# Medical Management of Transgender and Non-binary Adolescent and Young Adults

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# Learning objectives

## AFFIRM

- Create an affirming clinical environment

## REFER

- Specialist or multidisciplinary clinic

## MANAGE

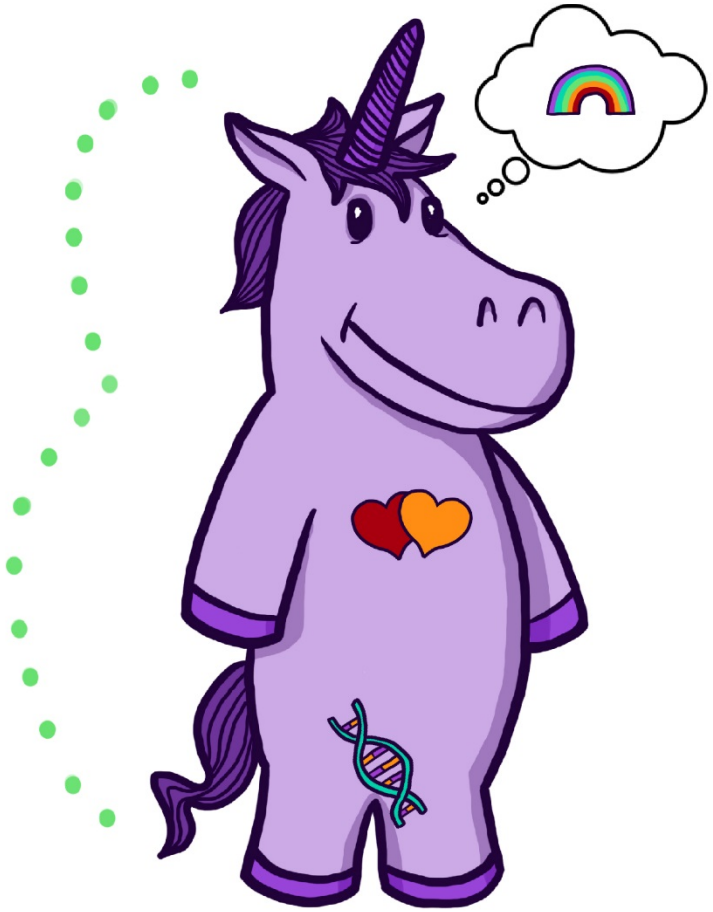
- Guidelines and approach to gender-affirming medical care in primary care setting

# Definitions

- **Cisgender:** someone whose gender identity is the same as the sex they were assigned at birth.
- **Transgender:** someone whose gender identity is different from the sex they were assigned at birth. For example:
  - **Transfeminine:** Someone assigned male at birth, who now identifies their gender as female
  - **Transmasculine:** Someone assigned female at birth, who now identifies their gender as male
- **Non-binary:** someone whose gender identity is not entirely male nor entirely female.
- **Gender diverse**: Describes people with gender behaviors, appearances, or identities that are incongruent with those culturally assigned to their birth sex

# The Gender Unicorn

Graphic by:
TSER
Trans Student Educational Resources



## Gender Identity

- Female/Woman/Girl
- Male/Man/Boy
- Other Gender(s)

## Gender Expression

- Feminine
- Masculine
- Other

## Sex Assigned at Birth

Female | Male | Other/Intersex

## Physically Attracted to

- Women
- Men
- Other Gender(s)

## Emotionally Attracted to

- Women
- Men
- Other Gender(s)

