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# Gynecologic Surgery – Call for Reform

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# Disclosures

- None

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# Objectives

- Examine the relationship between surgical volume and perioperative outcomes in benign gynecologic surgery
- Explore the history of OBGYN as a discipline and in relation to surgery
- Explore possible downstream effects of “devaluing” gynecologic surgery and gynecologic surgeons
- Discuss ethical principles related to informed consent
- Brainstorm solutions for optimal care of surgical patients in the context of volume-outcome data

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THE HASTINGS CENTER REPORT

Essay

# A Reluctant Critic: *Why Gynecologic Surgery Needs Reform*

Louise P. King

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I frequently have a distinct and disquieting sense of déjà vu in my clinical work. A series of stories seem to run on repeat, and I fear I'm becoming numb to them:

- I sit across from a patient. She is only twenty-six. She recently had surgery for pelvic pain, during which she was diagnosed with advanced endometriosis, and a cyst was drained but not resected. She was sent on her way with little counseling and no follow-up plan. She is now in more pain than when she initially sought treatment. When I repeat the surgery to address her pain, I won't be able to achieve the best outcome that could have been achieved if I or another appropriate surgeon had been the first to operate.

- I sit across from a patient who is in her late twenties and in excruciating pain—constantly. At first, it was only during her menses. It began in middle school. She missed school just about every month, yet everyone, including her doctors, told her this was normal. Now the pain is every single day. She has lost her job. Her relationship is failing because of the stress. I'm the seventh physician to see her but the first to tell her that she probably has endometriosis. I can help her but not as much as I could have if she'd been referred to me earlier.

CONTENTS: CURRENT COMMENTARY

# Double Discrimination, the Pay Gap in Gynecologic Surgery, and Its Association With Quality of Care

Watson, Katie L. JD; King, Louise P. MD, JD Author Information

Obstetrics & Gynecology: April 2021 - Volume 137 - Issue 4 - p 657-661
doi: 10.1097/AOG.0000000000004309

**Abstract** In Brief

In this commentary, we describe historical and other influences that drive "double discrimination" in gynecologic surgery—lower pay in the area of surgery that boasts the largest proportion of female surgeons and is focused on female patients and explore how it results in potentially lower quality care. Insurers reimburse procedures for women at a lower rate than similar procedures for men, although there is no medically justifiable reason for this disparity. The wage gap created by lower reimbursement rates disproportionately affects female surgeons, who are disproportionately represented among gynecologic surgeons. This contributes to a large wage gap in surgery for women. Finally, poor reimbursement for gynecologic surgery pushes many obstetrics and gynecology surgeons to preferentially perform obstetric services, resulting in a high prevalence of low-volume gynecologic surgeons, a metric that is closely tied to higher complication rates. Creating equity in reimbursement for gynecologic surgery is one important and ethically required step forward to gender equity in medicine for patients and surgeons.

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ELSEVIER

JMIG The Journal of Minimally Invasive Gynecology

Review Article

# Surgeon Volume in Benign Gynecologic Surgery: Review of Outcomes, Impact on Training, and Ethical Contexts

Laura M. Glaser, MD, Lacey Brennan, MD, Louise P. King, MD, and Magdy P. Milad, MD, MS

*From the Department of Obstetrics and Gynecology (Drs. Glaser and Milad), Northwestern University Feinberg School of Medicine, Chicago, Illinois, Department of Obstetrics and Gynecology (Drs. Brennan and King), Beth Israel Deaconess Medical Center, Boston, Massachusetts, and Center for Bioethics Harvard Medical School (Drs. Brennan and King).*

**Table 1: Perioperative outcomes for high-volume versus low-volume surgeons in benign gynecologic surgery.**

RH, Robotic hysterectomy. LH, Laparoscopic hysterectomy. VH, vaginal hysterectomy. AH, abdominal hysterectomy. EBL, estimated blood loss.

| Article | Patients | Definition of surgical volume | Procedure | Quality[1] | Findings |
|---|---|---|---|---|---|
| Petersen et al 2018 | 3114 | No definition reported (equal volume tertiles) | RH, LH, VH, AH | Low | No difference in urologic injury |
| Mehta et al 2017 | 5660 | Very low: 0-5 cases/year<br>Low: 6-10 cases/year<br>Medium: 11-20 cases/year<br>High: ≥ 21 cases/year | RH, LH, VH, AH | Low | Increased perioperative complications: very-low and low volume surgeons |
| Mowat et al 2016 | 741,760 (systematic review) | Low: ≤ 1 case/month +/- 33% | All gynecologic procedures | High | Increased total, intraoperative, postoperative complications: low-volume surgeons |
| Vree et al 2014 | 1914 | Low: <11 case/year<br>Intermediate: 11-50 case/year<br>High: > 50 case/year | RH, LH, VH, AH | Low | Lower EBL: high-volume surgeons |
| Wallenstein et al 2012 | 124,615 | Low: < 5.88 cases/year<br>High: >14 cases/year | LH | High | Decreased overall complications, intraoperative complications, surgical-site complications, medical complications, prolonged hospitalization, transfusion: high-volume surgeons |
| Rogo-Gupta et al 2010 | 77,109 | Low: <5.4 cases/year<br>High: > 13 cases/year | VH | High | Decreased operative injury, decreased perioperative complications, decreased ICU admission, decreased medical complications, decreased transfusion: high-volume surgeons |
| Tunitsky et al 2010 | 1016 | Low: < 30 lifetime cases<br>High: ≥ 30 lifetime cases | LH | Low | No difference in “serious” complications |
| Betjes et al 2009 | N/A | Low: < 15 cases/year<br>High: > 15 cases/year | Hysteroscopic myomectomy | Low | More tissue resected per time: high-volume surgeons |
| Hanstede et al 2008 | 527 | Low: < 10 cases/year<br>High: > 10 cases/year | Abdominal myomectomy | High | Lower EBL, more tissue resected per time: high-volume surgeons |
| Milad et al 1999 | 158 | Low: < 20 laparoscopies/year<br>High: > 35 laparoscopies/year | Laparoscopic cystectomy, oophorectomy | High | Decreased intra-operative leakage: high-volume surgeons |

