7</sup> Throughout her career, she continued to teach and mentor medical students and residents, serving as a role model and an advocate for women in plastic surgery. The number of women from the Women's Medical College of Pennsylvania who went on to become plastic surgeons after Dr. Morani's influence reflects her passion for teaching and the value she placed on being a mentor. Notable graduates from the Women's Medical College who became plastic surgeons include Drs. Roslyn Souser, Libby Wilson, Hazel Holst, Renee O'Sullivan, Carol Shapiro, and Diane Colgan.<sup>8</sup> In many capacities, Dr. Morani was the “mother” of plastic surgery for many generations of women who went on to pursue careers in the field.

Another groundbreaking pioneer woman in plastic surgery was Dr. Kathryn Lyle Stephenson. She began her work in the field as the Earl C. Padgett Research Fellow in Plastic Surgery, and later became an instructor in plastic surgery at Tulane University School of Medicine. She was board certified by the American Board of Plastic Surgery in 1950, and later became the first woman to join the American Association of Plastic Surgeons in 1951. She was also the first woman to be an editor of *Plastic and Reconstructive Surgery* (1963–1967), as well as the *Plastic and Reconstructive Surgery Yearbook* (1967–1975). She served on the board of directors of the Plastic Surgery Educational Foundation, was a founding member and president of the California Society of Plastic Surgeons, and was a fellow of the ACS.<sup>9</sup> In a time when female representation in the field was sparse, Dr. Stephenson certainly achieved a monumental feat. She was a leader in the field, authored numerous articles, gave lectures on a broad range of topics in plastic surgery, and undoubtedly served as an inspiration for future women in the field.

For women of color, establishing themselves in the field of plastic surgery meant having to overcome both gender and racial hurdles. Dr. Rose Lewis is recognized as the first African American female plastic surgeon in the world. She began her plastic surgery residency in 1978 and established herself as a trailblazer in the field. At a time when there were hardly any African American physicians, she established a successful practice with a female colleague. She is known to have said in an interview that starting a practice together with another woman made the process less isolating.<sup>10</sup> Dr. Kerri Woodberry, the first African American woman to serve as a chief of an

academic division of plastic surgery, was not only the first female African American graduate of her surgery training program in 1990 but also the first African American graduate of the program.<sup>11</sup> Dr. Camille Cash, the first female African American plastic surgeon in the state of Texas, started her own private practice in 2002 following residency, after she was unable to find any opportunities to join a local practice, noting that “few plastic surgeons showed any interest in hiring a black female, mother of two.”<sup>10</sup> All these women established themselves in a profession where there was no roadmap, no mentor, and little assistance. These women, in turn, have become role models for subsequent generations of women and leaders in plastic surgery.

### THE WOMEN PLASTIC SURGEONS FORUM

The Women Plastic Surgeons Forum within ASPRS was officially established in 1992; however, informal events began as early as 1979 when Dr. Ann Riley organized a women’s luncheon at the ASPRS annual meeting. It is believed that these informal gatherings continued until the official formation of the Women’s Plastic Surgery Caucus in 1992. Many believe this group was formed by ASPRS in response to the concern for the safety of silicone breast implants, by having women surgeons speak to the health concerns of women patients. Regardless, this group gave women plastic surgeons an opportunity for advocacy, and a voice within ASPRS. The Women’s Plastic Surgery group held another informal retreat in 1995, officially becoming the Women Plastic Surgeons Forum in 2003. This forum, through an informal leadership coaching program, fostered mentorship among emerging female leaders in plastic surgery, further preparing women to take on leadership roles within national plastic surgery organizations.<sup>6</sup>

### FEMALE SOCIETY LEADERS

Since the founding of both the ASPRS, and the Plastic Surgery Foundation in 1932, eight women have held presidential positions between these two societies. The first female president of the Plastic Surgery Foundation was Dr. Mary McGrath in 1995, followed by Dr. Carolyn Kerrigan in 2007, Dr. Linda Phillips in 2008, Dr. Andrea Pusic in 2019, and Dr. Gayle Gordillo in 2021. Dr. Roxanne Guy was elected as the first female president of ASPRS in 2007, followed by Dr. Debra Johnson in 2017, and Dr. Lynn Jeffers in 2020.<sup>12</sup> Most recently, the American Society for Aesthetic Plastic Surgery (ASAPS, now known as The Aesthetic Society) elected their first female presidents, Drs. Jennifer Walden in 2022 and Melinda Haws in 2023. Female representation in society leadership continues to grow steadily, increasing over a 10-year period from 6.78% to 20.29% in 2018.<sup>13</sup> Undoubtedly, the influence of the Women Plastic Surgeons Forum helped guide and prepare these women for leadership roles, from mentorship to nomination. Female leaders are more likely to be aware of issues pertaining to women and have a greater investment in affecting policy.<sup>14</sup>

### FEMALE MENTORSHIP IN PLASTIC SURGERY

Women now comprise just over 50% of medical school graduates, an increase from 47.4% of graduates in 2017, to 50.6% in 2021.<sup>15</sup> The field of plastic surgery has historically seen a higher percentage of female residents relative to other surgical specialties.<sup>5</sup> The number of female plastic surgery trainees in integrated programs more than doubled from 14% in 1990, to 36.2% in 2015.<sup>16</sup> A similar statistic reflects this growth, with female representation in plastic surgery training programs increasing from 2008 to 2018 by 16.7%, second only to vascular surgery which saw an increase of 17.3% of female residents.<sup>16</sup> Compared to all surgical residency programs in 2018, plastic surgery was the closest to achieving equal representation of genders, with a female-to-male ratio of 38.9% to 61.1%.<sup>16</sup> How is it that a field, which did not welcome its first female plastic surgeon until 1948, has seen such an impressive growth in female presence? This rapid upward trajectory is in large part due to the early women of plastic surgery who were trailblazers in a male-dominated profession. Their tireless pursuits propelled them to overcome unique obstacles to achieve the same privileges as their male counterparts. The relentless perseverance, advocacy, and mentorship of these early women pioneers have paved the way for future generations.