To learn more, go to:
www.transstudent.org/gender

Design by Landyn Pan and Anna Moore

# Endless things are gendered from before birth to adulthood




# Why does this matter?

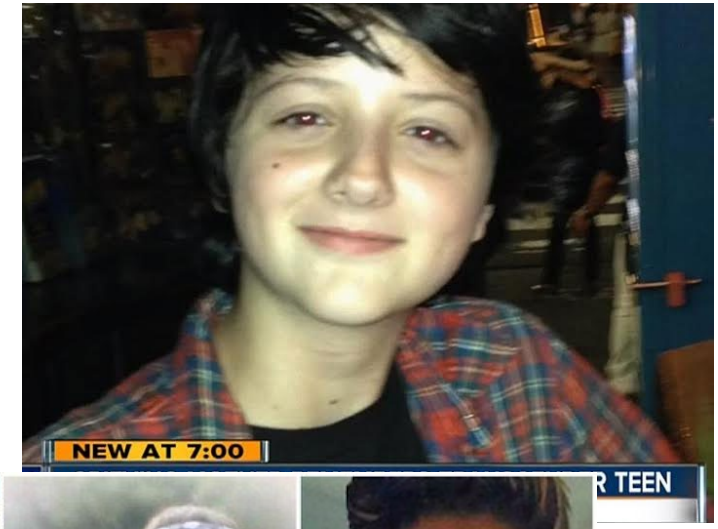
- Gendering is very traumatic for transgender people particularly during adolescence!

- "Your gender is *like drinking water*, when you drink water it is not supposed to taste like anything. But when it tastes different, you notice. That is what being transgender is like: *when your water tastes different.*"



- 18 year old transgender youth

# Traumatic adolescence? What's the big deal?


**Transgender teen leaves heartbreaking suicide note**

By Jackie Salo March 14, 2018 | 5:20pm

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# Health disparities

- Transgender youth experience higher levels of bullying, discrimination, violence, family and peer rejection, and homelessness.
- Increased risk of issues including substance abuse, depression, and anxiety.
- Nine-fold increased risk of eating disorders.
- More than 40% of transgender young people attempt suicide.

Olson J et al. 2011. Arch Pediatr Adolesc Med.
Spack NP et al. 2012. Pediatrics.
Diemer et al. 2015. J Adolesc Health.

# Protective factors

- Importance of support from family, schools, & providers
- Trans youth who are supported by their families have similar levels of anxiety and depression compared to their cisgender siblings and peers
- Reduced depression and suicidality among trans youth who were able to use their chosen name in various settings

Olson KR et al. “Mental Health of Transgender Children Who Are Supported in Their Identities. 2016. Pediatrics.
Russel ST et al. “Chosen Name Use Is Linked to Reduced Depressive Symptoms, Suicidal Ideation, and Suicidal Behavior Among Transgender Youth. 2018. Journal of Adolescent Health.

# Barrier to care: Preferred name and pronouns not used

"…the doctor said, 'her, her, her' and [my son], who's 10, said, 'him, him, him!' and the doctor got mad and started being dismissive and irritated, and kept saying 'Her!'…" -Parent

"…Situations like that, I will never forget them 'cause I always feel like everyone turns and looks at me right away. you're just sitting in a room and everyone's eyes on you and you're hot and nervous." -19 year old

**Recommendation: Recording of preferred name and pronoun in the electronic medical record.**

Gridley S et al 2016. "Youth and Caregiver Perspectives on Barriers to Gender-Affirming Health Care for Transgender Youth." Journal of Adolescent Health.

# A welcoming and trusting environment

AAP recommends that electronic health records, billing systems, patient-centered notification systems, and clinical research be **designed to respect the asserted gender identity of each patient** while maintaining confidentiality and avoiding duplicate charts.

What changes can your clinic/organization make to ensure that chosen names and pronouns are collected, communicated, displayed?

- Intake forms/process
- EMR banner
- ID bands, stickers
- Other printed materials

# Gender neutral language

| Situation | What to do | What NOT to do |
|---|---|---|
| When unsure of patient's gender | Use "they" or the patient's preferred/affirmed name instead of "him/her": *"Did they fill out the form yet?" OR "Does Matthew have any medical allergies?"* | Do not assume their gender.<br>Do not ask about genitals.<br>Do not refer to the patient as "*it*". |
| When talking about a patient | Avoid using gender specific pronouns. Use gender neutral words, such as "they". Example "They are here for their appointment" or "Your patient is waiting for you". | Do not refer to the patient as "*it*"<br>Do not use the patient's legal name if aware of preferred/affirmed name. |

# Settings for gender affirming care

- Multidisciplinary youth gender clinics
  - Increasing number around the country
- Specialty clinics (endocrine, adolescent medicine)
- Primary care
  - Also an appropriate setting for trans care
  - PCPs often provide adult trans care (vs. pediatric)
  - Pediatricians can do this too

# Gender Clinic Roadmap

Adolescent Medicine

## 1 Call us

Refer yourself directly or have your provider refer you by calling 206-987-2028.

