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Transgender Pediatric Surgical Patients – Important Perioperative Considerations

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Summary

Transgender describes a variety of identities in which an individual's gender identity is different from expected based on the sex assigned at birth. In the United States, it is estimated that over 1 million adults and 150,000 youth identify as transgender, with increasing numbers being seen in healthcare and surgical settings. These numbers will continue to rise as visibility and acceptance grows. Current guidelines recommend transition-related surgeries be reserved for older adolescents and adults. However, this is not the only circumstance in which the pediatric anesthesiologist may find themselves caring for a transgender patient. In order to provide the safest and most affirming care, it is crucial that the pediatric anesthesiologist

develop a working knowledge of this unique and vulnerable population, including the potential impacts of gender-affirming treatment on their perioperative care.

Keywords child, adolescent, transgender persons, gender-variant persons, perioperative care, culturally competent care, anesthesiologists

MAIN TEXT

Introduction

In the United States, it is estimated that approximately 0.6% of adults and 0.7% of youth aged 13-17 identify as transgender. This equates to roughly 1.4 million adults and 150,000 youth^{1,2}. It is difficult to know the true prevalence of the population as there is no “one-fits-all” label to capture all individuals whose gender identity may be different from their assigned sex³. Additionally, clinical literature has historically conflated gender identity with sexual orientation, and many official records have collected only data on legal sex but not about gender identity⁴. Though visibility and mentions of transgender individuals in the media and literature have been increasing, it is unclear if this represents a growing prevalence or simply an increasing awareness of the population and focus on collecting more accurate demographic data outside of merely legal sex.

Several studies indicate that more youth identify as transgender than previously thought^{5,6}, suggesting that prior numbers may be vast underestimates. Certainly, as society becomes more aware and accepting of gender variance, it is likely that more individuals will feel comfortable coming out as transgender and may do so at a younger age. It can therefore be expected that more transgender youth may be encountered in the perioperative setting, a trend already seen in the adult population⁷. Pediatric anesthesiologists should be aware of the unique characteristics and vulnerabilities of this population in order to provide the best and most affirming care. The aim of this article is to present the reader with the basic knowledge needed to achieve this goal.

Terminology

Essential to taking care of a transgender patient is an understanding of basic terminology and the use of a common language (TABLE 1). The language of the community is ever-evolving, and differences in usage may be observed among community members of different ages, cultural backgrounds, or sub-populations. However, fundamental to the discussion and understanding of transgender identity, is the recognition that gender and sex are different concepts, despite their often-interchangeable use. *Sex* is a characteristic assigned to a person at birth by someone else, usually on the basis of anatomic appearance of genital organs or chromosomal makeup (e.g. male, female, intersex). *Gender* is more difficult to define, often describing

behavioral, social, or cultural aspects of being male or female. Western cultures have mostly observed gender as a binary system consisting of two options, man or woman, which remain constant throughout life. A more inclusive way of viewing gender is that of a continuum between the masculine and feminine where an individual may fall anywhere along the spectrum. An individual's internal sense of where their own gender falls along the spectrum encompasses their *gender identity*, and it may be fixed or fluid over time. In contrast to sex, this is not a characteristic that another person assigns, but one that is innate to an individual. The way in which a person conveys their gender identity to the outside world is through their *gender expression* which includes, but is not limited to, their clothing, hairstyle, mannerisms, etc. (FIGURE1).

Gender identity and sex assigned at birth may or may not be congruent with one another. When congruent, a person may be described as *non-transgender* or *cisgender*. An example of this is an individual who is assigned male at birth and grows up identifying as a boy or man. *Transgender* is a term used to describe an individual whose gender identity does not align with the sex assigned at birth. An example would be an individual who is assigned male at birth but grows up identifying as something other than a boy or man. As an umbrella term, transgender is often used to describe a variety of related identities including transgender, genderqueer, gender non-conforming, non-binary, gender-fluid, agender, gender-diverse, or any number of other similar identities. It is important to remember, however, that not all individuals falling into these groups may identify with the label transgender. Some, but not all, transgender people may experience *gender dysphoria* which refers to distress that one may experience because of the incongruence between one's experienced and assigned gender. Specific diagnostic criteria for gender dysphoria in children, adolescents, and adults can be found in the fifth edition of the American Psychiatric Association Diagnostic and Statistical Manual of Mental Disorders (DSM-5)⁸.

