

The Surgical Coach

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The Ken Hatch Lecture



Disclosures

No financial
disclosures

Just a devoted
Ken Hatch disciple

The Objectives

- To review the status of surgical skills in graduating ob/gyn residents
- To describe qualities and responsibilities of the surgical coach
- To review the evolution of surgical coaching and training



The Status of Surgical Skills in Graduating Ob/Gyn Residents

The Canary in the Coal Mine

Preparedness of Obstetrics and Gynecology Residents for Fellowship Training

Saketh R Guntupalli, David W Doo, Michael Guy, Jeanelle Sheeder, Kenan Omurtag, Laxmi Kondapalli, Fidel Valea, Lorie Harper, Tyler M Muffly

Obstet Gynecol, 2015

Preparedness of Ob/Gyn Residents for Fellowship Training in Gynecologic Oncology

David W Doo, Matthew Powell, Akiva Novetsky, Jeanelle Sheeder, Saketh R Guntupalli

Gyn Oncol Reports, 2015



Survey Design and Results

- Design
 - Surveyed over 130 faculty gyn oncologists from AMC with fellowship programs
- Results regarding incoming gyn onc fellows
 - 49% could not independently do TH
 - 59% could not independently do 30 mins of major case
 - 40% could not control bleeding
 - 40% could not recognize anatomy or tissue planes
 - 58% tissue planes
- Conclusion
 - Ob/Gyn residencies are ineffective in preparing fellows for advanced training in gyn oncology

Gyn Oncol Reports, 2015

What Are Potential Factors Contributing to These Findings?

Work Hour Restrictions

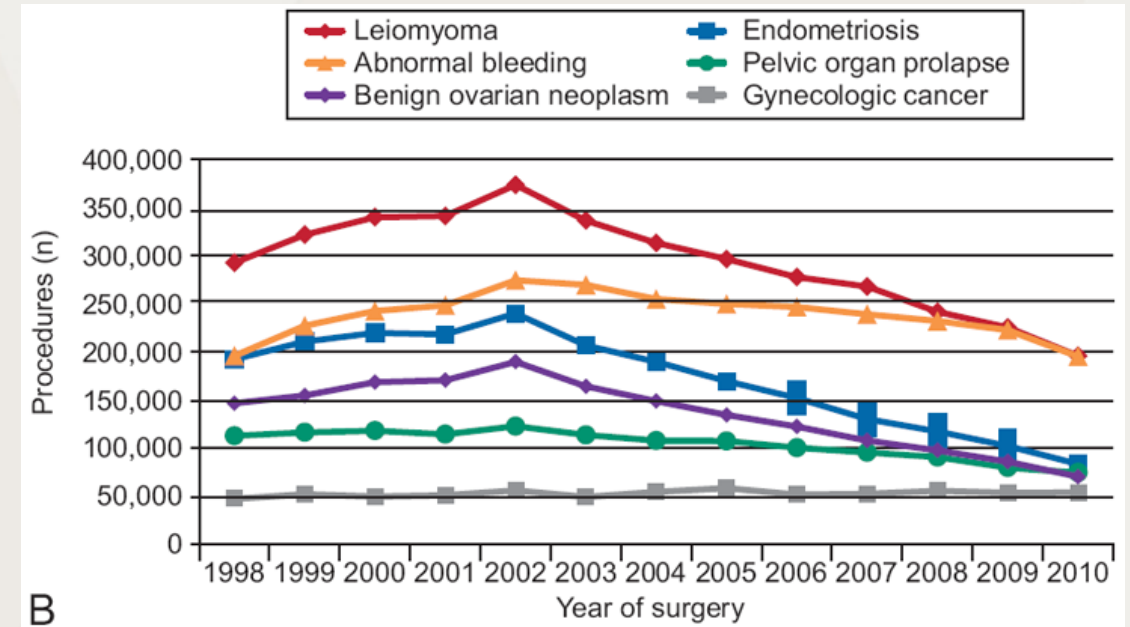
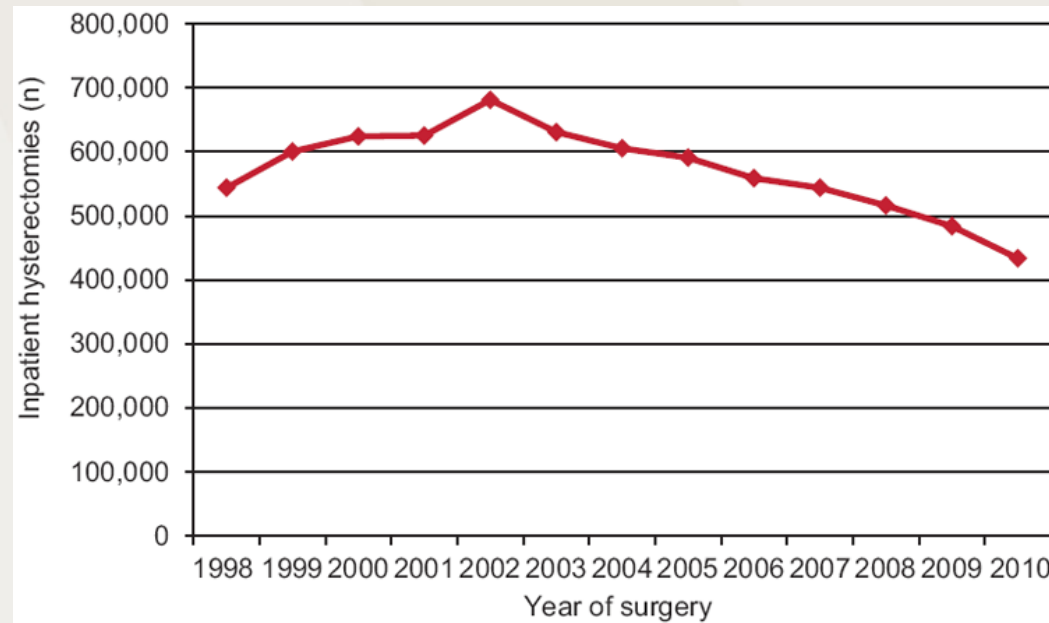
- ACGME mandated 80 hr restrictions in 2003
- Systemic review of RDH restrictions in surgery demonstrated:
 - No consistent improvements in resident well-being
 - No consistent improvement in patient outcomes
 - Decreased surgical exposure
 - Lower performance on certification examinations
- Articles in Ob/Gyn show mixed results



Libby Zion
3/5/1984

Ahmed et al. Annals of Surg, 2014

Decrease in Hysterectomy Rates

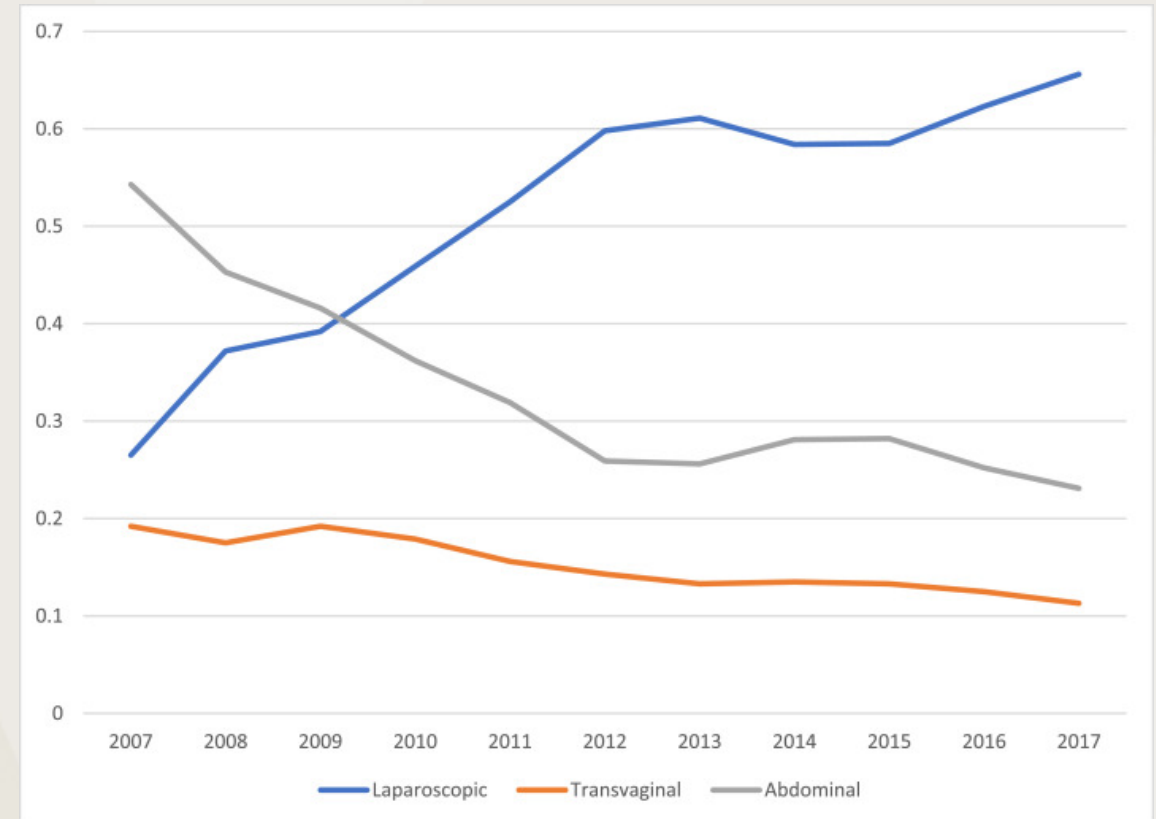


- Nearly 7.5 million patients who had TH between 1998 and 2010 identified in the Nationwide Inpatient Sample
- 36% fewer TH in 2010 compared to 2002
- Decline mostly in benign indications – More non-TH therapeutic options?

