



Otolaryngology-Head & Neck Surgery

Department of Surgery

UNIVERSITY OF WISCONSIN

SCHOOL OF MEDICINE AND PUBLIC HEALTH

The Future of Graduate Medical Education

... from the viewpoint of a female surgeon

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Disclosures

I have nothing to disclose

Outline

- The future of graduate medical education (GME)
- Why equity matters for the future of GME
- Specific focus on gender equity
- Strategies to overcome gender inequity



Future of GME

Medical Education in 2030



The Future of GME

- What will be the most significant transformation in GME over the next decade?
- How will it impact your roles in GME?
- What do you hope is true in 2030 that is not true today?



Future of GME: Economics

- Will GME funding shift from hospital-based reimbursements & public funding to private funding by corporations and health care systems?
- Will trainees not be able to choose their specialty, but rather be assigned to the needs of the population?

Future of GME: Technology

- Will new specialties emerge as assessment, diagnosis, and management is provided by machines?
- Will our trainees be overtaken by “algorithms?”
 - Are trainees devolving from professional education to vocation training?

Future of GME:

Competency-Based, Time-Variable Education

- Can we uncouple assessment from teaching?
- Can we directly measure competency?
 - EHR data, analysis of visits, simulation
- Can the trainee be accountable for their progress, and faculty serves as coach and role model?
- Will we graduate residents on a rolling basis throughout the year?



The Future of GME

- What will be the most significant transformation in GME over the next decade?
- How will it impact your roles in GME?
- What do you hope is true in 2030 that is not true today?

Future of GME

- Economics, technology, competency-based graduation requirement...
 - US government, ACGME, institution

- How can / affect the future of GME?

What Do I Hope To See?

- Diversity present in all aspects of medicine
- Normalcy, not an anomaly, to see _____ in _____.



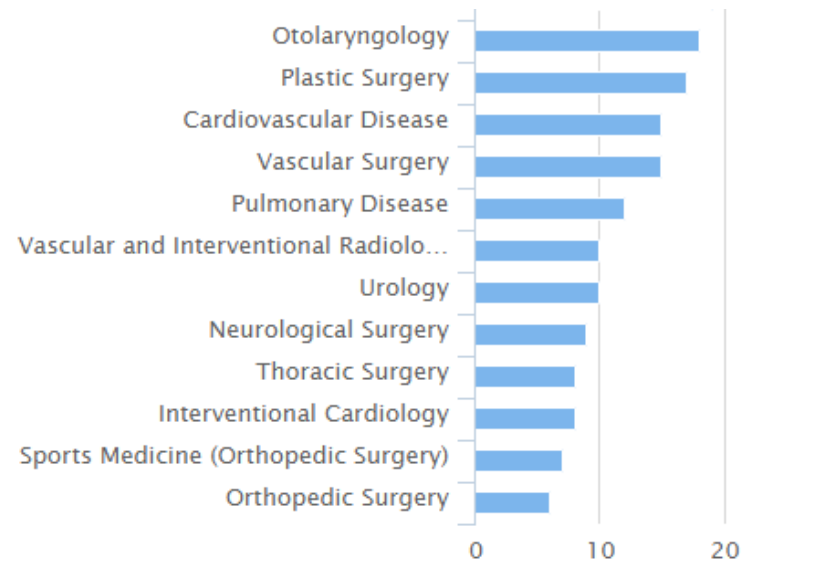
Gender Equity

Current Status



Gender Equity

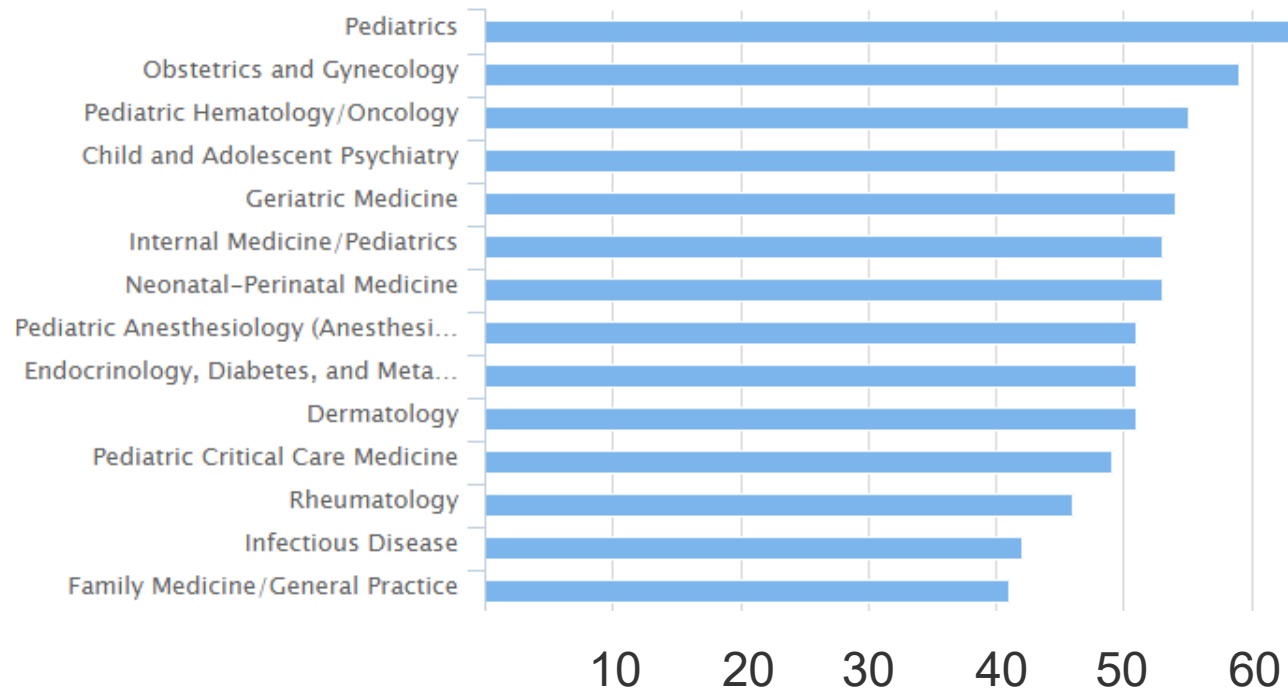
Source: AAMC Physician Specialty Data Report, 2019



