

The history of women in surgery

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The history of women in surgery in Western civilization dates to 3500 before common era (BCE) and Queen Shubad of Ur. Ancient history reveals an active role of women in surgery in Egypt, Italy and Greece as detailed in surgical texts of the time. During the middle ages, regulations forbade women from practising surgery unless they assumed their husbands' practices upon their deaths or unless they were deemed fit by a "competent" jury. King Henry VIII proclaimed that "No carpenter, smith, weaver or women shall practise surgery." The modern period of surgery opens with women impersonating men to practise medicine and surgery (Dr. Miranda Stewart). The first female physicians (Dr. Elizabeth Blackwell and Dr. Emily Jennings Stowe) and surgeons (Dr. Mary Edwards Walker and Dr. Jennie Smillie Robertson) in North America found it difficult to obtain residency education after completing medical school. Dr. Jessie Gray was Canada's "First Lady of Surgery" and the first woman to graduate from the Gallie program at the University of Toronto in the 1940s. Currently, the ratio of women in surgical training is far less than that of women in medical school. The reasons that women choose surgery include appropriate role models and intellectual/technical challenge. Lack of mentorship and lifestyle issues are the strongest deterrents. Consideration of a "controllable lifestyle" by surgical administrators will help with the recruitment of women into surgery.

Dans le monde occidental, l'histoire des femmes en chirurgie remonte à 3500 ans avant notre ère et à la reine Shubad d'Ur. Les textes de l'histoire ancienne sur la chirurgie nous renseignent sur le rôle actif des femmes chirurgiennes dans des pays comme l'Égypte, l'Italie et la Grèce. Au Moyen Âge, la chirurgie était interdite aux femmes, à moins qu'elles ne reprennent la pratique de leur mari décédé ou qu'un jury « compétent » ne les en juge aptes. Quant au roi Henri VIII, il aurait proclamé la chirurgie interdite aux charpentiers, aux artisans, aux tisserands et aux femmes. Lorsque naît la chirurgie moderne, les femmes doivent se déguiser en hommes pour pratiquer la médecine ou la chirurgie (la D^{re} Miranda Stewart). En Amérique du Nord, les premières femmes médecins (la D^{re} Elizabeth Blackwell et la D^{re} Emily Jennings Stowe) et chirurgiennes (la D^{re} Mary Edwards Walker et la D^{re} Jennie Smillie Robertson) ont eu de la difficulté à obtenir leur résidence à la fin de leurs études de médecine. La D^{re} Jessie Gray a été la première « grande dame canadienne de la chirurgie » et la première femme diplômée du programme Gallie de l'Université de Toronto, dans les années 1940. À l'heure actuelle, on compte beaucoup moins de femmes en chirurgie qu'en médecine. Le phénomène pourrait s'expliquer par l'absence de modèles et par les défis intellectuels et techniques en jeu. Le manque de mentors et divers enjeux sociaux en découragent plus d'une. L'éventuelle entrée en scène de gestionnaires en interventions chirurgicales, gage d'un mode de vie plus gérable, facilitera le recrutement des femmes en chirurgie.

The history of women in surgery is lengthy, dating back as far as the recorded history of ancient surgical practice.

ANCIENT HISTORY

In Western civilization, the earliest account dates to 3500 before common era (BCE) at the banks of the Tigris and Euphrates rivers in Mesopotamia.¹ Flint and bronze surgical instruments were uncovered from the grave of Queen Shubad of Ur.¹ Dating to 1500 BCE, there were female medical students in Heliopolis, Egypt.² In ancient Greece around 500 common era (CE), Leto, wife of Zeus and mother of Apollo, cured the wounds of Arneas, the founder

of Rome.¹ Aesculapius, son of Apollo, had 4 daughters who were all physicians. With the fall of Corinth (150 BCE), Greek female prisoners were taken to Italy where those with medical knowledge fetched the highest price. Aëtius (150 CE) wrote the *Tetrabiblion*, which describes the surgical techniques of Aspasia, a Greco-Roman female surgeon. This served as the main surgical text into the 11th century.

MIDDLE AGES

The middle ages were a very disappointing time for women in general, but for women in medicine or surgery specifically. With the rise and predominance of the male-dominated church, women were actively discouraged from the practice of surgery.¹ The education of women in medicine did continue in Salerno, Italy, where Tortula (11th century) wrote a volume on the practice of gynecology and midwifery that was referenced for several centuries.³

During the 14th century, there was little progress in medical science.⁴ Regulations for the practice of surgery were widely recognized and often barred women. In 1313, women were banned from the practice of surgery in Paris unless examined by a competent jury.⁵ Except for widows, who were allowed to assume the surgical practices of their late husbands during the 14th and 15th centuries, no other women were allowed to practise. In the 14th century, King Henry VIII was quoted as saying “No carpenter, smith, weaver or women shall practise surgery.”³ Further, in 1540, he granted the charter for the Company of Barber Surgeons; women were barred. Women did, however, continue to practise during this time. They continued to practise without formal training or recognition in England and eventually North America for the next several centuries.

