

The Transgender Patient in a Medical Setting

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Disclosures

- None

Definitions

- **Gender identity:**
 - One's own sense of being on the spectrum of ♂ or ♀
- **Gender nonconformity:**
 - Variation in gender expression from societal norm
- **Transgender:**
 - Describes individuals with gender nonconformity (identifying as a gender other than one's biological sex)
 - **Transsexual:** gender discordant individuals who make changes to perceived gender and/or anatomic sex
- **Gender dysphoria:** distress caused by incongruity of gender identity and anatomic sex

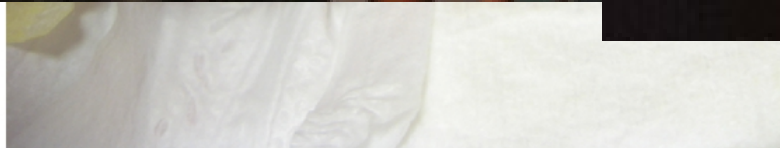
Terminology

- Trans woman
 - Male to female
 - MtF
- Trans male
 - Female to male
 - FtM

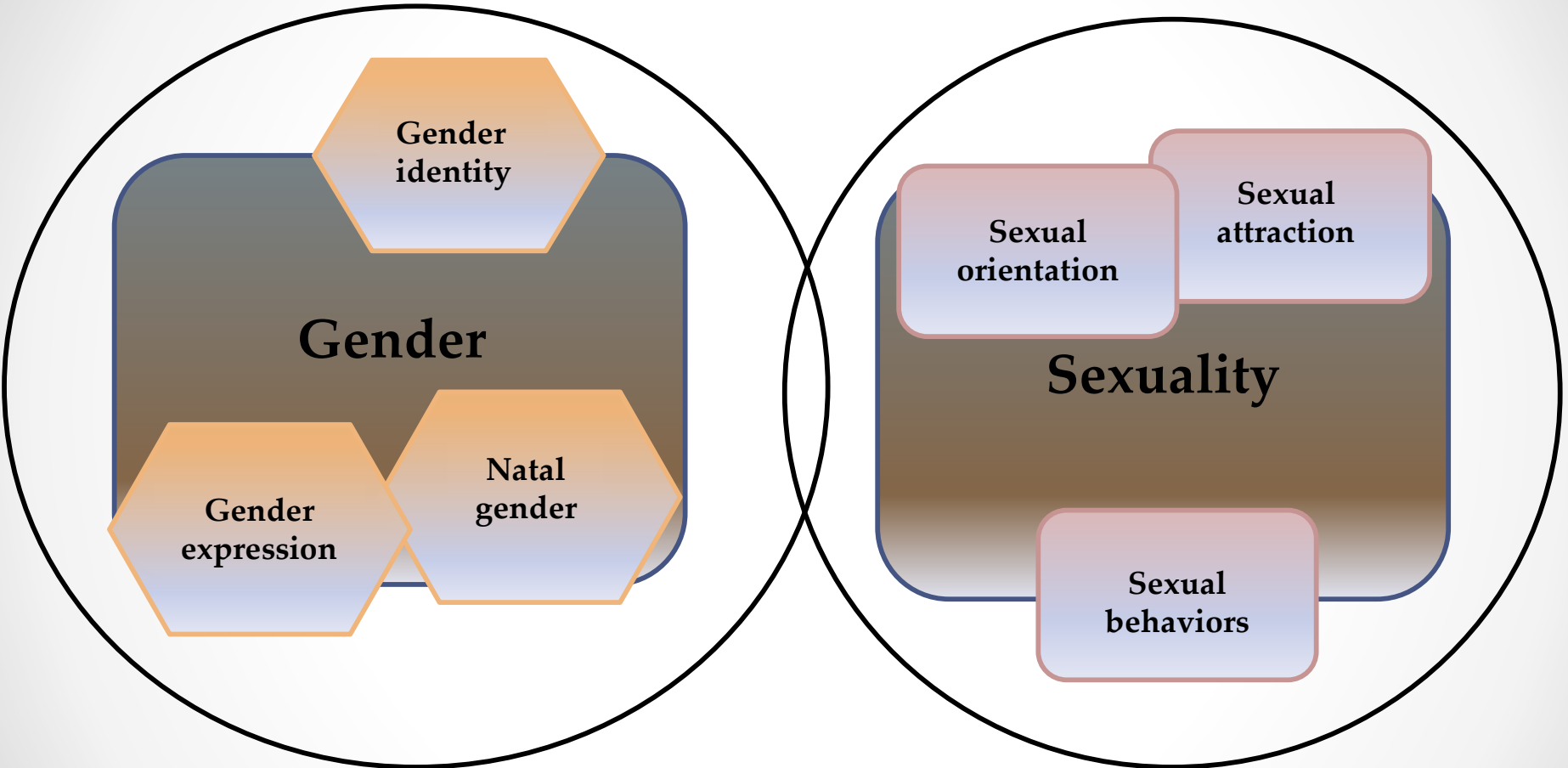
What defines our gender?