% of practicing female physicians by specialty

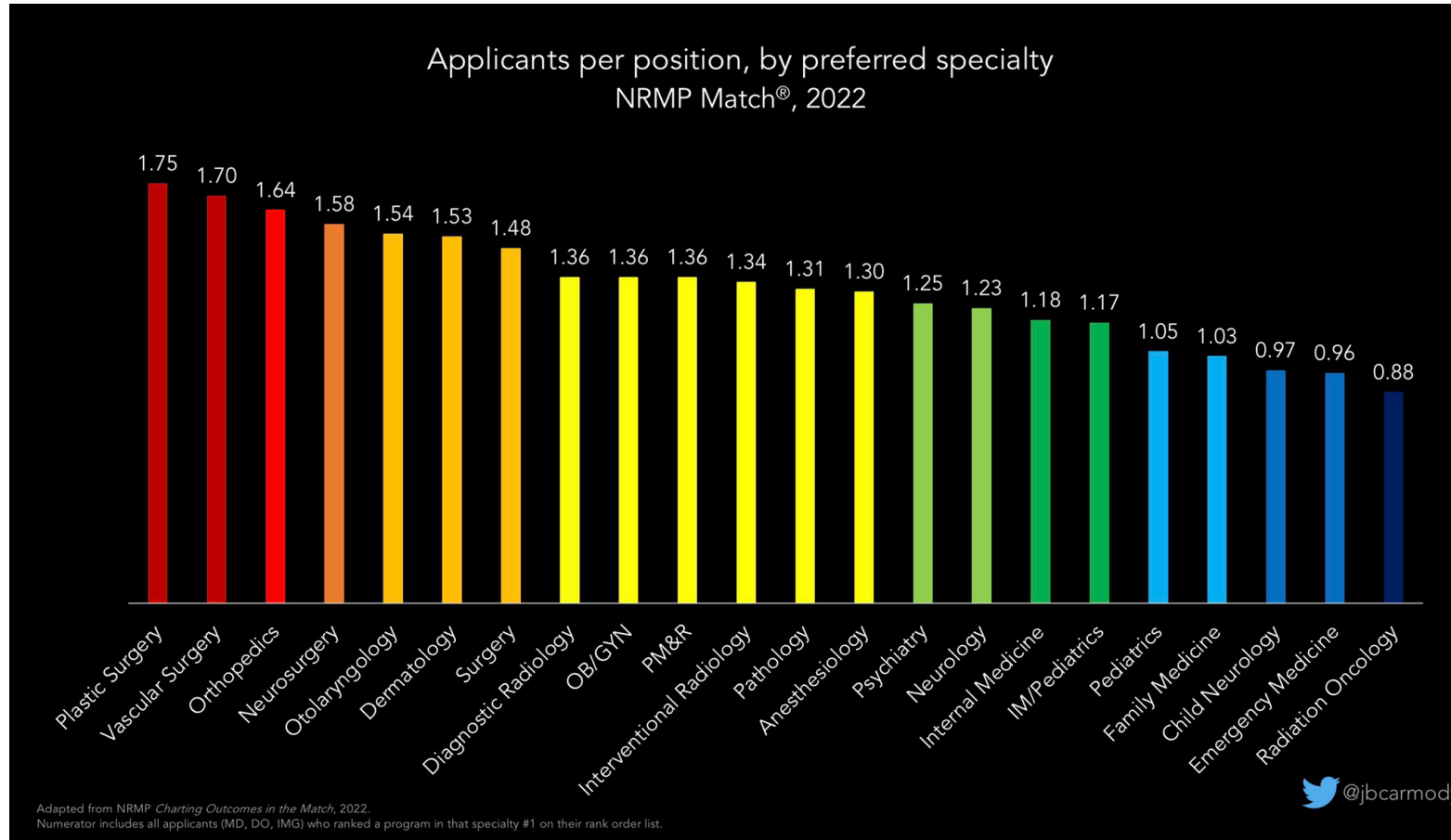
The Flip Side

Figure 1.3 Percentage of Active Physicians Who Are Female by Specialty, 2019



Source: AAMC Physician Specialty Data Report, 2019

NRMP Data



Most to least
desired medical
specialties in Match
2022, ranked by
ratio of applicants
to positions

What Does This Mean?

- The most “desired” and “competitive” specialties are dominated by males
- Females tend to choose the ambulatory specialties
- Females tend to choose the specialties with children and babies (“nurturing”)

Are females choosing these specialties, or are the specialties choosing them?

Women can achieve the **knowledge base** and **technical skill set** required of surgical specialties, so why aren't more of them choosing them?



Medical Students

- Can we meet to discuss what it is like to be a woman and an ENT surgeon?
- Can we discuss strategies to maintain work-life balance as a woman in surgery?
- Can I have a family and do this career?



If technical ability and knowledge
isn't the problem...

... what is?



Issues Facing Women in Surgery

- Gender bias / Harassment
- Feasibility of pregnancy
- Stigma associated with pregnancy / family
- Lack of female mentors
- Lack of female leaders (“glass ceiling”)

Gender Bias & Harassment

Well over 15 peer-reviewed studies from multiple medical schools that show:

- Female students more likely to experience gender-based discrimination and harassment
- Less likely to choose surgery as a career

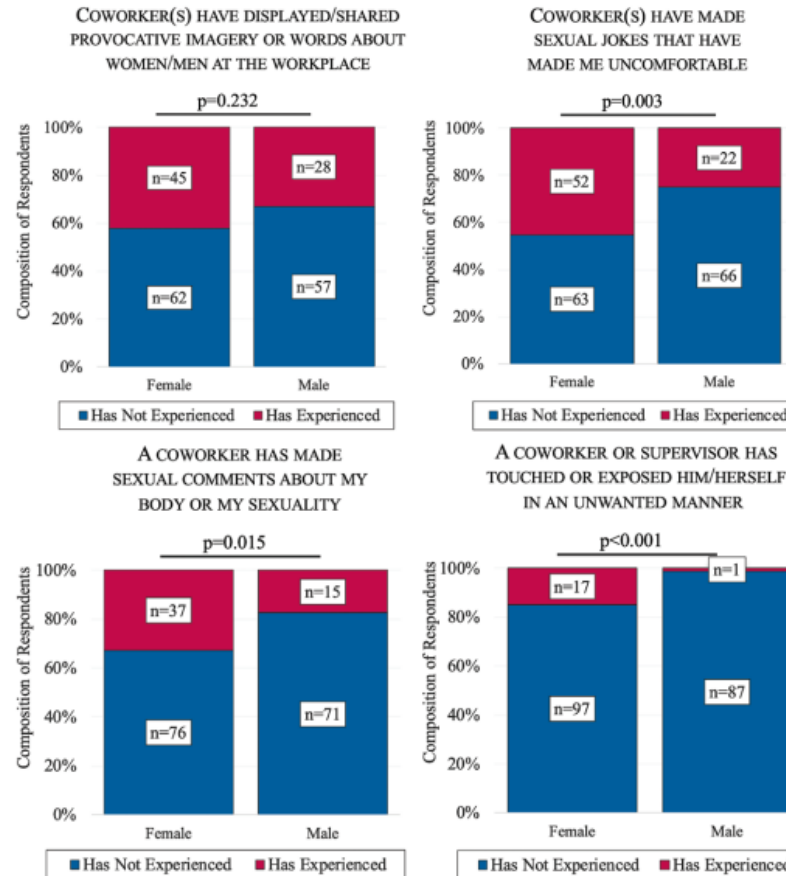


A Report of Gender Bias and Sexual Harassment in Current Plastic Surgery Training: A National Survey