## 2 We will call you

Once we have your referral, we will schedule a 30-minute intake phone call with our care navigator.

## 3 Get connected to mental health support

We will help you get connected before starting treatment.

## 4 Meet the Gender Clinic Team

When you are ready, we will call you to schedule your first medical appointment. Here we will talk about your medical history, do a brief exam and talk about treatment options.

## 5 Begin gender-affirming treatment

See back for details.

- Puberty blockers
- Monitoring
- Cross-sex hormones

## 6 Continue adult care

We can treat you until age 21. After that, we can refer you to:

- An adult trans healthcare provider
- A surgeon for gender-affirming surgery

Ready for treatment = Mental Health Readiness + Medical Readiness + Family Readiness

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# Gender Clinic Medical Treatment Options

Adolescent Medicine

| | About | Medical Check-ups | Support Resources |
|---|---|---|---|
| **Puberty Blockers**<br>**For:** Patients in early puberty<br>**Who manages:** Endocrinologist<br>**Time:** A few months to years | • Puts puberty "on pause"<br>• Can be expensive (insurance or financial assistance may help cover costs<br>• Fully reversible<br>• Is given as an implant or shot | **Who:** Patient, parent/caregiver, endocrinologist, care navigator (optional)<br>**Where:** Adolescent Medicine Clinic<br>**Time:** 30 minutes every 3 months<br>**What:** Provider monitors your vital signs, checks in with you, and draws your blood | Care navigator (Adolescent Medicine Gender Clinic)<br>Mental health provider (community)<br>Family support groups |
| **Monitoring**<br>For: Patients in mid- to late puberty<br>**Who manages:** Adolescent Medicine doctor<br>**Time:** As needed or until ready for cross-sex hormones | • Helps patients be as comfortable as possible in their body when neither blockers nor cross-sex hormones are an option<br>• Can include treatments like menstrual suppression, basic mental health assessment, and medication<br>• Includes coordinating with your mental health provider, if needed | **Who:** Patient, parent/caregiver (optional), adolescent medicine doctor, care navigator (optional)<br>**Where:** Adolescent Medicine Clinic in Seattle or Bellevue<br>**Time:** 30 minutes, as needed<br>**What:** Doctor talks with you about issues like menstruation, mental health, acne and any other questions you have | Care navigator (Adolescent Medicine Gender Clinic)<br>Mental health provider (community)<br>Family support groups |
| **Cross-sex Hormones**<br>**For:** Patients in later or post-puberty<br>**Who manages:** Adolescent Medicine doctor<br>**Time:** Lifelong or until patient decides to stop | • Hormones create changes in the body to align with the patient's gender identity<br>• Estrogen makes the body more feminine<br>• Testosterone makes the body more masculine<br>• Some body changes are reversible, some are not | **Who:** Patient, parent/caregiver (optional), adolescent medicine doctor, care navigator (optional)<br>**Where:** Adolescent Medicine Clinic in Seattle or Bellevue<br>**Time:** 30 minutes every 3 months<br>**What:** Provider reviews your recent blood work; checks in with you; and adjusts your dose of medicine, if needed | Care navigator (Adolescent Medicine Gender Clinic)<br>Mental health provider (community)<br>Family support groups |

