



# Gender Gap in Surgery

## Can integrated surgical programs increase the number of women in surgery?

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### INTRODUCTION

Historically, there have been disproportionately lower numbers of women entering surgical residency programs compared to the percentage of women physicians. Per the ACGME, in 2017, women comprised 45.8% of all residents in training but just 29.9% of surgical residents. We sought to determine if certain factors, specifically integrated surgical programs, have made an impact on the number of women in surgical specialties.

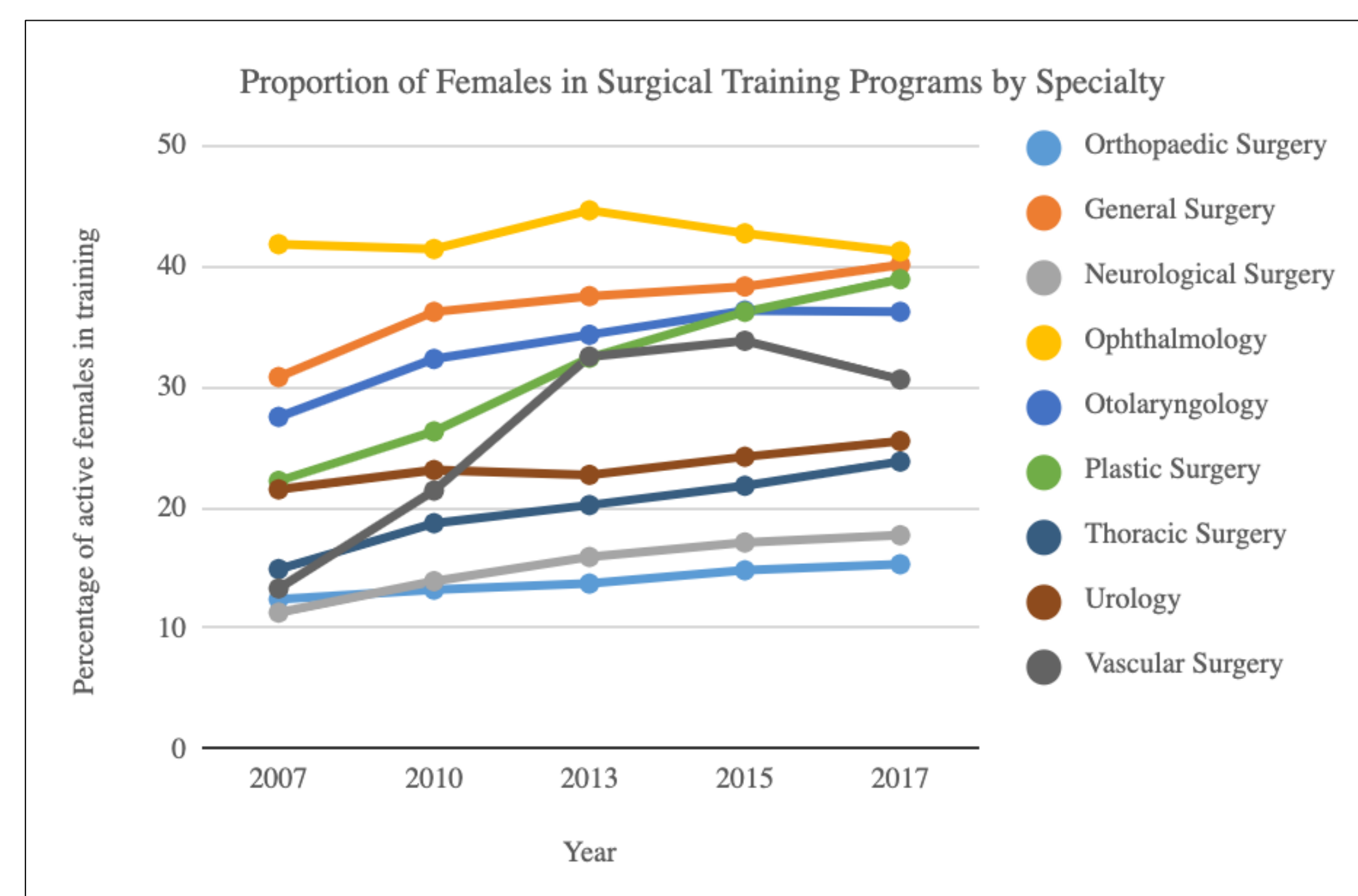
### OBJECTIVES

In the present study, we sought to determine if integrated surgical programs have seen increased numbers of women entering programs compared to non-integrative programs.