Statement	By Sex
Preparedness for misconduct from medical schooling	
Medical school prepared me sufficiently to address gender bias and inequality in the workplace.	<0.0001 (significant disagreement from women relative to men)
Medical school prepared me sufficiently to address sexual harassment and assault in the workplace.	<0.0001 (significant disagreement from women relative to men)
Medical schools should do more to prepare new physicians to challenge gender bias and inequality in the workplace.	0.0191 (significant disagreement from women relative to men)
Medical schools should do more to prepare new physicians to challenge sexual harassment and assault in the workplace.	0.2199
Experience of misconduct in the workplace	
All genders have equal opportunities in the workplace.	<0.0001 (significant disagreement from women relative to men)
Things are improving for women in the workplace.	0.0334 (significant disagreement from women relative to men)
I feel comfortable challenging attitudes about gender inequality at my workplace.	<0.0001 (significant disagreement from women relative to men)
Because of my gender, I have felt excluded from networking or socializing for career advancement (e.g., getting drinks at a conference, smoking cigars, dinners, golf).	<0.0001 (significant disagreement from women relative to men)
I have considered or have taken steps to leave my current position because of gender bias or inequality.	0.1872
I have considered or have taken steps to leave my current position because of sexual harassment or assault.	0.3564
Gender bias or inequality at my workplace has diminished my career ambitions, goals, and/or plans.	0.0002 (significant disagreement from women relative to men)
Sexual harassment or assault at my workplace has diminished my career ambitions, goals, and/or plans.	0.0151 (significant disagreement from women relative to men)

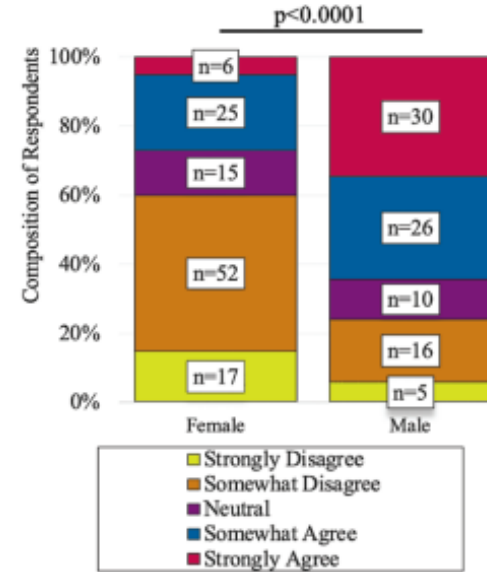


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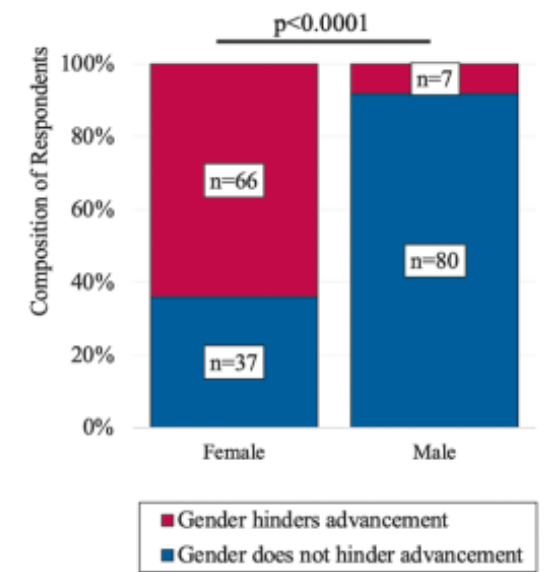


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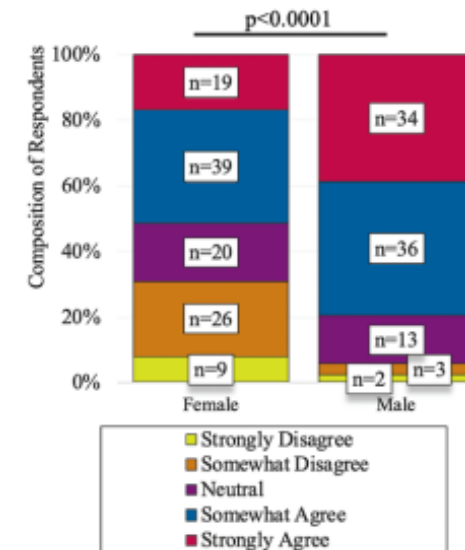
FEELING THAT GENDERS HAVE EQUAL OPPORTUNITY IN THE WORKPLACE



FEELING THAT GENDER HINDERS OPPORTUNITIES IN THE WORKPLACE



FEELING OF COMFORT IF/WHEN CHALLENGING ATTITUDES ABOUT GENDER IN THE WORKPLACE



Discrimination, Abuse, Harassment, and Burnout in Surgical Residency Training




Yue-Yung Hu, M.D., M.P.H., Ryan J. Ellis, M.D., M.S.C.I.,
 D. Brock Hewitt, M.D., M.P.H., Anthony D. Yang, M.D., Elaine Ooi Cheung, Ph.D.,
 Judith T. Moskowitz, Ph.D., M.P.H., John R. Potts III, M.D., Jo Buyske, M.D.,
 David B. Hoyt, M.D., Thomas J. Nasca, M.D., and Karl Y. Bilimoria, M.D., M.S.C.I.

Table 2. Frequency of Mistreatment, Duty-Hour Violations, Burnout, and Suicidal Thoughts among U.S. Surgical Residents.*

Variable	Overall (N = 7409)	Men (N = 4438)		Women (N = 2935)	
		number	(percent)	number	(percent)
Gender discrimination	2366 (31.9)	442 (10.0)	1912 (65.1)		
A few times per year	1453 (19.6)	325 (7.3)	1123 (38.3)		
A few times per month or more frequently	913 (12.3)	117 (2.6)	789 (26.9)		
Racial discrimination	1227 (16.6)	671 (15.1)	547 (18.6)		
A few times per year	859 (11.6)	477 (10.7)	379 (12.9)		
A few times per month or more frequently	368 (5.0)	194 (4.4)	168 (5.7)		
Discrimination based on pregnancy or childcare status	532 (7.2)	144 (3.2)	383 (13.0)		
A few times per year	361 (4.9)	84 (1.9)	275 (9.4)		
A few times per month or more frequently	171 (2.3)	60 (1.4)	108 (3.7)		
Any discrimination on the basis of gender, race, or pregnancy or childcare status†	2848 (38.4)	884 (19.9)	1950 (66.4)		
A few times per year	1773 (23.9)	645 (14.5)	1122 (38.2)		
A few times per month or more frequently	1075 (14.5)	239 (5.4)	828 (28.2)		
Verbal or emotional abuse	2238 (30.2)	1257 (28.3)	968 (33.0)		
A few times per year	1593 (21.5)	882 (19.9)	704 (24.0)		
A few times per month or more frequently	645 (8.7)	375 (8.5)	264 (9.0)		
Physical abuse	166 (2.2)	108 (2.4)	57 (1.9)		
A few times per year	95 (1.3)	54 (1.2)	41 (1.4)		
A few times per month or more frequently	71 (1.0)	54 (1.2)	16 (0.5)		
Any abuse: verbal, emotional, or physical	2243 (30.3)	1259 (28.4)	971 (33.1)		
A few times per year	1598 (21.6)	884 (19.9)	707 (24.1)		
A few times per month or more frequently	645 (8.7)	375 (8.4)	264 (9.0)		
Sexual harassment	761 (10.3)	172 (3.9)	583 (19.9)		
A few times per year	574 (7.7)	109 (2.5)	460 (15.7)		
A few times per month or more frequently	187 (2.5)	63 (1.4)	123 (4.2)		
Any mistreatment exposure‡	3694 (49.9)	1605 (36.1)	2073 (70.6)		
A few times per year	2289 (30.9)	1120 (25.2)	1162 (39.6)		
A few times per month or more frequently	1405 (19.0)	485 (10.9)	911 (31.0)		
Duty-hour violations of the 80-hr rule in the previous 6 mo — no. of mo					
0	4518 (61.0)	2952 (66.5)	1548 (52.7)		
1–2	1869 (25.2)	954 (21.5)	906 (30.9)		
≥3	1022 (13.8)	532 (12.0)	481 (16.4)		
Outcome measures					
Burnout‡	2849 (38.5)	1591 (35.9)	1245 (42.4)		
Suicidal thoughts§	333 (4.5)§	173 (3.9)	156 (5.3)		