# Volume and Perioperative Outcomes

- Low-volume surgeons demonstrate increased perioperative complications across multiple studies by 0.7% - 2.0% (OR 1.30-1.72)
- Cases by high-volume surgeons are associated with shorter operative times by 4-44 minutes, reduced blood loss, and reduced need for transfusion by 0.3-0.7%

**Table 2: Route of Surgery for high-volume versus low-volume surgeons in benign gynecologic surgery.**

RH, Robotic hysterectomy. LH, Laparoscopic hysterectomy. VH, vaginal hysterectomy. AH, abdominal hysterectomy. EBL, estimated blood loss.

| Article | Patients | Definition of surgical volume | Procedure | Quality[1] | Findings |
|---|---|---|---|---|---|
| **Lim et al 2016** | 6992 | Low: < 5 cases/2 years<br>Medium: 5-17 cases/2 years<br>High: >17 cases/2 years | TLH | High | Decreased conversion to laparotomy: high-volume surgeons |
| **Unger et al 2016** | 942 | Quartile 1: 0-2 robotic or laparoscopic cases/month<br>Quartile 2: 3-5 cases/month<br>Quartile 3: 6-8 cases/month<br>Quartile 4: 9-11 cases/month | Robotic gynecologic procedures | Low | Decreased conversion to other approaches: high-volume surgeons |
| **Boyd et al 2010** | 146,494 | Low: < 10 cases/year<br>Medium: 10-15 cases/year<br>High: > 15 cases/year | Hysterectomy, all routes | Low | Increased rates of minimally-invasive hysterectomy: medium-volume and high-volume surgeons |
| **Tunitsky et al 2010** | 1016 | Low: < 30 lifetime cases<br>High: ≥ 30 lifetime cases | LH | Low | Decreased conversion to laparotomy: high-volume surgeons |

# Volume and Route of Surgery, Cost, Quality measures

- High volume surgeons consistently demonstrate:
  - Increased rates of minimally-invasive surgery by 2.2% -14.0%
  - Lower rates of conversion to laparotomy by 0.8% - 8.1%
  - Lower per-procedure case costs
  - Improved adherence to quality measures

- Fellowship training in gynecologic surgery appears to improve surgeons' outcomes over residency training alone, though this data is limited
- Many OB/GYNs in private practice have low volume practices further deteriorating skill sets over time
  - Recent study in SIM – skills of fellowship trained surgeons exceed those 19 years in general practice
- Surgical exposure in OB/GYN residency may not approach surgical proficiency as gauged by surgical learning curves
- Many graduating OB/GYN residents are likely underprepared for general gynecologic surgical practice

# Contributors to low surgical volume

- Too many surgeons
  - National work force based on obstetrical workload
- Not enough surgeries
  - Medical management
  - Multiple options/alternatives
  - Financial disincentive to gynecologic surgery…..

J Minim Invasive Gynecol. 2019 Feb;26(2):321-326. doi: 10.1016/j.jmig.2018.11.013. Epub 2018 Nov 29.

# Measuring Quality in Minimally Invasive Gynecologic Surgery: What, How, and Why?

Abel MK[1], Kho KA[2], Walter A[3], Zaritsky E[4].

Author information

## Abstract

In healthcare, the goal of maximizing value by improving the quality of care and lowering costs has been notoriously challenging to achieve. The fee-for-service model in gynecology and other fields has historically promoted the reduction of nonsurgical or minimally invasive approaches in favor of complex, often morbid procedures. In this review, we seek to define quality and value in the healthcare field and describe strategies that promote quality over production. We then discuss national, non-specialty-based efforts in the context of Surgical Care Improvement Project measures to improve quality of care. Finally, we present a case study through the Kaiser Permanente Minimally Invasive Hysterectomy Initiative, one such model that successfully built on the quality metrics of the foregoing strategies to improve patient care.

- Minimally Invasive Hysterectomy Initiative initiated by the Permanente Medical Group (TPMG) in 2008
  - Surgical Care Improvement Project (SCIP) measures
    - The measures that are particularly relevant to gynecologic surgery include antimicrobial use, hair removal, skin antisepsis, catheter use, VTE prophylaxis, beta-blocker therapy, and maintenance of normothermia during gynecologic surgery
  - Delineation of Obstetrics and Gynecology Surgical Teams
    - low (1–10), medium (11–20), and high (>20) hysterectomy volumes / year
    - rate of low-volume surgeons dropped from 70% to 30% between 2008-2015
    - decreased number of gynecologic surgeons from 416 to 234 surgeons for performing approximately 4000 hysterectomies annually (17/surgeon)

Table 2

Routes of hysterectomies performed at Kaiser Permanente Northern California in 2009–2015

| Year | TAH, % | TVH, % | TLH, % | RH, % |
|---|---|---|---|---|
| 2009 | 50.5 | 27.5 | 21.9 | 0.1 |
| 2011 | 28.3 | 25.6 | 45.7 | 0.5 |
| 2013 | 11.5 | 22.2 | 60.7 | 5.7 |
| 2015 | 6.9 | 23.4 | 61.9 | 7.8 |

TAH = total abdominal hysterectomy; TVH = total vaginal hysterectomy;

TLH = total laparoscopic hysterectomy; RH = robotic hysterectomy.

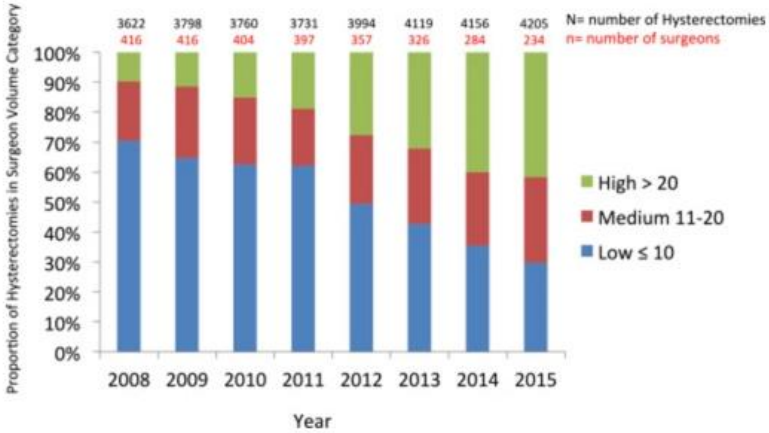



Fig 2

Proportion of hysterectomies (all routes) by surgeon volume. A surgeon's route-specific hysterectomy volume (low, 1–10; medium, 11–20; high, >20) was linked to each hysterectomy and corresponds to the route-specific number of hysterectomies performed by the surgeon in the year of the hysterectomy.