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# Initial Assessment

- **What age to start talking about gender?**
  - No “right answer.” Gender identity begins forming around age 2 or 3.
- **What questions?**
  - Can you tell me what pronouns and name you prefer?
  - Do you think of yourself more as a boy, girl, neither, both, something else?
  - Normalize it by asking everyone
  - If you make a mistake, apologize as soon as possible and then move on
- **Alone or with parent?**
  - Use your judgment!
  - Explain boundaries of confidentiality
  - General HEADSSS assessment

# Screening and Safety Topics/Questions

- Transmasculine
  - Menstrual history (including the amount of stress)
  - Binding (With what? How long? With exercise and while sleeping? Concerning symptoms?)
- Transfeminine
  - Tucking (With what? For how long?)
- All
  - Disordered eating/over exercising
  - Mental health
  - Substance abuse
  - Sexual behaviors
  - Bullying (including cyberbullying)
  - How supportive are your friends and family?

# Gender Affirmation

**TABLE 2** The Process of Gender Affirmation May Include ≥1 of the Following Components

| Component | Definition | General Age Range[a] | Reversibility[a] |
|---|---|---|---|
| Social affirmation | Adopting gender-affirming hairstyles, clothing, name, gender pronouns, and restrooms and other facilities | Any | Reversible |
| Puberty blockers | Gonadotropin-releasing hormone analogues, such as leuprolide and histrelin | During puberty (Tanner stage 2–5)[b] | Reversible[c] |
| Cross-sex hormone therapy | Testosterone (for those who were assigned female at birth and are masculinizing); estrogen plus androgen inhibitor (for those who were assigned male at birth and are feminizing) | Early adolescence onward | Partially reversible (skin texture, muscle mass, and fat deposition); irreversible once developed (testosterone: Adam's apple protrusion, voice changes, and male pattern baldness; estrogen: breast development); unknown reversibility (effect on fertility) |
| Gender-affirming surgeries | "Top" surgery (to create a male-typical chest shape or enhance breasts); "bottom" surgery (surgery on genitals or reproductive organs); facial feminization and other procedures | Typically adults (adolescents on case-by-case basis[d]) | Not reversible |
| Legal affirmation | Changing gender and name recorded on birth certificate, school records, and other documents | Any | Reversible |

[a] Note that the provided age range and reversibility is based on the little data that are currently available.

[b] There is limited benefit to starting gonadotropin-releasing hormone after Tanner stage 5 for pubertal suppression. However, when cross-sex hormones are initiated with a gradually increasing schedule, the initial levels are often not high enough to suppress endogenous sex hormone secretion. Therefore, gonadotropin-releasing hormone may be continued in accordance with the Endocrine Society Guidelines.[55]

[c] The effect of sustained puberty suppression on fertility is unknown. Pubertal suppression can be, and often is indicated to be, followed by cross-sex hormone treatment. However, when cross-sex hormones are initiated without endogenous hormones, then fertility may be decreased.[55]

[d] Eligibility criteria for gender-affirmative surgical interventions among adolescents are not clearly defined between established protocols and practice. When applicable, eligibility is usually determined on a case-by-case basis with the adolescent and the family along with input from medical, mental health, and surgical providers.[55–71]

Rafferty J, et al Ensuring Comprehensive Care and Support for Transgender and Gender-Diverse Children and Adolescents. Pediatrics. 2018;142(4): e20182162

# Beginning treatment

- Assess biopsychosocial readiness for treatment
  - Physical (Tanner stage)
  - Psychological
  - Social / family
- Medical history
- Review risks and benefits of pubertal suppression and hormone therapy
  - Irreversible physical changes (cross-sex hormones)
  - Fertility
  - Metabolic changes
- Mental health readiness/support evaluation
  - < 18 years old
  - > 18 years old - Informed Consent

