



AT THE FOREFRONT
**UChicago
Medicine**

Section of Endocrinology, Diabetes, & Metabolism

GENDER IDENTITY & ENDOCRINOLOGY

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DISCLOSURE INFORMATION

ISABEL CASIMIRO
COMER SCHOOL NURSE CONTINUING EDUCATION DAY

- I have no relevant financial relationships to disclose
- I will not discuss any investigational use drugs
- I will discuss the following off label drug use in my presentation:
 - Testosterone
 - Estradiol + spironolactone

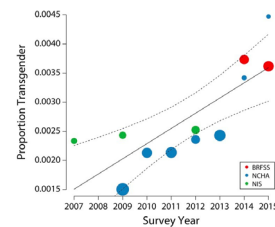


LECTURE GOALS

- Define the difference between sex, gender and sexual orientation
- Understand terminology surrounding gender identity
- Discuss the options for gender affirmation across the lifespan and discuss hormone therapy in adults
- Learn ways to maintain a gender affirming environment in the healthcare setting



META REGRESSION SHOWING THE PROPORTION OF TRANSGENDER ADULTS AGAINST NATIONAL SURVEY YEAR



390 per 100,000 adults

~ 1 million Americans (1/250)



Most of us have had little or no education about gender.

It is important to learn about this and address some common myths many of us hold about gender, children and youth.



Medical and mental health professionals are often on the front lines of helping young people and their families navigate gender in a positive and healthy way.

Foundational understandings about gender and gender-affirming practices are crucial for the well-being of the young people in your care.



SEX, GENDER IDENTITY AND SEXUAL ORIENTATION ARE NOT THE SAME

- **Sex** understood as biological construct referring to chromosomal, hormonal, anatomical, and physiological characteristics on whose basis one is labeled at birth as either **male** or **female**
- Sex assigned at birth (or in utero) is usually based on external genitalia
- A person may be born with ambiguous genitalia or genitalia that does not match their chromosomes
 - A person with XY chromosomes may have female appearing genitalia (such as in Androgen Insensitivity Syndrome)
 - **Intersex**: person born with genitalia that does not fit the male/female binary (also known as **DSD: Differences in Sexual Development**)
- Sexual development variations (1.7% of births deviate from the binary)



SEX, GENDER IDENTITY AND SEXUAL ORIENTATION ARE NOT THE SAME

- **Gender** denotes the cultural meanings of patterns of behavior, experience, and personality that are labeled masculine or feminine (or somewhere in between)
 - **Body**: Includes our sex and experience of our own body (**assigned**)
 - **Identity**: What we internally know our selves to be (**within**)
 - **Expression**: How we present our gender in the outside world and how society interprets that presentation (**imposed**)
 - Hair; clothes, mannerisms, name, gender role
- **Gender Identity**: A person's internal sense of their gender
 - Not necessarily a binary construct (male, female, transgender, non-binary/genderqueer)
 - A person may use she/her, he/him, they/them or other pronouns



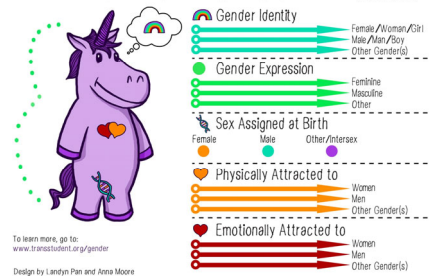
GENDER IDENTITY AND SEXUAL ORIENTATION ARE OFTEN CONFLATED

- **Sexual orientation** involves how we *feel about another person*:
 - Intimate human relationships-sexual, romantic or both
 - Focus of sexual orientation is the sex of a person's actual or potential relationship partners
 - Attracted to people of the same sex (**homosexuality**), attracted to people of the other sex (**heterosexuality**), or attraction for people of either sex (**bisexuality**)
 - Sexual attractions and behaviors can **range along a continuum** from exclusively heterosexual to exclusively homosexual though it is often discussed in the above three categories
- Transgender persons can have any sexual orientation



The Gender Unicorn

Graphic by TSER



MYTH: CHILDREN ARE TOO YOUNG TO KNOW THEIR GENDER

- Understanding of our gender comes to most of us fairly early in life.
- According to the American Academy of Pediatrics, "By age four, most children have a stable sense of their gender identity."
- This core aspect of one's identity comes from within each of us; it is an inherent aspect of a person's make-up.

