



Otolaryngology-Head & Neck Surgery

Department of Surgery
UNIVERSITY OF WISCONSIN

SCHOOL OF MEDICINE AND PUBLIC HEALTH

Current state of safe pregnancy policies for the US surgical trainee

A review of the trends and specific risks in US surgical residency

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October 21, 2023

Outline

- **Background**
 - Gender disproportionality in surgical training
 - Training implications for pregnant trainees
- **Results of surveys sent to surgical programs**
- **Next steps**

Disclosures

We have no conflicts of interest associated with this project

Composition of Medicine: Female Surgeons

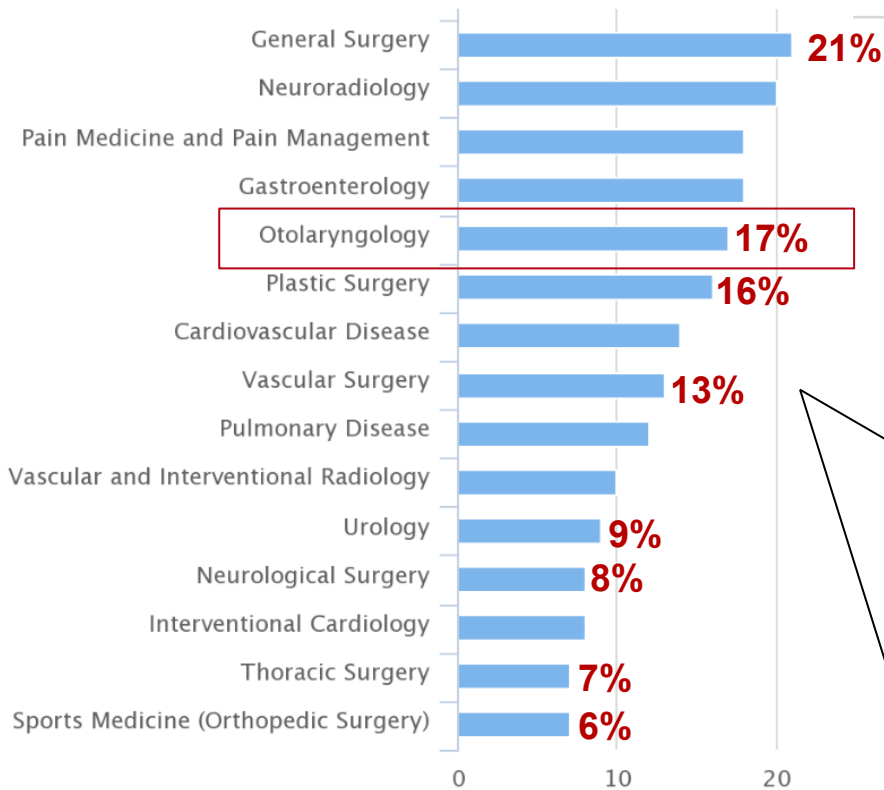
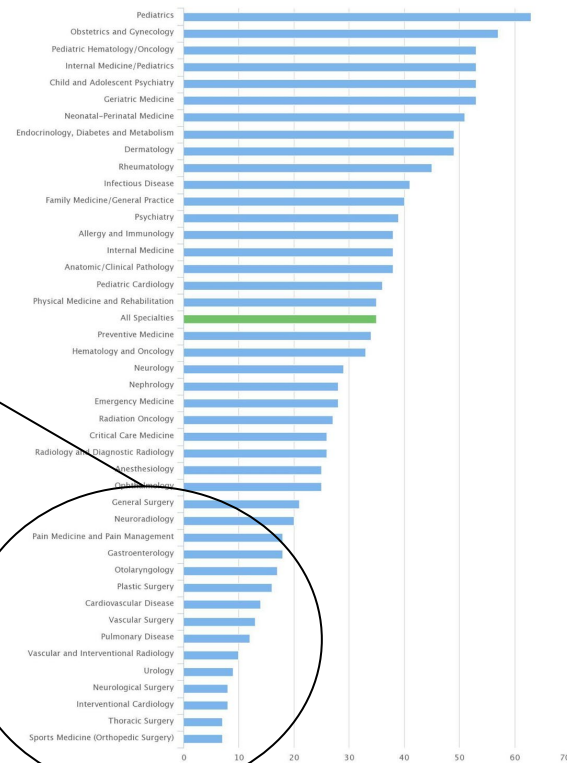


