

# Operating Room Team Member Attitudes Towards the Performance of Pelvic Examinations Under Anesthesia on Female Patients by Medical Students

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**OBJECTIVE:** To determine perceptions of operating room (OR) team members regarding medical students performing pelvic examinations on anesthetized female patients.

**STUDY DESIGN:** A survey was distributed to OB/GYN Attending and Resident physicians, OR nurses and techs, anesthesiologists, CRNAs, and medical students. Characteristics between the respondent groups were statistically compared using  $\chi^2$  test for independence and Fisher's exact test.

**RESULTS:** A total of 337 surveys were completed; 72% believed permission should be obtained prior to the performance of pelvic examinations under anesthesia (EUAs) by medical students on anesthetized female patients, 30% believed prior consent was usually obtained, 50% believed patients would agree if asked, 80% thought patients would be upset if they became aware that an EUA by a medical student was performed on them without their prior consent, and 32% of nurses believed students should be allowed to examine

anesthetized patients. Medical students were less likely to believe it was appropriate for students to examine patients, that there was any educational benefit, and that patients would consent.

**CONCLUSION:** Despite the overall perception that consent should be obtained before medical students examine anesthetized female patients, this does not usually occur. Only 53% of medical students would recommend to their female relatives to allow such an examination. (J Reprod Med

**... the majority of all OR team members surveyed ... feel that female patient consent should be obtained prior to a medical student performing a pelvic examination under anesthesia.**

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**Keywords:** anesthesia; education, medical/ethics; ethics, institutional; ethics, medical/education; exam under anesthesia; gynecological examination; gynecology/education; informed consent; medical student; pelvic exam; students, medical.

A pelvic examination under anesthesia (EUA) is a routinely performed procedure at the beginning

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of many gynecologic surgeries. The pelvic EUA is beneficial to the anesthetized female patient in that it assists the gynecologist with surgical planning, including determining the orientation and size of the uterus and adnexa. At teaching hospitals, medical students may additionally be allowed to perform pelvic EUAs on female patients. While the performance of pelvic examinations on anesthetized female patients may have educational benefit for the medical student, it does not benefit the patient. Approximately 90% of medical students will perform an EUA on a female patient prior to completion of their medical education.<sup>1</sup> There has been ethical concern expressed that EUAs are often performed by medical students without the female patient's consent. Multiple states, including Hawaii, California, Illinois, and Virginia, have passed legislation making it illegal to perform EUAs without previously obtaining the patient's consent.<sup>2</sup>

The American College of Obstetricians and Gynecologists (ACOG) Committee Opinion titled "Professional Responsibilities in Obstetric-Gynecologic Medical Education and Training" addresses the topic of both gynecological medical education and pelvic examinations under anesthesia. Learners in the context of this committee opinion refer to medical students, Residents, and Fellows. ACOG states that when anesthesia is performed, there can be increased relaxation of the pelvic muscles that may offer an educational benefit. ACOG explicitly states, however, that "pelvic examinations on anesthetized woman that offer no personal benefit and are performed solely for teaching purposes should be performed only with her specific informed consent obtained before her surgery."<sup>3</sup> If patients are unable to consent for procedures, then their surrogate decision maker must specify consent for such examinations. Alternatives to medical students performing EUAs include obstetrical simulators and professional patients, which many medical schools utilize in their curriculum. The American Medical Association (AMA) also makes a statement about medical student involvement in patient care. The AMA states that all patients need to be aware that medical students may participate in their care and must have the opportunity to decline. The AMA also states that the physician should explain the benefits of having medical students involved.<sup>4</sup>

The ethical concern over medical students performing pelvic examinations on anesthetized fe-

male patients is not because it may cause pain or injury, but because when conducted in unconsented fashion it is a violation of the woman's autonomy.<sup>5</sup> If patients are asked beforehand, however, it has been shown that many women would allow a medical student to perform an EUA.<sup>1</sup> The purpose of this study was to look at how the practice of EUAs on female patients was performed and perceived in teaching institutions among different members of the OR team.

### Materials and Methods

In 2018 an Internet-based survey was created through surveymonkey.com (Figure 1). The survey was submitted to the Institutional Review Board (IRB) of Einstein Medical Center Philadelphia, which approved it as an IRB exempt project.