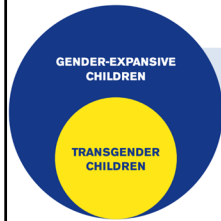


WHAT IS GENDER EXPANSIVE?

- Children whose gender identity and/or gender expression differs from what others expect of their assigned sex
- Also called: gender variant, gender non-conforming, gender creative, gender independent, and transgender



MYTH: GENDER EXPANSIVE CHILDREN ARE TRANSGENDER



- GENDER-EXPANSIVE CHILDREN**
- Behavior, preferences or other traits are not gender-typical
 - Not necessarily distressed—except because of bullying or stigma

- TRANSGENDER CHILDREN**
- Distressed about assigned sex and/or expected gender identity
 - May call for gender transition

- Most gender expansive children will not grow up to be transgender adults¹ (> 80% did not identify as transgender as adults)

¹ Journal of the American Academy of Child & Adolescent Psychiatry 47, no. 12 (2008)



TERMINOLOGY

- **Gender identity:** Internalized sense of self as being male, female or elsewhere along or outside the gender continuum
- **Gender nonconforming:** used to describe individuals whose gender identity, role, or expression differs from what is normative for their assigned sex at birth (**gender expansive children**)
- **Transgender:** umbrella term to describe individuals whose gender identity differs from the assigned sex at birth
- **Cisgender:** A person's identity matches the sex assigned at birth
- **Transgender males** people assigned female at birth but who self-identify as male
- **Transgender females** people assigned male at birth, but who self-identify as female
- **Non-binary:** gender identity does not conform to binary understanding of gender (male or female)
- **Gender dysphoria:** a profound distress or discomfort caused by the discrepancy between a person's assigned sex at birth and gender identity



REPARATIVE OR CONVERSION THERAPY IS FUTILE AND DESTRUCTIVE

- Reparative/conversion therapy attempts to “correct” gender expansive behaviors and delayed transition prohibits gender transition until a child reaches adolescence or adulthood regardless of gender dysphoria symptoms
- There is NO scientific evidence that reparative therapy or delayed transition helps with gender dysphoria or prevents children from becoming transgender adults
 - Instead it can have serious negative consequences for children; it harms family relationships and makes children feel ashamed of who they are
 - Parents have little control over children's gender identity, but tremendous influence over their health & self esteem
- The medical and mental health professions have discredited and condemned these practices (American College of Physicians, American Academy of Pediatrics, American School Counselor Association, American Psychological Association, American Medical Association, American Psychiatric Association)



MENTAL HEALTH OUTCOMES IMPROVE WITH GENDER-AFFIRMING TREATMENT

- Transgender people face stigma, discrimination & marginalization
- They present with higher rates of depression, anxiety and self-harm
 - Suicide attempts are over 60% in transgender and nonbinary youth¹
- Gender-affirming treatment has been found to reduce mental health problems in transgender people
- Having a supportive and accepting family promotes well being
 - Less likely to be depressed, attempt suicide, or to have substance abuse problems
 - Promotes higher self esteem and better health



¹ Trevor Project National Survey on LGBTQ+ Mental Health 2020



What gender affirming options are available for gender variant or transgender individuals across the lifespan?



MANAGEMENT OF GENDER DYSPHORIA: CHILDREN

Evaluation by a Mental Health Provider Trained in Child/Adolescent Gender Development & Psychopathology & Pediatric Endocrinologist

Social Transition if Gender Dysphoria Persists



SOCIAL TRANSITIONING IN CHILDREN/ADOLESCENTS

- Hormones are not given to children; Social transition entails:
 - Wearing clothing/use hairstyles that affirms their gender
 - Choosing a name and pronouns that affirms their gender
 - Using bathrooms/facilities that match their gender identity
- Medical and mental health professionals assist families (and often a school's community) in becoming comfortable with the child's gender expression
- With affirmation and support children and adolescents are happier and healthier whether or not they grow up to identify as transgender



"Waiting to transition...was not an option if we cared anything about [our son's] health. **The despair he went through...was not manageable.** But when he did transition, it was like a light switch. We had a happy, healthy kid. And it has been that way ever since — four years and counting."

Peter Tchoryk
Father of a seven-year-old transgender boy

Quotes from parents who supported their children's social transition

"After [Zoey's] transition she blossomed. She began to smile; she didn't want to miss school anymore; her grades got better. She walked away from the little corner in the house where she spent most of her time silent in thought and sadness...and just started to thrive."