Figure 1.3. Percentage of Active Physicians Who Are Female by Specialty, 2017



Pregnancy During Surgical Training

- **48-98% of female trainees delay childbearing, citing reasons including:**
 - avoid disruption of training
 - avoid burdening others with call/shift coverage
 - stigma of being a pregnant surgeon
 - **fear of OB complications due to high stress & workload of training**
 - **lack of formal policy or support from their program**
- **Of women who had a child during residency:**
 - **40% strongly considered leaving their career**
 - nearly **30% would discourage a surgical career** for female medical students, specifically because of the difficulties of balancing pregnancy and motherhood with training

Effects of Training on Pregnant Residents

- **Female surgical residents have:**
 - **Fewer children** than their male counterparts (18%-28% vs 32%-54%)
 - Their first child later in life (**30-34 vs 25 years old**)
 - **Fewer children** overall (0.6-2.1 vs 2.7)
 - **Higher infertility rates** than in the general population (**30%-32% vs 11%**)
 - Higher need for **assisted reproductive technology** rates (8%-13% vs 1.7%)
 - Female surgical residents are more likely than non-surgeon female partners to have **major pregnancy complications (48.3% versus 27.2%)**.

What are residency programs currently doing to
“protect” pregnant female residents?

Survey: Design and Distribution

- **20 question survey to program directors & coordinators**
 - Internally validated
 - Otolaryngology, plastic surgery, vascular surgery, & general surgery
 - Nov 2022 – Jan 2023
 - IRB exemption by the Minimal Risk Research IRB (ID number 2022-1370)
- **Questions included:**
 - Presence of current policy
 - Inclusion of safety education
 - Call/overnight shift work requirements
 - Workplace protection and safety policies
 - Satisfaction with current protocol

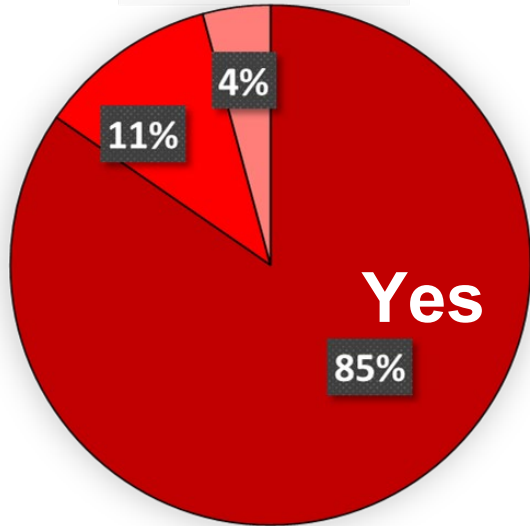
Survey Response Rate

- **Total of 608 programs emailed**
 - Response rate 23.5% (143/608)
 - General surgery (70), OHNS (45), plastic surgery (20), and vascular surgery (8)

Perceived Need, Presence, and Satisfaction of Existing Protocol

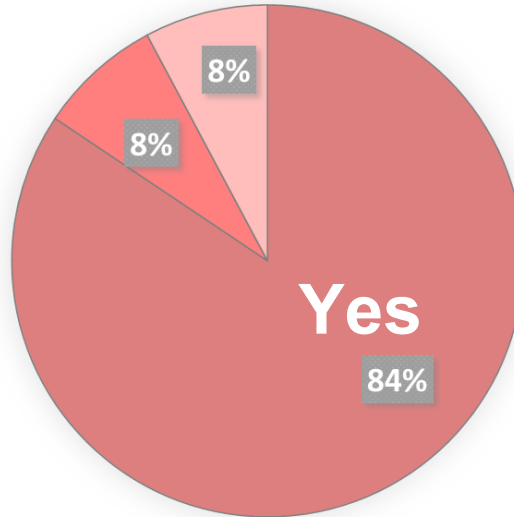
Has your program ever had pregnant female trainees?