Gender development and trajectory

Gender identity development in children occurs throughout early childhood but is generally thought to start stabilizing by the age of 3-4 years. Children naturally explore and experiment with ways of expressing gender as part of normal development. For some children, the ways in which they express themselves may be in contrast to the typical or expected societal norms, and this behavior may be labeled as *gender-expansive* or *gender diverse*.

Gender-diverse children are not necessarily transgender; many have a gender identity that is consistent with their assigned sex but simply do not conform to society's stereotypes of typical gendered behavior. In the majority of cases, their gender dysphoria will *desist*, and they will grow to be non-transgender adults. There exists a subset of these children, however, that will experience a gender identity different from their assigned sex and whose gender dysphoria will *persist*. Rates of persistence vary among studies from 2-27%⁹. Persistence into adolescence is one factor associated with a greater probability of persistence into adulthood. Other factors that may predict persistence include a higher degree of gender-variant behavior, more intense gender dysphoria and body discomfort, or older age at presentation^{9,10}. Differentiating the child with simply gender-diverse behavior from one that is transgender should be left to a multidisciplinary team of experts who know the child well, and discussion of proper assessment is beyond the scope of this article.

Historically, there have been several approaches to managing these patients. Several major professional organizations including the American Academy of Pediatrics (AAP), American Psychiatric Association (APA), and the American Academy of Child and Adolescent Psychiatry (AACAP) endorse a *gender-affirming approach* in which focus is placed on what the child says about their own gender identity and allows for them to determine the gender expression that makes them most comfortable¹¹⁻¹⁴. This is in contrast to non-affirmative approaches that either delay interventions until the child reaches adolescence or adulthood (delayed transition approach) or aim to "correct" the gender-expansive behavior (conversion/reparative approach). Conversion therapies are now considered unethical¹¹⁻¹⁶.

Transgender Youth as a Vulnerable Population

Whether a young person is transgender or simply exhibits gender-expansive behavior, they may be equally at risk for experiencing mistreatment and healthcare disparities. The 2015 U.S. Transgender Survey, the largest survey to date to examine experiences of transgender people in the U.S., revealed staggering levels of mistreatment, harassment, and violence across a multitude of areas impacting the respondents' lives. Specifically in regards to healthcare, about one third of respondents reported a negative experience (treatment refusal, harassment, assault, or need to teach the provider) when seeing a health care provider and approximately one quarter reported delaying treatment for fear of being mistreated. This study also

pointed out levels of psychological distress and suicidality that were nearly nine times the rates of the general U.S. population^{17,18}

While the U.S. Transgender Survey included only adults, studies in youth have demonstrated similar vulnerabilities. Transgender youth, when compared to their cisgender peers, are more likely to experience bullying^{6,19}, to have comorbid psychiatric illness like anxiety or depression^{6,15,20-22}, to have issues with substance abuse⁶, to have inflicted self-harm²⁰⁻²², and to have thought about or attempted suicide^{6,19-22}. As in adults, the numbers regarding suicidality are striking. Reported rates vary among studies but are consistently elevated. For instance, data from the 2016 Minnesota Student Survey indicated that ~60% of transgender and gender nonconforming youth had suicidal ideation and ~30% had made a suicide attempt. These rates were about 3-fold higher than in cisgender youth⁶. A study of youth in New Zealand found a similar rate of attempted suicide in the previous year by transgender youth¹⁹. Another study of Canadian youth reported 5x the risk of suicidal thoughts compared to cisgender youth²².

These youth also have lower rates of protective factors such as the ability to appropriately express their feelings, a sense of family connectedness or support, good student-teacher relationships, and feelings of safety in their communities^{6,19}. They may suffer from high rates of homelessness and violence with the possibility of discrimination and mistreatment existing at home, at school, and in their greater community. Siblings and other family members may be affected as well. It is also important to note that for youth whose identities encompass additional marginalized or minority groups, there may be additional layers of discrimination and vulnerability to consider.