Women in Otolaryngology: Experiences of Being Female in the Specialty

Claire Lawlor, MD ; Kosuke Kawai, ScD; Lauren Tracy, MD ; Lindsay Sobin, MD;
 Margaret Kenna, MD, MPH 

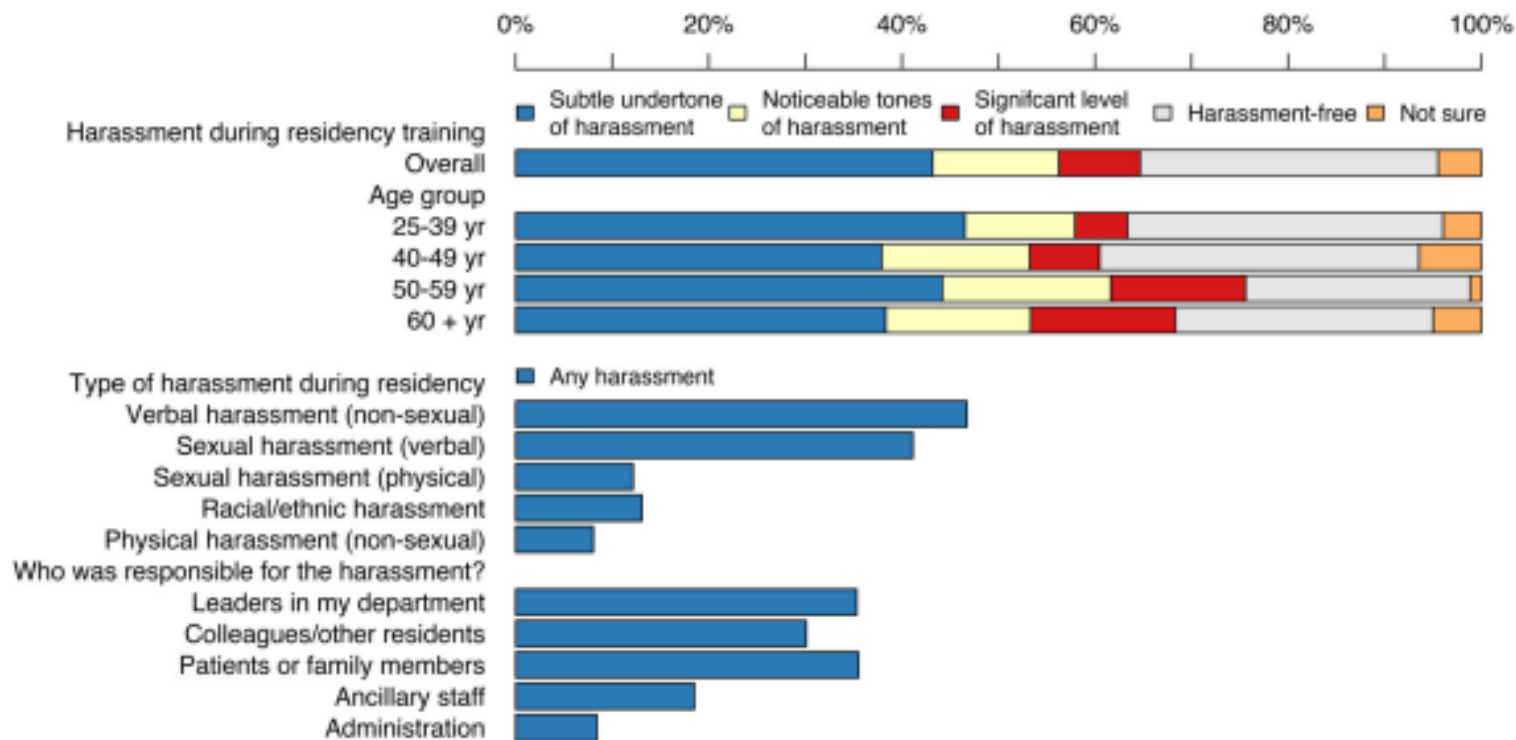


Fig 4 Harassment during residency training.

Prevalence of gender-based and sexual harassment within orthopedic surgery in Canada

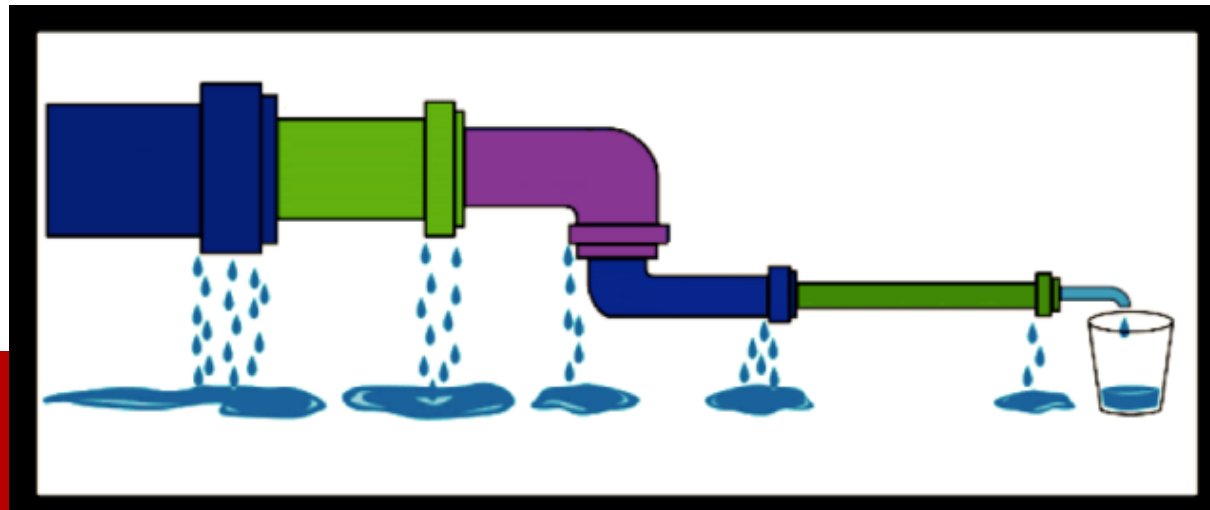
Table 2 (part 1 of 2). Prevalence of gender-based and sexual harassment reported by Canadian orthopedic surgeons

