

# What Is New in Medical Student and Resident Education?

## Best Articles From the Past Year

Nathan S. Fox, MD



This month we focus on current research in medical student and resident education. Dr. Fox discusses four recent publications, which are concluded with a “bottom line” that is the take-home message. The complete reference for each can be found in Box 1 on this page, along with direct links to the abstracts.

(*Obstet Gynecol* 2016;128:201–2)  
DOI: 10.1097/AOG.0000000000001503

### National Cluster-Randomized Trial of Duty Hour Flexibility in Surgical Training

Owing to concerns for patient safety and resident well-being, the Accreditation Council for Graduate Medical Education (ACGME) instituted regulations in 2003 to limit resident duty hours; in 2011 further restrictions were imposed. However, there are limited data supporting the specific regulations implemented. In this study, Bilimoria et al randomized 117 U.S. general surgery residency programs to the 2011 ACGME guidelines compared with a more flexible policy that waived rules on maximum shift lengths and time off between shifts. Both groups maintained the requirements of a maximum of 80 hours per week

Dr. Fox is from Maternal Fetal Medicine Associates, PLLC, and the Department of Obstetrics, Gynecology, and Reproductive Science, Icahn School of Medicine at Mount Sinai, New York, New York; e-mail: nfox@mfmnyc.com.

#### Financial Disclosure

The author did not report any potential conflicts of interest.

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ISSN: 0029-7844/16

### Box 1. Abstracts Discussed in This Commentary

1. Bilimoria KY, Chung JW, Hedges LV, Dahlke AR, Love R, Cohen ME, et al. National cluster-randomized trial of duty hour flexibility in surgical training. *N Engl J Med* 2016;374:713–27. Available at: <http://dx.doi.org/10.1056/NEJMoa1515724>.
2. Guntupalli SR, Doo DW, Guy M, Sheeder J, Omurtag K, Kondapalli L, et al. Preparedness of obstetrics and gynecology residents for fellowship training. *Obstet Gynecol* 2015;126:559–68. Available at: <http://dx.doi.org/10.1097/AOG.0000000000000999>.
3. Nitsche JF, Shumard KM, Fino NF, Denney JM, Quinn KH, Bailey JC, et al. Effectiveness of labor cervical examination simulation in medical student education. *Obstet Gynecol* 2015;126:13S–20S. Available at: <http://dx.doi.org/10.1097/AOG.0000000000001027>.
4. Marko EK, Buery-Joyner SD, Sheridan MJ, Nieves K, Khoury AN, Dalrymple JL. Structured teaching of early pregnancy loss counseling. *Obstet Gynecol* 2015;126:1S–6S. Available at: <http://dx.doi.org/10.1097/AOG.0000000000001015>.

(averaged over 4 weeks), a full day off per week, and call no more frequent than every third night. In analyzing data from 138,691 patients, they found no difference in the rates of death or serious complications from surgery (9.1% compared with 9.0%,  $P=.92$ ) or in any secondary patient outcomes analyzed. Residents reported similar levels of dissatisfaction with their overall education (11.0% compared with 10.7%,  $P=.86$ ). Residents in the more flexible group were less likely to report perceived negative effects of duty-hour requirements on patient care and resident education, but they were more likely to report a negative effect on their levels of fatigue and personal and patient safety.



**Bottom Line:** Allowing a more flexible option for resident duty hours does not have a negative effect on patient safety or on residents' overall perception of their education and patient care. Residents with more flexible hours reported that it allowed for better patient care but that it had a negative effect on their personal time. It is still unknown what the most appropriate duty-hour requirements are for residents in training, because the effects on patient safety and resident education are mostly unknown.

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### Preparedness of Obstetrics and Gynecology Residents for Fellowship Training

Over the past several years, obstetrics and gynecology resident training has seen several changes, including restrictions on duty hours, increased supervision, an increasing required knowledge base, and advances in minimally invasive surgical options. These changes potentially could affect the preparedness of graduating residents for the next stage in their careers. Guntupalli et al surveyed 130 fellowship directors for female pelvic medicine and reconstructive surgery, gynecologic oncology, maternal–fetal medicine, and reproductive endocrinology–infertility using a modified version of a validated survey by the American College of Surgeons. Fellowship directors reported a high level of professionalism in their first-year fellows but low levels of independent practice, proficiency in anatomy and surgical skills, and academic scholarship. Only 20% of first-year fellows were able to independently perform a vaginal hysterectomy, 46% an abdominal hysterectomy, and 34% basic hysteroscopic procedures.

**Bottom Line:** The combination of reduced training hours and advances in surgical procedures and medical knowledge requires us to rethink how to train residents for fellowship and clinical practice.

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### Effectiveness of Labor Cervical Examination Simulation in Medical Student Education

Currently, the most common way to teach cervical examinations for women in labor involves a learner performing an examination before or after an examination performed by a teacher. This model could increase patient anxiety or discomfort, and prior studies demonstrate poor reliability. Given the ability to construct a training model for cervical examinations, this skill potentially could be practiced and improved on before examining a laboring woman. Nitsche et al randomized 98 third-year medical

students to cervical examination simulation training compared with vaginal delivery simulation training, with the latter group serving as a control for cervical examinations. The final examination involved examinations on 10 task trainers. The students who underwent cervical examination simulation training were more accurate in assessing dilation (73% compared with 52% exact, and 98% compared with 82% within 1 cm) and effacement (83% compared with 51% exact).

**Bottom Line:** Simulation models can be used to teach students the skill of cervical examination, potentially allowing them to achieve competency before examining women in labor. However, this study assessed competency only in a task trainer and not in actual women in labor. It remains to be seen how this training will translate into accuracy in actual cervical examinations.

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### Structured Teaching of Early Pregnancy Loss Counseling

Pregnancy loss is unfortunately very common. Although medical and surgical management of pregnancy loss is a routine part of medical student and resident education, there is less formal teaching of how to actually counsel patients during this emotional and stressful encounter. Marko et al randomized 77 medical students during their obstetrics and gynecology rotations. The study group received a formal curriculum of demonstration and role-playing for delivering bad news and a shared decision-making model for early pregnancy loss management; the control group received traditional instruction. Before instruction, the groups had similar pretest scores. The study group had significantly higher structured clinical examination scores (94.2% compared with 69.7%,  $P<.001$ ), higher postteaching confidence levels on a scale of 1 (high) to 5 (low) (1.57 compared with 3.62,  $P<.001$ ), and higher standardized empathy ratings on a scale of 1 (high) to 5 (low) (1.84 compared with 2.62,  $P=.002$ ).

**Bottom Line:** A structured curriculum for pregnancy loss counseling potentially can improve performance, confidence, and empathy for students during this frequent and difficult patient interaction. This suggests that formal training could improve our ability to counsel patients effectively and empathetically for many other complications of pregnancy, medical complications in general, and delivering bad news.

