

Strategies to Create a More Gender Identity Inclusive Learning Environment in Preclinical and Clinical Medical Education

Laura Baecher-Lind, MD, MPH, Jill M. Sutton, MD, Rashmi Bhargava, MD, Katherine T. Chen, MD, MPH, Angela Fleming, DO, Helen Kang Morgan, MD, Christopher M. Morosky, MD, Jonathan Schaffir, MD, Tammy Sonn, MD, Celeste S. Royce, MD, Alyssa Stephenson-Famy, MD, and Shireen Madani Sims, MD, on behalf of the Association of Professors of Gynecology and Obstetrics Undergraduate Medical Education Committee

Abstract

Recognition of the spectrum of gender identities has been a recent phenomenon in the medical profession. Over the past 20 years, medical literature related to gender identity diversity has increased several-fold, yet it more commonly addresses clinical care rather than aspects related to medical education. Medical educators continue to struggle with appropriate language and inclusive approaches when discussing gender-based aspects of medical education. Reproductive

health education, including obstetrics and gynecology clerkships, is particularly vulnerable to missteps and anachronisms regarding gender identity.

This article aims to provide preclinical and clinical medical educators with strategies to identify and predict situations where missteps related to gender identity inclusivity may occur in their curriculum or learning environment, and to develop approaches to improve gender identity

inclusivity within medical education. The authors explore 3 areas that commonly pose challenges for medical educators: inclusive language and terminology, anatomy education, and reproductive genetics and genetic counseling. They hope the tools and strategies provided here will be useful to reproductive health medical educators across specialties to enable the realization of a more inclusive learning environment in reproductive health.

Recognition of the spectrum of gender identities has been a recent phenomenon in the medical profession. Before 2000, scientific literature related to gender largely recognized only 2 forms of gender expression—male and female. When gender nonconforming individuals were described in the medical literature, it was largely through a lens of pathology.¹ More recently, greater attention has been placed on the range of gender identities and the prevalence of gender diversity in society.² Over the past 20 years, literature related to gender identity diversity has increased

several-fold, yet it more commonly addresses clinical care rather than aspects related to medical education.³

Reproductive health education is particularly vulnerable to missteps and anachronisms regarding gender identity. Reproductive health courses in preclerkship years as well as obstetrics and gynecology (ObGyn) clerkships are steeped in a gender dichotomy. Topics such as female anatomy, male infertility, or maternal physiology commonly appear in preclerkship curricula. In classrooms or small groups, faculty struggle to educate concisely and effectively, while also avoiding less-inclusive terminology such as mother, woman, father, or man. Health care professionals commonly use gendered terminology in professional titles; for example, obstetricians and gynecologists who are fellowship trained in high-risk obstetrics are maternal-fetal medicine physicians. Additionally, units or entire organizations are often called maternity wards or women's hospitals. Patients similarly use gendered language in clinical encounters: patients may be interested to discover the gender of their fetus and many families plan elaborate gender reveal parties. Navigating these encounters with learners, while also

respecting patients' perspectives, emotions, and experiences, can be particularly challenging for educators caring for pregnant people.

Evaluations of ObGyn clerkships tend to be lower and rates of mistreatment and reporting a negative learning environment tend to be higher in ObGyn clerkships compared with other clerkships.^{4,5} Male-identifying students report fewer learning opportunities, a lower sense of inclusion on the team, and less mentorship during ObGyn clerkships based on their gender; similar data regarding transgender or gender nonconforming students is lacking.⁵⁻⁷ Improving gender-based inclusivity in the ObGyn clerkship may be part of the solution for improving students' experiences during and evaluations of ObGyn clerkships.

Yet the need to improve gender identity inclusivity extends beyond ratings or evaluations, as well as beyond the ObGyn clerkship. It is important to ensure that learners feel safe and valued in the classroom and across clinical settings.^{8,9} Data from the 2022 Matriculating Student Questionnaire administered by the Association of American Medical Colleges reveals that 2.4% of matriculating medical

Please see the end of this article for information about the authors.

Correspondence should be addressed to Laura Baecher-Lind, Tufts University School of Medicine, 145 Harrison Ave., Boston, MA 02111; email: laura.baecher_lind@tufts.edu.

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students identify as gender nonconforming.¹⁰ Medical educators should endeavor to make changes that are within their scope, and to advocate for changes that are outside of their immediate control, to ensure learners of all gender identities feel recognized and respected during these gender-steeped educational experiences and to model inclusive interactions that can ultimately improve health care experiences for gender nonconforming patients.^{9,11}

This article aims to provide preclinical and clinical medical educators with strategies to identify and predict situations where missteps related to gender identity inclusivity may occur in their curriculum or learning environment, and to develop approaches to improve gender identity inclusivity within medical education. We explore 3 areas that commonly pose

challenges for medical educators: inclusive language and terminology, anatomy education, and reproductive genetics and genetic counseling.