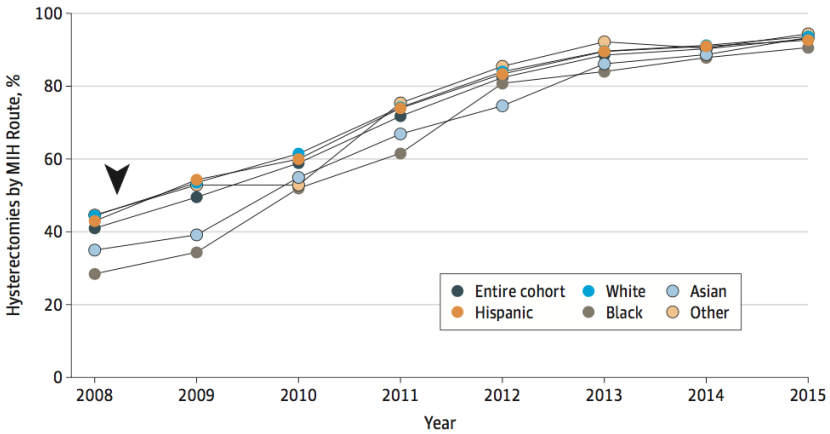
JAMA Network Open

Research Letter | Obstetrics and Gynecology

# Racial Disparities in Route of Hysterectomy for Benign Indications Within an Integrated Health Care System

Eve Zaritsky, MD; Anthonia Ojo, MD; Lue-Yen Tucker, BA; Tina R. Raine-Bennett, MD, MPH

**Figure. Unadjusted Proportions of Minimally Invasive Hysterectomies (MIHs) Performed for Benign Gynecological Conditions by Racial/Ethnic Group, 2008-2015, Kaiser Permanente Northern California**




## Discussion

This study found that racial disparities in MIH no longer persisted within this integrated health care system, unlike in other settings within the United States.[1,5,6] The study by Alexander et al[5] found that African American individuals were approximately twice as likely to undergo open abdominal hysterectomies vs MIHs compared with their white counterparts. The study by Pollack et al[6] demonstrated that despite increasing annual laparoscopic rates, racial/ethnic minority women were less likely to undergo MIH. Our study found a significant increase in MIH, with a higher annual relative rate increase in MIH for racial/ethnic minority patients than for their white counterparts. Limitations of this study include the inability to identify determinants of racial disparities, undercapture of previous pelvic surgery, and lack of generalizability to other practice models. Our results may be due to system changes.[4,5] Our initiative increased MIH rates and the proportion of high-volume surgeons while simultaneously reducing the surgeon pool. With these system changes, we observed a reduction of racial disparities in MIH.

# Very Low Rates of Ureteral Injury at the time of Laparoscopic Hysterectomy performed by Fellowship-Trained Minimally Invasive Gynecologic Surgeons


**Study Objective:**
The incidence of ureteral injury with laparoscopic hysterectomy reported in the literature is 0.78%. The objective of this study was to evaluate the rates of ureteral injury at the time of laparoscopic hysterectomy among high-volume fellowship-trained surgeons.

**Design:**
We performed a retrospective chart review, evaluating gynecologic surgery cases between January 2009 and May 2019 performed exclusively by fellowship-trained surgeons in the Minimally Invasive Gynecologic Surgery (MIGS) Department at Harvard Medical School teaching hospitals in Boston. The rate of ureteral injury was assessed.

**Setting:**

Patients were positioned in dorsal lithotomy with legs in Allen stirrups. A central (typically umbilical) camera port was placed along with bilateral lower quadrant ports and a third ipsilateral port to the left of the umbilicus.

**Patients or Participants:**

A total of 5160 cases were performed by MIGS surgeons between 2009-2019 at Brigham & Women's Hospital and Brigham & Women's Faulkner Hospital. Patients undergoing laparoscopic hysterectomy were selected for this review.

**Interventions:**

N/A

**Measurements and Main Results:**

Out of the 5160 MIGS cases, 2396 laparoscopic hysterectomies were performed. Only 1 ureteral injury was noted intraoperatively (0.04%). No additional delayed ureteral injuries were observed.

**Conclusion:**
Ureteral injury is associated with significant patient morbidity and high economic burden. Despite taking on medically and surgically complex cases, we observed very low rates of ureteral injury at the time of laparoscopic hysterectomy. Putting this into context given that approximately 600,000 hysterectomies are performed annually in the US; the literature-reported ureteral injury rate would estimate between 4,000-5,000 injuries versus our estimated 240 injuries. This study highlights the benefits of fellowship-training and high-volume practice on patient outcomes.

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# History

- 1920s/1930s
  - Obstetric practice becomes more surgical
    - Advances in anesthesia and asepsis
    - Obstetricians seek to perform pelvic surgery
  - Address “the whole of femininity and reproduction”
    - “[T]he true woman’s physician [was] actually, other than her husband, the most important man in her life.” (Burman 1968)

- 1940s
  - Majority of gynecologic surgery still performed by general surgeons
  - Critiques of gynecologic surgeons – outcomes not as promised
    - Estimated 35% of surgeries “unnecessary”
    - OBGYNs responsible for most of the ureteral injuries and genito-urinary fistulas treated by urologists on referral (Symmonds 1976)
  - ABOG originally certified trainees in either specialty, then moved to one form of certification.
    - 3 yr program: 18 months of obstetrics and 18 months of gynecology. No general surgery training was required.