# Professional guidelines

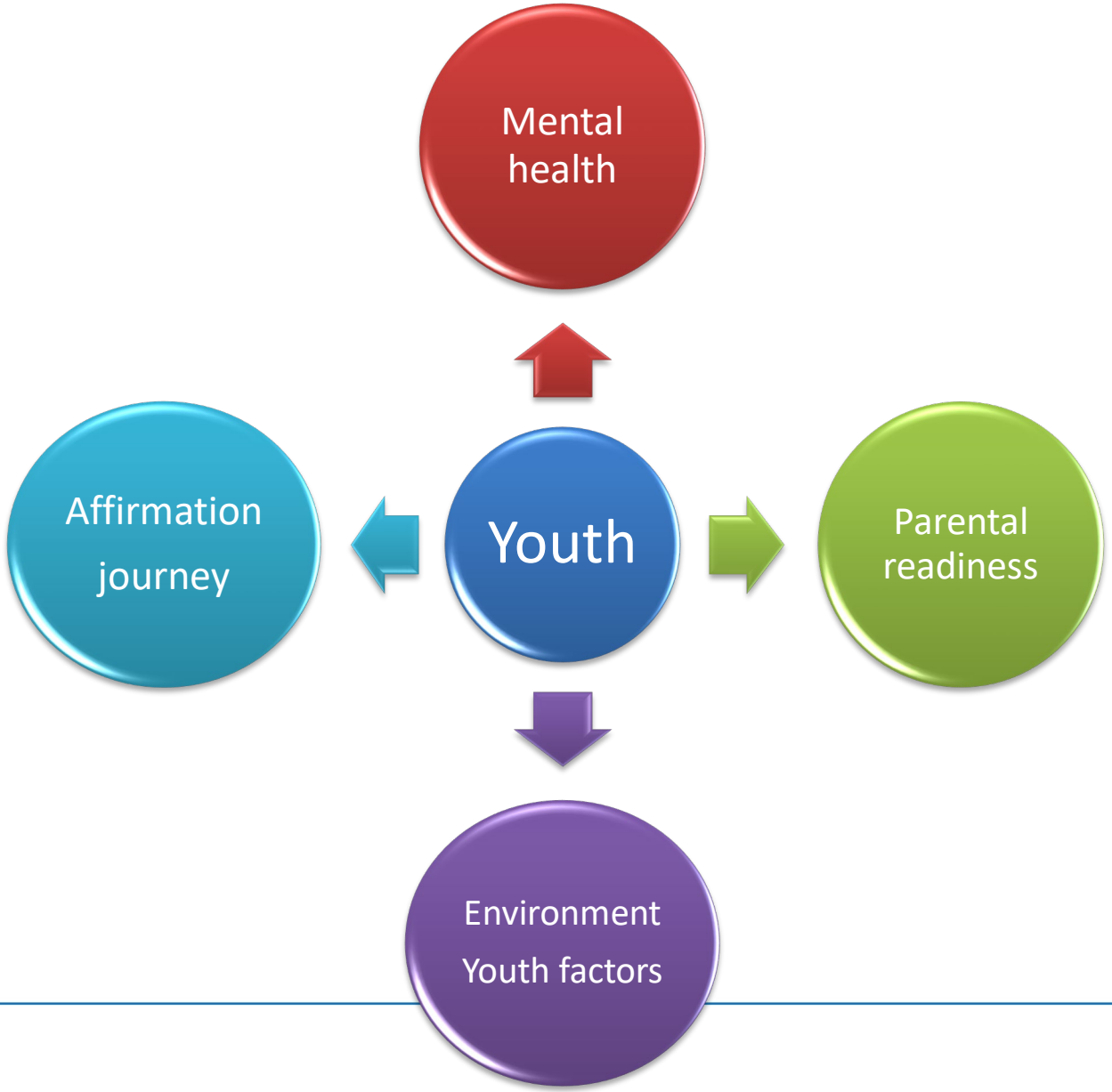
- Endocrine Society
  - 2017: Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline
- World Professional Association of Transgender Health
  - [in progress]: Standards of Care v8
  - 2012: Standards of Care v7
- UCSF's Center of Excellence for Transgender Health
  - Guidelines for Primary and Gender-Affirming Care

# Psychological Profile of Children and Adolescents with Gender Dysphoria

- Symptoms of depression and anxiety
- Social isolation and rejection
- Low self-esteem/self-worth
- Self-harming behaviors
- Suicidality
- Autism Spectrum Disorders?