The pediatric anesthesiologist should be cognizant of the potential impact these issues may have on the patient-provider relationship or on perioperative anxiety and coping.

Transitioning

Transition, or gender affirmation, describes a process of steps, both medical and non-medical, that a person may take in order to start living more authentically in their affirmed gender. While the media tends to focus on the medical and surgical aspects of transition, a significant process is that of *social transition*. During this time, a child is allowed to choose how they are going to express their gender to the greater world. This may include steps such as wearing different clothing or hairstyles, asking to be called by a different

name, and using a different set of pronouns to refer to themselves. This is a time where the child may also take steps to integrate themselves into affirmed familial and societal roles by using bathroom and locker room facilities, participating in extra-curricular activities (sports teams, scouting, etc.), and taking on family responsibilities according to their affirmed gender. Social transition interventions are completely reversible, and for young gender-expansive children represent the only treatment available. Current guidelines recommend that the decision to proceed with social transition in prepubertal youths is made with the assistance of a qualified mental health provider or other experienced professional^{15,23}

Once a child has reached puberty, feelings of gender dysphoria may arise or intensify as physical and hormonal changes begin. At this point, one may opt for one or more treatments considered to be part of *medical transition*. This may include the use of gonadotropin-releasing hormone agonists, “*puberty blockers*,” to temporarily suspend the development of secondary sex characteristics until a later age. These drugs, the same ones that have long been used to treat precocious puberty, should be prescribed by qualified practitioners. They may be formulated as an injection or as an implant which may require anesthesia or sedation to place. Current guidelines (TABLE 2) for their use in transition recommend against puberty blockers in pre-pubertal children, waiting to initiate treatment in adolescents who have reached Tanner Stage 2^{15,23}. Still considered reversible, discontinuation will result in the resumption of puberty based on the patient’s assigned sex. Long-term effects of these treatments on adolescent bone and brain development, future fertility, and results of subsequent surgical intervention are still being investigated^{23,24}.

Older adolescents may be offered *gender-affirming hormone therapy*. Therapies include androgens (testosterone) for affirmed males and estrogens and/or androgen-blockers (spironolactone) for affirmed females. Because of the partial irreversibility of these therapies, current guidelines suggest waiting until a patient has sufficient medical capacity to give informed consent prior to initiating, which is generally by age 16. However, there may be special circumstances which compel treatment at an earlier age (13.5-15 years)^{15,23,25}. Patients being treated with puberty blockers or hormone therapy should undergo regular monitoring according to published guidelines.

For older adolescents and adults, *surgical transition* may also be sought. Surgeries can be divided into general categories. “Top” surgery usually refers to procedures on the chest and may include breast augmentation or mastectomy. “Bottom” surgery may refer to the removal of reproductive organs or genitalia (e.g. orchiectomy, penectomy, hysterectomy) or may refer to surgeries aimed at genital

reconstruction (e.g. metoidioplasty, vaginoplasty, phalloplasty). Additional procedures may include those involved with fertility, voice alteration, or facial reconstruction. Currently, guidelines restrict genital surgery to individuals older than age 18 (or the age of majority), but allow for breast surgery in affirmed males earlier on a case-by-case depending on the physical and mental health status of the individual^{15,23,26}. For example, the minimum age for chest surgery at the Center for Gender Surgery at Boston Children's Hospital is 15²⁷. Genital surgeries are also sometimes performed earlier outside of the recommendations on a case-by-case basis^{27,28}. Importantly, surgeries for transgender individuals are medically necessary procedures, proven to improve dysphoria, mental health, and quality of life^{26,29–33}, and should not be viewed as elective^{14,15}.

The entire process of transitioning is extremely individualized with no best way or time to transition. It will be up to each child and family, with guidance from knowledgeable mental health and medical practitioners, to determine which steps of transition make sense for them and the appropriate timing for each.

Anesthesia and Perioperative issues

Because current standards recommend that gender-affirming surgery be offered to adults and occasionally older adolescents, it's likely that the pediatric anesthesiologist's role will mainly be outside of gender-affirming surgical care and will be to provide clinical care and advocacy for these children during routine or emergent surgeries. The following section will address areas of potential interest for the anesthesiologist.