- Gynecologic procedures account for majority of ureteral injuries (range reported 64%–82%)
  - Colorectal, vascular pelvic, and urologic surgery – range 11%–30%
    - Gild, P. *et al.* Adult iatrogenic ureteral injury and stricture–incidence and treatment strategies. *Asian J. Urol.* (2018).
    - Limited data from 3 studies conducted by colorectal and urologic surgeons from 2008, 2005

# Very Low Rates of Ureteral Injury at the time of Laparoscopic Hysterectomy performed by Fellowship-Trained Minimally Invasive Gynecologic Surgeons


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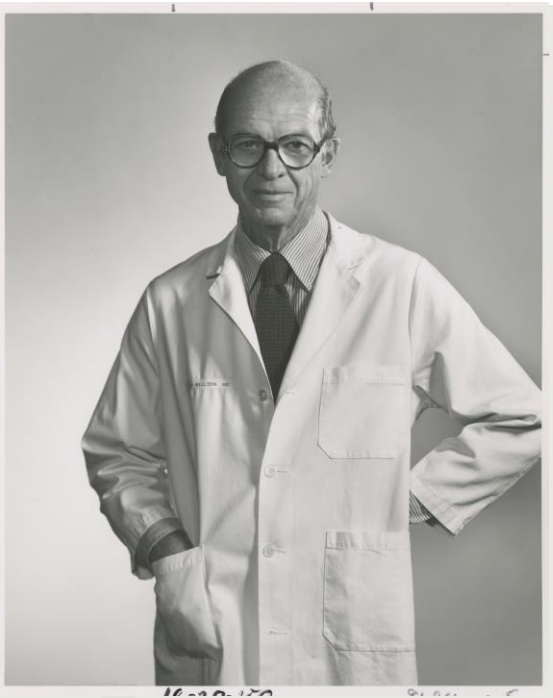
- 1950s
  - Formation of Society of Pelvic Surgeons 1951 (co-founded by Alexander Brunschwig, Joe V. Meigs)
    - TeLinde, Burch
    - “Only with ‘all the instincts and knowledge of the trained surgeon’ could OBGYNs stake a legitimate claim to surgical markets, and only with ‘advanced surgical skill could OBGYNs demonstrate the superiority of their comprehensive knowledge of women’s reproductive systems.’” (Zetka quoting Meigs 1955)

- 1960s
  - 1966 The Millis Commission Report (AMA critique of graduate medical education)
  - Singled out OBGYNs and urology for low surgical requirements
    - “there is considerable uneasiness about the comparability or noncomparability of certification requirements of the several specialty boards. Probably the most frequently cited example is the disparity in the amount of surgical training required for certification in general surgery as compared with obstetrics-gynecology and urology. Men in all three of these surgical specialties are considered by their colleagues to be qualified to perform some of the same operations, yet the amount of surgical training that is required for specialization ranges from 18 months in obstetrics-gynecology to four years in general surgery.”

- 1965 - Howard C Taylor Jr – defense published in American Journal of Surgery
  - With advances in anesthesia, asepsis, surgery is can be made routine
    - Surgery would be no more than 15% of OBGYNs case load
    - Residents would be “indoctrinated with the ideal that [they] must not undertake procedures beyond [their] capacities” and would call in consultants when needed.
  - Key to improving gynecologic surgery was to develop efficient referral systems.

- 1968 – Brunschwig responded in American Journal of Obstetrics and Gynecology
  - Surgical skills for advanced pelvic surgery are wide ranging and crossed specialty demarcations (gyn, urology, colorectal, vascular)
  - Advocated for certification first by American Board of Surgery and then training in specialty Gynecologic Surgery
    - [1969 Sub specialization conference….]

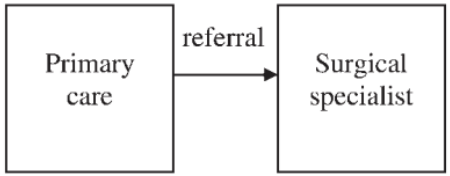
- 1970s – J Robert Willson reforms
  - Proposed tracking OBGYNs into generalist and subspecialist roles
    - Generalists – OB, PCP, Benign gyn surgery
    - GYNONC, MFM, REI (10% of workforce)
      - Pre-IVF – REIs (along with GYNONC) handled complex gyn surgery



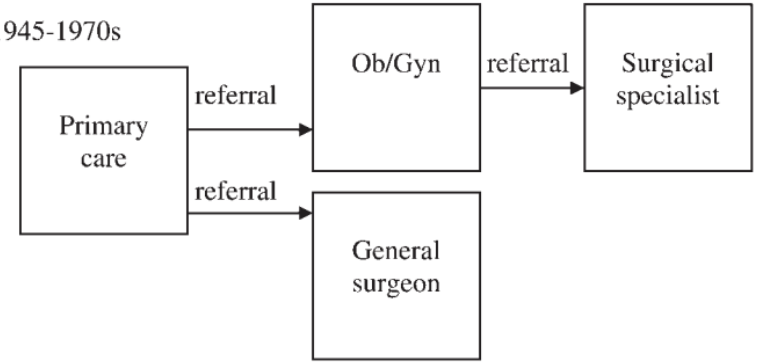
- 1970s – push for primary care
  - Health Professions Educational Assistance Act 1976 - Renewal of capitation grants to medical schools with 50% of graduates entering primary care [repealed 1981 under Reagan administration]
  - 1972 ACOG – policy statement that OBGYNs serve as PCPs (mirrored by 2020 ACOG president statement)
    - 1974 – Dept of Health Education and Welfare recognized OBGYN as primary care specialty but removed 1976
    - J. Robert Willson Reforms – **increased residency from 3 to 4 years to provide better training in primary care**

**FIGURE 1. Workflow Coordination and Control in the Medical DOL**

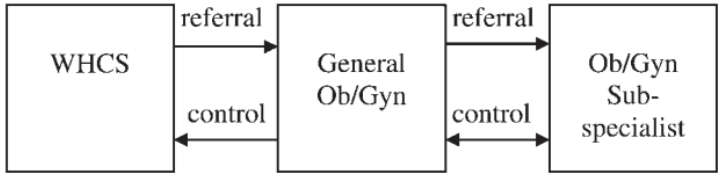
A. Ideal Model




B. Ob/Gyn, 1945-1970s




C. Gynecology's New DOL



- Multiple continued calls for reform
  - Advocates for pelvic surgery subspecialty
    - Moore 1982, Gray 1982, Walter 20112, Berkowitz 2016
  - Advocates for tracking
    - Bricker 1982, Gusberg 1984, Moore 1982, Ridley 1982, Wright 2020
  - Advocates for residency reform
    - Moore 1982, Bisonnette 1999

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Comparative Study > Gynecol Oncol, 144 (2), 336-342 Feb 2017

# Comparison of 2015 Medicare Relative Value Units for Gender-Specific Procedures: Gynecologic and Gynecologic-Oncologic Versus Urologic CPT Coding. Has Time Healed Gender-Worth?