Photo credit: http://choosingdemocracy.blogspot.com/2015/05/these-students-want-education.html

# Family-centered assessments



# Parental concerns

- How do I know they are actually transgender?
- What if this is just a phase?
- Why can’t we wait until they have finished puberty or they are an adult before we talk about medical transition? What if my child regrets this?

# When do we consider puberty blockers?

- Once a patient is in tanner stage 2 of puberty
- Before they are well into pubertal development*
  - Menarche
  - Voice drops and/or growth of facial hair
- Block versus block and replace

*Varies among providers

# Pubertal suppression: GnRH analogs

- GnRHa
  - Leuprolide
    - Initiate with 22.5 or 30 mg IM q 3 months and (**initially check with ultrasensitive LH with LH < 1.0 mIU/mL)** titrate as needed to keep LH **(non-ultrasensitive)** < 4.5 mIU/mL ($7K)
    - 45 mg SC q 6 months ($23K)
  - Histrelin LA **(pediatric-↑$50K)** / Histrelin **(adult-↓$4K)**
    - Surgical (**or clinic procedure**) consult to discuss risks and benefits and plan placement
    - SQ implant placed q 1-1.5 years
  - Triptorelin
    - 3.75 mg SQ q 4 weeks ($9K)
    - 22.5 mg IM q 24 weeks ($18K)

# Pubertal Suppression: Monitoring

Baseline and Follow-Up Protocol During Suppression of Puberty

| |
|---|
| Every 3–6 mo |
| Anthropometry: height, weight, sitting height, blood pressure, Tanner stages |
| Every 6–12 mo |
| Laboratory: LH, FSH, E2/T, 25OH vitamin D |
| Every 1–2 y |
| Bone density using DXA |
| Bone age on X-ray of the left hand (if clinically indicated) |

Adapted from Hembree *et al.* (118).

Abbreviations: DXA, dual-energy X-ray absorptiometry; E2, estradiol; FSH, follicle stimulating hormone; LH, luteinizing hormone; T, testosterone;

# Treatment options for trans masculine patients

- GnRH agonist – block and replace
- Testosterone for masculinization
  - Induction of male puberty with IM or SQ testosterone*, increasing the dose (peer congruent)
  - Other forms of testosterone include patch, AndroGel
- Menstrual suppression
- Monitoring
  - 2-3 months in first year
  - Then 1-2 times per year

| Masculinizing Effects in Transgender Males | | |
|---|---|---|
| Effect | Onset | Maximum |
| Skin oiliness/acne | 1-6 mo | 1-2 y |
| Facial/body hair growth | 6-12 mo | 4-5 y |
| Scalp hair loss | 6-12 mo | ----[a] |
| Increased muscle mass/strength | 6-12 mo | 2-5 y |
| Fat redistribution | 1-6 mo | 2-5 y |
| Cessation of menses | 1-6 mo | ----[b] |
| Clitoral enlargement | 1-6 mo | 1-2 y |
| Vaginal atrophy | 1-6 mo | 1-2 y |
| Deepening of voice | 6-12 mo | 1-2 y |

**Hembree et al, J Clin Endocrinol Metab, November 2017, 102(11):1–35**
Estimates represent clinical observations: Toorians et al. (149), Asscheman et al. (156), Gooren et al. (157), Wierckx et al. (158).
[a] Prevention and treatment as recommended for biological men.
[b] Menorrhagia requires diagnosis and treatment by a gynecologist.