Is it the sexual characteristics that

Is it our



Who we are



Gender identity \neq Sexual orientation

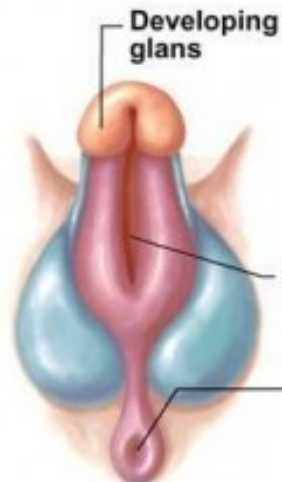
Pathophysiology

- No definitive etiology
 - Genetic, endocrine, neuroanatomic studies: biologic, environmental, and cultural factors
- Transgender is not a mental health condition
 - Mental health co-morbidities may be seen

Genital development

10 week

Male



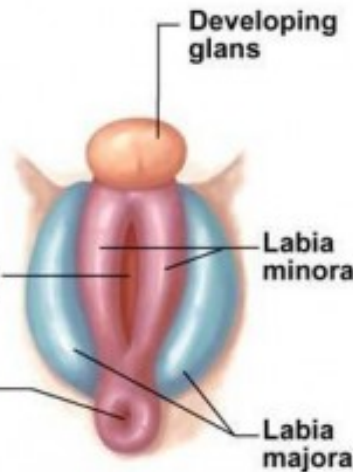
Urethral groove

Anus

Developing glans

10 week

Female



Labia minora

Labia majora

Developing glans

Glans of penis

Scrotum

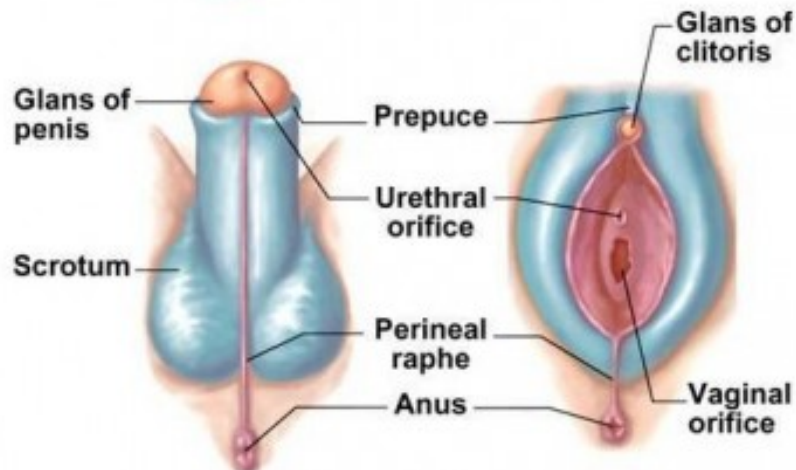
Prepuce

Urethral orifice

Perineal raphe

Anus

12 week



Glans of clitoris

Vaginal orifice

12 week

In utero hormone exposure

Brain undergoes sexual differentiation

○ Absence of in utero androgen = “” brain

- In utero estrogens do not give female phenotype/identification as female

○ Presence of in utero androgen = “” brain

- 5-alpha-reductase deficiency, 17beta-hydroxysteroid dehydrogenase deficiency
 - Undervirilized at birth, identify as male at puberty
- Androgen receptor sensitivity may vary
 - Longer CAG trinucleotide repeats associated with decreased sensitivity