Self-identification and demographic information

Prior to meeting the patient, it would be ideal to have information regarding their preferred name, their gender identity, and the pronouns they use (TABLE 3). Some medical systems include these items on their intake forms and some electronic medical records allow for easy identification of these items. If this information is not readily available, it is preferable to ask the patient directly and allow them to self-identify^{34,35}. Making an assumption about another person's identity is not acceptable. Current best practice is to use a two-step question that asks about gender identity separately from sex assigned at birth³⁶. Once

this information is known, a priority should be placed on using the name, pronouns, and other language that reflects the patient's identity and helping to ensure that this information follows them throughout the encounter. This includes intraoperatively, even if the patient is under general anesthesia. However, attempts to clarify if it is okay to use this language around others should be made in order to avoid accidentally revealing a patient's gender identity against the patient's wishes.

Additionally, the practices of *dead-naming*, using the patient's former name if known, or *misgendering*, deliberately using the wrong pronouns, should be avoided. Not only crucial to establishing rapport and aiding in building a patient-physician relationship, the use of chosen name and pronouns may have greater impact on the patient's overall health, with one study demonstrating statistically significant decreases in rates of depression, suicidal ideation (~1/3 decrease) , and suicidality (~1/2 decrease) in those youth who were able to use their chosen names³⁷. Thus, using a patient's chosen name and pronouns may be the most important action one can take. For practitioners who may find it difficult to reliably use a patient's pronouns, this author would suggest instead to use the patient's name until such a time when reliable use is possible.

Preoperative Anxiety

As previously mentioned, these youth have many factors that could contribute to increased perioperative anxiety. It may be beneficial to consider premedication, when appropriate, or consultation with child-life services to help facilitate clinical care.

Medications

An investigation of a patient's medications may reveal the use of puberty blockers or gender-affirming hormones. There are no known clinically-significant drug-drug interactions among common anesthetic medications and those medications used in gender-affirming hormone therapy³⁵ or puberty blockers.

There has been concern that the risk of perioperative thromboembolic events may be higher in those individuals on hormone therapy, especially in regards to estrogens^{34,35,38}. It has been a common practice to

hold hormones for several weeks in these patients prior to elective surgeries to help mitigate these events, without strong evidence to support the practice. Much of the previous data came from studies of hormone replacement therapy in cisgender women where different medication regimens were utilized. A recent meta-analysis looked at drugs used in cross-sex hormone therapy and perioperative thrombotic outcomes, though only one of the 18 included studies specifically looked at the use of these medications in transgender patients. Additionally, there were no studies identified that involved pediatric patients or puberty suppression therapies. From this systematic review, the group did not find evidence to support routine discontinuation of testosterone or spironolactone, but in regards to estrogen the evidence was less clear, with the need to consider individual risk factors essential to making the ultimate decision³⁸. Moreover, holding gender-affirming hormones perioperatively may not be benign; patients may experience unwanted side effects including mood swings, hot flashes, reversal of desired masculinizing or feminizing effects, and psychological distress³⁵.

Laboratory testing

For those patients on hormone therapy, changes in laboratory values are expected and may be used to help monitor therapy. As some of these tests may be part of the perioperative workup, it is important for the anesthesiologist to be aware of these potential variations. Unfortunately, the ways these values may change is not always consistent or predictable. Studies in adult populations have demonstrated a variety of findings, with the same lab values increasing, decreasing, or not significantly changing among different studies^{34,35,39} (TABLE 4).

In general, lab profiles will shift to be more like that of the affirmed gender but will depend on the therapy type and duration. For those patients on testosterone therapy, an increase in hematocrit is usually observed, as well as changes to the lipid and liver profiles. For patients on estrogens, the opposite may be true, and for patients using spironolactone as an anti-androgen, there may be an increase in serum potassium^{34,39}. In a retrospective study of lab values in a group of adolescents on hormone therapy, Jarin et al observed statistically significant increases in hemoglobin, hematocrit, and BMI and decreases in LDL levels in affirmed males on testosterone but did not observe any statistically significant differences in measured metabolic parameters in those affirmed females on estrogen therapy. In the subjects also taking

spironolactone, a significant change in potassium levels was not observed, though one subject did experience an elevated level at 5.1mEq/L which normalized with dose adjustment.⁴⁰