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Scoring on a 1–5 point scale: (strongly disagree – somewhat disagree – neutral – somewhat agree – strongly agree)

1. Pelvic exams performed by medical students on anesthetized female patients are usually discussed with the patient ahead of time.
  2. Pelvic exams performed by medical students on anesthetized female patients should only be performed if consent from the patient has been obtained.
  3. Pelvic exams performed on anesthetized female patients should be discussed with the patient ahead of time in the patient office.
  4. Pelvic exams performed on anesthetized female patients should be discussed with the patient ahead of time in the OR holding area.
  5. It is appropriate for which medical providers to perform a pelvic exam on an anesthetized female patient:
    - a. Attending OB/GYN
    - b. Resident OB/GYN
    - c. 1 medical student
    - d. >1 medical student
  6. There is an educational benefit for medical students in performing a pelvic exam on an anesthetized female patient.
  7. Most female patients would agree to having a pelvic exam performed on them by a medical student when they are under anesthesia if they were asked about it ahead of time.
  8. Most female patients would be upset if they later found out that a pelvic exam was performed on them by a medical student when they were under anesthesia without it previously being discussed with them.
  9. If a close female relative of yours was undergoing surgery, you would recommend that your female relative allow a medical student to perform a pelvic exam on them when they are anesthetized.
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**Figure 1** Non-demographic surveyed questions regarding medical students performing EUAs on female patients.

The survey was then distributed via an email link to OB/GYN Attending and Resident physicians, operating room nurses and surgical techs, anesthesiologists, CRNAs, and medical students at 4 hospitals and 2 medical schools in the Philadelphia, Pennsylvania, region. All of the survey hospitals had medical student rotators. As the process of obtaining informed consent is variable between providers and institutions, it was not specifically defined in the survey. The distribution of the survey was achieved by asking leaders in OB/GYN, anesthesia, nursing, and medical student clerkships to forward it to potential respondents. There was no financial incentive to completing the survey. Demographic data collected in the survey included OR role, age, and gender. Questions regarding perceptions of respondents were scored on a 5-point scale, from strongly disagree to strongly agree.

Data from the survey was imported into an Excel (Microsoft, Inc.) spreadsheet. Data analysis was performed both descriptively and analytically. Characteristics between the respondent groups were statistically compared using  $\chi^2$  test for independence and Fisher's exact test.

## Results

A total of 337 surveys from OR team members were completed by OB/GYN Attending physicians (13.1%), OB/GYN Resident physicians (6.5%), anesthesiologists/CRNAs (5%), OR nurses/techs (10.1%), and medical students (65.3%). All received surveys were complete. Overall, more women (59.6%) than men (40.4%) were surveyed. The large percentage of respondents in the under-30 age group was influenced by medical students, comprising 65.3% of those surveyed, with 90% of medical students being less than age 30. The ages of OB/GYN Attending and Resident physicians were more widely dispersed, with the largest number (28%) in the age 30–39 category (Table I).

A total of 72% of all respondents believed that permission should be obtained from female patients prior to the performance of pelvic examinations under anesthesia by medical students. Only 30% of respondents, however, believed that prior consent is usually obtained. When comparing medical students to OB/GYN Attending and Resident physicians, the students were more likely to strongly agree that patient consent should be obtained prior to a medical student performing a pelvic EUA ( $p=0.002$ ). When com-

paring male versus female respondents who responded in a nonneutral manner, slightly more female respondents (90%) than male respondents (82%) agreed that consent should be obtained ( $p=0.47$ ). Male respondents were more likely (16% vs. 8%) to disagree that consent prior to performing pelvic examinations under anesthesia on female patients was needed ( $p=0.01$ ). There was no statistical difference in perceptions regarding whether such consent should be obtained in the physician office or in the OR preoperative area.

A total of 50% of all respondents (56% of females vs. 42% of males) believed that female patients, if asked, would consent to having a pelvic EUA performed on them. When comparing medical students against OB/GYN Attending and Resident physicians, students (46% vs. 72%) were less likely to think that patients would consent to EUAs if asked ( $p<0.001$ ). 80% of all respondents believed that women would be upset if they were made aware that a pelvic EUA had been performed on them without their prior consent.

Overall, respondents mostly strongly agreed that OB Attending and Resident physicians should be able to perform EUAs. Only 32% of OR nurses believed that medical students should be allowed to examine anesthetized female patients, as compared to 93% of OB/GYN Attending physicians and 60% of medical students (58% of females vs. 64% of males) ( $p<0.001$ ). All groups of respondents had a more negative perception of multiple medical students as compared to only 1 performing a pelvic EUA on the same anesthetized female patient. While medical students do believe there

**Table I** Demographics of 337 Survey Respondents

	No. (%)
Age	
Under 30	215 (63.8)
30–39	53 (15.7)
40–49	32 (9.5)
50–59	20 (5.9)
Over 60	17 (5.0)
Gender	
Male	136 (40.4)
Female	201 (59.6)
Role	
Attending physician	44 (13.1)
Resident physician	22 (6.5)
Anesthesiology provider	17 (5.0)
Medical student	220 (65.3)
OR staff and nursing	34 (10.1)

is educational benefit in performing pelvic EUAs on female patients, it was to a lesser degree as compared to OB/GYN Attendings (87% vs. 93%,  $p < 0.05$ ). Additionally, 57% of survey respondents overall would recommend to their female relatives, if asked, to allow a medical student to perform a pelvic EUA on them. While it is for their educational benefit, only 53% of medical students would recommend to their female relatives, if asked, to allow a medical student to perform a pelvic EUA on them (as compared to 89% of OB/GYNs,  $p < 0.001$ ).

