

## The Cutting Edge: Women Surgeons Pioneering Changes in the Social Realm

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**Abstract:** Throughout history, women have performed surgeries. Men still greatly outnumber women in a number of procedural disciplines, most notably surgery, even though there are now as many female medical students as male students in universities. This article addresses the variables that may impact women's decision to pursue a career in surgery, as well as the difficulties and discrimination that female surgeons may encounter. There is a compelling case for significant individual policy change, to lessen gendered stereotypes and prejudice in surgery at the organizational and governmental levels. Even if the proportion of women attending medical schools has risen over the previous three decades to close to 50% today, women are disproportionately underrepresented in academic medicine's faculty and in leadership or power roles. In the light of that the present study is going to highlight on the historical emergence of women in surgery and the challenging factors that women go through to be in this profession.

**Key Notes:** Female Physicians, General Surgery, Gender based disparity, history of women in surgery.

### Introduction

Surgery is one area of medicine where the disparity between male and female representation is more pronounced. In academic surgery, these gender-related disparities are more noticeable, and a smaller proportion of students advance to the highest levels of the field. In academic surgery, these gender-related disparities are more noticeable, and a smaller proportion of students advance to the highest levels of the field. A complex constellation of factors, such as perceived gender-based discrimination and stereotypes, lack of effective mentoring, lifestyle considerations resulting from juggling work and family obligations, professional isolation, and distinct career motivations or priorities, contribute to the pattern of this gender-based disparity in the development of a surgical career. Traditional gender role constraints can be addressed in a number of ways. The goal of addressing family matters is to enable women to effectively manage the current

demands of general surgery. Medical schools should prioritize early education and the dissemination of positive attitudes. Students should learn about gender-related concerns and how to handle negative behavior. Since successful mentoring is essential to removing obstacles to academic career advancement, mentoring must also be enhanced. It is anticipated that recruiting and retaining the most talented and promising women for general surgery will improve with the identification and modification of gender-related patterns and behaviors.

However, women made up only 6% of medical students in the United States until the 1970s. This number has greatly improved over the past few decades, with more female medical students in the US and the UK than male students. Regretfully, the surgical specialty has not yet adopted this modification. Despite a steady increase, less than one-third of surgeons worldwide are female, and women who want to pursue surgery still encounter discrimination in medical school, training programs, and consulting roles. Junior doctors choose their specialization based on a variety of criteria, such as their interest in the work, the lifestyle of doctors in that profession, and the presence of a mentor or role model. In contrast, women are often discouraged from pursuing surgical training due to various concerns. Female surgeons face challenges such as a lack of role models and views that the surgical lifestyle conflicts with their caregiving obligations. In 2016, there were just 20 female chairs of Departments of Surgery in the United States. In the United States, women make up 8% of professors, 13% of associate professors, and 26% of assistant professors in surgery. Women make up only 19.2% of American surgeons. In the United Kingdom, the Royal College of Surgeons reported a lower ratio of female surgeons (11.1%) in 2016, however there is evidence of a growth since then. In the UK, female surgical consultants make up approximately 25% of pediatric surgeons but less than 20% in all other surgical specialties. Research indicates that women are underrepresented in positions such as surgeons, full professors and department chairs in the US and UK.

Women may be discouraged by the "old boys' club" reputation of some surgical specialties and departments, as opposed to males. These views may not just come from the women themselves. Many women feel discouraged by their friends, partners, and family from pursuing a career that is widely regarded as it is impossible to balance. With the thought of beginning a family and having children. Additionally, surgical training programs are thought to be challenging and competitive (apart from the problems of combining training with non-medical activities). For ladies who may men's professional and familial support networks are lacking, and who struggle with gendered notions of what women can and cannot do This offers yet another hurdle to pursue a surgical career. Research indicates that female doctors perform equally to male doctors in terms of medical knowledge, communication skills, professionalism, technical abilities, practice-