When looking at lab values, it is also important to do so according to appropriate reference values. Because a patient's affirmed gender may not match the gender in the laboratory or EMR system and many reference values are gender-specific, careful attention may be needed to ensure that values are correctly interpreted as normal or abnormal³⁴. It has been suggested that it is probably appropriate to use references for the affirmed gender after ~6 months of hormone therapy^{35,39}. However, a study by Roberts et al. of 55 affirmed females on hormone therapy found that measured lab values fell into male, female, and intermediate ranges, calling out the need for transgender-specific ranges to be determined as they have yet to be established.⁴¹ Ultimately, whether or not lab changes will be significant in the perioperative period will depend on the individual patient's comorbidities and planned procedure.

Pregnancy testing

Perioperative pregnancy testing should be conducted for any patient for whom pregnancy is a possibility, in accordance with local standards for adolescent screening. This includes any individual possessing a uterus and ovaries who engages in receptive vaginal sex with a partner who produces sperm. As it is not usual practice to ask cisgender adolescents specifically about sexual behaviors in the preoperative setting but to instead rely on screening policies based solely on age and sex, this author would recommend a similar practice for all youth based on age and current anatomy. Practitioners should keep in mind that this may apply to affirmed males who still have ovaries or a uterus and who may or may not be on testosterone therapy. Testosterone is not a substitute for birth control and pregnancy has occurred while amenorrheic from testosterone^{25,42}. Similarly, in an affirmed female who lacks these reproductive organs, a pregnancy test can be excluded.

Chest binding

Chest binding may be encountered in some adolescent patients and describes a practice of compressing chest tissue in order to create a flatter-appearing chest. In some cases, binding may be an

interim practice prior to undergoing top surgery. Methods vary and include the use of common household items like duct tape or plastic wrap, wearing multiple sports bras or layers, the use of elastic or compression bandages, wearing compression athletic wear, or wearing commercially available specially-designed compression garments called “binders”^{43,44}.

There are concerns that binding may have long-lasting health impacts, though these have not been fully investigated or described. Reported outcomes suggest binding may be implicated in pain, musculoskeletal, neurologic, gastrointestinal, respiratory, and dermatologic complaints⁴⁴. Of relevance to the anesthesiologist is the potential impact on respiratory mechanics, pain, and perioperative anxiety and coping. This author found only one abstract related to the impact of binding on pulmonary mechanics. In this small study (n=20 adults) of habitual binders, Cumming et al. looked at chest circumference, posture, and spirometry of the participants with and without the use of their binders. They found an abnormally high FEV1/FVC ratio at baseline, not affected by applying the binder, as well as decreased chest circumference, SVC, and FVC when wearing the binder. While statistically significant, the changes in median SVC and FVC were only ~100ml and may not be clinically significant, especially in the absence of comorbid lung disease. Additionally, the abnormal baseline values may not represent a chronic effect of binder use but may be a coincidental finding. The group acknowledges their study was limited by size, timeframe, and lack of controls⁴⁵.

Respiratory complaints were also reported by Peitzmeier et al. In their survey study, which included 1800 adults who practiced regular binding, 97% of participants reported at least one negative outcome attributed to binding, and about half had a respiratory complaint (cough, shortness of breath, infection)⁴⁴. This is limited by the fact that these are self-reported data from volunteer survey participants. This along with the Cumming abstract does raise concern, and it is clear that more investigation is needed to know if regular binding impacts respiratory physiology and mechanics in a clinically meaningful way.

Also of interest to the anesthesiologist is the potential for binding to contribute to pain, with 74% in the Peitzmeier study having some type of pain complaint. Back pain was the most common complaint, followed by chest and shoulder pain⁴⁴. In a different analysis of that data set which focused on only transmasculine-identified participants (those assigned female at birth with an identity falling on the masculine portion of the gender spectrum), severe pain (defined as ≥ 7 on a 1-10 pain scale) was experienced by almost 40%⁴³. Median frequency, intensity, and duration of binding was daily, 10 hours per day, and 2

years respectively. Given that the practice of binding is often prolonged, it is not unreasonable to think there could be potential for contributing to chronic pain.