Wright et al. Obstet Gynecol, 2013

Increase in Laparoscopic Hysterectomy

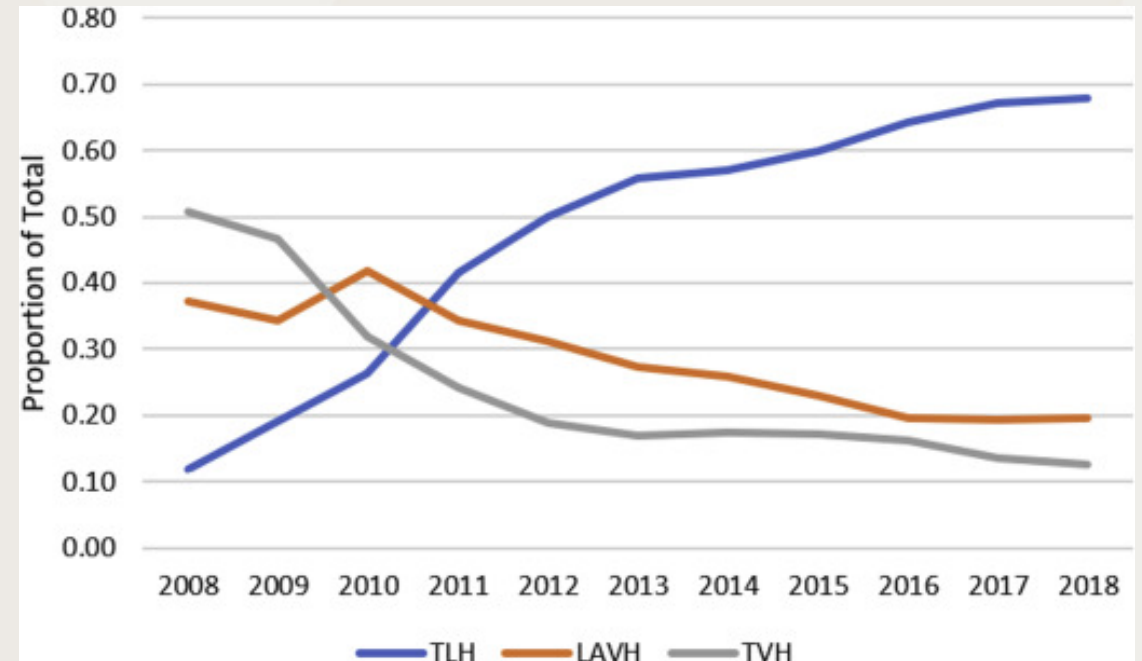
- Utilized ACS NSQIP data
- Reviewed approximately 225k women who underwent hysterectomy for benign indications from 2007 to 2017
- TLH rates increased 200%
- TVH and TAH rates decreased by 58% and 42%, respectively



Tyan et al. JMIGS, 2022

TLH Has Become the Preferred TH Procedure

- Utilized ACS NSQIP data
- Reviewed over 161k women who underwent MIS TH from 2008-2018
- TLH rates increased from 12% to 68%
- VH rates dropped from 51% to 13%

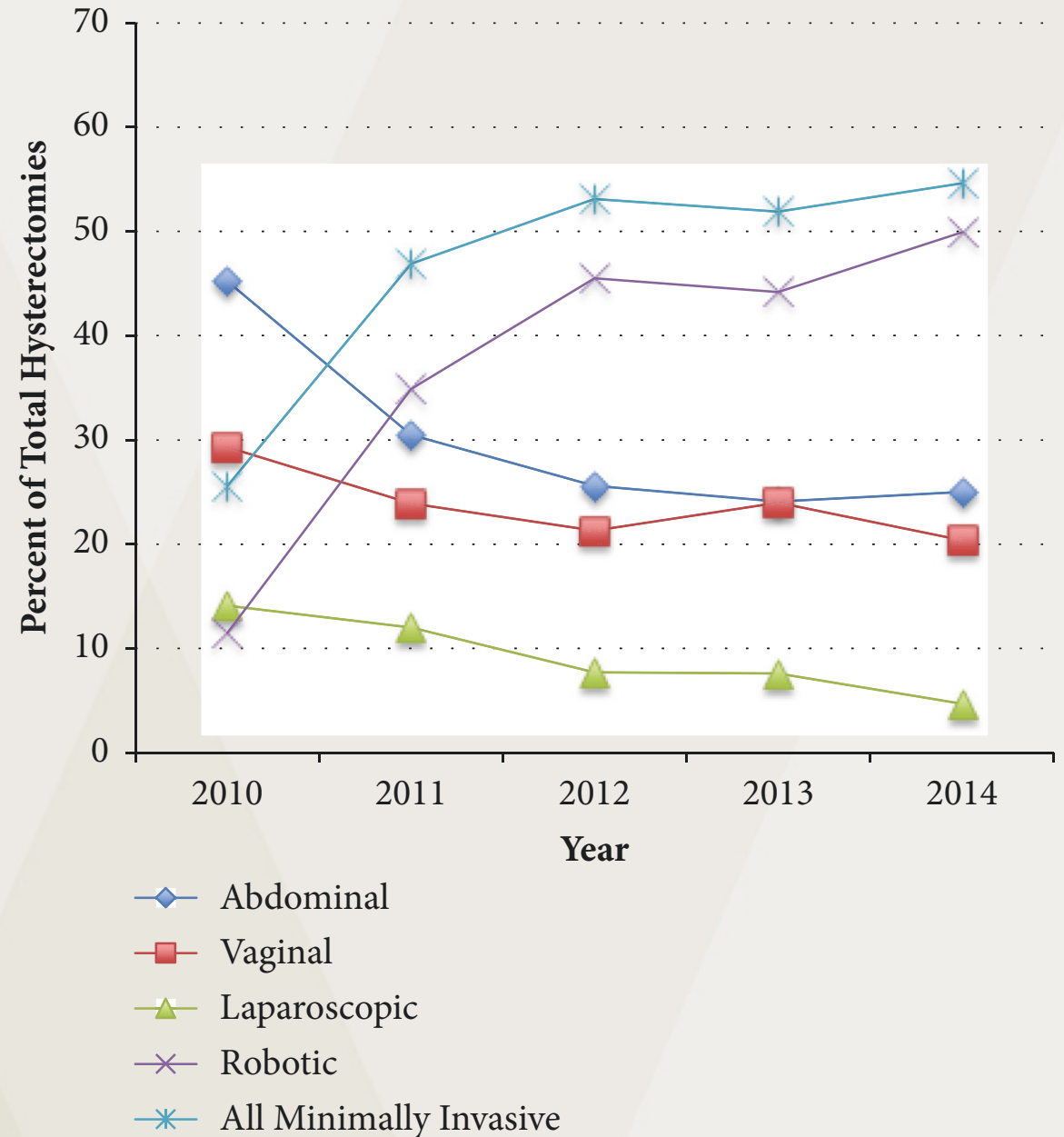


Luchrist et al. AJOG, 2021

The Rise of the Robot

- Review of 5175 hysterectomies done between 2010-17 at 2 institutions for benign and cancer indications
- 38% increase in robotic TH
- 20%/8%/9% decrease in abdominal/vaginal/laparoscopic TH