M F Benoit [1], J F Ma [2], B A Upperman [3]

Affiliations + expand

PMID: 28024653 DOI: 10.1016/j.ygyno.2016.12.006

The original work to establish RVU's for most CPT codes was designated by the Harvard School of Public Health in cooperation with HCFA. To develop the 1992 HCFA RVU worth, each specialty developed estimates of work involved to perform procedures, but historically, only 400 of the 6000 CPT codes were measured. The total work for each CPT code was factored from components of time and intensity (technical skill, mental/physical effort, and psychosocial stress) necessary to complete that service. Work was calculated over three time periods (preservice, intraservice, and postservice) and then summed to form the total for a given CPT code. The most critical element for each service was the contribution provided in the face-to-face (or skin-to-skin) encounter. A cross-specialty comparison (linking) was then performed so that a common scale could be developed for all specialties. Procedures considered the same or equivalent between two specialties were compared and linked [4]. Only one cross-link between gynecology and general surgery was associated, and only two cross links were made between urology and gynecology: cystoscopy with stent to laparoscopic tubal ligation; E&M of recurrent renal calculi to E&M of new onset right lower quadrant pain [5]. Most public and private payors utilize the Medicare Resource-Based Relative Value Scale (RBRVS).

- Evaluation of work RVU's for the paired procedures
  - 72% of male vs female procedures had a higher wRVU and tRVU.
  - 84% of male based procedures were compensated at a higher rate than the paired female procedures.
  - On average, male specific surgeries were reimbursed at an amount that was 27.67% higher than for female-specific surgeries.
  - **Female procedure based work RVU's have increased minimally from 1997 to 2015.**

Comparative Study > Obstet Gynecol, 87 (3), 328-31 Mar 1996

# Underreimbursement of Obstetric and Gynecologic Invasive Services by the Resource-Based Relative Value Scale

P Cherouny [1], C Nadolski

Affiliations + expand

PMID: 8598949 DOI: 10.1016/0029-7844(95)00442-4

- Mean percentage of RBRVS unit to the total relative value unit and the total RBRVS unit to the McGraw-Hill unit were significantly lower ($P < .01$ for all comparisons)
    - for obstetric-gynecologic (49.7 and 139.5) than for urology (55.1 and 207.1) or general surgery services (53.2 and 181.0).
    - There were no significant differences between urology and general surgery services among the procedures studied.

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> JAMA Surg 2019 Oct 2[Online ahead of print]

# Sex-Based Disparities in the Hourly Earnings of Surgeons in the Fee-for-Service System in Ontario, Canada

Fahima Dossa [1 2 3], Andrea N Simpson [3 4 5], Rinku Sutradhar [3 6], David R Urbach [1 3 6 7], George Tomlinson [8 9], Allan S Detsky [3 9 10], Nancy N Baxter [1 2 3 6]

Affiliations + expand

PMID: 31577348 PMCID: PMC6777399 (available on 2020-10-02)

DOI: 10.1001/jamasurg.2019.3769

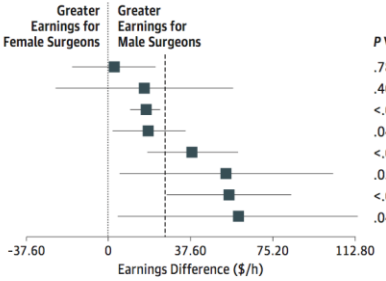
- 3275 surgeons and 1.5 million surgical procedures
- female surgeons earned 76% per hour of operative time of the male surgeons' earnings
- disparity persisted after adjustment for surgical specialty.
    - statistically significant differences in earnings between male and female surgeons ranging from $17.24 per hour in gynecology to more than $50 per hour in ophthalmology, orthopedics, and cardiothoracic surgery.

**Table 1. Surgeon and Patient Baseline Characteristics Before and After Hard Matching on Specialty and Years in Practice and Propensity-Score Matching[a]**

| | Before Matching | | | After Matching | | |
|---|---|---|---|---|---|---|
| | Surgeons, No. (%) | | | Surgeons, No. (%) | | |
| Characteristic | Male (n = 2456) | Female (n = 819) | Standardized Differences | Male (n = 576) | Female (n = 576) | Standardized Differences |
| Surgeon characteristics | | | | | | |
| Age, median (IQR), y | 49 (40-59) | 42 (36-50) | 0.62 | 45 (37-53) | 43 (37-51) | 0.10 |
| Years in practice, median (IQR) | 14.7 (5.9-25.7) | 8.4 (2.9-16.6) | 0.56 | 9.7 (3.3-18.5) | 9.6 (3.3-18.0) | 0.00 |
| Specialty | | | | | | |
| General surgery | 543 (22.1) | 162 (19.8) | | 154 (26.7) | 154 (26.7) | |
| Neurosurgery[b] | 67 (2.4-2.9) | ≤5 (≤0.6) | | NA | NA | |
| Orthopedic surgery | 525 (21.4) | 42 (5.1) | | 41 (7.1) | 41 (7.1) | |
| Plastic surgery | 161 (6.6) | 58 (7.1) | | 52 (9.0) | 52 (9.0) | |
| Cardiothoracic surgery | 114 (4.6) | 17 (2.1) | −1.00 | 16 (2.8) | 16 (2.8) | 0.00 |
| Gynecology | 306 (12.5) | 400 (48.8) | | 189 (32.8) | 189 (32.8) | |
| Ophthalmology | 297 (12.1) | 71 (8.7) | | 64 (11.1) | 64 (11.1) | |
| Otolaryngology | 195 (7.9) | 51 (6.2) | | 47 (8.2) | 47 (8.2) | |
| Urology[b] | 248 (9.8-10.2) | 10-20 (1.2-2.4) | | 13 (2.3) | 13 (2.3) | |

