

# Female surgeons perform less complex cases than male peers, likely due to systemic bias

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Female surgeons at a large academic medical center perform less complex surgical procedures than their male counterparts, according to a new study by researchers at Massachusetts General Hospital (MGH). This study, published in *Annals of Surgery*, is one of the first to measure the problem of underemployment among female surgeons in the United States, which can affect compensation, career advancement and job satisfaction.

Only about one in five surgeons practicing in U.S. is female. Unemployment is virtually nonexistent among surgeons, but many [female surgeons](#), as well as professional women in other fields, experience underemployment—the underuse of skills—according to the Federal Reserve Bank. "Women in surgery talk among themselves about how they may be perceived as less confident or competent, and for those reasons they may have less opportunity to do exciting and challenging cases," says Cassandra Kelleher, MD, a pediatric

surgeon at MGH and senior author of the *Annals of Surgery* study. "We wondered if this was true, and if so, why?"

To find out, Kelleher, post-doctoral researcher Ya-Wen Chen, MD, MPH, the lead author of the study, and several colleagues analyzed 551,047 case records from operations performed by 131 surgeons at MGH between 1997 and 2018. To compare the difficulty of surgeries that females and males performed, the researchers used a universally accepted metric known as the work Relative Value Unit (wRVU), which measures the technical complexity of a procedure.

The study found that the mean wRVU for cases performed by male surgeons was 10.8, compared to 8.3 for female surgeons, a difference in complexity of 23 percent. "If you multiply that over the course of a year or a career, that's a huge difference," says Chen.

The study's design ruled out common explanations for why female surgeons perform less complex procedures, such as their choice of subspecialty, or that women are less available due to family commitments. The study also found no sign that the problem has improved over the last two decades and indicated that underemployment was a more significant problem for female surgeons with greater seniority.

For years, female surgeons have been advised to take steps such as attending leadership training conferences to help advance their careers. While these programs have value, the study authors stress that female surgeons themselves are not the problem. "It may be that referring physicians or patients lack confidence in female surgeons to perform complex cases," says Chen. "If that's true, then we are not going to solve the problem solely

by having female surgeons attend leadership training. We need a systemic approach."

Finding the right approach will require deeper understanding of the problem, researchers say, so Chen, Kelleher and their colleagues are currently studying new patient referrals received by a group of female and male surgeons.

**More information:** Ya-Wen Chen et al, Under-Employment of Female Surgeons?, *Annals of Surgery* (2020). [DOI: 10.1097/SLA.0000000000004497](https://doi.org/10.1097/SLA.0000000000004497)

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