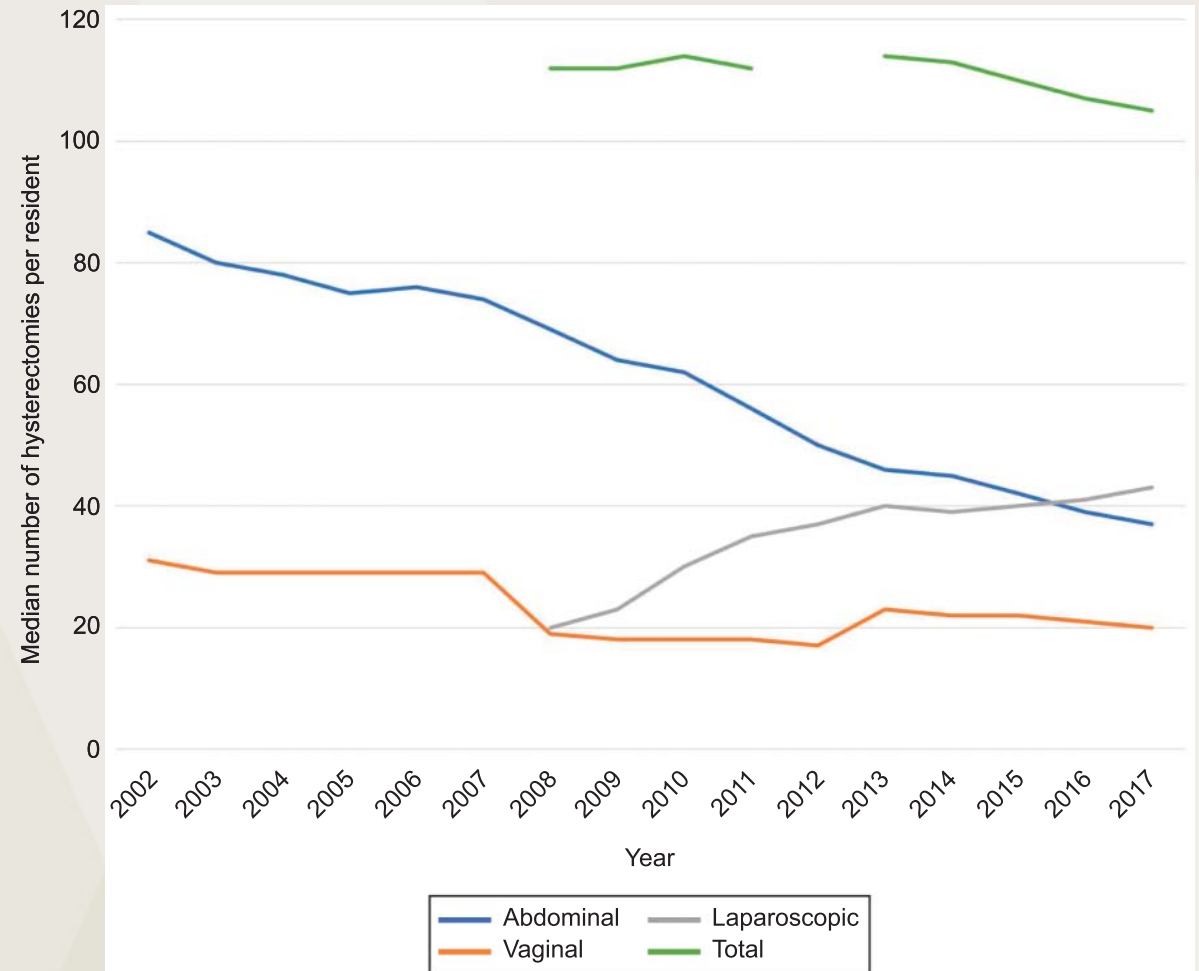
Papalekas et al. MIS, 2018



Do Residents Get Enough Surgical Experience?

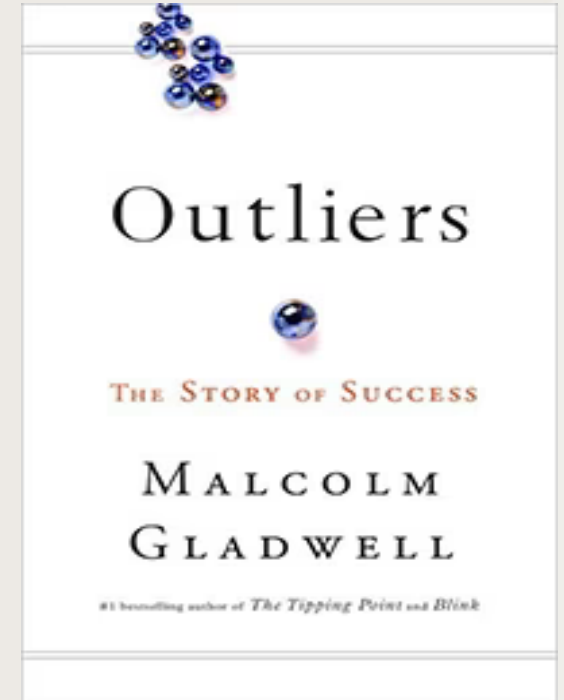
- Duration of training
 - Ob/Gyn – 18-24 mos
 - General Surgery – 60 mos
- ACGME data
 - Reviewed case logs from nearly 19k residents over 2002-3 and 2017-18
 - Median no. of cases
 - VH 31 to 20 (35% decrease)
 - TLH 20 to 43 (115% increase)
 - TAH 85 to 37 (56% decrease)

Gressel et al. Obstet Gynecol, 2020.



What is Contributing to Diminished Surgical Skills in Graduating Ob/Gyn Residents?

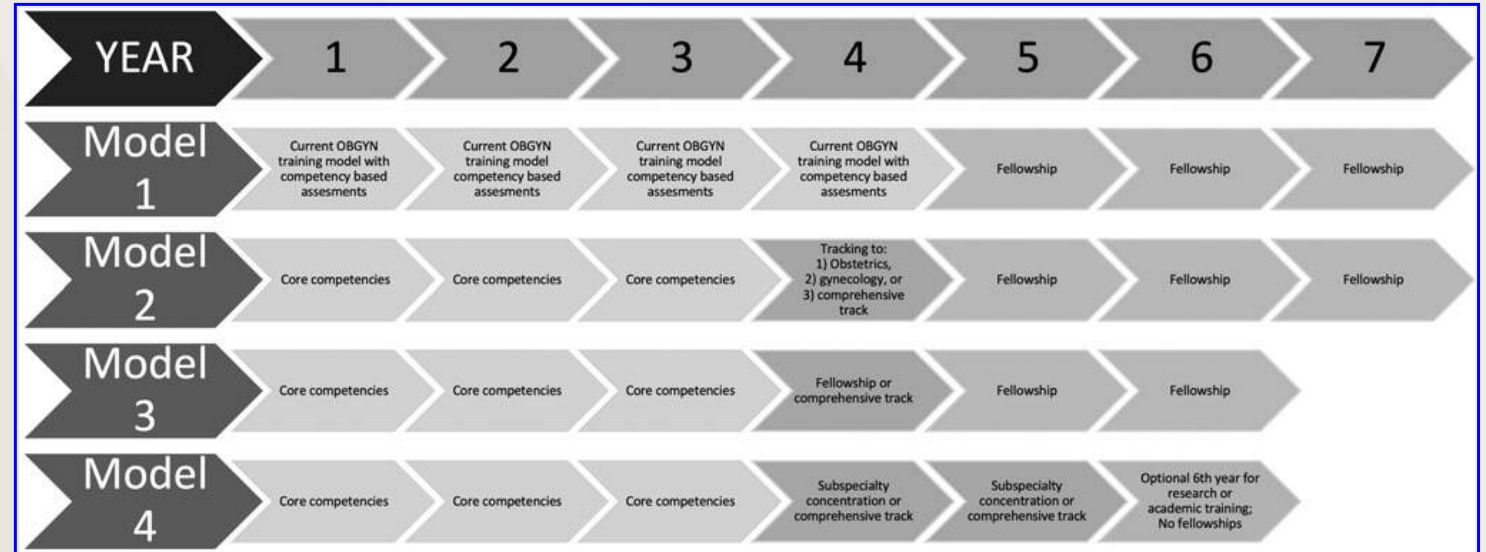
- Likely a combination of things
 - Work hour restrictions
 - Decrease in hysterectomy rates (particularly for benign indications)
 - Transition to more laparoscopic and robotic procedures
 - Less vaginal cases
 - Fewer abdominal procedures and those now generally for more complex cases
 - Shorter gynecology surgical training compared to other surgical specialties (18-20 mos. vs 60 mos. In other surgical specialties)



The 10,000 hours rule

Potential Solutions For These Perceived Surgical Skill Deficiencies

- Increase simulation
- Lengthen residency
- Resident tracking with aptitude selection
- Post residency mentorship for specific procedures
- Fellowship training