Item	% of respondents (95% CI)
Gender-based harassment	
Overall (n = 433)	76 (72–80)
Men (n = 310)	68 (63–73)
Women (n = 122)	98 (95–100)
Have you ever been in a situation where a supervisor, colleague or patient treated you "differently" because of your gender (i.e., mistreated, slighted or ignored you)? (n = 432)	32 (28–36)
Men (n = 309)	12 (8–16)
Women (n = 122)	84 (77–91)
Have you ever been in a situation where a supervisor, colleague or patient told offensive jokes or remarks? (n = 433)	70 (66–74)
Men (n = 310)	65 (60–70)
Women (n = 122)	85 (79–91)
Have you ever been in a situation where a supervisor, colleague or patient made sexist comments or displayed sexist materials (such as suggesting that people of your gender are not suited for the kind of work you do)? (n = 432)	37 (32–42)
Men (n = 309)	21 (16–26)
Women (n = 122)	78 (71–85)
Have you ever been in a situation where a supervisor, colleague or patient put you down or was condescending to you because of your gender? (n = 431)	20 (16–24)
Men (n = 309)	5 (3–7)
Women (n = 121)	67 (59–75)
Have you ever been in a situation where a supervisor, colleague or patient suggested that you don't act how someone of your gender is supposed to act? (n = 429)	15 (12–18)
Men (n = 307)	4 (2–6)
Women (n = 121)	41 (32–50)
Have you ever been in a situation where you felt you received an inferior learning/work experience owing to your gender (such as fewer opportunities or being held to a higher standard than your peers of other genders)? (n = 431)	18 (14–22)
Men (n = 308)	5 (3–7)
Women (n = 122)	49 (40–58)



Gender Bias / Harassment

- Pervasive across specialties and generations
- Actually reported by **both genders!**
- Students see & feel the culture and choose not to go into surgery
- Residents see & feel the culture and choose not to go into academics
- No females in academics = no role models or hope for change



Issues Facing Women in Surgery

- Gender bias / Harassment
- Feasibility of pregnancy
- Stigma associated with pregnancy / family
- Lack of female mentors
- Lack of female leaders (“glass ceiling”)



Pregnancy and Surgeons

Is it possible?
What are the risks?



The Stigma is Real

- “What will you do if you become pregnant in residency?”
- “I hope you don’t get pregnant in residency.”
- “I can’t give her honest feedback because she is pregnant.”
- “I am assuming you’ll want to go part-time?”

You may not be surprised at the stigma, but you’ll likely be surprised at the **depth** of anti-pregnancy sentiment



Pregnancy During Surgical Training: Are Residency Programs Truly Supporting Their Trainees?

Manuel Castillo-Angeles, MD, MPH,^{*,†} Rachel B. Atkinson, MD,[†] Sarah Rae Easter, MD,[‡]
 Ankush Gosain, MD, PhD, FACS,[§] Yue-Yung Hu, MD, MPH, FACS,^{||} Zara Cooper, MD, MSc, FACS,^{*,†}
 Eugene S. Kim, MD, FACS,[¶] and Erika L. Rangel, MD, MS, FACS^{†,#}.

Reduced work schedule during pregnancy ^{a,c} , n (%)	18 (15.79)
I felt stigma or resentment from colleagues	
Strongly agree/agree	11 (61.11)
Strongly disagree/disagree	7 (38.89)
I felt guilty about burdening my colleagues	
Strongly agree/agree	14 (77.78)
Strongly disagree/disagree	4 (22.22)
Didn't reduce work schedule during pregnancy [n=96] due to ^{b,c} , n (%)	
Did not want to be considered weak	58 (60.41)
Concerned about financial loss	10 (10.42)
Concerned about burdening colleagues	54 (56.25)
Would need to payback call	26 (27.08)
Wanted to but work could not accommodate	23 (23.96)
Did not feel like I needed to	42 (43.75)



Feasibility of Pregnancy

Table 3. Obstetrical complications among residents compared with a control group of pregnant women in the general obstetrical population

Complications	Residents		Control women		P
	(n = 238)	%	(n = 3767)	%	
Miscarriage	28	11.8	157	4.2	< 0.001
PPROM	10	4.2	112	3.0	0.28
Preterm labour	14	5.9	219	5.8	0.96
Placental abruption	3	1.3	0	0	< 0.001
Placenta previa	1	0.4	78	2.1	0.09
Twins	5	2.1	77	2.0	0.81
Gestational diabetes	12	5.0	358	9.5	0.03
IUGR	22	9.2	147	3.9	< 0.001
Hypertension	25	10.5	238	6.3	0.02
Admission	34	14.3	568	15.1	0.74

Number of participants with a pregnancy loss < 10 weeks, n (%)

Amount of time off work following loss, < 10 weeks, n (%)

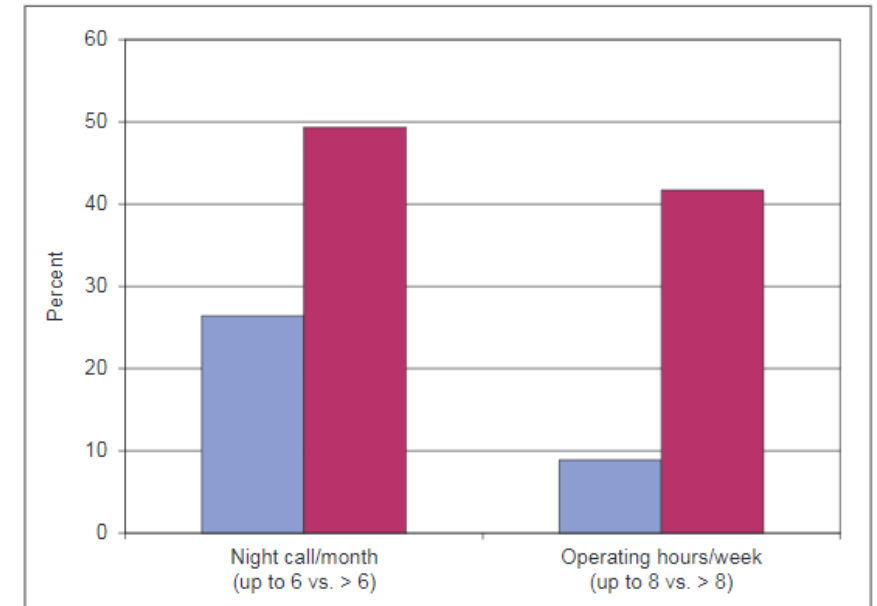
0 days	33 (78.57)
1-7 days	5 (11.90)
1-2 weeks	2 (4.76)
3-4 weeks	2 (4.76)
>4 weeks	0



Risks of Pregnancy

- Missed appointments / prenatal care
- Prolonged standing
- Lifting and physical exertion
- Risk of falls
- Night shifts
- Overnight call
- Risk of inadequate ventilation
- Risk of solvents or chemotherapy agents
- Risk of ionizing radiation

Rates of obstetrical complications (%) among all residents and among surgical residents in relation to the number of nights on call per month and operating hours per week



Recommendations for Pregnant Trainees?

American College of Surgeons
Association of Women Surgeons

A lot of “shoulds”...

Not evidence based

Recommendations versus protocol



Issues Facing Women in Surgery

- Gender bias / Harassment
- Feasibility of pregnancy
- Stigma associated with pregnancy / family
- Lack of female mentors
- Lack of female leaders (“glass ceiling”)



Female Mentors & Leaders

“You can’t be what you can’t see”

"A mentor is not someone who walks ahead of you to show you how they did it. A mentor walks alongside you to show you what you can do."