■ Yes ■ No ■ I don't know



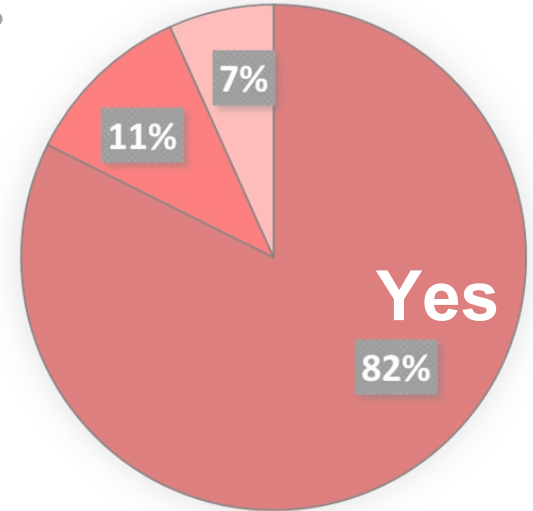
Does your program have a policy or accommodations in place for pregnant trainees?

■ Yes ■ No ■ I don't know



Are you satisfied with the policy or accommodations for pregnant trainees?

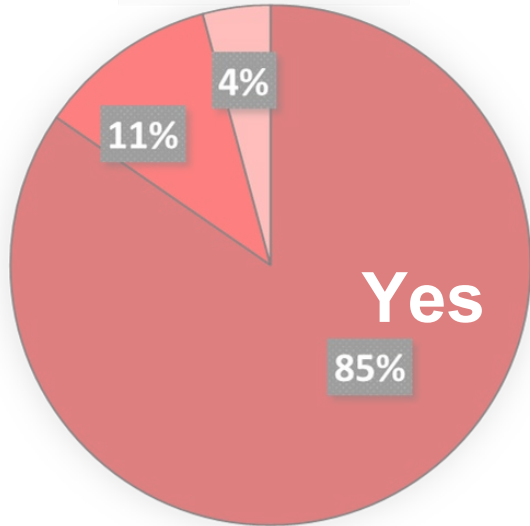
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Perceived Need, Presence, and Satisfaction of Existing Protocol

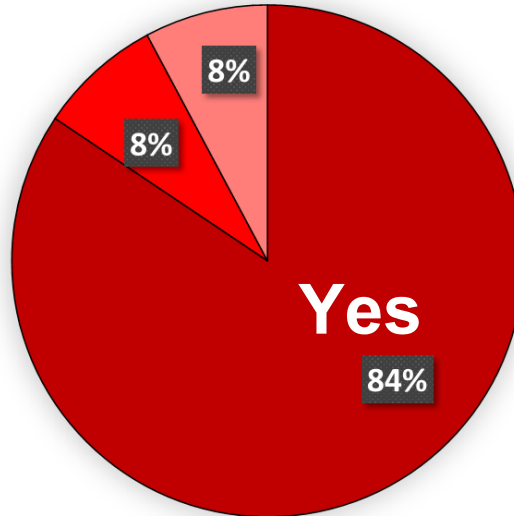
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■ Yes ■ No ■ I don't know



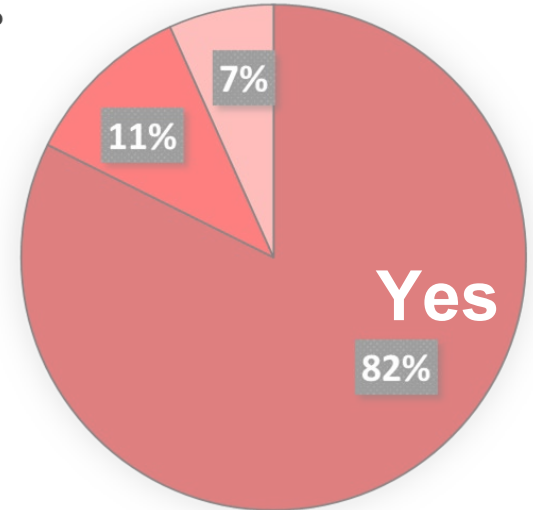
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■ Yes ■ No ■ I don't know



Are you satisfied with the policy or accommodations for pregnant trainees?