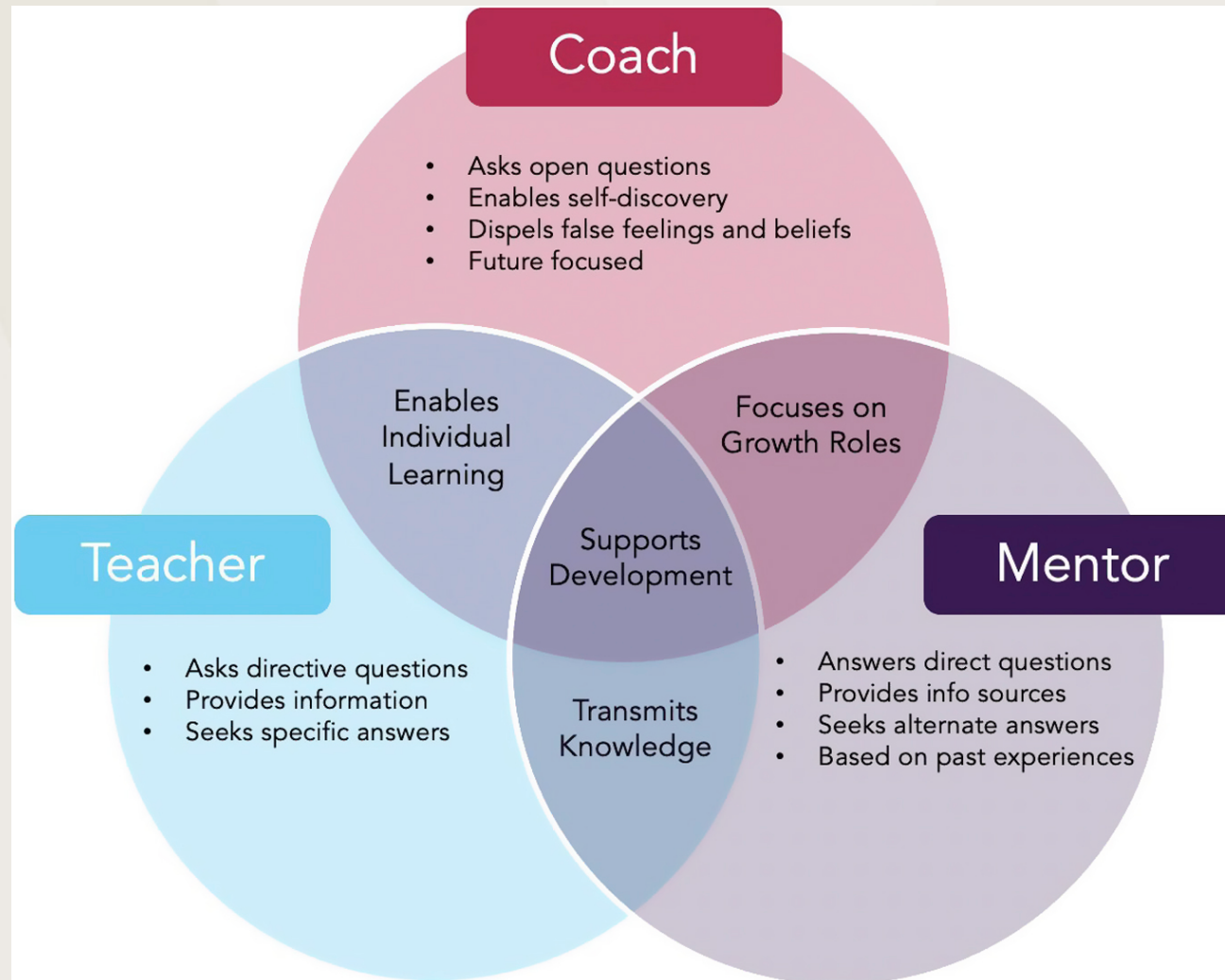


Wright et al. J Gynecol Surg, 2022.

<https://www.contemporaryobgyn.net/view/surgical-training-obgyn-residency-adequate>

Qualities and Responsibilities of the Surgical Coach

How a Surgical Coach Differs from a Teacher and Mentor



Qualities of a Great Coach

- Understand your game
- Be eager to learn and adapt
- Share knowledge
- Motivate team
- Know the trainee
- Communication
- Listen
- Be disciplined
- Lead by example



What is Your Commitment to Trainees

- Increase your fund of knowledge
- Increase your technical skill sets
- Optimize your judgement on how to apply knowledge and skills
- Improve your education and research skills
- Help you grow as a human being and professional

Obstetrics and Gynecology 2023-2024 Residents						
4 th Year						
	Sky Dainty, MD 835-0566	Tessa Delaney, MD 835-0556	Veronica Fox, MD 835-0558	Betsy Gammon, MD 835-0561	Sarah Hmaidan, DO 835-0551	Amita Kulshreshtha, MD, MPH 835-0563
3 rd Year						
	Taryn Boucher, MD 835-0562	Soumya Gogia, MD, MPH 835-0559	Edwin "Win" Holt, MD 835-0553	Samhita Nelamangala, MD 835-0560	Niharika "Rika" Ravichandran, MD 835-0554	Erin Vrana, MD 835-0552
2 nd Year						
	Tita Gonzalez Pena, MD, MPH 835-0550	Mary "Bolu" Idowu, MD 831-6135	Camille Masters, MD 835-0565	Peyton McElhone, MD 835-0573	Megan Nocita, MD 835-0555	Lindsey Weber, MD 835-0568
1 st Year						
	Elisabeth Adkins, MD, MBA 835-0571	Gabby Armstrong, MD 835-0567	Emilee Gibson, MD 835-0564	Sam Hinkes, MD, MPH 835-0572	Patience Timi, MD 835-0557	Morgan Touchton, MD 835-0570

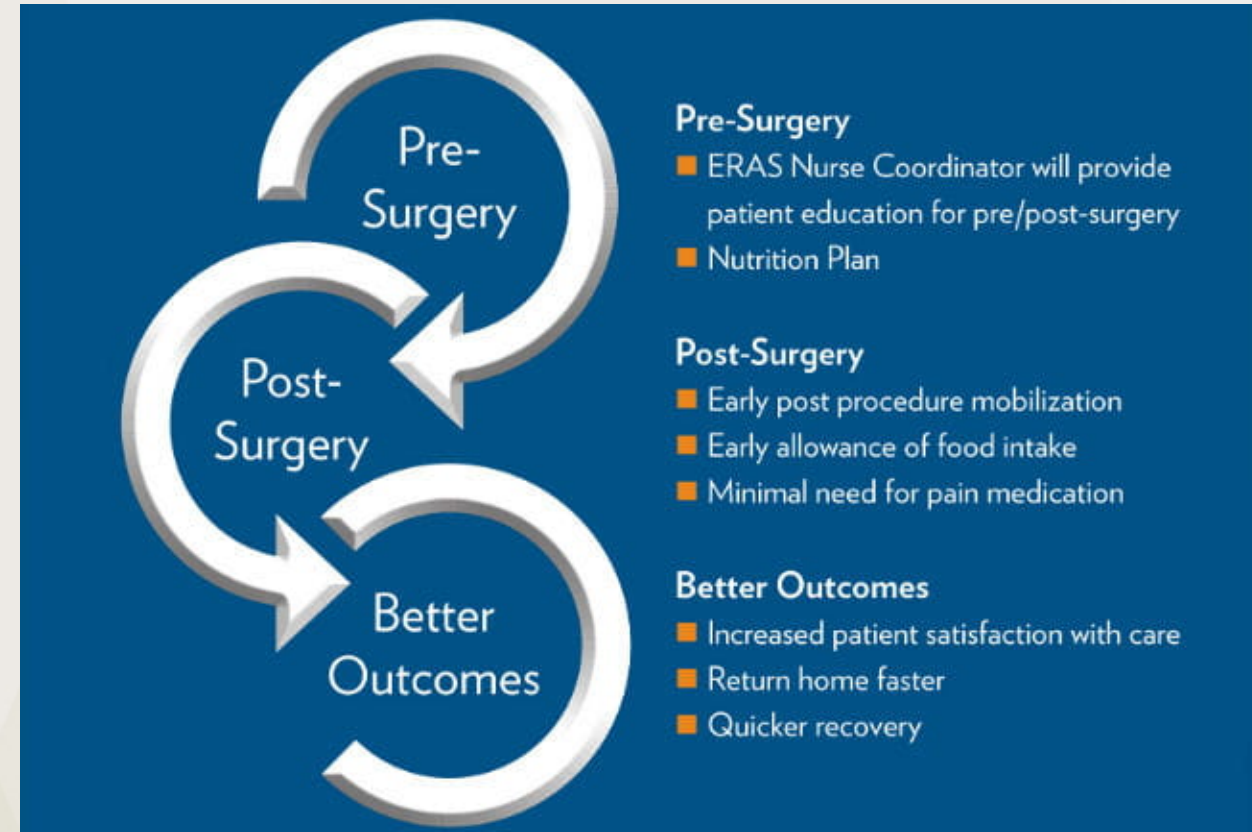
What to Expect of Trainees Before They Get to the OR