based learning, and clinical judgment. In the United States, where obstetrics and gynecology (O&G) is a surgical specialism, 56% of consultant obstetrician/gynecologists were women in 2016. In Australia, women make up 45% of fully qualified O&G consultants and 82% of trainees. O&G has a higher gender representation than other surgical subspecialties due to its focus on women's health, perceived as less of an "old boys club" and more accommodating of parental leave and part-time training for trainees. Women are often discouraged from undergoing surgery due to social judgments of their ability and gendered norms of proper job and life choices. Many people view parenthood as an impediment, if not a barrier, to surgical training. The majority of women in surgical training are in their most intensive years of training, which coincides with the age when many women consider having children. Taking time off to have children is often viewed negatively, as it can lead to a lack of commitment to training, deskilling, and fewer opportunities for career development upon returning to work. Women are typically discouraged from pursuing surgical careers due to misconceptions about the requisite personality and physical strength, such as for orthopedic surgeons. Female doctors are more likely to drop out of surgical training programs in many subspecialties due to a lack of flexibility and adequate role models, as previously mentioned. As a result, women face a disguised higher standard for entry and success in the surgical sector. This inequity is mirrored in the current gender wage gap in surgery, which, like in all other aspects of society, is enormous. Studies show that women earn 27% less than their male counterparts and are less likely to be promoted. According to Australian data, the gender wage disparity in medical specializations averages 33.6%, with some surgical specialties reaching up to 60%. In the US, surgeons benefit from referrals from other doctors, leading to more possibilities and success. When a patient dies under the care of a female surgeon, referrals from other doctors decrease by around 54%, while referrals to male surgeons decrease very slightly. This leads to a lack of confidence in female surgeons' abilities. Female surgeons are expected to do better than male counterparts due to additional challenges and unequal standards. Research indicates that female surgeons outperform male surgeons in terms of early postoperative outcomes, including lower 30-day mortality, duration of stay, complications, and readmission rates.

### **History of Women in Surgery**

The Middle Ages were a terribly depressing period for women in general, and especially for women practicing medicine and surgery. In the Middle Ages, man had to interfere by establishing regulations prohibiting women from doing surgery unless they assumed their husband's practice after his death or were found qualified by a jury. Henry VIII declared, "No carpenter, smith, weaver, or woman shall practice surgery." During this time, women continued to practice without formal training or acknowledgment in England and North

America. With the emergence and dominance of a male-dominated religion, women were aggressively discouraged from performing surgery. Women's medical education continued at Salerno, Italy, where Tortula (12C) authored a volume on the practice of gynecology and midwifery, which served as a reference for decades. The first female physicians in India, Japan, and Syria were Anandibai Joshi, Keiko Okami, and Sabat Islambouli. They were students at the Women's Medical College of Pennsylvania in 1885. They were the first women in their country to earn a degree in western medicine.

### **Elizabeth Blackwell**

The first female doctor in the United States. She was encouraged to study medicine when a friend died painfully from metastatic cancer. This woman appealed with female doctors to treat women's tumors gently. She was continuously denied by more than 20 medical schools in the United States before being admitted to Geneva Medical College. She received a Gold Medal upon graduation in 1984.

### **Emily Howard Jennings Stowe (1831-1903)**

In Canada, she was the first female doctor. With multiple children to provide for, she chose to become a doctor after her husband developed tuberculosis. After graduating from the New York Medical College for Women in Canada in 1867, she went back to work in Canada without an internship. She became the second woman to be licensed to practice by the College of Physicians and Surgeons of Ontario in 1880, thirteen years after graduating.

### **Mary Edwards Walker (1832-1919)**

She was the first American woman surgeon. She was the second female graduate of the New York Medical School in the United States in 1835. She and her husband, Albert Miller, entered the practice. She worked as a nurse for a number of years before becoming the first female surgeon in the US Army in 1863. For her efforts as an Army Surgeon, she was awarded the Congressional Medal of Honor in 1865.