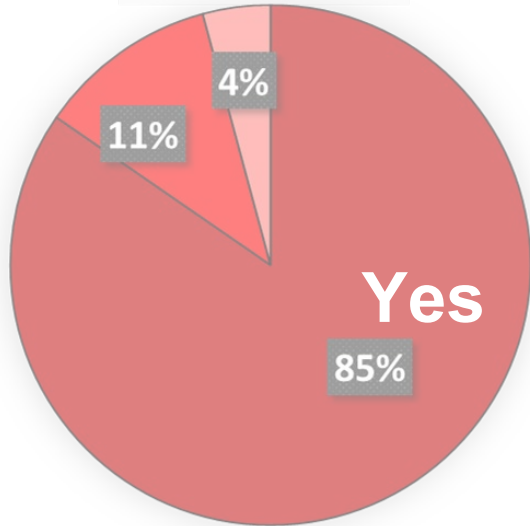
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Perceived Need, Presence, and Satisfaction of Existing Protocol

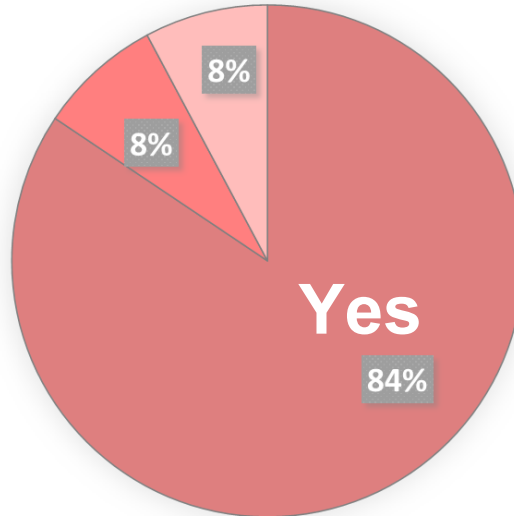
Has your program ever had pregnant female trainees?

■ Yes ■ No ■ I don't know



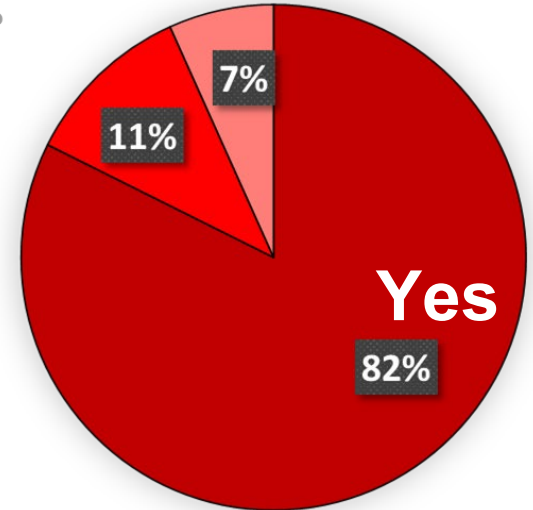
Does your program have a policy or accommodations in place for pregnant trainees?

■ Yes ■ No ■ I don't know



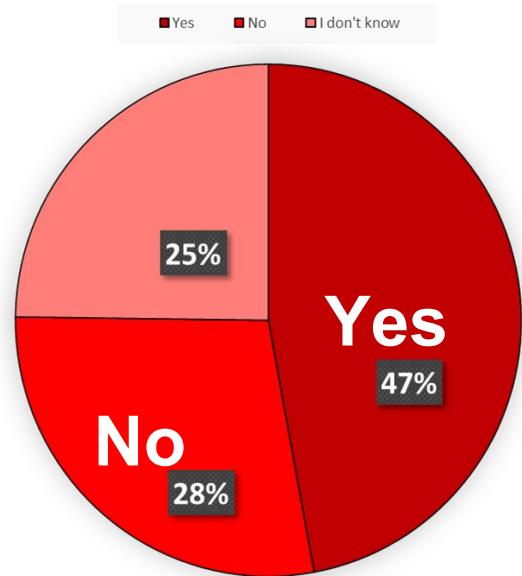
Are you satisfied with the policy or accommodations for pregnant trainees?