Additionally, because binding is a practice that improves gender dysphoric feelings and mood, the inability to bind may contribute greatly to increased perioperative anxiety. For planned surgeries, a preoperative discussion about the timing of discontinuation and resumption of binding may be warranted, with consideration made to ensuring that ample and private space is available for these processes to occur.

Other anatomic considerations

While it currently would be unlikely to encounter a pediatric patient who has undergone genital or voice surgery, as trends and practices change, it may not be far in the future that one may encounter such an older adolescent or young adult. In this regard, it should be noted that surgeries which involve the urethra may make subsequent placement of a urinary catheter difficult or necessitate smaller equipment or urological consultation³⁵. Patients who have had voice-altering surgery will have altered laryngeal anatomy⁴⁶ and may have post-operative vocal cord dysfunction or dysphagia that may impact the plan for airway management and intubation³⁵.

Conclusions

Transgender youth exist in numbers that have previously been underestimated, and pediatric anesthesiologists are likely to treat them in the perioperative setting. While these encounters may primarily be outside the context of gender-related surgeries, practitioners must familiarize themselves with the unique characteristics and needs of the population. This includes, but is not limited to, use of proper language and terminology; awareness of increased vulnerabilities within the community; and knowledge of potential social, medical, and surgical interventions and their anesthetic implications. As perioperative physicians who are often on the front lines of patient advocacy, anesthesiologists should not limit their actions to only within the operating room. Efforts should also be made toward becoming institutional “gender champions” – promoting work aimed to educate staff, to provide gender-appropriate restrooms and rooming assignments,

and to implement medical record systems that can accurately reflect patient identities. Only through actions such as these can the most optimal and gender-affirming care be provided.

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Tables

Table 1: Selected Terminology^{16,47}

Term	Definition
Sex Assigned at Birth	The sex (male or female) given to a child at birth, most often based on external anatomy.
Assigned Male At Birth (AMAB)	A person believed to be male when born and initially raised as a boy.
Assigned Female At Birth (AFAB)	A person believed to be female when born and initially raised as a girl.
Gender Identity	One's innermost concept of self as male, female, a blend of both or neither. May be the same or different than their sex assigned at birth.
Gender Expression	External appearance of one's gender identity, usually expressed through behavior, clothing, haircut or voice.
Cisgender	A person whose gender identity aligns with those typically associated with their sex assigned at birth.
Transgender	An umbrella term for people whose gender identity and/or expression is different from cultural expectations based on the sex they were assigned at birth.
Non-binary	A person who does not identify exclusively as a man or a woman.
Gender-expansive	Conveys a wider, more flexible range of gender identity and/or expression than typically associated with the binary gender system.
Gender Dysphoria	Clinically significant distress caused when a person's birth gender is not the same as the one with which they identify.
Gender Transition	The process by which some people strive to more closely align their internal knowledge of gender with its outward

	appearance.
Sexual Orientation	An inherent or immutable enduring emotional, romantic, or sexual attraction to other people.

TABLE 2: Transition-Related Treatment Options by Age^{15,23}

Age	Potential Treatment Options [†]
Pre-puberty	Social transition
Adolescents > Tanner Stage 2	Social transition Puberty suppression with GnRH (Gonadotropin-Releasing Hormone) Analogs
Adolescents with capacity for informed consent (generally ≥16 years; may treat after 13.5y)	Social transition Puberty suppression with GnRH Analogs Gender-affirming hormone therapy Breast reduction surgery
Adult (Age ≥18 or age of majority)	Social transition Gender-affirming hormone therapy Breast surgery Genital surgery

[†]Treatment decisions should be made in consultation with qualified and experienced medical and mental-health professionals.