- Learn the diseases
- Know what to do, both surgical and non-surgical (aka, good doctors)
- Know why we do what we do (aka, great doctors)



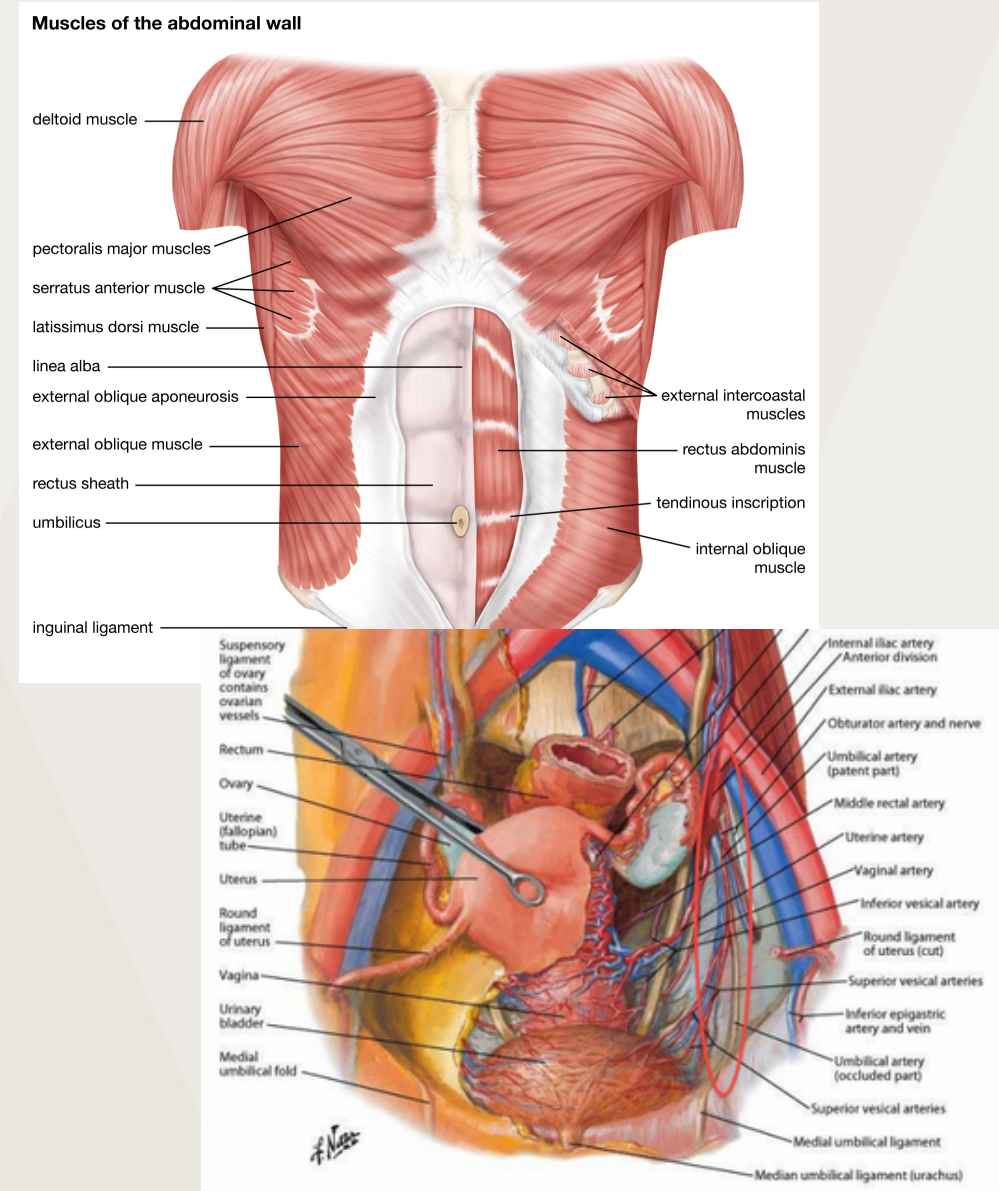
What to Expect of Trainees Before They Get to the OR

- Know co-morbidities and perioperative risks
- Antibiotic prophylaxis
- DVT/PTE prophylaxis
- Principles of ERAS
- Surgical positioning
- Surgical goals



What to Expect of Trainees Once They Get to the OR

- Abdominal wall anatomy
- Abdominal/pelvic anatomy
 - Major organs
 - Pelvic spaces
 - Vascular anatomy
 - Course of the ureter
 - Neurologic anatomy



The Blocking and Tackling of Surgery

- Knowing instruments
- Using both hands
- Traction - countertraction
- Clamping tissue
- Cutting tissues
- Suturing and tying knots



Simulation! Simulation! Simulation!

- Instrument labs
- Anatomy pro-dissection labs
- Porcine labs
- Hysteroscopy model
- EMIGS
- Robotic training



ACOG Surgical Curriculum in Ob/Gyn

- Created by CREOG Surgical Skills Task Force
- Modules created for standardized surgical skills training of Ob/Gyn residents
- Modules consists of:
 - Objective, description and assessment
 - Description of simulation
 - Description of the surgical procedure
 - Evaluation quiz and forms



<https://www.acog.org/education-and-events/creog/curriculum-resources/surgical-curriculum>

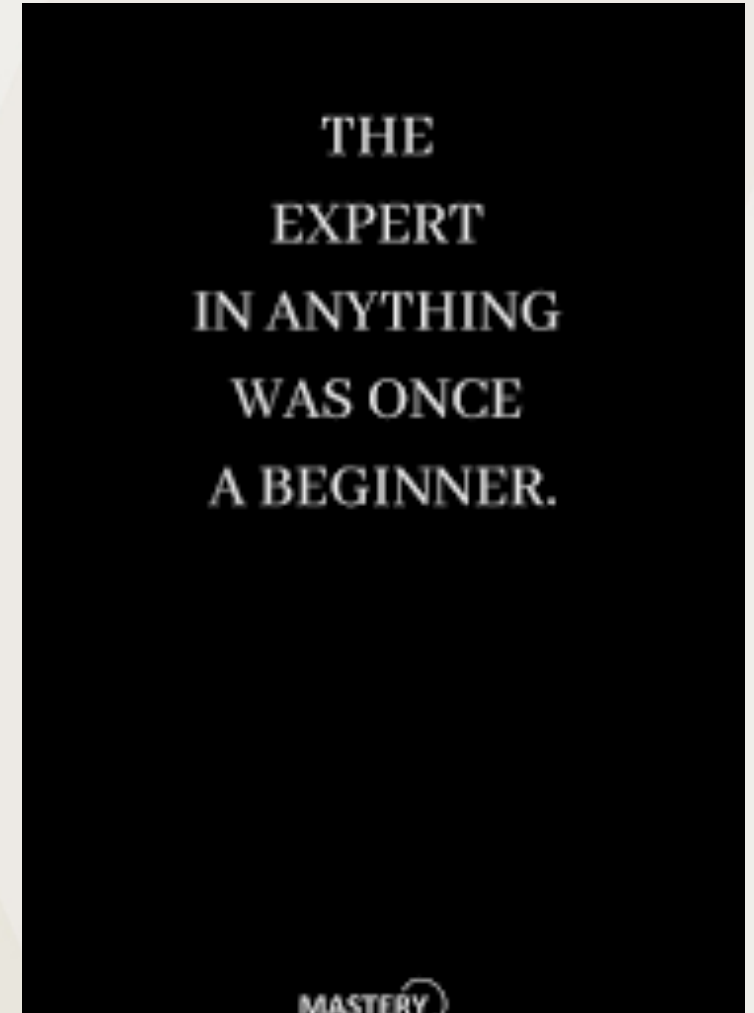
Levels of Gynecologic Care Framework

Levels of Gynecologic Care	Clinician Types	Case Examples
Outpatient	Clinicians trained to do office-based procedures	LEEP Hysteroscopy Biopsies MVA ASA 1 patients
Level I (basic)	ASC trained gynecologists	TLH CKC ASA $\leq$ II
Level II (specialty care)	Inpatient trained gynecologists	TAH BSO ASA II - III
Level III (subspecialty care)	Focused/subspecialty gynecologists Medical consultants	Stage 4 endometriosis Ovarian cancer debulking ASA $\geq$ II
Level IV (regional centers)	Interdisciplinary teams	Exenteration PAS ASA $\geq$ II