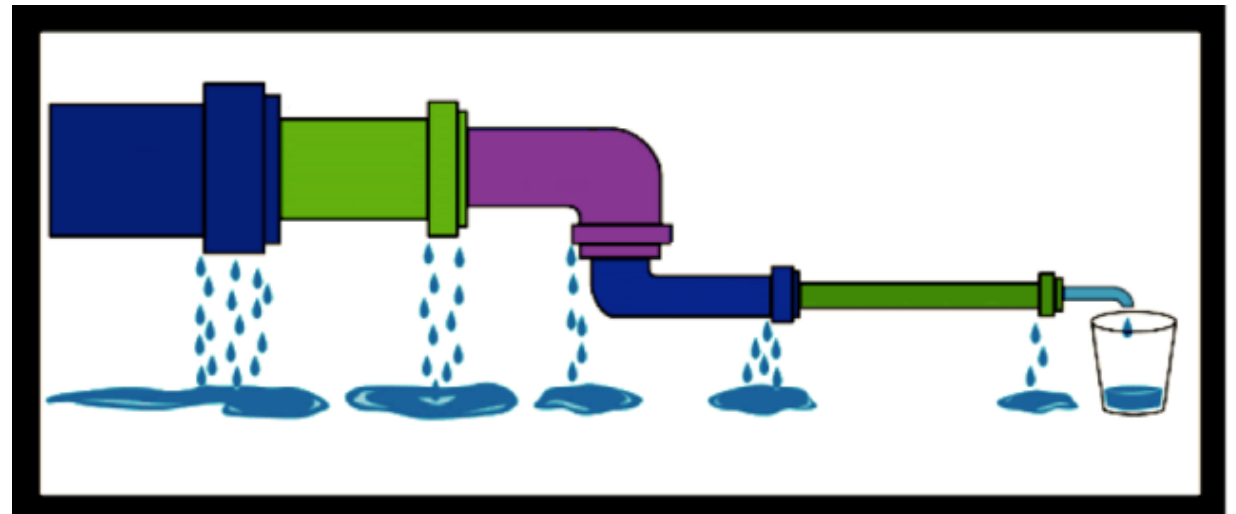
“You Can’t Be What You Can’t See”

Percentages of All Women and URiM Women as a Percentage of All Women in Various Academic Medicine Roles, 2019–2020^{a,b}

Role	% All women ^c	URiM women as a % of all women ^c
Applicants	52	24
Matriculants	52	22
Graduates	48	19
Faculty	42	12
Assistant professors	48	13
Associate professors	39	11
Full professors	26	8
Department chairs	20	13
Deans	18	— ^d

Otolaryngology

- Only 19% of full professors are female
- Only 5 women were chair (<1%)
- **Only 1 dean**



Gender disparities in academic vascular surgeons

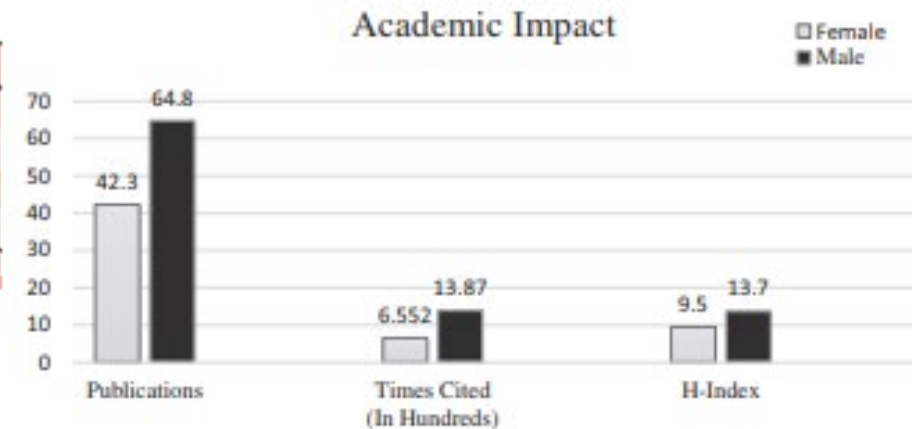
Matthew Carnevale, MD,^a John Phair, MD,^b Paola Batarseh, BS,^c Samantha LaFontaine, BS,^c Erin Koelling, MD,^d and Issam Koleilat, MD,^a Bronx and New York, NY; and Bethesda, Md

	Female, No. (%)	Male, No. (%)	P value
Total faculty identified	177 (18.6)	774 (81.4)	
No. holding leadership positions	41 (23.3)	254 (32.9)	.009
Associate program director	7 (4.0)	11 (1.4)	.0217
Program director	13 (7.3)	100 (12.9)	.0376
Division chief	12 (6.8)	106 (13.7)	.0118
Vice chair of surgery	0 (0)	17 (2.2)	.0465
Chair of surgery	1 (0.56)	11 (1.4)	.363
Vice dean for research	1 (0.56)	0 (0)	.0373
Chief executive officer	1 (0.56)	0 (0)	.0373
Chief medical officer	0 (0)	1 (0.13)	.6313
Dean of medical center	1 (0.56)	6 (0.78)	.7579

P values in bold indicate a statistically significant difference ($P < .05$).

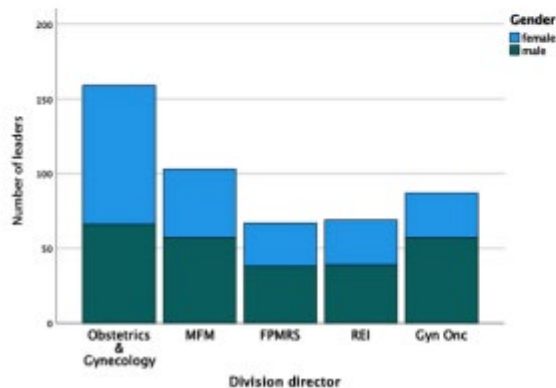
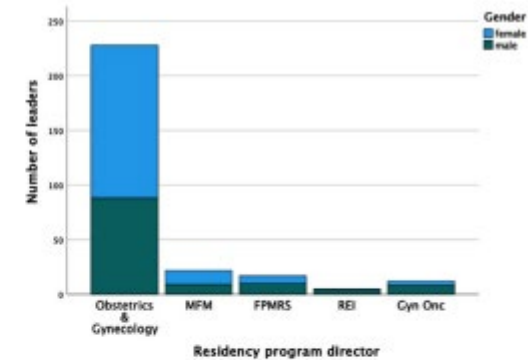
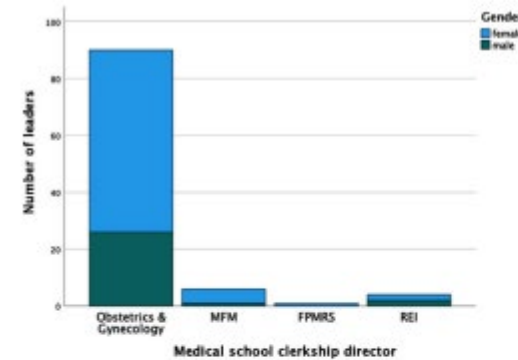
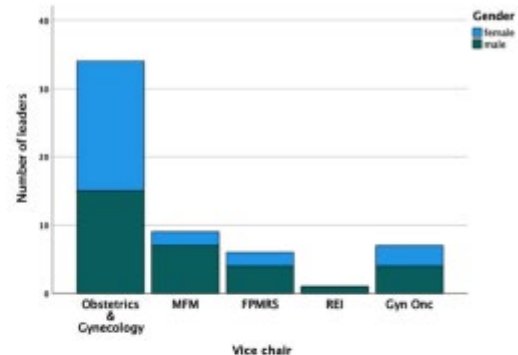
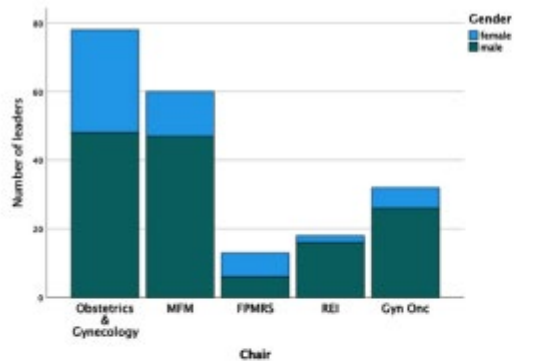
Academic rank	Female, %	Male, %	P value
Professor	10.7	26.2	<.001
Associate professor	25.4	20.7	.187
Assistant professor	50.3	33.9	<.001
Instructor	1.7	0.77	.369