# Risks of Testosterone

- Erythrocytosis (hematocrit > 50%)
- Liver dysfunction
- Coronary artery disease
- Cerebrovascular disease
- Hypertension
- Breast cancer
- Theoretic risk of uterine cancer
- Potential changes in fertility

# Testosterone dosing and monitoring

- In the guidelines:
  - Dosing of testosterone while on puberty blockers or without puberty blockers
  - Which measurements and labs to monitor
    - Frequency of monitoring
  - “Goal”/physiologic range of serum testosterone levels

# Lab Protocol (for reference)

**Table 9.** Baseline and Follow-up Protocol During Induction of Puberty

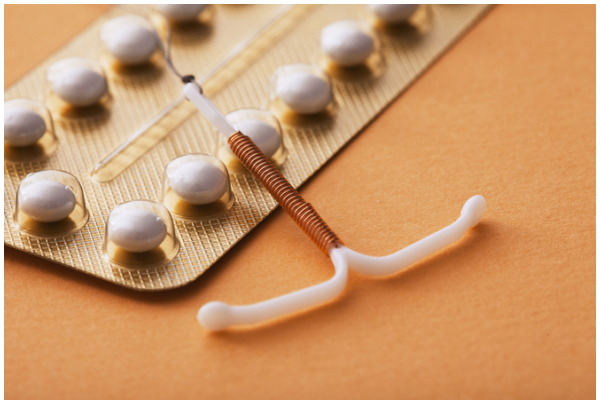
| |
|---|
| Every 3–6 mo |
| •Anthropometry: height, weight, sitting height, blood pressure, Tanner stages |
| Every 6–12 mo |
| •In transgender males: hemoglobin/hematocrit, lipids, testosterone, 25OH vitamin D |
| •In transgender females: prolactin, estradiol, 25OH vitamin D |
| Every 1–2 y |
| •BMD using DXA |
| •Bone age on X-ray of the left hand (if clinically indicated) |
| *BMD should be monitored into adulthood (until the age of 25–30 y or until peak bone mass has been reached).* |
| *For recommendations on monitoring once pubertal induction has been completed, see Tables 14 and 15.* |

Adapted from Hembree *et al.* (118).

Abbreviation: DXA, dual-energy X-ray absorptiometry.

# Menstrual suppression

- When periods are major stressor and/or not ready or not wanting to start medical transition
- Cheaper than puberty blockers
- No menopausal symptoms (versus blockers done without hormones)
- Can use:
  - LARC (IUD or Implant)
  - Combined OCPs versus progestin only
  - Depot medroxyprogesterone



# Jeremy

- 16 year old AFAB transgender male
- This patient would like to transition and has significant distress about menses (menarche at 11)
- PMH of depression/anxiety on medication and has therapist
- How would you proceed?

# Jeremy

- Readiness/support assessment done
- Discuss options
  - Block and replace
  - Menstrual suppression
  - Testosterone 50 mg SQ weekly
- Continue mental health therapy
- Informed consent and assent

# Treatment options for trans female patients

- GnRH agonist - block and replace
- Estrogen for feminization
  - Estrogen patches or 17-β estradiol PO at increasing doses (clotting risk)
- Spironolactone to reduce testosterone levels
  - Fully reversible, inexpensive
  - Some side effects, including gynecomastia
- Monitoring
  - 2-3 months in first year, then 1-2 times a year

## Feminizing Effects in Trans gender Females

| Effect | Onset | Maximum |
|---|---|---|
| Redistribution of body fat | 3-6 mo | 2-3 y |
| Decrease in muscle mass and strength | 3-6 mo | 1-2 y |
| Softening of skin/decreased oiliness | 3-6 mo | Unknown |
| Decreased sexual desire | 1-3 mo | 3-6 mo |
| Decreased spontaneous erections | 1-3 mo | 3-6 mo |
| Male sexual dysfunction | Variable | Variable |
| Breast growth | 3-6 mo | 2-3 y |
| Decreased testicular volume | 3-6 mo | 2-3 y |
| Decreased sperm production | Unknown | >3 y |
| Decreased terminal hair growth | 6-12 mo | >3 y[a] |
| Scalp hair | Variable | ---[b] |
| Voice changes | None | ---[c] |

**Hembree et al, J Clin Endocrinol Metab, November 2017, 102(11):1–35**
Estimates represent clinical observations: Toorians et al. (149), Asscheman et al. (156), Gooren et al. (157).
[a]Complete removal of male sexual hair requires electrolysis or laser treatment or both.
[b]Familial scalp hair loss may occur if estrogens are stopped.
[c]Treatment by speech pathologists for voice training is most effective.