The importance of strong female mentorship cannot be overstated. Formal mentorship programs have proven to be successful in promoting diversity and retaining female academic faculty. Having women in leadership positions is associated with a higher number of women faculty members.<sup>17</sup> The need for mentorship is so impactful that the absence of mentorship has been cited as one of the main reasons women leave academia.<sup>14</sup> In addition, previous studies have shown that female role models are the most influential factor for female medical students interested in plastic surgery.<sup>16</sup> A survey of recently matched first-year plastic surgery residents regarding their experiences with mentorship as medical students found that 100% of respondents who mentioned lack of same-sex mentors as a barrier to mentorship were women, accounting for a total of one-third of the female respondents.<sup>18</sup> A similar survey sent to attending physicians regarding mentorship found that when stratified by mentor sex, female respondents were responsible for a greater proportion of mentoring to female students compared to their male counterparts.<sup>19</sup> Just as Dr. Morani inspired the early women trailblazers of plastic surgery, today’s female program directors, society board members, organization leaders, and practicing academic or community plastic surgeons provide real life role models to which young females can aspire to become. Beyond informal mentorship opportunities between female faculty, residents, and medical students among institutions, formal programs such as those facilitated by the Women Plastic Surgeons Forum exist. In addition, recent programs such as the Women of Color in Plastic and Reconstructive Surgery and the Women’s Microsurgery Group help facilitate networking, mentorship, and career development among practicing plastic surgeons and trainees.



## GENDER IMBALANCE PERSISTS

Despite the numerous strides made by women in the field since Dr. Morani was recognized as the first female plastic surgeon by the ASPs in 1948, recent literature has highlighted the persistent challenges and gender imbalances that remain for women in plastic surgery. A recent study found that women represented only 20% of academic plastic surgery faculty in the United States and 27% in Canada. Women who were black, indigenous, and/or of other color comprised only 6.25% of plastic surgery faculty leadership positions in North America (the United States and Canada).<sup>17</sup> A comprehensive analysis of female leadership in plastic surgery cited similar statistics for female representation among practicing plastic surgeons, about 18%. In addition, this study reported that nineteen institutions had no female faculty.<sup>20</sup>

A study of invited speakers at five academic plastic surgery meetings in 2017 found that women comprised a minority of invited speakers at academic plastic surgery meetings, despite the fact that the impact of women's published work was no different than that of men among the junior and midcareer faculty.<sup>21</sup> Studies of authorship in the plastic surgery literature have noted women in the minority of first author and senior author publications.<sup>20,22,23</sup> Further investigation has suggested that although women may publish fewer articles than their male counterparts in their early career years, senior female plastic surgeons generate more publications and receive more funding than their male colleagues, suggesting that women who remain in academics can overcome this gender disparity.<sup>16</sup>

As more women establish their practices, it is important for women to be represented in leadership positions at both institution and national levels. A study published in 2022 found that only 15 out of 82 (18%) of integrated plastic surgery residency program directors were female. All of the female program directors were fellowship trained, whereas only 68% of men had pursued additional training.<sup>23</sup> A review of academic leadership in plastic surgery found that chiefs and chairpersons were more likely to be male, with 95% identified as men, and only 5% women.<sup>24</sup> A review of the five plastic surgery journals with the highest impact factor found that none had a female editor-in-chief.<sup>20</sup> These statistics highlight the disparity that continues to exist, and the importance we must place on supporting women in the field.

## CONCLUSIONS

Women have played key roles in medicine and surgery since ancient times. Despite this, women physicians have historically encountered unique obstacles in achieving the same respect and privileges as their male counterparts. Early female physicians overcame many challenges to complete their training following graduation from medical school. The early women pioneers in plastic surgery endured numerous obstacles including difficulty obtaining residency positions and recognition in medical societies. Known to many as the mother of plastic surgery, Dr. Alma Dea Morani was the first woman in the field of plastic surgery. Despite the challenges she faced, she built

a successful career, paving the way for the female presence in the field. The establishment of the Women Plastic Surgeons Forum fostered mentorship among emerging female leaders, allowing women to assume leadership roles within national plastic surgery organizations. These women, in turn, have become role models for subsequent generations of women in this field. Female mentorship is essential in fostering the future generation of female plastic surgeons. Despite the numerous glass ceilings broken, women continue to face persistent challenges in this field. With the rising number of female trainees entering plastic surgery, further work must be done to continue to mentor, sponsor, and support female plastic surgeons.

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## DISCLOSURE

*The authors have no financial interest to declare in relation to the content of this article.*

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