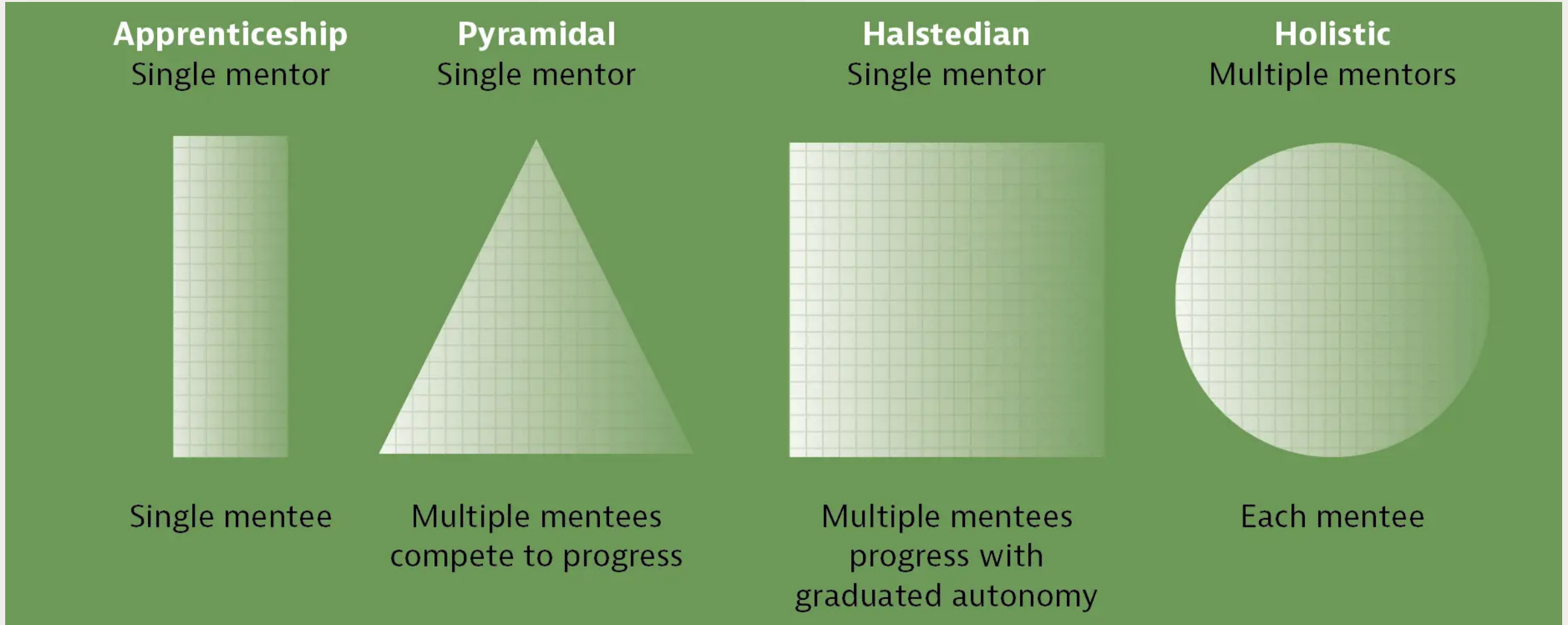
Breitkopf et al. Obstet Gynecol, 2023.

How Can You Use Framework To Improve Coaching?

- Levels Outpatient-II
 - Help learner master the skills
- Levels III-IV
 - Help learner better understand surgical principles that can be applied to lower levels



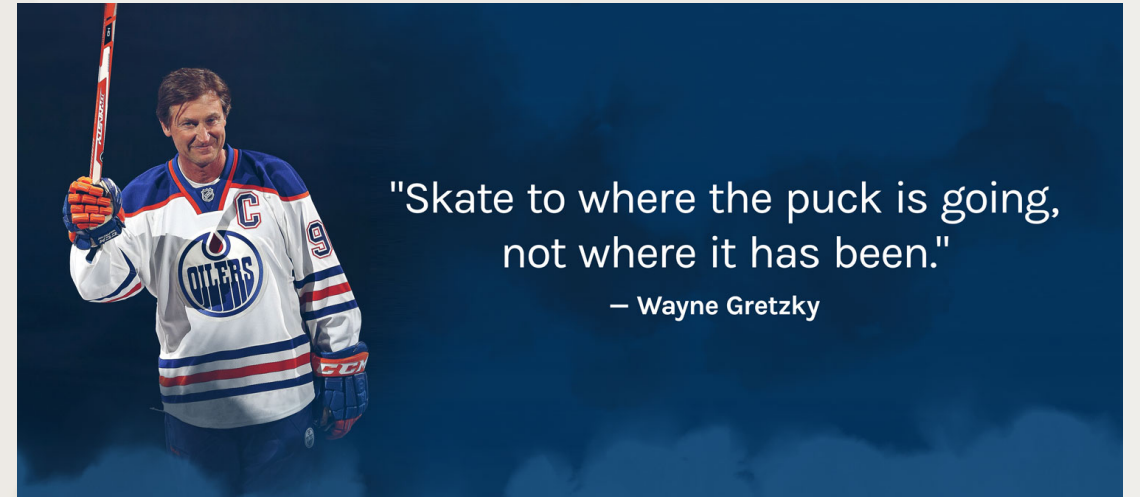
Evolution of Surgical Coaching



Evolution of Surgical Coaching and Training

An Adaptive Surgical Expert Approach to Coaching and Training

- Develop greater movement economy, consistency and automaticity
- Become effective and efficient problem solvers
- Years in practice and volume not always associated with expert level skill
- Requires deliberate simulation and distributed case practice of both surgical skills and cognitive drills with effective feedback



Schaverien. J Surg Edu, 2010.

Video Based Surgical Coaching and Training

- The Halstedian model of “See one, do one, teach one” is not a sustainable model
- New options
 - New virtual reality training technology
 - Video based assessment of real time cases (McQueen et al. J Surg Educ, 2019)
 - Several challenges – Technology, cost, time constraints



<https://www.youtube.com/watch?v=ue2m75G7Ci4&pp=ygUddmlkZW8gYmFzZWQgc3VyZ2ljYWwgdHJhaW5pbmc%3D>

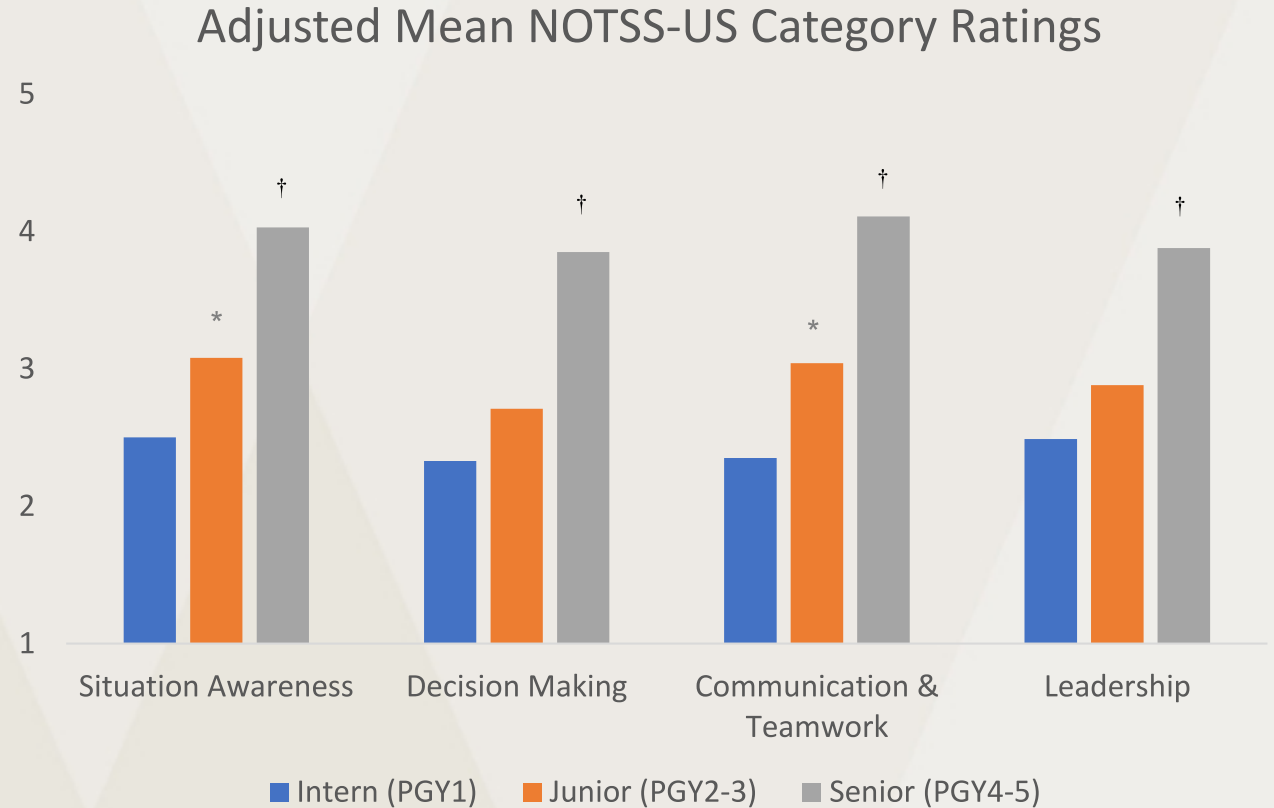
Coaching and Training of Nontechnical Skills for Surgeons (NOTSS)



Assessing NOTSS-US Across Surgical Training Levels

- Prospective cohort study of 32 surgical residents from 3 programs rated by 9 faculty
- Provided score for 4 domains
- Mean total scores increased from intern to junior resident to senior resident ($p < 0.001$)

Pradarelli et al. Surgery, 2021.