# Risks with estrogen

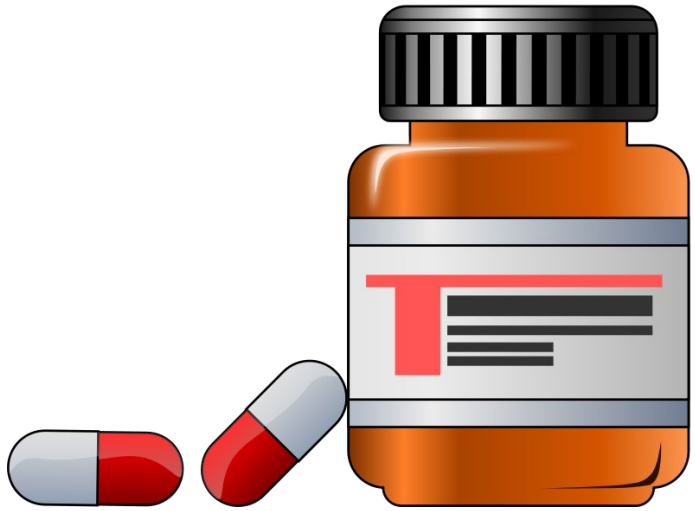
- Thromboembolic disease
- Macroprolactinoma
- Breast cancer
- Coronary artery disease
- Cerebrovascular disease
- Cholelithiasis
- Hypertriglyceridemia
- Potential changes in fertility

# Estradiol dosing and monitoring

- In the guidelines:
  - Dosing of estradiol while on puberty blockers or without puberty blockers
  - Which measurements and labs to monitor
    - Frequency of monitoring
  - “Goal”/physiologic range of serum testosterone and estradiol levels

# Spironolactone

- Fully reversible
- Dose: 100 mg -200 mg/day
- Cost: $15/month
- Gynecomastia!!!!!
- Can cause hyperkalemia



- Patients must be counselled about increased urination (bathrooms and tucking) and to d/c with vomiting (known side effect)
- Obtain electrolytes, BUN, Creatinine

# Scarlett

- A 13 year-old AMAB Caucasian trans female brought in by mom for consultation

- What do you do next?

# Scarlett

- Tanner stage 2 testis
- AM ultra sensitive LH is 5 mIU/ml
- Mental health provider has done readiness/support assessment, parents and patient on board to start pubertal suppression
- Discuss options, insurance considerations
  - Leuprolide 22.2 mg IM q 3 months (goal LH <4.4 mIU/mL)
  - Histrelin
  - Triptorelin 3.75 mg SQ q 4weeks (same goal)
  - Spironolactone
- Informed consent and assent

# What if Scarlett is 17 years old?

- Tanner stage 5 testis
- Voice has dropped, facial hair
- Discuss options
  - Spironolactone 50mg BID
  - Estradiol oral or transdermal
- Mental health readiness/support assessment
- Informed consent and assent

# Types of surgeries

- Assigned female at birth
  - Mastectomy
  - Hysterectomy, salpingectomy, oophorectomy
  - Metoidioplasty, phalloplasty, scrotoplasty

- Assigned male at birth
  - Breast enhancement
  - Orchiectomy
  - Vaginoplasty, labiaplasty, clitoroplasty
  - Facial feminization
  - Vocal cord shortening

# Education/resources for providers

- Webinars and information
  - Cardea Services
  - UCSF's Center of Excellence for Transgender Health
  - Human Rights Campaign
  - National LGBT Health Education Center webinars
- Ingersoll Consult Group listserv
- Gender Odyssey Conference
- Seattle Children's Gender Clinic

# Resources for youth and families

- Puget Sound region
  - Gender Diversity Support Groups (new online groups too)
  - Camp Ten Trees
- Yakima
  - The Space LGBTQ Youth Center
- Q Card project (QCardProject.com)