■ Yes ■ No ■ I don't know

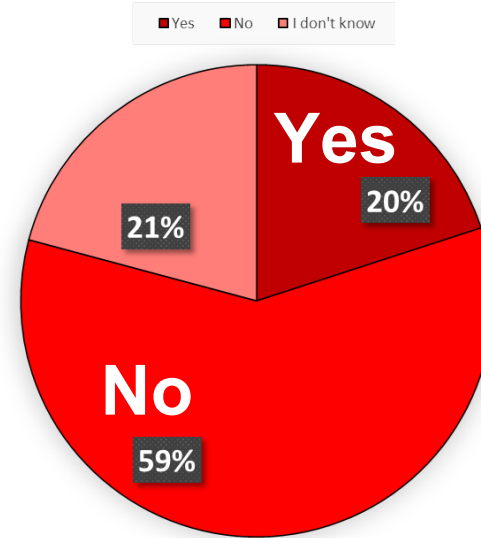


Existing Codified Protections

Does your program incorporate rest breaks for pregnant trainees?



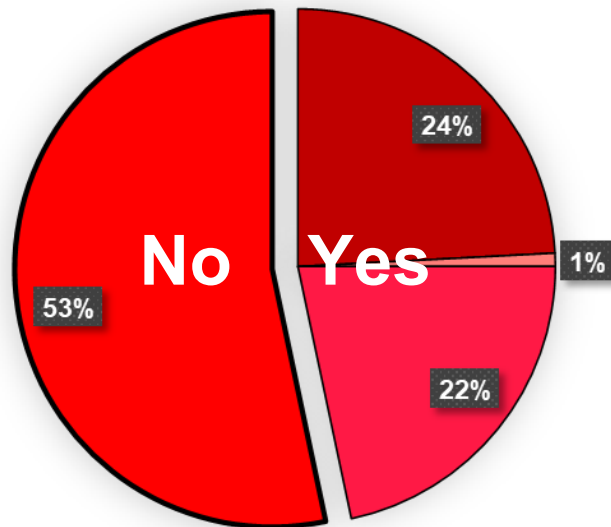
Does your program protect the number of hours a pregnant trainee operates per week?



Survey Results

Are overnight shifts or call schedules adjusted for pregnant trainees?

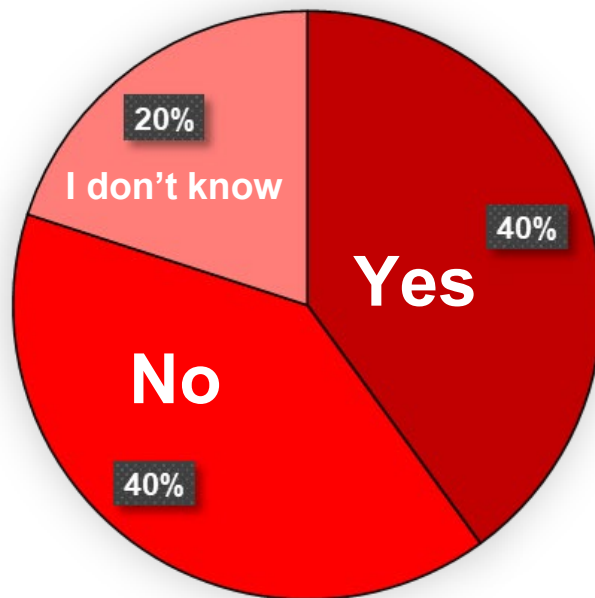
■ Yes ■ Yes, but only during the first trimester ■ Yes, but only during the third trimester ■ No / I don't know



of the programs answering yes, 20% require making up these shifts

Does your program have a contingency plan for supporting non-child-bearing trainees if their pregnant colleagues' responsibilities are adjusted during pregnancy or post-partum?