Inclusive Language and Terminology

Inclusive language and terminology is critical to disrupt outdated perspectives regarding gender identity and to ensure a respectful learning environment.^{8,12} All educators interacting with medical students should receive training on the use of inclusive language, including on the definitions and proper use of terms for gender identities that differ from the gender binary (Table 1).² Medical education leaders should provide resources for educators to expand their knowledge and familiarity with inclusive language and to ensure that educational

materials adhere to inclusive language standards. Checklists can be effective tools for ensuring that educational materials comply with diversity, equity, and inclusivity principles.¹³ Use of an inclusive language checklist specifically focused on gender identity may be similarly beneficial as educators develop materials and as curriculum committees or curriculum deans review course materials (Box 1).

As educators endeavor to improve sensitivity to gender identity variations and to become more adept at using inclusive language, some may use gender terms overemphatically or inaccurately, which may backfire. Learners recognize when educators fall back on the gender dichotomy, and also when educators use inclusive terms too broadly, too frequently, and/or improperly. These situations may occur in written form (syllabi, case scenarios, quiz or exam questions, or slide sets) or in verbal form (while an educator is speaking in a classroom or small-group session or during formal or informal conversations in the clinical setting). Examples of common scenarios where these well-intentioned, but potentially harmful, lapses in language may occur, along with suggestions for improvement, are compiled in Table 2.

Just as race and ethnicity should not be included in patient presentations or question stems unless they are salient to the case, sex or gender terms often do not need to be included unless they are salient to the case or patient care.¹⁴ For instance, there is generally no need to include terms such as cisgender female in patient stems; in fact, the term female or male often does not need to be included and the term person or patient would suffice. If the anatomic, hormonal, or social aspects of a patient's gender identity is required for the case, then the most specific and accurate term should be used. If a person is pregnant, that is all that is necessary for most case scenarios, question stems, or patient presentations involving pregnancy. That is, a case scenario or question stem can start, "A 34-year-old pregnant patient in the first trimester presents with...." Phrases such as pregnant female, pregnant woman, or pregnant cisgender female are generally unnecessary. If a patient presents with a painful scrotum, that information is all that is necessary for a learner to develop a differential and management plan.

Table 1

Definitions of Terms for Gender Identities That Differ From the Gender Binary^a

Term	Definition (describes a person who...)
Agender	Identifies as having no gender
Bigender	Identifies as having a combination of 2 genders
Pangender	Identifies as having more than one gender and/or inclusive of all genders
Gender fluid	Does not have a fixed gender identity; feels more like one gender at certain times and another gender at other times
Gender nonconforming	Expresses gender as different from societal norms for girls/women and boys/men
Genderqueer	Gender identity falls outside the gender binary (of girls/women or boys/men)
Gender nonbinary	Gender identity falls outside the gender binary (of girls/women or boys/men) or rejects the concept of gender
Transgender	Gender identity does not align with sex assigned at birth
Transfeminine	Was assigned male at birth and identifies with femininity to a greater extent than masculinity
Transmasculine	Was assigned female at birth and identifies with masculinity to a greater extent than femininity

^aAs terms and identities regularly expand and change, the terms in this table are neither all-encompassing nor fixed.

Box 1

Gender Identity Inclusivity Checklist for Medical Education Curricular Materials

Checklist to ensure educational materials are inclusive of gender identities across the gender diversity spectrum.

- Person-first language^a is used throughout
- Gendered information is included only when critical to the case or patient care; otherwise, terms such as person, patient, or individual are used
- Gendered terminology used is accurate and specific
- Case scenarios and/or patient presentations are conveyed without judgment or promoting stereotypes
- Included patient information is critical to diagnostic reasoning; nothing is superfluous

^aPerson-first language puts the individual before the descriptor, whether related to race, ethnicity, gender, medical diagnosis, social circumstance, or disability. Examples of person-first language include person with a disability rather than disabled person, individual experiencing homelessness rather than homeless person, or person with diabetes rather than diabetic.