### METHODS

Data was extracted from the Accreditation Council of Graduate Medical Education (ACGME) Data Resource Books and ACGME Association of American Medical Colleges (AAMC) Physician Specialty Data Reports from 2007-2018 into Microsoft Excel. We then analyzed the overall trends of women entering non-integrated surgical specialties including orthopedic surgery, general surgery, neurological surgery, ophthalmology, otolaryngology, plastic surgery, thoracic surgery, urology, and vascular surgery, as well as the overall trends of women entering integrated surgical programs including vascular, thoracic, and plastic surgery.

### CHARTS AND FIGURES



Program	2007	2010	2013	2015	2017	Percent Increase	Percent Change
Orthopaedic Surgery	12.4	13.2	13.7	14.8	15.3	2.9	23.39%
General Surgery	30.8	36.2	37.5	38.3	40.1	9.3	30.19%
Neurological Surgery	11.3	13.9	15.9	17.1	17.7	6.4	56.64%
Ophthalmology	41.8	41.4	44.6	42.7	41.2	-0.6	-1.44%
Otolaryngology	27.5	32.3	34.3	36.3	36.2	8.7	31.64%
Plastic Surgery	22.2	26.3	32.4	36.2	38.9	16.7	75.23%
Thoracic Surgery	14.9	18.7	20.2	21.8	23.8	8.9	59.73%
Urology	21.5	23.1	22.7	24.2	25.5	4	18.60%
Vascular Surgery	13.3	21.4	32.5	33.8	30.6	17.3	130.08%
All Residents	44.6	46.1	46.1	46	45.8	1.2	2.69%

Year	Non-Integrated Number of Women	Non-Integrated Percentage of Women	Integrated Number of Women	Integrated Percentage of Women
2007-2008	27	13%	0	0%
2008-2009	31	13%	3	18%
2009-2010	42	17%	10	25%
2010-2011	51	20%	19	32%
2011-2012	55	22%	38	40%
2012-2013	68	28%	51	38%
2013-2014	73	29%	61	36%
2014-2015	59	24%	76	37%
2015-2016	63	27.00%	93	39.70%
2016-2017	70	29.00%	94	36.20%
2017-2018	62	25.20%	94	34.60%

Year	Non-Integrated Number of Women	Non-Integrated Percentage of Women	Integrated Number of Women	Integrated Percentage of Women
2007-2008	32	13%	N/A	N/A
2008-2009	33	15%	2	40%
2009-2010	30	14%	4	36%
2010-2011	37	17%	6	24%
2011-2012	41	19%	9	22%
2012-2013	41	19%	14	22%
2013-2014	36	17%	20	24%
2014-2015	42	19%	25	21%
2015-2016	45	20.20%	33	23.90%
2016-2017	45	20.10%	42	26.10%
2017-2018	52	23.30%	48	26.20%

Year	Non-Integrated Number of Women	Non-Integrated Percentage of Women	Integrated Number of Women	Integrated Percentage of Women
2007-2008	140	22%	N/A	N/A
2008-2009	84	24%	72	23%
2009-2010	86	24%	86	26%
2010-2011	85	24%	106	30%
2011-2012	86	25%	116	31%
2012-2013	83	24%	163	38%
2013-2014	97	24%	187	37%
2014-2015	98	25%	216	38%
2015-2016	96	26.40%	265	40.00%
2016-2017	94	29.70%	303	40.50%
2017-2018	77	28.90%	342	41.30%

### RESULTS

Results suggest that the creation of integrated surgical programs has increased and will continue to increase the proportion of women in surgical specialties, most evidenced by the trends of women in integrated programs such as vascular, thoracic, and plastic surgery.

### CONCLUSION

We believe that the creation of integrated training programs will aid in increasing the rates of women matriculating into surgical subspecialties. These integrated programs would shorten the length of training by two years and allow candidates to enter directly from medical school rather than completing a five-year general surgery residency prior to specialty training. Other surgical subspecialties such as colon/rectal, surgical oncology, pediatrics, and critical care may benefit from creating integrated surgical training programs to help increase rates of females entering these fields.

### REFERENCES

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