Genetics

- Heylens *et al.*:
 - 39.1% concordance in 23 monozygotic twin pairs
 - No concordance in 21 same-sex dizygotic twin pairs
 - No concordance in 7 opposite-sex twin pairs

Diagnosis

- Pervasive desire to identify as the opposite gender
- Need to confirm absence of uncontrolled psychiatric illness
- Absence of genetic disorder, chromosomal abnormality

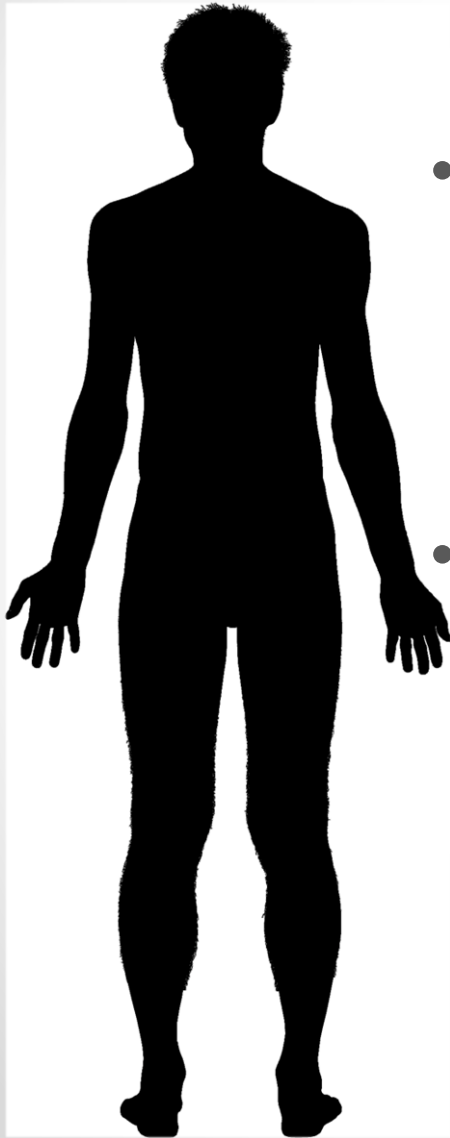
Treatment

- 2/3rds of children identifying will no longer identify post-puberty
- “Social transition”
- Hormone therapy
 - Netherlands:
 - 13.1% do not pursue any trans-specific care
 - Of the 78.6% who pursued, 56.8% pursued HRT
 - SLCVAMC:
 - 17.8% never on HT
 - 16.4% of trans women, 25.0% of trans men
 - 82.2% hx of HT, 11.7% not currently taking
- Gender confirmation surgery
- Tx co-morbid mental health issues

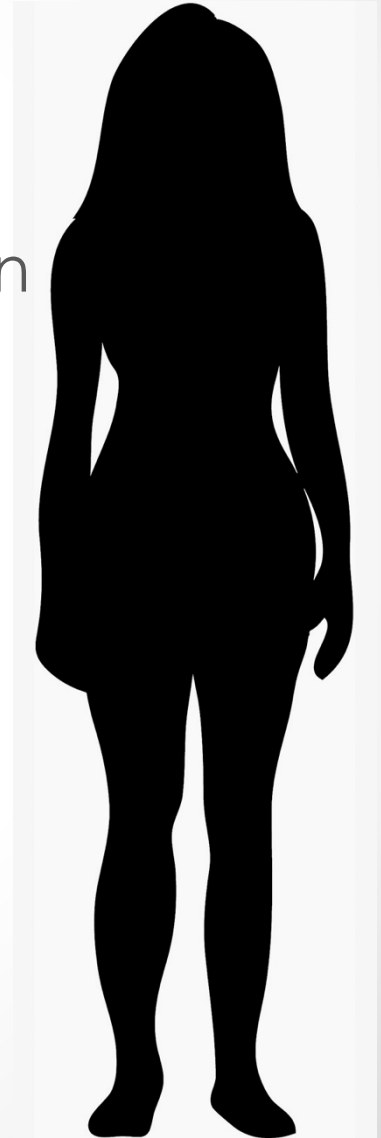
Medical challenges

- Health care access/trans-accepting providers
 - “Outing” in clinical setting
- Lack of medical training
 - Risks for medical/surgical complications
 - Inadequate health monitoring

