# Chapter 10
# Gender Inequity in the United States Surgical Workforce

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## ABSTRACT

*Despite the consistently reported gender parity among accepted applicants to US medical schools, upstream parity in surgical training, academic promotion, leadership positions, pay equity, grant funding, and efforts to promote wellness specific to the needs of women surgeons is seriously lacking. Along with these known disparities, women surgeons disproportionally suffer from gender bias, micro-aggressions, bullying, discrimination, and harassment that together create an unjust, unsafe, undignified, intolerable if not hostile work environment. This chapter will explore these issues and offer a landscape that will set the stage for future initiatives to invoke change.*

## UNITED STATES SURGICAL LANDSCAPE

Looking at the historical tapestry of surgery, one expects to see a thick-woven carpet of rugged masculinity with a smattering of recently added fibers of feminine thread. However, the history of women in surgery extends back 170 years, with Dr. Elizabeth Blackwell matriculating first in her class in 1849 (Ali & McVay, 2016). One of the most well-known women in surgery, Dr. Mary Edwards Walker, graduated from medical school in 1855. Although a surgeon by training, Dr. Walker was referred to as a battlefield nurse during the Civil War and was the only woman awarded a Congressional Medal of Honor (Rut-

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kow, 2000). The pervasive misperception that surgery is a male profession led early women surgeons to disguise themselves as men in order to practice (de Costa, Chen-Xu, Bentounsi, & Vervoot, 2018). Many women have since followed in Dr. Blackwell's and Dr. Walker's footsteps, with the proportion of women entering medical school increasing to nearly 50% in 2008 (Sexton et al., 2012). Unfortunately, the journey to establish parity in surgical training programs has been slow and fraught with obstacles such that women remain a minority in most surgical specialities.

Surgical residencies have historically not attracted equal numbers of women. Although the proportion of women entering into general surgery residencies has increased for United States Medical Graduates (USMG) more recently to 32-40% (Davis, Risucci, Blair, & Schdeva, 2011), parity among the sexes is not anticipated until 2028 (Frangou, 2018). Despite more women entering surgical residency, the rate of attrition among women in their fourth year of residency is higher than for men (24% vs. 17%) (Yeo et al., 2018) and women surgical residents are less likely to reach board certification (Greenberg, 2017). Certain surgical specialties continue to have marked gender disparity, such as cardio-thoracic surgery (5% women), neurosurgery (5% women) and orthopedic surgery (6.5% women) (Stephens et al., 2016; Spetzler, 2011; Brown, Erdman, Munger, & Miller, 2019). The reasons for gender disparity vary slightly according to specialty but generally include work-life balance, lack of mentorship and role models, lack of support for childbearing and parenting, and culture not conducive to females (Donington, Litle, Sesti, & Colson, 2012; Reed et al., 2010; Vaporciyan et al., 2009).

Research focused on medical students has demonstrated that mentorship and role models are key factors in specialty selection (Schmidt, Cooper, & Guo, 2016). Women faculty mentors are limited to absent in many surgical specialties (Valsangkar et al., 2016), having the effect of dissuading even interested women students from choosing those particular surgical subspecialties. In addition, medical students most closely interact with residents while on surgical rotations. Since women surgical residents are 1.6 times more likely to experience burnout (Elmore, Jeffe, Jin, Awad, & Turnbull, 2016) or be clinically depressed and have higher attrition rates (Greenberg, 2017) than male peers, women medical students may be less likely to choose surgical specialties due to negative associations while on surgical services. Various minority organizations within specialties have sought to provide women students with exposure to and mentorship within their surgical specialty to counteract these issues.

## Surgical Identity as Women

Women surgical trainees and faculty face a daily struggle to be recognized and respected as surgeons. #ILookLikeASurgeon is a social media movement started in 2015 designed to bring visibility to women in surgery. In just 3 months this prompted 128 million impressions and 40,000 individual tweets (Hughes, 2015). The related New Yorker magazine cover challenged women to replicate real life images of themselves in the Operating Theatre emulating the cover by artist Malika Favre depicting four female faces overlooking a patient and labelling their photo with #ILookLikeASurgeon (Mouly & Bormes, 2017). Both movements demonstrate the desire for women to be recognized as surgeons and the difficulty of developing a surgical identity as a woman. While successful, the hashtag itself highlights the fundamental problem that women have to prove that they *look like* a surgeon and *are* surgeons. In addition to being *seen* as surgeons, women in surgery want to be treated equitably, respected, and included in the surgical fraternity to which they belong, a much more challenging proposition.

There is clear evidence across careers that women think, interact, and learn differently. While it may be easier for women to adapt and attempt to fit in, they are perceived as outsiders on the basis of gen-