Ofelia Barba Navarro
Mother of a 15-year-old transgender girl

"In the fifth grade we let [Nicole] change her name. She went to school in a dress and we saw a new child. She was happy, engaged and excited about school. There were no more anger issues, no more self-harm."

Wayne Maines
Father of an 18-year-old transgender girl

Supporting & Caring for Transgender Children 2014.



MANAGEMENT OF GENDER DYSPHORIA: ADOLESCENTS

Social Transition

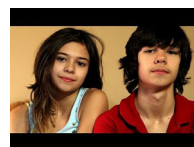
Ongoing Therapy by a Mental Health Provider
Trained in Child/Adolescent Gender
Development & Psychopathology in a Multi-
Disciplinary Team Approach

Puberty Blockers at
Onset of Puberty if
Gender Dysphoria
Persists



PUBERTY BLOCKERS IN ADOLESCENTS

- For many adolescents with GD/gender incongruence, the pubertal physical changes are unbearable
- The few data available in adolescents are favorable and support that the proven psychological benefits of early medical intervention outweigh the potential medical risks
- An expert multi-disciplinary team comprised of medical professionals and mental health professionals should manage treatment of youth during puberty
- An advantage of using puberty blockers is the reversibility of the intervention and stopping the formation of permanent pubertal changes



From identical Twin Boys to
Brother and Sister - Nicole and
Jonas Maines



MANAGEMENT OF GENDER DYSPHORIA: ADULTS

Confirmation
of Diagnosis &
Assessment for
Psychiatric
Co-Morbidities

Gender
Affirming
Hormonal
Therapy

Gender
Affirming
Surgeries

Legal Transition



Childhood

No hormonal treatment indicated

Evaluation by a multidisciplinary team
including a MHP* continues

"Gender-affirming" approach is
recommended for persisting gender
dysphoria

Social transition may be beneficial

Adolescence

Evaluation by a multidisciplinary team
including a MHP* continues

Puberty blockers may be initiated
in the case of persistent gender
dysphoria under the care of a multi-
disciplinary team

Adulthood

Provider confirms the diagnosis of
gender dysphoria (+/- MHP) and
obtains informed consent to provide
gender affirming hormone therapy
(discusses risks/benefits/expectations)

Feminizing or masculinizing hormone
therapy can be initiated to suppress
endogenous hormones and maintain
levels of affirmed gender

Some patients undergo gender
affirming surgery

*MHP trained in child and adolescent
gender development & child and
adolescent psychopathology



CRITERIA FOR GENDER-AFFIRMING HORMONE THERAPY (GAHT)

- Persistent, well-documented gender dysphoria/gender incongruence
- The capacity to make a fully informed decision and to consent for treatment
- Mental health concerns, if present, must be reasonably well controlled
- The age of majority in a given country

ENDOCRINE
SOCIETY

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FEMINIZING HT

- Estradiol
 - Oral, IM, patch
- An anti-androgen (spironolactone)

Psychological and CNS ↓ Gender dysphoria ↓ Anxiety ↓ Depression ↓ Perceived stress ↑ Quality of life	Breast ↑ Breast tissue	Skin ↑ Softness ↓ Sebum and acne	Reproductive system ↓ Penile erections ↓ Prostate size ↓ Sperm count and quality	Body composition ↑ Fat mass ↓ Visceral fat	Sexual health ↓ Sexual desire
Hair ↓ Facial and body hair ↓ Male pattern baldness	Voice No change	Blood pressure ↓ Systolic blood pressure	Blood ↓ Hemoglobin and hematocrit	Lipids and metabolism ↓ LDL cholesterol ↑ Triglycerides ↑ Sex hormone-binding globulin	Hormone concentrations ↓ Testosterone ↓ Luteinizing hormone ↓ Follicle-stimulating hormone ↑ Prolactin

Figure 1. Effects of estrogen and antiandrogen treatment in transgender women. [Reproduced with permission from Endocrine Reviews, Volume 40, Issue 1, February 2019, Pages 97–117]