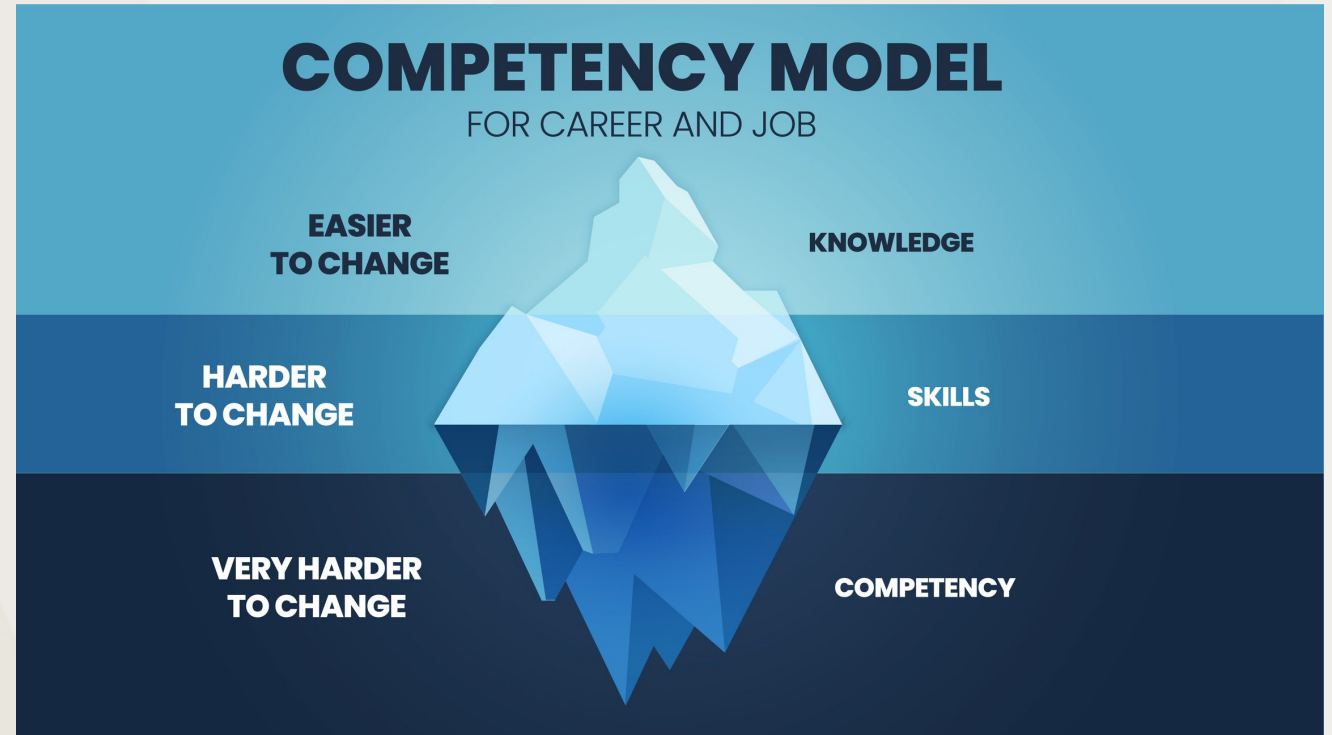


* $P < .05$ compared to intern

† $P < .001$ compared to intern

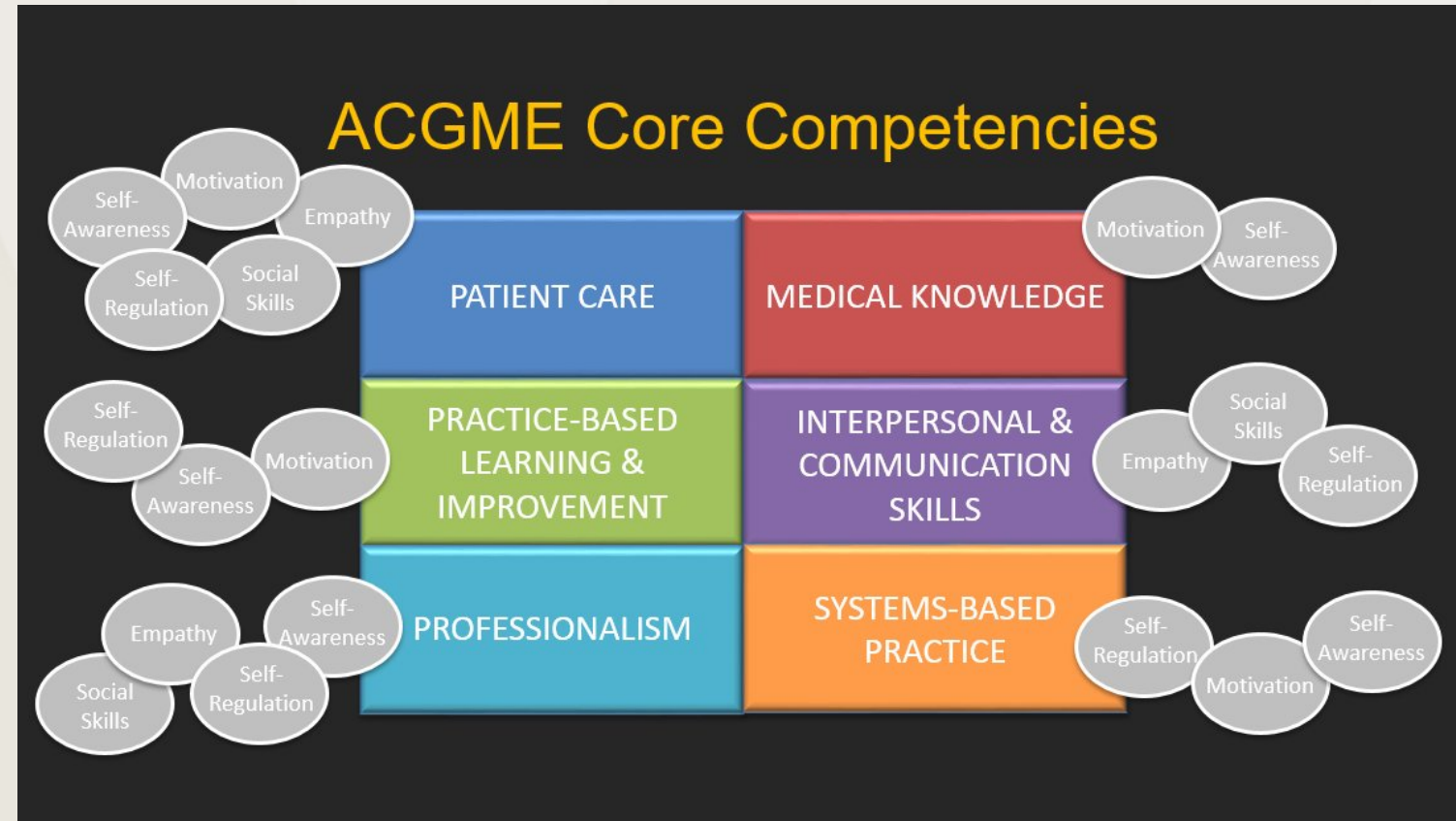
Competency

- Competency is a set of demonstrable characteristics and skills that enable, and improve the efficiency of, performance of a job.
- Competencies are not skills, although they are similar. Skills are learned, while competencies are inherent qualities an individual possesses.



