Teaching the Female Breast and Pelvic Exam: A Student-and Patient-Centered Approach

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Abstract

Introduction: Breast and pelvic examinations are an important part of the complete physical examination of a female patient. Unfortunately, performing this type of exam may be anxiety- or fear-provoking for the novice learner. These areas of the body are sensitive, and a student’s own lack of knowledge, confidence, and experience in performing these types of examinations adds to the challenge of teaching these skills. Methods: This resource was developed for second-year medical students and consists of background reading, a video, and two hands-on sessions to facilitate learning. Depending on the number of learners, the lab can be completed in one afternoon session. The appended materials include a facilitator guide, student instructions, and video demonstrations of the female breast and pelvic exams. Results: A review of 4 years of session evaluation data (n = 866 students) revealed high levels of student satisfaction (97.9%) and improved levels of student confidence (95.6%) following the session. Discussion: This material could be useful for learners in both undergraduate and graduate health professions training, including nurse practitioners, nurse midwives, medical students, and interns in the fields of obstetrics and gynecology, family medicine, or internal medicine.

Keywords

Breast Self-Examination, Patient Simulation, Surgical Instruments, Sexually Transmitted Diseases, Mammography, Pelvic Exam, Breast Exam, Gynecological Examination, Women’s Health

Educational Objectives

By the end of this session, learners will be able to:

1. Describe specific actions the provider can take to minimize patient anxiety during the female breast and pelvic exams.
2. Outline key components of proper female breast and pelvic exams.
3. Inspect the breasts and nipples looking for skin changes, symmetry, contour, and retraction.
4. Perform a female breast exam, including assessment of the axilla and Tail of Spence.
5. Demonstrate correct patient positioning for the female pelvic exam.
6. Demonstrate preparation and insertion of the vaginal speculum.
7. Perform a bimanual exam assessing the uterus and adnexa.
8. Discuss best practices and potential pitfalls when conducting female breast and pelvic exams.

Introduction

A complete physical examination of a female patient includes evaluation of the breasts and pelvic organs to screen for breast cancer, cervical dysplasia, and cervical cancer. In the United States, breast cancer is the most commonly diagnosed noncutaneous cancer in women and accounts for 29% of all new cancer diagnoses annually.1 A woman’s lifetime risk of developing breast cancer is approximately one in eight.2,3 Techniques used to screen women for cancer include the clinical breast examination, mammography, and breast self-examination. While there is controversy around the optimal screening modality, visit frequency,
and female age, the American College of Obstetricians, American Cancer Society, and National Comprehensive Cancer Network all recommend an annual clinical breast examination for women 40 and older.\textsuperscript{4,5}

Since the introduction of cervical cancer screening, the incidence and mortality of cervical cancer have been dramatically reduced from what was once the primary cause and is now the fourteenth cause of cancer deaths in women.\textsuperscript{6} However, many other common gynecologic conditions such as fibroid tumors, ovarian cysts, sexually transmitted infections, and vulvovaginitis can also be identified via the pelvic examination, which is why the American College of Obstetricians and Gynecologists continues to recommend annual pelvic examinations for women 21 years of age and older.\textsuperscript{7}

Guidelines for performing female breast and pelvic exams exist\textsuperscript{5,8}; however, due to variation in the number of exams performed during training, confidence with the procedure varies amongst learners.\textsuperscript{9,10}

Considering the frequency of conducting both of these exams in practice, it is important to help novice learners overcome the anxiety and fear created by female breast and pelvic exams. Learners often feel embarrassed or even uncomfortable performing a breast or pelvic exam as they are sensitive areas of the body to examine, and this is further confounded by the learner’s lack of knowledge and experience. Teaching and learning the female breast and pelvic exams requires interpersonal communication skills, in addition to the basic technical skills, as the patient must consent to and understand what to expect during the examinations.

A review of the MedEdPORTAL literature reveals a variety of approaches to teaching the female breast and pelvic exams. Common techniques already published include Peled et al.’s student-to-student guide,\textsuperscript{11} Posner’s simulation-based sensitive examination workshop,\textsuperscript{12} an out-of-print web-based tutorial of the breast exam by Potter and Huang,\textsuperscript{13} and a video- and animation-enhanced self-learning module on the clinical breast exam by Simms-Cenden et al.\textsuperscript{14} While all of these approaches proved viable, they are unimodal. The current resource provides a one-stop, multimodal approach to teaching female breast and pelvic exams by providing background reading, video demonstrations, hands-on simulation, and live breast and pelvic exam labs. This combination of didactics followed by guided practice on inanimate models culminating in live performance of the breast and pelvic exams works extremely well not only for teaching these sensitive exams but also for providing the environment and opportunity for learners to understand and perform the exams with minimal anxiety and fear.