**Figure 2. Mean Differences in Hourly Earnings Between Matched Male and Female Surgeons Within Each Specialty**

| Specialty | Mean Difference ($/h) | 95% CI | *P* Value |
|---|---|---|---|
| Plastic surgery | 2.68 | −16.70 to 22.08 | .78 |
| Urology | 16.52 | −24.53 to 57.57 | .40 |
| Gynecology | 17.24 | 9.77 to 24.71 | <.001 |
| General surgery | 18.52 | 1.06 to 35.98 | .04 |
| Otolaryngology | 38.53 | 17.28 to 59.79 | <.001 |
| Ophthalmology | 54.06 | 4.90 to 103.25 | .03 |
| Orthopedic surgery | 55.45 | 26.40 to 84.45 | <.001 |
| Cardiothoracic surgery | 59.64 | 4.36 to 114.91 | .04 |




The vertical dotted line represents mean hourly earnings difference between matched male and female surgeons ($25.98 per hour). Square boxes represent mean values; horizontal bars represent 95% CIs.

# When a Specialty Becomes "Women's Work": Trends in and Implications of Specialty Gender Segregation in Medicine

Elaine Pelley, MD, and Molly Carnes, MD, MS

## Abstract

The gender composition of physician specialties varies dramatically with some becoming increasingly female predominant while others remain overwhelmingly male. In their analysis of physician workforce data, the authors demonstrate that despite large increases in the number of female physicians over 4 decades, the degree of gender segregation between specialties has not declined. The authors describe lessons from the highly gender-segregated U.S. workforce as a whole to understand these demographic patterns in the physician workforce. Echoing U.S. workforce findings, women physicians are becoming overrepresented in certain specialties, and this appears to be associated with a relative decline in earnings for physicians in these specialties over time. The authors found a strong negative relationship between the proportion of female physicians in a specialty and its mean salary, with gender composition explaining 64% of the variation in salaries among the medical specialties.

Female physicians face biases in the workplace and fall behind male peers in leadership attainment, academic advancement, and earnings. Tenacious gender stereotypes and the conflation of gender and status contribute to these biases and reinforce occupational gender segregation. The clustering of women in certain specialties means these specialties will be disproportionately affected by gender bias. Recognizing the consequences of gender demographics within physician specialties is important to maintain the strong and diverse physician workforce needed to support the health care needs of the populations who depend on these specialties for care.

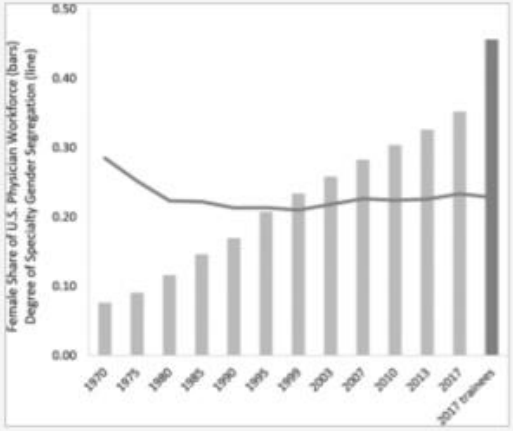



**Figure 1**

The increasing female share of the U.S. physician workforce from 1970 to 2017

2,34,36–38,59 is shown in the light gray bars (the final dark gray bar indicates data on Accreditation Council on Graduate Medical Education–accredited residency and fellowship programs in 20172). The line indicates the specialty gender segregation, as measured by the index of dissimilarity (the percentage of female physicians that would need to change specialties in order for men and women to be equitably represented in all specialties), for each of these years. Despite the increase in female physicians (bars), there has been no decrease in gender segregation since 1980.