HRT helps the body match the self



- Hormones DON'T
 - Change sexual attraction
 - Change identity
- Hormones DO
 - Change the external



Before starting HRT...

- Stop smoking
- Fertility questions
- Stage of life considerations
- Mental health care needed?

Four green stylized human figures are arranged in a horizontal row. From left to right, they are: a female figure (with a skirt), a male figure (with straight legs), a female figure (with a skirt), and a male figure (with straight legs). The text "Male to Female" is centered over the middle two figures.

Male to Female

Typical medication programs

- Estrogen:
 - Oral: estradiol 2.0-6.0 mg/day
 - Skin: estradiol patch 0.025-0.2 mg every 3-5 days
 - IM: 2-10 mg every week
- Anti-testosterone:
 - Spironolactone: 100-300 mg/day
 - Blocks testosterone secretion, stops testosterone binding to its receptor
 - GnRH agonist
 - Goserelin acetate (3.75mg/mo), leuprolide (22.5mg/3mo)
 - Constant stimulation of the pituitary makes it stop signaling

Hormone level targets

- Estradiol
 - Average daily premenopausal level
 - <200 pg/ml
 - Can't measure levels if taking conjugated estrogens or synthetic estrogens
 - Premarin, Prempro, Premphase
- Testosterone
 - <50 ng/dl

Undesirable effects

- Weight gain
- Insulin resistance/diabetes
- Mood changes

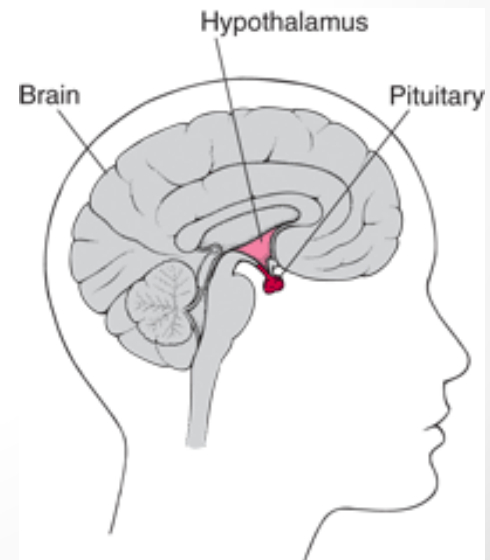
Risks

Very high risk:

- Increased risk of blood clots
 - 20x higher than baseline with some forms of estrogen

Moderate-high risk:

- Prolactin-secreting pituitary tumors
- Severe liver dysfunction
- Breast cancer
- Migraines/headaches
- Heart disease/stroke



What needs monitored

- Hormone levels
- Potassium levels
- Cholesterol
- A1C
- Heart attack/stroke risks
- Prolactin levels
- Bone density
- Breast tissue
- Prostate tissue

Question

An individual identifying as a trans woman comes to your office to establish care. She is 65 y/o, has never been on HRT before, but has tried several “female” formulations from the internet and friends. She can describe a clear pattern of identifying as female since childhood, but this generated conflict in her relationships so she’s presented as her natal male sex up until recently. Now she’s ready for hormone. After baseline labs and discussion of HRT options, you start her on an anti-androgen and then add in an estrogen. Which regimen and monitoring combination is most appropriate?