MODERN FEMALE SURGEONS

The advent of modern surgical training, eventually brought to North America by Halstead, has been a difficult road for women. This period opens with the story of the “beardless lad,” Dr. James Barry (1795–1865).⁶ Dr. Barry was educated at the prestigious Edinburgh Medical School, graduating in 1812 at the age of 17. He joined the army as a surgeon during the Napoleonic wars and in 1820 performed one of the first successful cesarean sections at the request of a wealthy patron whose wife appeared to be in stalled labour. At the time of his death, Dr. Barry was discovered to be a woman with abdominal findings suggestive of a previous pregnancy. There had been rumors during his life that he was involved in at least one long-term “homosexual” relationship. Dr. Barry was actually Dr. Miranda Stewart. Upon her death, a friend commented that “She chose to be a military doctor. Not to fight for the right of a woman to become one, but simply to be one.”

Modern female physicians and surgeons in North America

Dr. Elizabeth Blackwell (1821–1910)

Dr. Elizabeth Blackwell was the first female physician in the United States.⁷ She chose to pursue medicine at the urging of a friend who died a painful death from metastatic cancer. This woman pleaded for women doctors to “treat the tumours of women” and to “provide a gentler hand.” During the time that Dr. Miranda Stewart was impersonating a man to practise medicine in the United Kingdom, Dr. Blackwell was being repeatedly rejected from more than 20 medical schools in the United States. She was eventually allowed admission to Geneva Medical College when the vote was put to the students. There are various accounts as to why the students voted to allow her to enter, although it is likely that they thought that she would never succeed. In 1849, she graduated from Geneva Medical College.

Although Dr. Blackwell graduated with the gold medal from Geneva Medical College, she could not obtain a residency position anywhere and ended up serving as an obstetrical nurse in France. During this time she had to give up her dream of eventually becoming a surgeon when she contracted a suppurative eye infection and lost vision in her left eye. She returned to North America after several years, and in 1857 opened the New York Infirmary for Women and Children with Emily Blackwell, her sister, and Marie Zakrzewska. Dr. Blackwell was persuaded to open the Women’s Medical College of New York, which she oversaw in part from 1862 to 1899. She initially opposed this move as she favoured integrated medical training such that women would not receive a second-rate education.

In 1889, 40 years after graduation from medical school, Dr. Blackwell was recognized as the first woman MD in the United States. There have been many commemorations to Dr. Blackwell, including the Blackwell Medal (established in 1949) and a first day of issue cover released Jan. 23, 1974. There have been many biographical accounts written about Dr. Blackwell. She is quoted as saying “Between the things girls aren’t supposed to know and the things children aren’t supposed to know, it is a wonder I know anything at all!” and “When I grow up I will know everything about the world that I want to know.” She is said to have known as a child that she would have great demands and great challenges placed on her as an adult. For that reason, she chose to challenge herself in many ways, including sleeping night after night on the floor to train herself to be strong in order to meet these challenges.

Dr. Emily Jennings Stowe (1831–1903)

Dr. Emily Jennings Stowe was the first female physician in Canada.⁶ Like Dr. Blackwell, it was a personal matter that drove her to medicine. Her husband contracted tuberculosis, and with several children to support, she decided to

pursue medicine. In 1865, at the University of Upper Canada in Toronto, it is reported that she was told by the dean that “The doors are not open to women, and I trust they never will be.” This was not the first time she had been turned away. In 1854, she became the first woman to hold a principal position in the Canadian public school system after being turned down for training in nearly 20 schools.

In 1867, she graduated from the New York Medical College for women and returned to Canada to practise without an internship or residency. In 1880, 13 years after graduation from medical school, she was the second woman granted a licence to practise by the College of Physicians and Surgeons of Ontario. It must have been with great satisfaction that she watched her daughter, Augustus Stowe-Gullen, become the first woman to be granted a medical degree from a Canadian university in 1883.

When she was told by the University of Canada that the doors never will be open, her reply was “Then I will make it the business of my life to see that the doors of Canadian Medical Schools will be opened and that women will have the same opportunities as men.”

Dr. Mary Edwards Walker (1832–1919)

A very interesting character during this time was Dr. Mary Edwards Walker.⁸ She is recorded as the first female surgeon in the United States. In 1855, she was the second female graduate of an American medical school (Syracuse Medical College in New York), with Dr. Blackwell being the first in 1949. Dr. Edwards Walker went into practice with her husband Albert Miller, a classmate. It is thought that the surgical practice failed because she refused to change her last name and practised as a woman. In 1863, she became the first female surgeon in the US Army after several years of practice as a nurse.