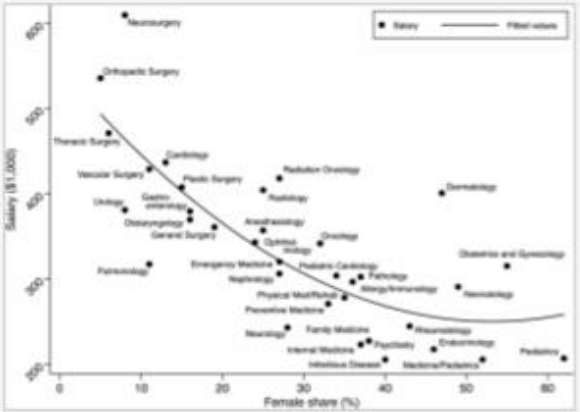
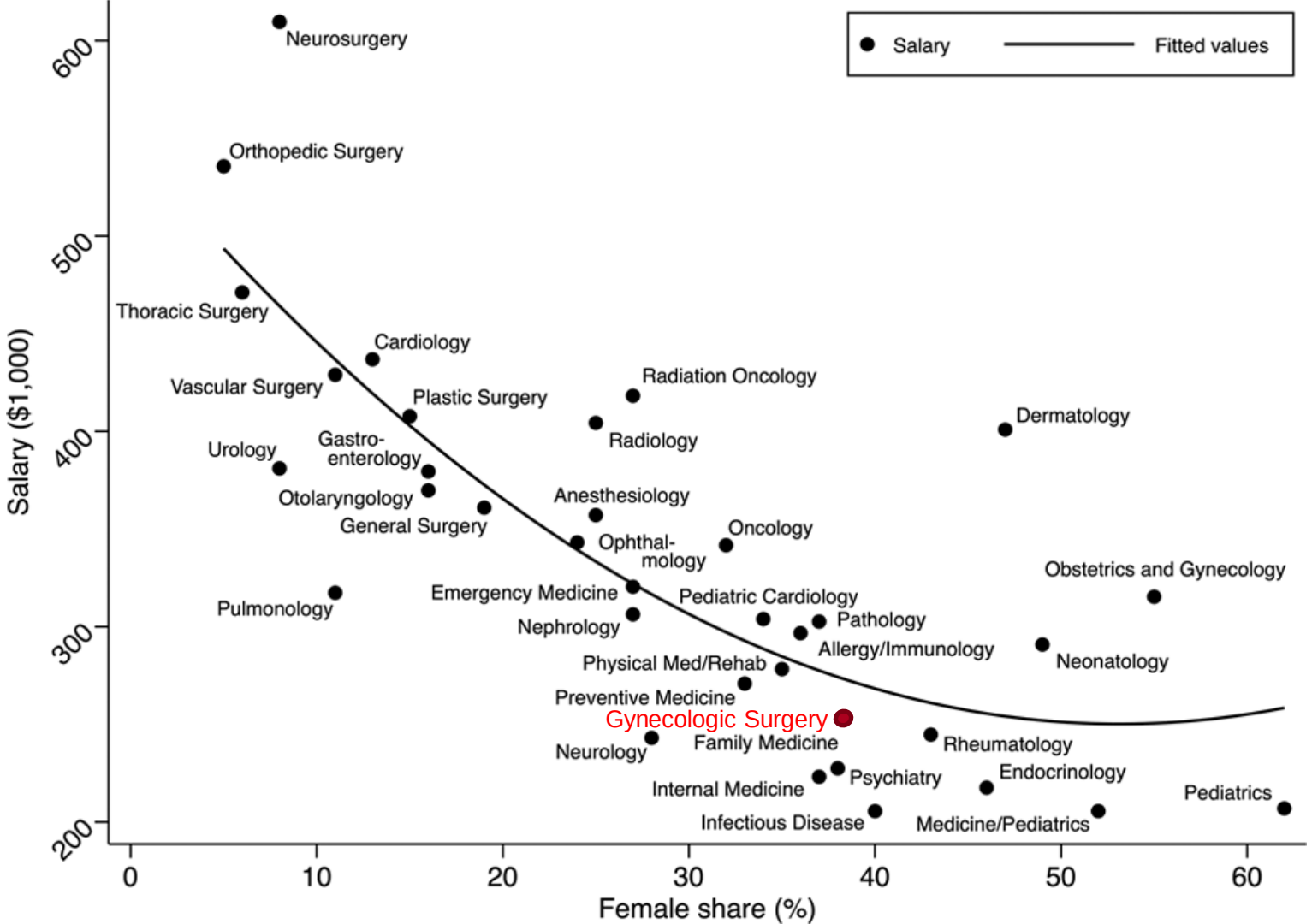



**Figure 2**

The published salaries of each medical specialty plotted against the female share of the specialty, showing a strong negative Spearman's correlation with female share explaining 64% of the variation in salaries ($r_s = -0.798$, $P < .001$). Note that the data points for Family Medicine and Psychiatry are superimposed due to nearly identical data.


Salary
Fitted values
Salary ($1,000)
600
500
400
300
200
0
10
20
30
40
50
60
Female share (%)
Neurosurgery
Orthopedic Surgery
Thoracic Surgery
Cardiology
Vascular Surgery
Plastic Surgery
Radiation Oncology
Radiology
Dermatology
Urology
Gastro-
enterology
Otolaryngology
General Surgery
Anesthesiology
Oncology
Ophthal-
mology
Obstetrics and Gynecology
Pulmonology
Emergency Medicine
Pediatric Cardiology
Nephrology
Pathology
Allergy/Immunology
Neonatology
Physical Med/Rehab
Preventive Medicine
Gynecologic Surgery
Family Medicine
Rheumatology
Neurology
Psychiatry
Endocrinology
Internal Medicine
Pediatrics
Infectious Disease
Medicine/Pediatrics

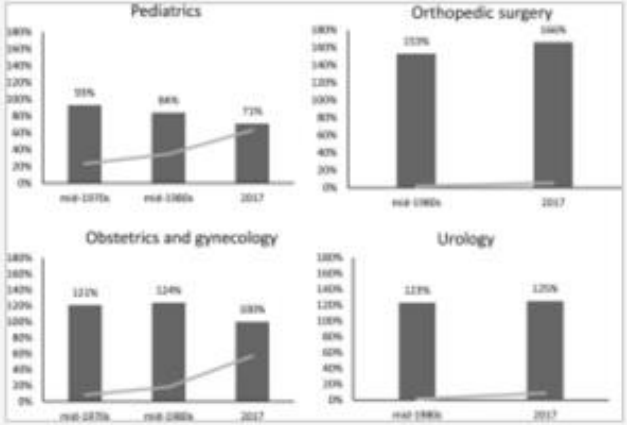



**Figure 3**

The dark bars show the average salary for each specialty normalized to the median physician salary at the time points indicated. The female share of each specialty at each time point is indicated by the gray line. The 2 specialties with a higher female share (left side) have demonstrated a greater than 20% decline in earnings relative to the median physician salary, whereas the 2 specialties with minimal female share (right side) have held steady or increased.

Obstetrics and gynecology and urology may offer a more equivalent comparison. The salaries in obstetrics and gynecology were 20%–25% higher than the mean physician salary in the mid-1970s and mid-1980s[63] when the female share was, respectively, 8% and 18%. However, by 2017, with a female share of 57%, an obstetrician–gynecologist became an average physician earner.[64] In contrast, urology earned 123% of the average physician salary in the mid-1980s[63] when it was 1% female and 125% of the average salary in 2017[64] when the female share rose but was still low at 9%.