### **Jamie Smillie Robertson (1878-1981)**

The first female surgeon in Canadian history, she completed her studies at Toronto Medical College and performed the first major gynecological surgery in her private practice. She served as the chair of gynecology from 1912 to 1942 and assisted in the opening of the women's college hospital.

**Jassie Gray (1910-1978)**

She was the first female general surgeon in Canada and received the University of Toronto's Gold Medal upon graduating in 1934. She received the title of First Lady of Surgery of Canada in 1941. She was appointed the Women's College Hospital's Chief of Surgery in 1946. She paved the way for female surgeons and served as an inspiration for how women may succeed in the traditionally male-dominated area of general surgery. She received numerous fellowships in her area and was ranked among the top four cancer surgeons in North America.

According to the data, about 7% of women are currently cardiac surgeons. Women currently outnumber males in the workplace, but the statistics are shifting. Over half of medical school applicants are female. For the first time in history, there are more women than males. Additionally, 22 women were appointed chairs of surgery at universities. The world's first female heart surgeon was Dr. Margaret Allen. She served as the United Network for Organ Sharing's (UNOS) previous president. A professor in the cardiothoracic surgery division at the University of Washington School of Medicine in Seattle was hired in 1998, and in 2000, he was named medical director. South Africa's first female Cardiothoracic Surgeon was Dr. Lindiwe Sidali.

**Gender based disparity in medical profession**

In today's medical age, the influence of gender-related beliefs on professional advancement is a reality. The phrase "glass ceiling" refers to the fact that, even though more women are entering sectors that have historically been dominated by males, their chances of rising to positions of leadership are still restricted. The glass ceiling issue is seen in most traditional male occupations, including dentistry, law, and corporate administration, in addition to the medical field. Women are disproportionately underrepresented in academic medicine's faculty and in leadership or power roles, even though the proportion of women enrolled in medical schools has risen over the past three decades to about 50% now. Because fewer women opt to work in general surgery, these gender-related differences are particularly noticeable in this field of medical study. The statistics presented above makes it clear that, even with the significant advancements in the recruitment of women into general surgery, whether academically or otherwise, a number of barriers still stand in the way of women's advancement in this profession. We don't fully understand the reasons for this ongoing mismatch. Therefore, a comprehensive understanding of the underlying causes is necessary for the best possible solution to this issue. The disparity in the presence of men and women in several medical specialties is particularly noticeable in the field of surgery at all levels. Less than 10% of female medical students eventually enroll in a general surgery residency program, despite the fact that more than 50% of them think about general surgery as a career route. As a

result, women show little interest in a career in surgery from the start of their undergraduate studies, and this trend continues throughout medical school. Surgery and its subspecialties are therefore gradually losing their ability to draw in a sizable talent pool. According to a United States research, women made up only 28% of general surgery residents and 15% of attending physicians in 2006. In other key surgical subspecialties like urology, neurology, and orthopedic surgery, the proportion of female residents is significantly lower. In academic surgery, where women make up 16% of the faculty in general surgery and an even smaller percentage in the highest ranks, these gender-related disparities are particularly noticeable.

The Association of American Medical Colleges [AAMC] s Increasing Women's Leadership Project Implementation Committee discovered in 2002 that only 2% of general surgery department chairs were female, while 10% and 4% of associate and full professorships in general surgery were held by women. These findings are consistent with related reports from Australia and Europe. Regarding the ultimate aspirations for academic rank, 36% of males and 8% of women in tenure-track surgery seek the role of department chair. It's interesting to note that women in tenure-track roles most frequently want to become professors [41%] or division chiefs [23%], whereas men in tenure-track roles most frequently want to be chairmen [36%], professors [31%], or division chiefs [13%]. Remarkably, it appears that female doctors in a number of nations are paid less than their male counterparts in the same position. This can be somewhat explained by specialty choice; according to a USA survey, just 14% of female physicians worked in the four highest-paying medical specialties—radiology, general surgery, anesthesia, and subspecialty surgery—while 27% of male physicians did the same.