■ Yes ■ No ■ I don't know



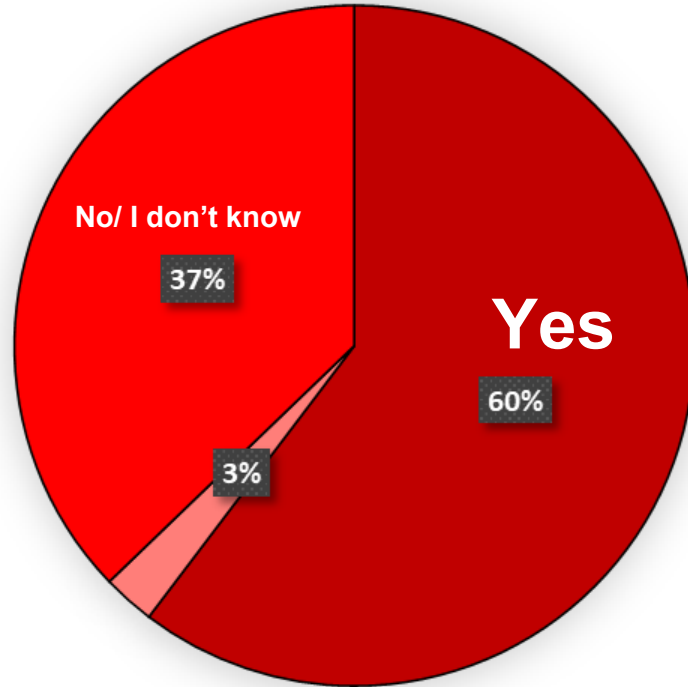
Do you provide information to pregnant trainees regarding workplace exposures that pose a risk of fetal anomaly or miscarriage?

■ Yes ■ No ■ I don't know



Is there protected time off for bereavement/miscarriage in your program?

■ Yes, for all residents ■ Yes, for female residents only ■ No/ I don't know



Excerpts from Written (Open) Responses

“... Pregnant trainees are not required to make up call but they do because they personally do not want to burden their co-residents, this survey makes me realize we should consider formalizing that in our program.

“The current guidelines regarding pregnancy lack detail regarding reduced work hours ... I think that there should be clear guidelines on how to address reduced duty hours in terms of board eligibility. In my opinion, working/training “part time” should be a clearly defined accomodation option.

“Wish we could offer [more], but understand the potential impact to training length.

“Our work force is small, and in a lot of ways, it's nearly pushed to its limit.

Next Steps

- Vast majority of present policies address **parental leave**, with very few addressing the specific risks that trainees face **during pregnancy**
- Propose an **evidence-based policy** intended to be widely adopted across surgical subspecialties nationwide
 - **Specific recommendations for:**
 - Physical exertion (standing, lifting)
 - Exposure to radiation, anesthetic gases, organic solvents
 - Call shifts
 - Bereavement
 - Safety education and prevention of workplace hazards
 - Stress related to impact of workload for co-trainees
- 2 of 3 women surgeons report a desire for greater mentorship on integrating a surgical career with motherhood and pregnancy

Thank you for your time and attention

Special thank you to:

Dr. Tiffany Glazer

University of Wisconsin Department of Surgery Safe Pregnancy Committee

Questions?