Table 2

Common Scenarios Encountered in Medical Education Where Lapses in Gender Identity Inclusive Language May Occur and Suggestions for Improvement

Scenario	Example	Why this is problematic	Suggestion
Over-reliance on blanket disclaimers at the start of a course or clerkship	A reproductive medicine course includes a disclaimer in the syllabus about gender terms and does nothing further to address these concepts in educational materials or discussions	Learners may perceive a blanket disclaimer as a feeble attempt to address lapses concerning gender identity elsewhere in the curriculum and as insufficient to excuse those lapses.	Blanket disclaimers are acceptable to use but should not be used as an “all clear” for the remainder of the course. Appropriate terminology, inclusive language, and other aspects of inclusive teaching should be included throughout a course or clerkship.
Overuse or inaccurate use of “cis-” prefix	An educational session entitled “Pelvic floor prolapse in the cisgender female”	Pelvic floor prolapse can be experienced by non-cisgender female identities, such as transmasculine or genderqueer individuals, so the use of the specifier cisgender female is unnecessary and not inclusive.	Use gendered terminology only if it is relevant and necessary for the case scenario or patient presentation. Include “cis-” terms if needed to distinguish from other gender identities. Consider whether the terms person or patient could be used instead.
Gender identity terminology is used too broadly or inaccurately	A lecturer refers to “female, male, and nonbinary patients” throughout a lecture in an effort to be inclusive	The lecturer is using the term nonbinary along with male and female as though these 3 terms are all-inclusive. Other gender identities can feel unrecognized and/or dismissed.	Ensure that gendered terminology is used only when necessary, and when it is used, that it is accurate and specific.
Gender nonconforming patients are portrayed in scenarios that promote stereotypes	A question stem involving a transgender patient portrays the patient as having high-risk sexual behaviors	When gender nonconforming patients are represented in cases or question stems, care should be taken to ensure that the included information is relevant to the case and also that it does not promote negative stereotypes.	In such question stems or cases, high-risk sexual behaviors are the necessary information to include, not the gender identity. Include gender identity information only if it is necessary and relevant to the case or patient care.
Casual or colloquial terms are used in the clinical setting to describe pregnant people	A laboring patient is referred to as “mom” by the health care team caring for them	Although many patients identify as the mother or mom of their newborn, others do not feel comfortable with these terms.	Referring to the patient by their name would be preferable and avoid discomfort for the patient or for learners or other members of the health care team.

Phrases such as “male presenting with...” or terms such as cisgender male are similarly generally unnecessary. In situations that could affect any person, such as infertility or sexual dysfunction, enough clinical information for the learner to understand the anatomy, physiology, and therefore, to develop a differential and management plan should be provided (e.g., “a 38-year-old cisgender female presents with inability to conceive over the past 2 years....”). In these cases, standard language decided on by the medical education leadership should be used consistently. In conditions where the gender of a patient is irrelevant, such as asthma or bursitis, gender can be excluded altogether from the clinical information provided. Best practice is to include only the information that is necessary to the case, to take a person-first approach to presenting patients in cases or question stems, and to be consistent in this approach.^{2,14}

Anatomy Education

Anatomy education, including embryology, histology, and anatomic

pathology, are areas of medical education that are particularly prone to using a dichotomy of biologic sex and gender. While teaching the typical anatomic differences based on biologic sex, educators should be sensitive to the use of oversimplified language. Cadavers are regularly identified according to their biologic sex, as male or female, based on anatomic features. Not only does this stratification not recognize intersex individuals, but it also may erroneously conflate biologic sex with gender. Indeed, many cadaveric programs now inquire about the donor’s gender identity and pronouns and share this information with learners and instructors so that they use the appropriate pronouns when discussing the cadaver.

Early Western anatomists have historically used bodies of executed criminals or illegally exhumed bodies of poor or otherwise marginalized individuals to advance scientific knowledge of human anatomy.¹⁵ These bodies were most often male, which has led to an overrepresentation of male bodies in depictions of nonreproductive anatomy, thus establish-

ing the norm for the musculoskeletal system and neuroanatomy as that of a male body. In contrast, female bodies tended to be studied and portrayed for their reproductive systems, specifically with regard to fertility, pregnancy, and lactation.¹⁶ Recognition of bodies as anything other than the traditional girls/women or boys/men dichotomy is a recent phenomenon. Although educators and learners intellectually recognize that donors may have identified as a gender that differed from their physical representation, such nuance may get lost when focused on the physicality of the human body that is inherent to anatomical dissection.