Table 3: Pronoun Options

Examples of pronoun options[†]
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He/Him/His	They/Them/Theirs
She/Her/Hers	Other or None

†Not meant to be all-inclusive

Table 4: Changes in Laboratory Values with Gender-Affirming Hormone Therapy^{34,35,39}

	Transwomen	Transmen
Hgb/Hct	↓	↑
Creatinine	↓	↑
K	⇔ or ↑	n/a
Total Cholesterol	↓ or ⇔ or ↑	↓ or ⇔ or ↑
LDL	↓ or ⇔ or ↑	↓ or ⇔ or ↑
HDL	↓ or ⇔ or ↑	↓ or ⇔ or ↑
Triglycerides	↓ or ⇔ or ↑	⇔ or ↑
AST/ALT	↓ or ⇔	⇔ or ↑

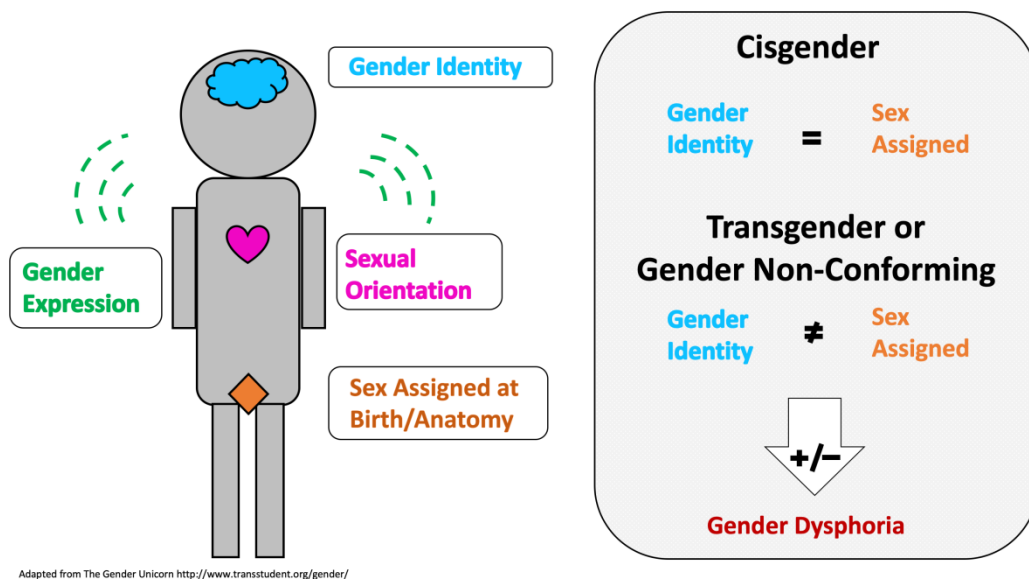
Figures

Figure1: Graphical Representation of Gender-Related Terminology ⁴⁸

Sex (Male/Female/Other) is often designated by the appearance of the genitalia at birth. Gender identity is a person's own knowledge of being a man, woman, neither gender, or other gender. Gender expression is how that gender identity is projected to others. Sexual orientation or attraction is separate from gender and describes the types of people to whom one is attracted. When sex assigned at birth and gender identity are not congruent, a person may be transgender and may experience gender dysphoria.

Figure 2: Possible Additional Considerations in Anesthetic Planning for Transgender Youth Patients

PMHx = Past medical history; PSHx = Past surgical history; LOT = length of therapy.



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Additional Anesthetic Planning Considerations	
Patient Identification	
☐ Patient Chosen Name	☐ Gender Identity
☐ Sex Assigned at Birth	☐ Pronouns Used
☐ Okay to use name/pronouns in presence of others?	
PMHx	
☐ Status of Transition (May inform further questions) – Social? Medical? Surgical?	
☐ Hx of anxiety, depression, self-harm/suicidality? – Would premedication and/or child-life consult be useful?	
☐ Hx of chest binding? – Any related pain or complications?	
PSHx/Anatomic Inventory	
☐ Prior surgical intervention impacting: – airway? (Plan airway management accordingly) – urethra? (May impact Foley placement)	
☐ Reproductive organs present? – Is pregnancy anatomically possible? – Is pregnancy test indicated?	
Medications and Lab Studies	
☐ Puberty suppression? Hormones? Spironolactone?	
☐ Are lab changes expected based on medications & LOT?	
☐ Are appropriate reference values being applied?	
Disposition	
☐ Patient roomed according to affirmed gender?	

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