Methods

This resource is targeted to preclinical medical students who have basic knowledge in female reproductive anatomy, basic communication and physical exam skills, and prior experience working with standardized patients.

At University of Texas School of Medicine San Antonio, all 220 second-year medical students perform this lab during their reproductive endocrinology module. Successfully running the session for 220 learners requires running two sessions back to back for a total of 4 hours with the students broken up into two groups of 22 per afternoon session: The first group begins at 1:00 pm; the second group begins at 3:00 pm. This is repeated for 5 afternoons. The lab sessions are conducted in a clinical skills center at University of Texas School of Medicine San Antonio but can be modified to fit the space available at other institutions. The lab session outlined in the Lab Facilitator Guide (Appendix A) describes generic lab requirements with notes on potential modifications for different numbers of learners. For a successful session, the logistics and coordination must be very strict. When running the lab for large numbers of learners, the number of examinations per gynecological teaching assistant and faculty availability must be accounted for, and therefore, the planning and accurate scheduling for all staff cannot be emphasized enough.

Prior to arriving at the session, all students receive the Student Lab Instructions (Appendix B), which include the lab overview and the required prereading assignment from Bates’ Guide to Physical Examination and History Taking.\textsuperscript{15,16} Each session runs for 2 hours and starts with a brief introduction and
video demonstration of both the pelvic exam (Appendix C) and breast exam (Appendix D). Facilitators should ensure video equipment is set up and tested. It is useful to have audiovisual support personnel present during the first few sessions to assist in troubleshooting as needed.

Students then move to a separate room for 30 minutes of practicing techniques with inanimate models. They each get 15 minutes with the breast models and 15 minutes with the pelvis models. Working with fourth-year students to facilitate the inanimate model practice improves the efficiency of the lab sessions so that the lab coordinator can keep track of time.

Next, the students move into the exam room in small groups of three or four per room. There is one gynecologic teaching assistant (woman trained on how to instruct the pelvic exam and allow students to perform the exam on them) and either a faculty member or a trained senior medical student in each of the seven exam rooms. The facilitator first demonstrates the exams (see Appendix A for more details), and then every student performs a breast exam and pelvic exam (speculum and bimanual) on the gynecologic teaching assistant.

Our gynecologic teaching assistants have been recruited by the clinical skills center director (an RN) and myself (a practicing OB/GYN whose patients voiced interest in this position). The gynecologic teaching assistants are trained by our clinical skills center director and staff of standardized patient educators to provide general guidelines on conducting the female breast and pelvic exam (from the Bates textbook\textsuperscript{15,16}) with specific emphasis on the patient perspective (i.e., draping, language, professional demeanor). There is no formal scenario or role required since the faculty facilitator is the main educator teaching the exam skills.

Results

Since 2011, approximately 30 different faculty members (including OB/GYN staff, fellows in reproductive endocrinology, certified nurse midwives, certified nurse practitioners, and senior medical students) have participated as facilitators and helped improve the Lab Facilitator Guide for optimal implementation. Collectively, they have facilitated a well-received lab session for 866 medical students.

A review of 4 years of session evaluation data revealed high levels of student satisfaction (97.9%) and improved levels of student confidence (95.6%) following the session. This session has been incorporated into our reproductive health module curriculum and has been rated as highly effective by 97.6% of students. Additional feedback from the learners indicates universal appreciation for the stepwise learning approach and the amount of time and individual attention given. Learners appreciate individual feedback given by the gynecologic teaching assistants and have requested to view the video again during their OB/GYN clerkship as a quick refresher.

Discussion

This session addresses the need to improve performance of and reduce anxiety about the female breast and pelvic exams for relatively inexperienced learners. By providing detailed faculty instructions and learning points, learners will receive similar training experiences regardless of facilitator.

It is important to acknowledge that the video cannot and does not take the place of didactic instruction or a hands-on lab session, which is why we combined the two. However, the lab sessions as described are time and labor intensive and require financial resources. This may limit their use in smaller programs and institutions. One might consider using the video and inanimate models in this situation and defer the hands-on examination into the clinical years.

As this resource is currently presented to preclinical medical students, an obvious opportunity for further expansion would be to revisit the material later in the curriculum. Many learners will not have had exposure to or performed a pelvic and/or breast exam during the months leading up to their OB/GYN clerkship. Therefore, programs may consider using the video during clerkship orientation as a reminder of the components of the breast and pelvic exams. The video can be distributed via course management software as a reference for those learners interested.
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Ethical Approval
Reported as not applicable.

References

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