P values in bold indicate a statistically significant difference ($P < .05$).

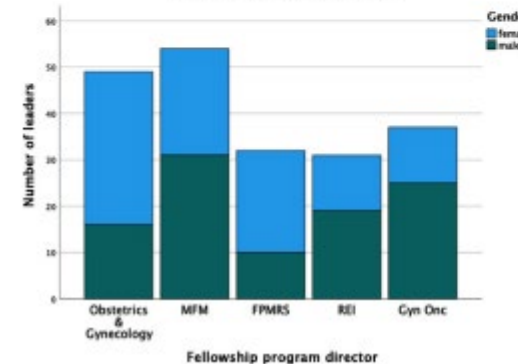


The Leadership Landscape: The Role of Gender in Current Leadership Positions in Obstetrics and Gynecology Departments

Deepanjana Das, MD, Julia Geynisman-Tan, MD, Margaret Mueller, MD, and Kimberly Kenton, MD, MS



“Decision-making”
“Power”




“Communication”
“Nurturing”
“Mentoring”



How Do We Make a Shift?

Vision + Action



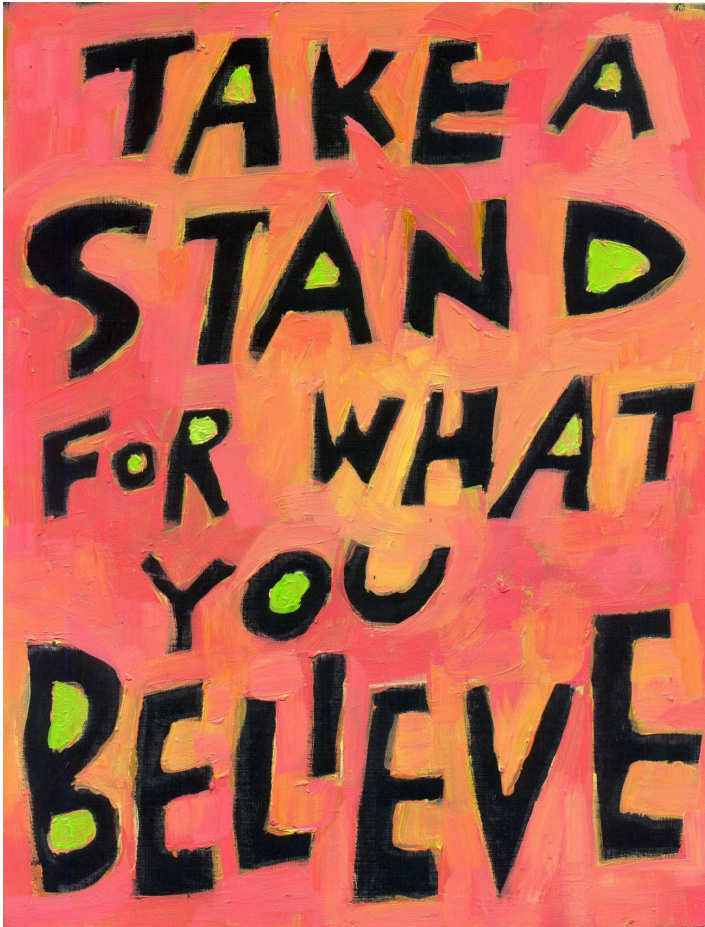


*Action without vision
is only passing time.
Vision without action
is merely daydream-
ing. But vision with
action can change
the world.*

– Nelson Mandela



Action – Gender Bias & Harassment



1. Take a stand and make a stated commitment to change against all forms of bullying, harassment, and unacceptable interpersonal behaviors
 - Establish a clear and consistent **zero tolerance policy**
 - Align with **leadership** to enforce accountability
 - **Define consequences** and penalties for perpetrators



Action – Gender Bias & Harassment

2. Educate and create allies

- ***No one is completely exempt from the influence of gender bias***
- Define and educate what constitutes bullying, harassment, and unacceptable behaviors
 - Workshops & role playing
- ***Mandatory training:*** healthy communication skills, professionalism, emotional intelligence, interpersonal relationship skills
 - Implicit bias training

ANATOMY OF AN ALLY



A MOUTH TO
SPEAK OUT
AGAINST
INJUSTICE



A NOSE TO
SNIFF OUT
IMPLICIT BIAS



EYES TO
IDENTIFY
PRIVILEGE



EARS TO
LISTEN TO
THE POC
EXPERIENCE



A HEART TO
CULTIVATE
EMPATHY FOR
THE OPPRESSED



HANDS TO
TAKE ACTION
AND MAKE
A CHANGE

@ohhappydani



Implicit Bias Test

- Implicit Bias Test

EXPLICIT BIASES

- * AWARE of THOUGHTS & EMOTIONS TOWARDS a SPECIFIC GROUP
- ~ HATE SPEECH
- ~ DISCRIMINATION
- ~ PREJUDICE



IMPLICIT BIASES

- * GUT REACTIONS OCCUR w/in MILLISECONDS
- * UNCONSCIOUS ATTITUDE & BELIEFS
 - └ FEELINGS
 - └ BEHAVIOR
 - └ JUDGEMENT
- * UNAWARE (SUBCONSCIOUS)
- * can DIRECTLY AFFECT HEALTHCARE OUTCOMES & PATIENT SATISFACTION



Gender Decoder

- Be aware of bias in evaluations, letters of recommendation, etc.
- [Gender decoder](#)

Gender coding

Masculine

Analytical
Assertive
Business acumen
Competitive
Chairman
Dominant
Managing
Risk taking
Problem solving
Self-confident
Self-reliant

Feminine

Loyal
Collaborate
Committing
Encouraging
Motivating
Inspiring
Understanding
Considerate
Develop
Mentor
Coach