As compared to all other members of the OR team, medical students were less likely to believe it was appropriate for a student to examine a patient, less likely to believe there was an educational benefit, less likely to believe that patients would consent, and more likely to believe that patients would be upset if they learned that an unconsented examination had occurred.

### Discussion

Pelvic examinations under anesthesia on female patients performed by medical students commonly occur but have many ethical issues.<sup>6</sup> Such examinations may have educational benefit for the medical student but do not directly improve the patient's care. While prior research studies have primarily assessed perspectives on the topic of either medical students or patients, this study compared perceptions of multiple operating room team members who play different roles, including OB/GYN Attending and Resident physicians, operating room nurses and surgical techs, anesthesiologists, CRNAs, and medical students.

This study found that the majority of all OR team members surveyed (72%), regardless of their role, feel that female patient consent should be obtained prior to a medical student performing a pelvic EUA. Only 30% of OR team members, however, indicated their belief was that such consent usually happens. This finding of the common practice of EUAs on female patients being performed without obtaining the woman's consent across multiple hospitals goes against recommendations of both ACOG and the AMA.<sup>3,4</sup> The OB/GYN department at our institution, Einstein Medical Center Philadelphia, has a formal policy that prior consent should be obtained from a woman before allowing a medical student to perform a pelvic EUA.

This study also helps clarify perceptions of dif-

ferent OR team members regarding who should be allowed to perform pelvic EUAs on female patients. All respondents mostly strongly agreed that OB/GYN physicians, both Attendings and Residents, should perform such EUAs. This makes sense, as it may have a clinical impact upon the care provided. For example, a determination of uterine size during a pelvic EUA may guide the type and size of the skin incision for a planned abdominal hysterectomy or abdominal myomectomy. OR nurses and medical students were much less likely to approve of medical students also performing pelvic EUAs on these women. OB/GYN physicians had the strongest belief regarding the positive educational benefit for the medical student by doing a pelvic EUA. Medical students, and especially OR nurses, however, had a significantly dimmer view regarding the value and benefit it had for the student.

Our finding that almost 50% of medical students would not encourage their female relatives to consent to allowing a medical student to perform a pelvic EUA is interesting. It may reinforce the questionable view that the students have towards the educational benefit of such an examination. It also demonstrates a lack of altruism on the behalf of many of the responding medical students who have personally performed and possibly benefited by performing pelvic examinations on anesthetized female patients.

Overall, there did not appear to be much difference between genders in their responses. The one question with a difference in opinion was whether obtaining consent from the female patient was needed prior to a medical student performing a pelvic examination on them, with slightly more, but not to a statistically significant level, female respondents agreeing that prior consent was needed.

This study has several limitations. The overall response rate is unable to be calculated as the distribution of the survey was achieved by asking leaders in OB/GYN, anesthesia, nursing, and medical student clerkships to forward it to potential respondents. Whether or not consent was obtained and how frequently can also not be exactly determined. Another limitation is that it is heavily weighted towards medical students, who completed 65% of the surveys. The year in medical school of the students or whether they had completed an OB/GYN rotation yet was not asked. This also weighted the age distribution of respon-



dents, demonstrated by 63% being less than 30 years old. These factors could lead to bias based on generational differences or differences based on experience level. Additionally, career plans of the responding medical students were not recorded. Those students interested in OB/GYN may have found participating in a pelvic EUA on a female patient to be more educational as compared to their peers. We also did not survey regarding if it was preferable to obtain prior written or verbal consent from the patient.

Strengths of the study include that the large number of individuals surveyed were not just OB/GYN physicians and medical students, but also other members of the OR team, including OR nurses and surgical techs, anesthesiologists, and CRNAs. Additionally, by surveying from multiple hospitals and medical schools, the study is much more generalizable, as it avoided merely reflecting practice at a single institution.

In summary, despite the perception of all OB/GYN OR team members that consent should be obtained before medical students perform pelvic examinations on anesthetized female patients, consistent with recommendations of national organizations, this usually does not occur. While OB/GYN physicians hold strong perceptions that pelvic EUAs performed by medical students are

appropriate and have valuable educational benefit, such beliefs are less common for other OR team members. Even though pelvic EUAs on female patients benefit the medical students performing them, only half of medical students would recommend to their female relatives undergoing surgery, if asked, to allow a medical student to perform such an examination on them.

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