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MASCULINIZING REGIMEN

- Testosterone
 - SQ/patch/gel

Psychological and CNS ↓ Gender dysphoria ↓ Anxiety ↓ Depression ↓ Perceived stress ↑ Total gray matter volume ↑ Cortical thickness in several areas	Hair ↑ Facial and body hair ↑ Hair density, diameter, and growth rate Alopecia	Breast ↓ Breast cancer ↓ Glandular tissue ↑ Fibrous connective tissue	Reproductive system Cessation of menstruation and infertility ↑ Clitoral size ↓ Vaginal epithelium thickness Atrophic endometrium (according to data from some studies) Ovarian hyperplasia and polycystic ovaries	Body composition ↑ Sexual desire
Skin Acne	Voice ↓ Pitch	Muscle ↑ Lean mass ↑ Cross-sectional area ↑ Bodyweight ↑ Grip strength	Blood pressure ↑ Systolic blood pressure	Blood ↑ Hemoglobin and hematocrit
Lipids and metabolism ↓ LDL cholesterol ↑ Triglycerides ↓ Sex hormone-binding globulin	Hormone concentrations ↓ Estradiol ↓ Luteinizing hormone ↓ Follicle-stimulating hormone ↑ Prolactin			

Figure 2. Effects of testosterone treatment in transgender men. [Reproduced with permission from Tangiricha V, den Heijer M. Estrogen and antiandrogen therapy for transgender women. Lancet Diabetes Endocrinol 2017;5:291–300. (41); ©2019 Illustration Presentation ENDOCRINE SOCIETY]

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CREATING AN AFFIRMING AND RESPECTING ENVIRONMENT

- Avoid gender specific language until the patient has been asked for their pronoun
 - Use last name
- If asked about the bathroom offer “all gender” restrooms if available
- Share information (name and pronouns) with other staff members so that everyone can refer to patients respectfully
 - Epic demographics tab has been updated to reflect diversity in gender/orientation and preferred name
- Be honest about your mistakes and demonstrate a willingness to learn from patients
- Have gender affirming posters/handouts in your waiting room
- If you do not specialize in transgender care, be prepared to provide patients with resources or connect them to someone who does

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Case Scenario: Anika

Pronouns: she/her/hers

Anika has just arrived early for her appointment and needs to use the restroom. She approaches the person at the front desk and asks where she can find one. The person at the desk gestures to the men's restroom and states, "Right over there, sir." Anika hesitates, visibly upset, and sits down to wait for the doctor instead of heading to the restroom.



NATIONAL LGBT HEALTH EDUCATION CENTER
A PROGRAM OF THE FENWAY INSTITUTE

WHAT HAPPENED HERE?



- When Anika approached the person working at the front desk who referred to her as "sir," this person likely used gender-specific language because terms like "ma'am" and "sir" are considered to be respectful.
- However, in this situation, the use of "sir" meant that Anika was misgendered, because the language did not align with her gender identity. This assumption was repeated when Anika was directed toward the men's restroom, without being offered another option.
- To support patients who may face this discrimination, even if your building does not have single stall restrooms, you can offer the patient a choice of room.
- "We have a men's room over there and women's room over there. Unfortunately, we do not have any all-gender bathrooms yet, but please use whichever makes you feel most comfortable."

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SUMMARIZING WHAT WE DO KNOW

- Sex is assigned at birth whereas gender identity is an internal sense of one's gender that develops early in childhood
 - Different from sexual orientation
- Gender-affirming treatment of transgender youth requires a multidisciplinary approach including a mental health professional trained in child sexual development/ psychopathology
 - A minority of gender expansive children may become transgender adults
- Family acceptance and gender affirming treatment (including social transition) destigmatizes gender variance, promotes children's sense of self worth, strengthens the parent-child bond and has been shown to improve self esteem and health outcomes

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CONCLUSIONS REGARDING GENDER AFFIRMING HORMONE THERAPY

- Adolescents with gender dysphoria may receive pubertal blocking, later followed by gender affirming hormone therapy if dysphoria persists in adulthood
- Feminizing treatment with estrogens and antiandrogens results in enhanced breast growth, reduction of facial and body hair growth, and fat redistribution in a female pattern
- Guidelines for transgender men include testosterone therapy for virilization with deepening of the voice, cessation of menses, increases of muscle mass and increased facial and body hair
- Mental health problems such as depression and anxiety have been found to reduce considerably following gender affirming hormone therapy
- Training in culturally sensitive terminology, transgender topics, and creating welcoming and affirming clinical environments facilitates improved patient interactions & promotes well-being

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RESOURCES FOR PARENTS/PROVIDERS

- Isabel Casimiro, MD, PhD (icasimiro@medicine.bsd.uchicago.edu)
- familyproject.sfsu.edu
 - Research, intervention, education and policy initiative to prevent health and mental health risks for LGBTQ children and youth— in the context of their families, cultures and faith communities.
- Genderspectrum.org
 - Organization working to create gender sensitive and inclusive environments for all children and teens through education/trainings/workshops