Anatomy educators or clinical educators discussing anatomy may find themselves using gender dichotomous terms to describe anatomy, such as female anatomy or male reproductive tract. When documenting physical examination findings, the abbreviation NEFG (signifying normal external female genitalia) can be replaced with NEG (signifying normal external genitalia) or TEG (signifying typical external genitalia). Using specific anatomical terms both in

relaying and documenting physical examination findings, such as vulva, scrotum, and perineum, can provide even more specificity, particularly for patients with intersex genitalia. Another strategy may be to refer to structures arising from the Mullerian tract or Wolffian duct when referring to internal reproductive anatomy and to genitalia arising from fetal testosterone exposure or genitalia arising from the absence of fetal testosterone when referring to external reproductive anatomy. However, such an approach assumes learners understand the embryology of sexual differentiation, which may not be the case, and so should be used with caution.

In situations where greater accuracy of gender terminology would inhibit the learning objectives or educational intent of the session, educators may opt to use a disclaimer or other overarching explanation of how gendered terminology will be approached (Box 2). As an example, a session may be entitled “Female Pelvic Anatomy” (which indicates to learners the anatomical structures that will be addressed during the educational session) while also clarifying in the explanation that the educators recognize the shortcomings inherent in the title of the session. When such overarching explanations are used, best practice would be to have the statement available in more than one place. That is, the contextualizing statement may be posted on the landing page of a course website, discussed at an introductory session to the course, and can also be acknowledged at the start of an educational session.

Reproductive Genetics and Genetic Counseling

Reproductive genetics and genetic counseling are other areas of medical education that are historically steeped in a gender and sex dichotomy. Since its inception, the study of genetics has focused on the inheritance of gametes from a female and a male contributor.¹⁷ The hallmark of genetics, the pedigree, relies on a conceptualization of existence arising from genetic comingling between a female (represented by a circle) and a male (represented by a square). Variations are limited to whether an individual is affected by a condition or not (solid or empty symbol, respectively) and whether an individual is living or deceased (no slash or

slash through the symbol, respectively). Nuances related to gender identity are not traditionally recognized in medical genetics nor represented in genetic pedigrees.

Strategies to be more inclusive of nonbinary gender identities that medical educators can undertake when teaching genetic concepts include providing an explanation upfront that addresses the dichotomy inherent in reproductive genetics, including inheritance related to X- and Y-linked

genetic conditions, and how terminology and symbols will be used. Educators can refer to parentage or parental lines rather than using a male/female or maternal/paternal dichotomy.^{18,19} Similarly, terms such as sperm contributor or oocyte contributor can be used. While not standard practice, pedigree symbols that represent transgender individuals have been developed, which can be used both in classroom environments as well as in clinical encounters. These inclusive

Box 2

Examples of Disclaimers or Explanations of How Gendered Terminology Will Be Approached in a Medical Education Setting

“You will encounter gendered language at times in this course. Figures or data may be presented to you that were derived from organizations or medical literature that use language to describe people as women/men, female/male, or boys/girls. Educators may opt to generalize concepts—especially those related to anatomy or physiology (including embryology and endocrinology)—by referring to either ‘female’ or ‘male’ biologic sex in order to educate clearly and efficiently. We recognize that this language is overly simplistic and that the use of gender terms is not inclusive and potentially harmful to patients as well as learners, especially those that are gender diverse or intersex. For nonreproductive medical conditions, such as asthma or headache, it may not be necessary to include sex and gender in clinical discussions. However, in reproductive health, it is often critically important to identify patient sex to better address their reproductive health concerns. We strive to be inclusive in our course and welcome feedback and collaboration as we develop these materials year to year.”^a

“[The] Association of Professors of Gynecology and Obstetrics [APGO] recognizes that people come from different backgrounds and may identify with varying races, ethnicities, sexual orientations, and gender identities. We have followed the APGO DEI guidelines for the development of assessment tools. For the purposes of our clinical vignettes, it is our current practice to refer to patients as women or female with she/her pronouns, unless otherwise stated. This is being done to provide consistency for our learners so they may focus on the content of the question.”²⁰

Abbreviation: DEI, diversity, equity, and inclusion.

^aThis example was authored by the authors of this article.