- a. Leuprolide/estradiol: Hgb A1C, potassium, ESR
- b. Spironolactone/estradiol: Hgb A1C, estradiol, potassium, prolactin
- c. Spironolactone/Prempro: lipids, potassium, prolactin





Female to Male

Typical medication programs

- Testosterone
 - Muscle injection: 100 mg every week
 - Skin:
 - Patch: daily
 - Gel: daily

Hormone level targets

- Testosterone
 - Normal male ranges
 - 350-700 ng/dl
- Estradiol
 - <50 pg/ml*

Undesirable effects

- High blood pressure
- Weight gain and swelling
- Cystic acne
- “Bad” cholesterol changes
- Mood changes
- Vaginal atrophy



Risks

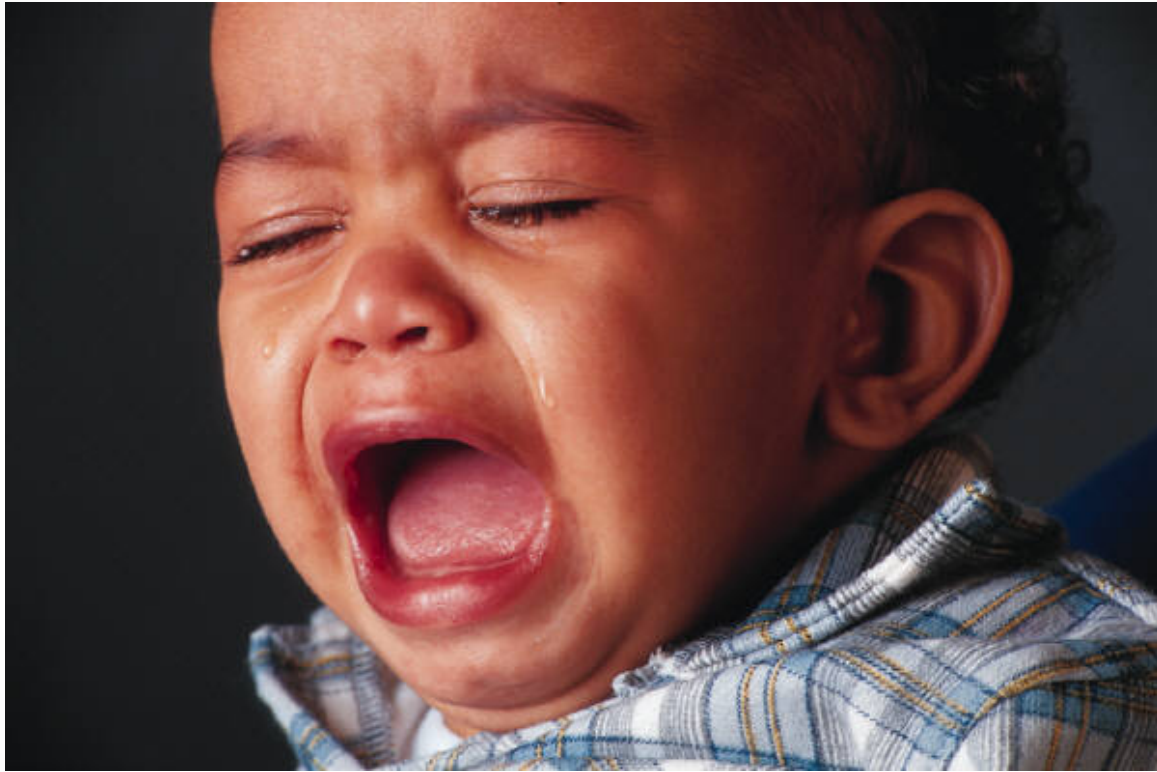
Very high risk

- Breast/uterine cancer
- High red blood cell counts

Moderate to high risk

- Severe liver dysfunction

Risks



Testosterone is NOT birth control!!!!!!!

What needs monitored

- Hormone levels
- Red blood cell counts
- Liver function
- Blood pressure
- Cholesterol
- A1C
- Bone density
- Cervical tissue
- Breast tissue

Summary

- Hormones are good...
with some risk
- Gender identity \neq Sexual orientation
- Transgender is not a MH d/o
- Tx: social, hormonal, surgical
- We have a lot to learn...