### **Factors affecting gender- based disparities**

A complex constellation of factors, such as lifestyle considerations resulting from juggling work and family obligations, a lack of effective mentoring, perceived gender-based discrimination and stereotypes, professional isolation, and distinct career motivations or priorities, contribute to the pattern of this gender-based disparity in the development of a surgical career.

### **Gender Stereotypes**

Women traditionally bear the majority of household responsibilities, including childcare and housework. Balancing career productivity with family responsibilities can be challenging.

Female surgeons may have challenges in advancing their careers due to family responsibilities, such as limited geographical mobility. Women's family responsibilities may hinder their ability to prioritize career development. Balancing work and family

responsibilities is especially challenging in surgical specialties due to their time-consuming commitments during training and after. Female students may be discouraged from pursuing general surgery training because they believe they will have to leave their personal lives, which are thought to be incompatible with the lifestyle of a general surgeon. Lillemoe et al. conducted a survey of 105 medical students and discovered that 96% of women considered surgery "unfavorable" to their gender, but no male students had a comparable sentiment towards the medical specialization that is surgery. Female surgeons face the most stress during residency training, which coincides with the peak reproductive age for most women. Senior female medical students are more likely than men to anticipate a career hiatus to raise children. Unfortunately, just 16% of residency programs in the United States have planned for the needs of new families. Research indicates that women often prefer to postpone or avoid pregnancy while balancing a surgical profession with parenting responsibilities. Most women who pursue a medical career are single and unable to have a traditional family life. Married women with children report that their family has hindered their professional advancement. Many female surgeons choose for surgical subspecialties with fewer crises and overnight assignments to balance family and career responsibilities. Interestingly, women without children earned 95% of men's salaries, whereas women with children only received 75% of men's salary. Similar statistics apply to female academic surgeons, who are unmarried in 23% of cases compared to 4% for their male colleagues. Another area where men and women academic surgeons differ is in childbearing and childrearing concerns. Of these, 90% of men and 62% of women had children, and women were more likely than men to purposefully postpone having children [63% versus 41%]. The most significant factors associated with postponing childbirth were found to be surgical training obligations and individual employment commitments. Over 25% of female academic surgeons were still childless at the age of 40, according to a comprehensive analysis of the glass ceiling problem affecting women in academic surgery. For individuals who turn into having fewer children on average than the average American home [1.6 versus 2.1, respectively]. The demands of obtaining a stable academic career are likely to coincide with raising children, which will impede their academic advancement.

### **Discrimination based on Gender and Isolation.**

Harassment, which is characterized as unwanted physical attention, propositions, hostility, or threats, is a negative attitude that is very common in the field of general surgery. Gender discrimination is regarded as a subtly detrimental kind of sexism. Unfortunately, gender prejudice affects faculty members as well as female medical students, with general surgery being the area where it is most prevalent. According to reports, 63% of female surgeons are denigrated, 29% engage in inappropriate sexist

remarks or behavior, 42% attribute the existence of sexual bias and discrimination against them by the male power structure in surgery, and 54% of female medical students encounter some form of sexual harassment during their training in general surgery. Additionally, it appears that at some point throughout their academic careers, female faculty members endure harassment six times more frequently than male faculty members. The two most prevalent forms of harassment that women encounter is gender-based discrimination [85%] and sexual harassment [59%]. In addition to overt sexual harassment and gender discrimination, there are also "disguised" types of sexism that stem from systemic factors that are hard, if not impossible, to alter. In actuality, regardless of their level of education, scientific training, or clinical experience, a larger percentage of women than males encounter noticeably less opportunities for collaboration, connection, and support due to their gender. For example, women are not allowed to participate in social events when crucial information about negotiations, organizational politics, and career chances is shared. A number of female surgeons express feeling that their male colleagues share a "glue" that extends beyond the workplace. It is clear that women are at a significant disadvantage when this is coupled with the requirement for a network of relationships for effective department leadership. Women are significantly underrepresented in key institutions and in surgical decision-making bodies, as evidenced by the fact that only 4.4% of members of the American College of Surgeons are female. There are no genuine opportunities for anyone participating in these organizations to change the team-view. Because men are frequently reluctant to be supervised by women and ancillary workers are unwilling to support female employees, sexism makes the workplace challenging for women physicians.