HARVARD MEDICAL SCHOOL

# Objectives

- Examine the relationship between surgical volume and perioperative outcomes in benign gynecologic surgery
- Explore the history of OBGYN as a discipline and in relation to surgery
- Explore possible downstream effects of “devaluing” gynecologic surgery
- **Discuss ethical principles related to informed consent and survey work in process**
- Brainstorm solutions for optimal care of surgical patients in the context of volume-outcome data

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THE HASTINGS CENTER REPORT

Essay

# A Reluctant Critic: *Why Gynecologic Surgery Needs Reform*

Louise P. King

First published: 03 July 2019 | https://doi.org/10.1002/hast.1001

Read the full text >

PDF

- I receive an email from a colleague who is taking a patient to surgery for a needed hysterectomy. The colleague asks if I can provide "backup"—that is, if I can be available if they get into any trouble, as they haven't performed a hysterectomy in over a year. This is not uncommon, and I'm happy to help. What gives me pause is that the surgeon has not made the patient aware that they have not performed the surgery recently.

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# Informed Consent

- Capacity
- Voluntariness
- Disclosure (of)
  - Risks
  - Benefits
  - Alternatives

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Table 2. Surgery details

| **N=752** | # (%) |
|---|---|
| **Type of hospital** | |
| A teaching hospital or academically-affiliated hospital | 289 (38) |
| Other | 393 (52) |
| Not sure | 69 (9) |
| Missing | 1 (0) |
| **Location of hospital** | |
| Urban | 454 (60) |
| Suburban | 233 (31) |
| Rural | 65 (9) |
| **Timing of surgery** | |
| <5 years ago | 215 (29) |
| 5 to <10 years ago | 164 (22) |
| 10 to <15 years ago | 143 (19) |
| 15 or more years ago | 229 (30) |
| Missing | 1 (0) |
| **When you consented to have the surgery, did your surgeon share their "surgical volume" with you before obtaining your consent?** | |
| Yes | 125 (17) |
| No | 489 (65) |
| Not sure | 138 (18) |

| | |
|---|---|
| **It is important to me to know how often my surgeon operates before I consent to surgery** | |
| Strongly agree | 230 (31) |
| Agree | 254 (34) |
| Neither agree nor disagree | 145 (19) |
| Disagree | 19 (3) |
| Strongly disagree | 7 (1) |
| Missing | 97 (13) |
| **Surgeons should be required to disclose how often they operate during the informed consent process** | |
| Strongly agree | 253 (34) |
| Agree | 272 (26) |
| Neither agree nor disagree | 106 (14) |
| Disagree | 18 (2) |
| Strongly disagree | 5 (1) |
| Missing | 98 (13) |
| **How often would you want your surgeon to operate to feel comfortable agreeing to surgery with them?** | |
| Every day | 41 (5) |
| A few times per week | 466 (62) |
| One day per week | 133 (18) |
| One day per month | 10 (1) |
| One day every three months | 2 (0) |
| One day per year | 1 (0) |
| Missing | 99 (13) |

| | |
|---|---|
| **When counseling a patient before a procedure, a surgeon should indicate how often he/she performs that particular procedure** | |
| Strongly agree | 17 (18) |
| Agree | 18 (19) |
| Neither agree nor disagree | 35 (38) |
| Disagree | 21 (23) |
| Strongly disagree | 2 (2) |
| **When counseling a patient before a procedure, how often do you tell the patient how often you perform that particular procedure?** | |
| Always | 10 (11) |
| Most of the time | 20 (22) |
| About half of the time | 8 (9) |
| Sometimes | 43 (48) |
| Never | 11 (12) |
| **How would you respond to the following patient presentation? An existing 25 year old patient presents to you with a 5 cm ovarian cyst that the radiologist believes is an endometrioma. You have not performed an ovarian cystectomy in over two years. Which of the following would you be most likely to do:** | |
| Schedule the patient for an oophorectomy instead of a cystectomy | 1 (1) |
| Review operate technique for cystectomy in a reference textbook and schedule the procedure | 10 (11) |
| Ask a colleague who has more recently performed this procedure to assist you in the operating room | 27 (29) |
| Ask a colleague who has more recently performed this procedure to assist you in the operating room and disclose this to the patient | 36 (39) |
| Refer this patient to a physician who routinely performs ovarian cystectomies | 10 (11) |
| Refer this patient to a physician who routinely treats endometriosis | 8 (9) |

HARVARD MEDICAL SCHOOL

# Objectives

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To equalize these discrepancies between gender based procedures, we support "adding value" back to gynecologic CPT codes, not detracting from urology. ACOG and SGO tried to recover RVU reductions for laparoscopic hysterectomy in 2016 through petitions to the RUC, but were unsuccessful [15]. Higher RVU value for vaginal hysterectomy was also attempted to incentivize providers and guide them towards greater patient safety, lower morbidity, and a lower resource use procedure—this was also unsuccessful [16]. The RUC opinion supports that no physician is paid at a level that is fair and appropriate. A shift to a value-based system, away from volume-based fee-for-service, may instead be beneficial to future reimbursement [9].

CURRENT OPINION

# Gynecologic surgery tracking in obstetrics and gynecology residency

*Matthew T. Siedhoff, Mireille D. Truong, and Kelly N. Wright*

**Purpose of review**
This review aims to describe the influence of changes in obstetrics and gynecology on residency training and how tracking may help address emerging concerns around quality and safety in gynecologic surgery.

**Recent findings**
As has been shown in a variety of other surgical fields, recent evidence confirms that surgeries with higher volume gynecologists are associated with fewer complications, decreased cost, and an increase in use of minimally invasive surgery. Attending physicians and residents feel graduating obstetrics and gynecology (OB/GYN) trainees are unprepared to perform major surgery independently. Tracking has demonstrated tremendous success in general surgery, enriching trainee careers, allowing for increased operative and clinical experiences, enhancing autonomy, and improving mentorship, all while achieving equivalent or improved milestone achievement, case numbers, and board certification. A majority of medical students, residents, and OB/GYN residency program directors support tracking in OB/GYN. Currently, a single OB/GYN program provides tracking in the United States, with measurable success similar to that seen in general surgery.

**Summary**
Enhanced surgical volume results in better outcomes in gynecologic surgery, but current training models are insufficient to meet these volume demands. Tracking provides an attractive solution to create a more appropriate practicing model for physicians in women's health.

**Keywords**
fellowship, obstetrics and gynecology, residency, surgical outcomes, tracking, training, volume


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