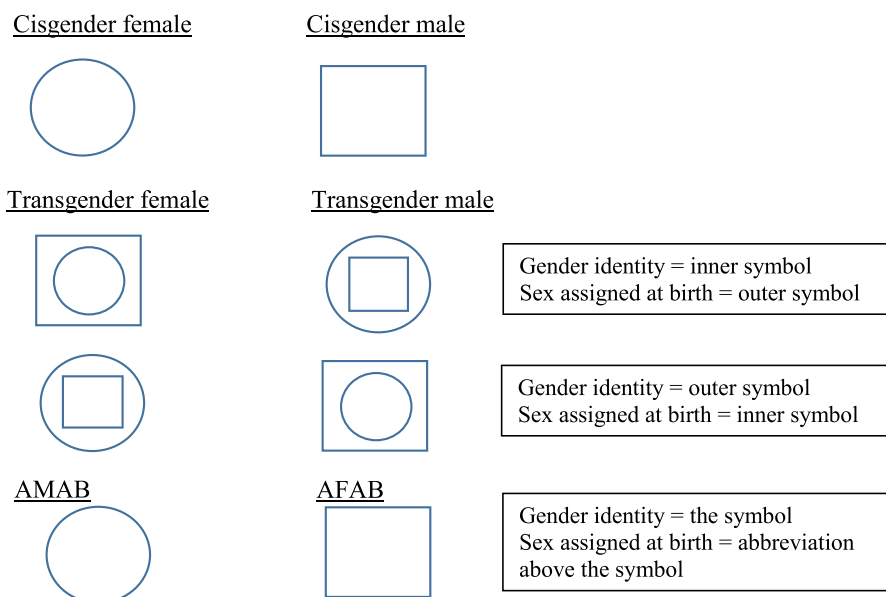


Figure 1 Examples of gender identity inclusive pedigree symbols. Abbreviations: AMAB, assigned male at birth; AFAB, assigned female at birth. Adapted with permission of John Wiley & Sons, Inc., from Barnes H, Morris E, Austin J. Trans-inclusive genetic counseling services: Recommendations from members of the transgender and nonbinary communities. *J Genet Couns*. 2020;29:423–434¹⁸; permission conveyed through Copyright Clearance Center, Inc. ©2019 John Wiley & Sons, Inc.

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symbols typically depict traditional symbols embedded within one another or use the symbol that is consistent with a person's gender identity and the code AFAB or AMAB (for assigned female at birth or assigned male at birth, respectively) listed above the upper left corner. Examples of these inclusive symbols are depicted in Figure 1.¹⁸ Best practices during clinical encounters with transgender patients seeking genetic consultation include acknowledging the limitations of genetics to capture gender identity nuances, validating the patient's gender identity, and providing clarity about the importance of gender identity and sex assigned at birth in genetics.¹⁹

Conclusions

Medical educators may find themselves in the unsettling position of being educated by their learners when it comes to gender identity. Improving how medical educators understand and communicate about gender and gender-related medical concepts will foster a respectful, safe, and nontraumatizing educational experience for learners, particularly those that are gender identity diverse, and also improve clinical care of gender nonconforming patients for generations to come.⁹ We hope the tools and strategies provided here will be useful to reproductive health medical educators across specialties to enable the realization of a more inclusive learning environment in reproductive health.

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L. Baecher-Lind is professor and dean for educational affairs, Tufts University School of Medicine, Boston, Massachusetts.

J.M. Sutton is clinical associate professor and director of undergraduate education, Department of Obstetrics and Gynecology, East Carolina University (ECU) Brody School of Medicine, ECU Health Medical Center, Greenville, North Carolina.

R. Bhargava is assistant professor and provincial undergraduate chair, Department of Obstetrics and

Gynecology, University of Saskatchewan College of Medicine, Regina, Saskatchewan, Canada.

K.T. Chen is professor of obstetrics, gynecology, and reproductive science and of medical education and system vice-chair of obstetrics and gynecology education, Icahn School of Medicine at Mount Sinai, New York, New York.

A. Fleming is residency program director, Department of Obstetrics and Gynecology, Corewell Health, Farmington Hills, Michigan.

H.K. Morgan is professor, Department of Obstetrics and Gynecology, University of Michigan Medical School, Ann Arbor, Michigan.

C.M. Morosky is associate professor and clerkship director, Department of Obstetrics and Gynecology, University of Connecticut School of Medicine, Farmington, Connecticut.

J. Schaffir is professor and vice chair of education, Department of Obstetrics and Gynecology, The Ohio State University Wexner Medical Center, Columbus, Ohio.

T. Sonn is professor and vice chair for education, Department of Obstetrics and Gynecology, Washington University School of Medicine, St. Louis, Missouri.

C.S. Royce is assistant professor, Department of Obstetrics, Gynecology, and Reproductive Biology, Harvard Medical School, and director of undergraduate medical education, Department of Obstetrics and Gynecology, Beth Israel Deaconess Medical Center, Boston, Massachusetts.

A. Stephenson-Famy is associate professor and associate residency program director, Department of Obstetrics and Gynecology, University of Washington School of Medicine, Seattle, Washington.

S. Madani Sims is professor and vice chair of education, Department of Obstetrics and Gynecology, University of Florida College of Medicine, Gainesville, Florida.

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