References

1. AAMC. Active Physicians by Sex and Specialty. Accessed November 27, 2022, <https://www.aamc.org/data-reports/workforce/interactive-data/active-physicians-sex-and-specialty-2017>
2. AAMC. Report on Residents. Accessed March 25, 2023, <https://www.aamc.org/data-reports/students-residents/data/report-residents/2022/table-b3-number-active-residents-type-medical-school-gme-specialty-and-gender>
3. ACOG. Having a Baby After Age 35: How Aging Affects Fertility and Pregnancy. Accessed March 25, 2023, <https://www.acog.org/womens-health/faqs/having-a-baby-after-age-35-how-aging-affects-fertility-and-pregnancy#:~:text=A%20woman's%20peak%20reproductive%20years,is%20unlikely%20for%20most%20women>
4. Brown EG, Galante JM, Keller BA, Braxton J, Farmer DL. Pregnancy-related attrition in general surgery. *JAMA Surg.* Sep 2014;149(9):893-7. doi:10.1001/jamasurg.2014.1227
5. Colletti LM, Mulholland MW, Sonnad SS. Perceived obstacles to career success for women in academic surgery. *Arch Surg.* Aug 2000;135(8):972-7. doi:10.1001/archsurg.135.8.972
6. Neumayer L, Kaiser S, Anderson K, et al. Perceptions of women medical students and their influence on career choice. *Am J Surg.* Feb 2002;183(2):146-50. doi:10.1016/s0002-9610(01)00863-7
7. Turner PL, Lumpkins K, Gabre J, Lin MJ, Liu X, Terrin M. Pregnancy among women surgeons: trends over time. *Arch Surg.* May 2012;147(5):474-9. doi:10.1001/archsurg.2011.1693
8. Lawlor C, Kawai K, Tracy L, Sobin L, Kenna M. Women in Otolaryngology: Experiences of Being Female in the Specialty. *Laryngoscope.* Feb 2021;131(2):E380-e387. doi:10.1002/lary.28917
9. Rangel EL, Lyu H, Haider AH, Castillo-Angeles M, Doherty GM, Smink DS. Factors Associated With Residency and Career Dissatisfaction in Childbearing Surgical Residents. *JAMA Surg.* Nov 1 2018;153(11):1004-1011. doi:10.1001/jamasurg.2018.2571
10. Rangel EL, Smink DS, Castillo-Angeles M, et al. Pregnancy and Motherhood During Surgical Training. *JAMA Surg.* Jul 1 2018;153(7):644-652. doi:10.1001/jamasurg.2018.0153
11. Rangel EL, Castillo-Angeles M, Easter SR, et al. Incidence of Infertility and Pregnancy Complications in US Female Surgeons. *JAMA Surg.* Oct 1 2021;156(10):905-915. doi:10.1001/jamasurg.2021.3301
12. Todd AR, Cawthorn TR, Temple-Oberle C. Pregnancy and Parenthood Remain Challenging During Surgical Residency: A Systematic Review. *Acad Med.* Oct 2020;95(10):1607-1615. doi:10.1097/acm.0000000000003351
13. Kin C, Yang R, Desai P, Mueller C, Girod S. Female trainees believe that having children will negatively impact their careers: results of a quantitative survey of trainees at an academic medical center. *BMC Med Educ.* Nov 13 2018;18(1):260. doi:10.1186/s12909-018-1373-1
14. Mavedatnia D, Ardestani S, Zahabi S, et al. The Experiences of Motherhood in Female Surgeons: A Scoping Review. *Ann Surg.* Feb 01 2023;277(2):214-222. doi:10.1097/SLA.0000000000005730
15. Stentz NC, Griffith KA, Perkins E, Jones RD, Jagsi R. Fertility and Childbearing Among American Female Physicians. *J Womens Health (Larchmt).* Oct 2016;25(10):1059-1065. doi:10.1089/jwh.2015.5638
16. Behbehani S, Tulandi T. Obstetrical complications in pregnant medical and surgical residents. *J Obstet Gynaecol Can.* Jan 2015;37(1):25-31. doi:10.1016/s1701-2163(15)30359-5
17. Sandler BJ, Tackett JJ, Longo WE, Yoo PS. Pregnancy and Parenthood among Surgery Residents: Results of the First Nationwide Survey of General Surgery Residency Program Directors. *J Am Coll Surg.* Jun 2016;222(6):1090-6. doi:10.1016/j.jamcollsurg.2015.12.004
18. Merchant SJ, Hameed SM, Melck AL. Pregnancy among residents enrolled in general surgery: a nationwide survey of attitudes and experiences. *Am J Surg.* Oct 2013;206(4):605-10. doi:10.1016/j.amjsurg.2012.04.005
19. Weaver MD, Landrigan CP, Sullivan JP, et al. The Association Between Resident Physician Work-Hour Regulations and Physician Safety and Health. *Am J Med.* Jul 2020;133(7):e343-e354. doi:10.1016/j.amjmed.2019.12.053
20. ACOG Committee Opinion No. 733: Employment Considerations During Pregnancy and the Postpartum Period. *Obstet Gynecol.* Apr 2018;131(4):e115-e123. doi:10.1097/aog.0000000000002589