Competency Based Assessment Framework

- Developed after realization that competency is not directly correlated with years of training or number of cases
- Evolution of Competency Based Medical Education
 - ACGME Outcomes Project 2002
 - Milestones Project 2013
 - Entrustable professional activities (EPAs) 2023

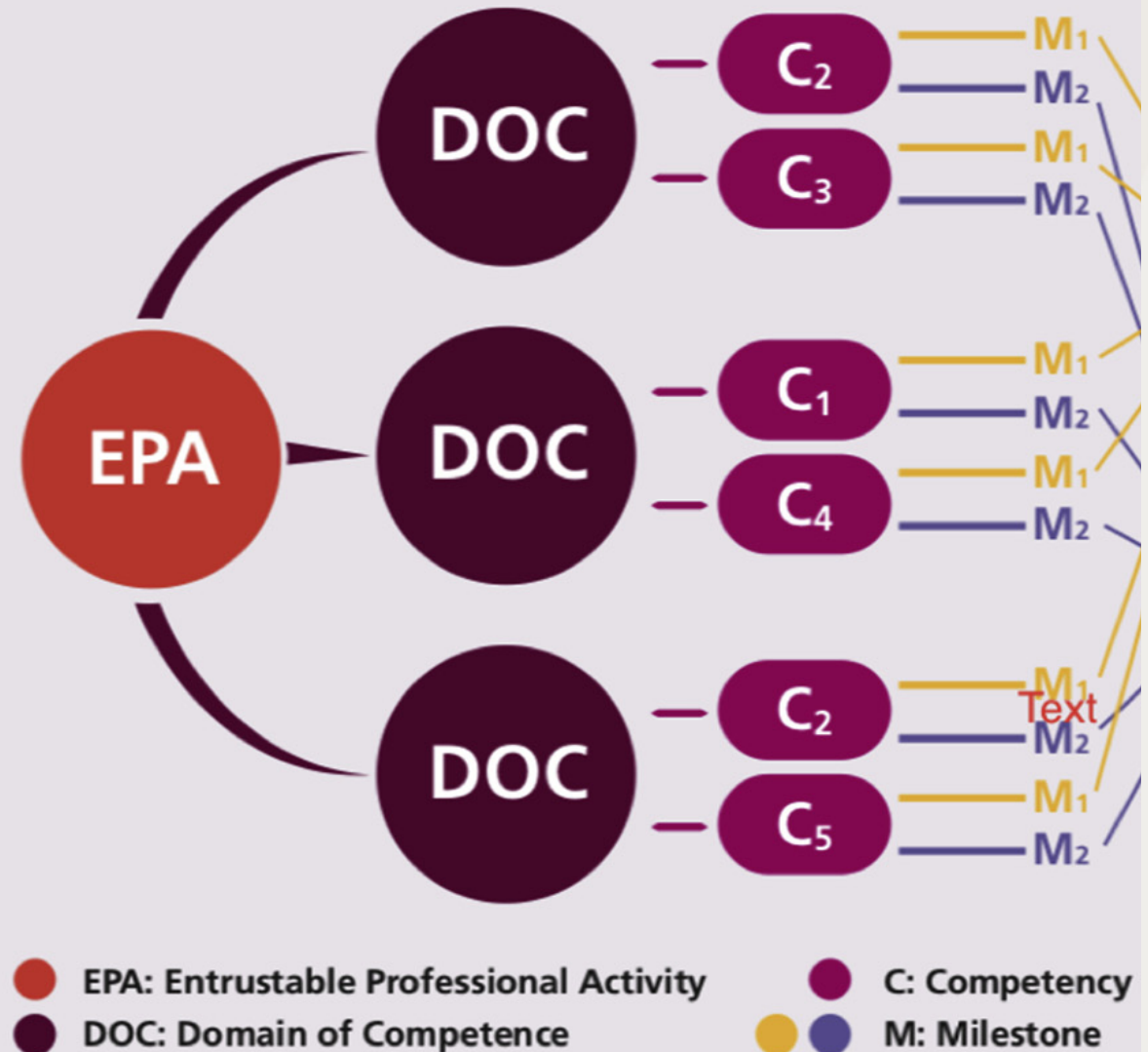


EPAs

- Provide a means of assessing a resident's progress towards autonomy and full entrustment in relevant clinical workflow contexts that reflect competence
- Incorporates competencies and milestones but within a clinical context

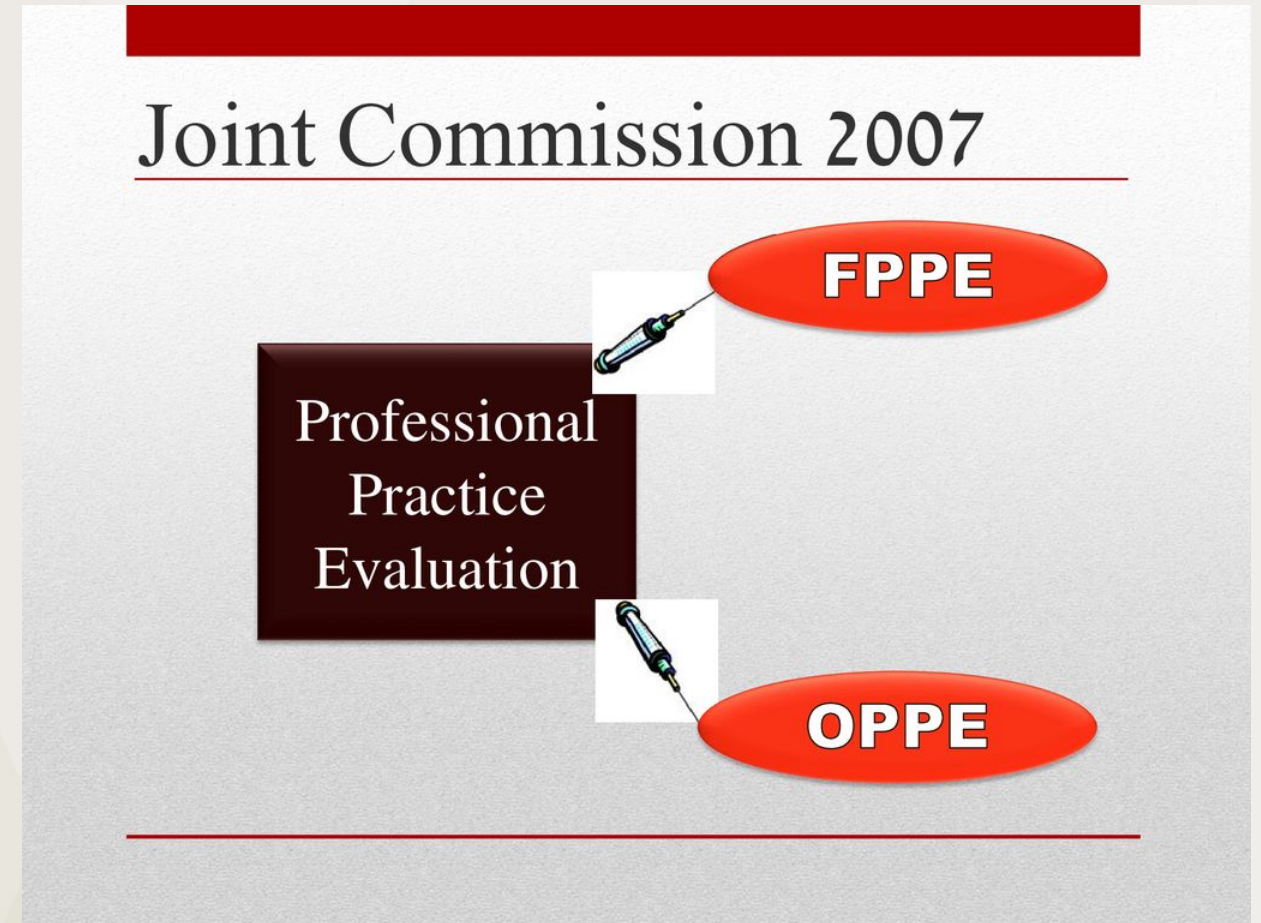
Lindeman et al. Surgery, 2020.

<https://www.absurgery.org/default.jsp?epahome>



Assessing Competency with OPPE/FPPE

- Established in 2007 and 2008, respectively
- Drives desired behaviors and excellence in clinical care
- Focus on compliance, quality and safety
- Important element of self and group regulation



Take Home Points

- Gynecologic surgery has evolved (and so must we)
- Faculty (and others) need to learn how to be a better surgical coach
 - Be on top of your game
 - Set expectations prior to, during and after surgery
 - Be clear on procedures we want residents to master
 - Take opportunity on advanced cases to teach surgical principles
- Prepare for the future of surgical education (coaching)
 - Video based simulation
 - Quantitative assessment of NOTSS
 - Entrustable Professional Activities

Your Job as a Surgical Coach

“The surgical coach’s job is to get potential out of their trainee that the trainee doesn’t think they have”

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