Action – Gender Bias & Harassment



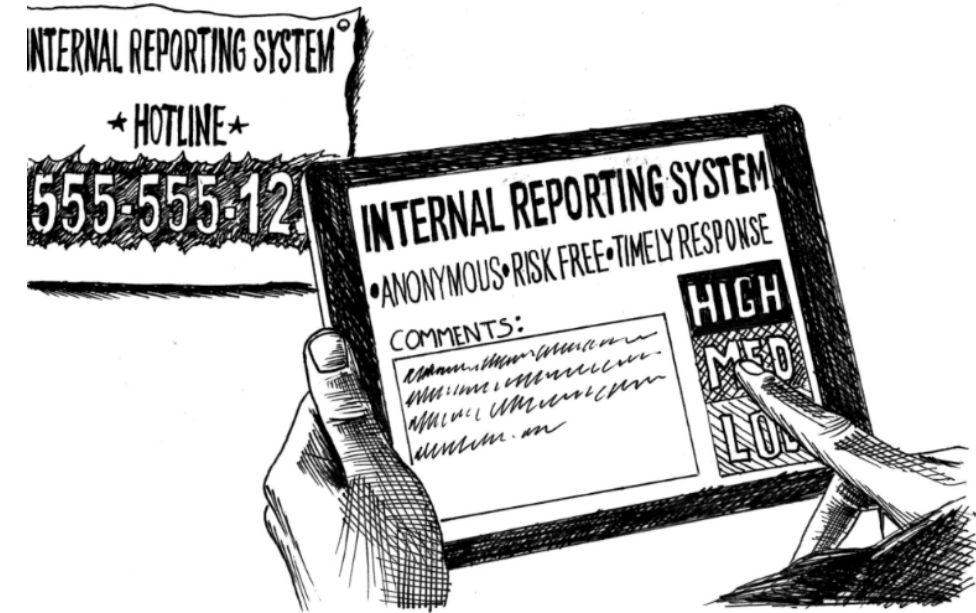
3. Engage in open, safe, nonjudgmental conversations to break the silence

- Bring attention to micro- and macroaggressions in the moment
- Publicly signal that misbehavior is unacceptable

Action – Gender Bias & Harassment

4. Improve reporting mechanisms to better protect anonymity

- **Reliable, safe, confidential** with clear instructions on how to access
- Have trained **outside professionals** review and investigate each reported incident and recommend remedies, penalties, and subsequent actions



Action – Gender Bias & Harassment



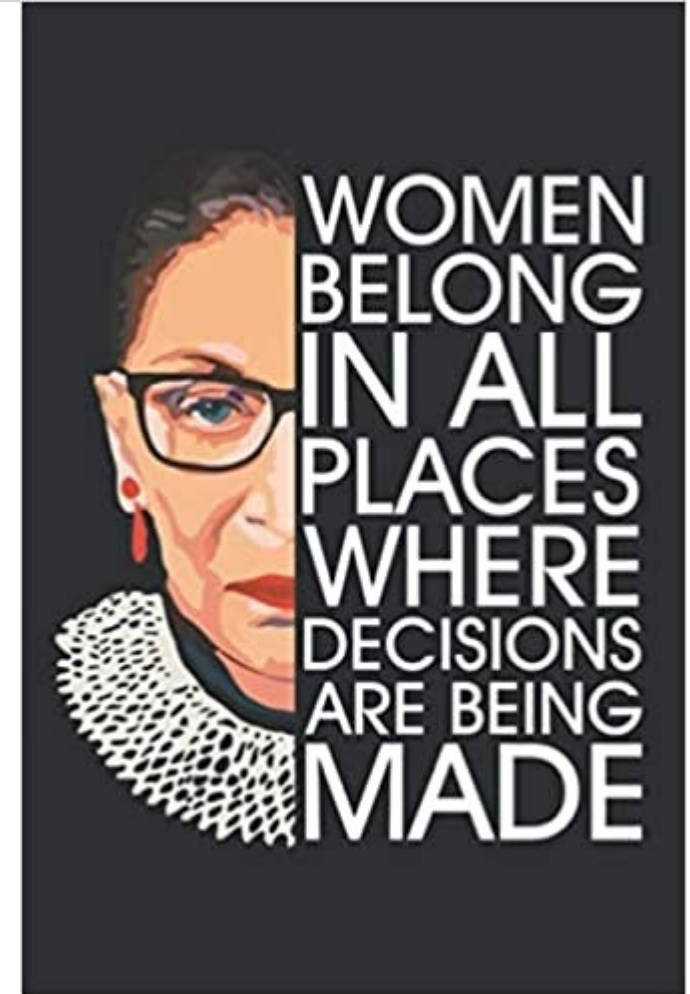
5. Campaign within your program

- Challenge the culture
- Utilize social media
- Designate a resident advocate

Action – Gender Bias & Harassment

6. Increase female representation in leadership

- Encourage, increase, and retain women in leadership positions
- Foster mentorship amongst women physicians



Action - Pregnancy

1. Create a protocol for pre- *and* postnatal trainees

Focus on the following risks facing surgical trainees:

- Missed appointments / prenatal care
- Prolonged standing
- Lifting and physical exertion
- Risk of falls
- Night shifts
- Overnight call
- Risk of inadequate ventilation
- Risk of solvents or chemotherapy agents
- Risk of ionizing radiation



Action - Pregnancy

2. **ALL parents benefit** from pre- and postnasal protocols (including non-childbearing)
 - Make protocols transparent
3. Allow for schedule flexibility by having **redundancy** in the system
4. Dedicated lactation space and time
5. Onsite childcare for those trainees with the longest hours



Action – Female Mentors & Leaders



Action – Female Mentors & Leaders

- Be careful not to mentor without sponsoring

SPONSORS ACT

Sponsors...

- connect protégés to career opportunities.
- advocate for protégé's advancement.
- support risk-taking.
- publicly endorse protégés.
- expect high performance in return.
- help protégés confront and interrupt bias.

MENTORS ADVISE

Mentors...

- reduce isolation and stress.
- navigate unwritten rules.
- build confidence.
- provide tips and strategies.
- promote inclusion to company.



Action – Female Mentors & Leaders

- Beware of:
 - “Meetings before the meeting”
 - Late meetings
 - Drinks after events
 - Golf or sporting events
 - “Manels”



Action – Female Mentors & Leaders

- Introduce incentives for mentorship (compensation, recognition, evaluation for promotion)
- Look outside your department or even institution
 - Common interests
 - Usually a society for women in each speciality
 - AAMC GWIMS
- Educate men how to effectively mentor women, both professionally **and** personally

Action – Female Mentors & Leaders

- Provide direct advice in childcare and housekeeping (**outsource!**)
 - **Two-career families** are more common with women physicians, leading to more challenges regarding the social support roles
- Communication: hesitant speech, pitch changes



The Future of GME

There will be changes to GME finances, technology, and evaluation processes in the next 10 years...

“A rising tide lifts all boats”

- Elevate our **diversity efforts** and make medicine better for all of us





Otolaryngology-Head & Neck Surgery

Department of Surgery

UNIVERSITY OF WISCONSIN

SCHOOL OF MEDICINE AND PUBLIC HEALTH

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