Even after controlling for factors like number of publications, grant support, tenure compared to other career tracks, number of hours worked, and specialty, cohort studies comparing the gender numbers in medical school faculties have revealed that women are still significantly less likely than men to be promoted to senior ranks. The distribution of male and female faculty members by rank and track showed a notable difference, according to a survey done in a large university hospital (University of Arizona College of Medicine, Tucson). In fact, over half of the men [55%] were associate or full professors and/or tenured, whilst 49% of women held non-tenure track positions at the assistant professor level. Additionally, women's average time to promotion was much longer than men's [6.5 and 5.2 years, respectively]. The pipeline effect and women's lack of natural leadership abilities are frequently cited reasons for the underrepresentation of female doctors in academic leadership roles. The first argument claims that this problem is caused by a lack of women who have worked in academia long enough to become full professors. This theory is untenable, though, given just 20% of full professors and 10% of department chairmen are women, even in disciplines like pediatrics and



obstetrics/gynecology, where women have held almost 50% of the positions over the previous 25 years.

### **Different Career Motivations**

The majority of surgeons lead lives that are marked by long workdays and little time for hobbies, their families, and the community. Since their work cannot be their only or even their top priority, female surgeons who are attempting to successfully balance professional and family responsibilities have an entirely different mindset and point of view. Women build their careers differently than males do, taking into account both possibilities and requirements. Specifically, women with families choose their careers primarily based on having enough time for their home lives, with career advancement and achieving a position of influence serving as secondary goals. Women are more likely than men to report discontent with the amount of time they devote to their jobs, and as a result, they are more likely to view part-time work and other academic flexibility as advantageous. This is not to suggest that female surgeons work less or are less committed to their career goals than their male counterparts; rather, it indicates that they take a different tack and prioritize finding a balance. These days, medical students may be deterred from considering general surgery as a desirable career path by the surgeon's lifestyle. It's possible that the model of the worn-out but content surgeon isn't as fulfilling as it previously was. Numerous studies have demonstrated that the struggle to strike a balance between work and home life negatively affects doctors of all genders and fuels professional burnout. Nowadays, lifestyle factors play a significant role in the specialty selection of both male and female surgeons.

### **Conclusions**

There are many obstacles in the way of female surgeons' professional advancement, whether academic or otherwise. Sadly, despite the fact that women are still making progress toward pursuing careers in medicine, these obstacles have remained in place over time.

It goes without saying that the reasons why female doctors choose not to practice general surgery should be identified and addressed. Traditional gender role constraints can be addressed in a number of ways. The goal of addressing family concerns is to enable women to effectively manage the demands of general surgery while fostering a more encouraging atmosphere for those who bear a significant portion of the family's workload. To provide flexibility for family and other personal demands, innovative solutions might need to be put into practice. Opportunities for flexible work schedules, parental leave both during and after the residency, renegotiating the allocation of family duties between parents, and part-time training or tenure-track jobs are a few examples. Additionally,

ongoing institutional and individual actions are needed to combat sexism. Medical schools should prioritize early education and the dissemination of positive attitudes. Students should learn about gender-related concerns and how to handle negative behavior. Institutions should also put in place both official and informal systems for recognizing and handling inappropriate behavior. Enhancing mentorship is also necessary because it is a crucial component of removing obstacles to academic career advancement. Young female surgeons may be discouraged by mentors from accepting roles that are more associated with staff than with leadership and decision-making. It is anticipated that the recruitment and retention of the most talented and promising women in general surgery would improve with the identification and modification of gender-related patterns and behaviors. Perseverance, communication, and ongoing progress tracking are required for this procedure.

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