In recognition of her efforts, the medical facilities at the State University of New York in Oswego were named for Dr. Edwards Walker. In 1865 she received the Congressional Medal of Honour for her work as a US Army surgeon. This honour was revoked in 1917 by the United States Congress, as it was for many who did not serve directly on the front lines. She refused to return it and took it to her deathbed. In 1977, this honour was reinstated by President Jimmy Carter. In commemoration of her efforts, there was also a stamp issued in 1982. She is the first and only woman, as of 2008, to have been awarded the Congressional Medal of Honour.

Dr. Jennie Smillie Robertson (1878–1981)

Dr. Jennie Smillie Robertson was the first recorded female surgeon in Canada.⁶ In 1909, she graduated from the University of Toronto medical school, but there were no Canadian internships or residencies offered to women. In 1911, she completed residency at the Philadelphia Women’s Medical College. She was the surgeon “to per-

form the first major gynecological surgery in a private home.” In those times, many who were wither family physicians and surgeons practised out of private homes. She helped establish the Women’s College Hospital where she was the chair of gynecology from 1912 to 1942, and she launched the Federation of Medical Women of Canada.

Dr. Smillie Robertson married her childhood sweetheart, Alex Robertson, at the age of 70, having commented “I first met the man I was to marry many years later, in 1898 while I was teaching. At that time I was planning for medicine, not marriage, and I didn’t think I could have both.”

Dr. Marie Mergler, dean of the Woman’s Hospital Medical College in 1899, is quoted as saying, “No woman studying medicine today will ever know how much it has cost the individuals personally concerned in bringing about these changes; how eagerly they have watched new developments and mourned each defeat and rejoiced with each success. For with them it meant much more than success or failure for the individual, it meant the failure or success of a grand cause.”

Dr. Jessie Gray (1910–1978)

The first registered female general surgeon in Canada according to the Royal College of Physicians and Surgeons registrar is Jessie Gray (1910–1978).⁹ In 1934, she graduated from medicine at the University of Toronto as the gold medal recipient. She was the first female surgical graduate of the Gallie Program at the University of Toronto. In 1941, she was named Canada’s “First Lady of Surgery” and she served, starting in 1946, as the chief of surgery at the Women’s College Hospital. In 1954, she was honoured with the Elizabeth Blackwell Medal.

STATISTICS FOR WOMEN IN SURGERY

Until 1970, women never made up more than 6% of any medical school class in the United States or Canada.¹⁰ The American College of Surgeons admitted 1 woman in 1913, Florence Duckering, and then 0–5 women per year until 1975, making up less than 2% of the classes. In 1970, there was an increase in the number of women applying to medical school as a result of a number of factors: an increase in the overall number of positions, the rise of the women’s movement, the growing numbers of female baby boomers who were finishing college and the ratification of the equal opportunity act.

Women made up about 5% of all physicians in the United States in 1970; the number rose to 24% in 2001. Currently medical school enrolment, as estimated by the American Association of Medical Colleges (AAMC), is about equal between men and women. In 1980, women made up about 2% of all female surgical residents, including those in obstetrics and gynecology, in the United States; the number rose to only 14% in 2001. It is apparent

that the medical student ratio far outweighs the number of female medical residents.

WHY WOMEN CHOOSE (OR DO NOT CHOOSE) A CAREER IN MEDICINE

Qualitative research suggests that women choose surgery because they have successful female and male role models, because of the intellectual and technical challenge and because they feel they have, or have been told they have, “the surgical personality.”¹¹ Conversely, women do not choose surgery because they perceive it to be too difficult, are not encouraged, have no role models, perceive it to be too time-consuming, feel it is not family-friendly and believe the lifestyle is not controllable.

So what is a controllable lifestyle? In 2007, we conducted a survey of all Canadian female general surgeons registered with the Royal College of Physicians and Surgeons of Canada in 2006.¹² This was similar to a study performed by MacKinnon and colleagues almost 20 years ago.¹³ There was a 66% response rate, 80% were younger than 50 years and 50% were university-based. Even though fewer than 5% said they had an alternate method of practice, 35% wanted to explore an alternate method of practice (e.g., shared practices among 3 or more surgeons where patients are aware that they are being cared for by a group of surgeons). We emphasized the significant stress related to both aspects of work and home life. The importance of mentorship was noted, a situation that has changed radically since the original apprenticeship model of surgery was developed. Multiple mentorships are necessary, paralleling the multiple roles that trainees and surgeons are expected to hold in their current professional and personal lives. Mentors may not necessarily seek out trainees, so women must define what they want and seek out the mentor that will be best able to help them accomplish their personal and professional goals. Attaining a controllable lifestyle was intimately associated with perceived success. The business literature suggests that it is not whether someone works full- or part-time that is important. It is whether or not they can control, within their work hours, their daily activities.

Women have historically played a vital role in medicine

and surgery, even during the times that they were barred from legally practising. American and Canadian women have faced numerous obstacles and achieved great strides over the last 100 years. The number of women in surgery is proportionately increasing, but not to the same extent as the number of women in medical school. Lifestyle considerations such as the pursuit of a controllable lifestyle will help reduce this discrepancy.

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