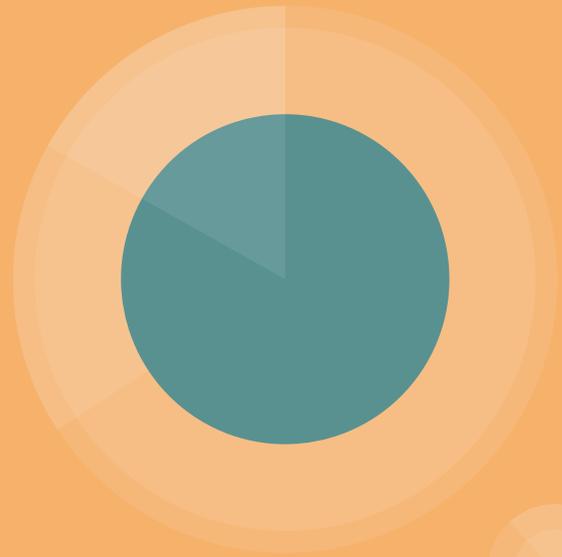


Transgender medicine 101

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Disclosures:

For myself personally: none

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Banksy, however, will offer you a crazy amount of attention if you offer him tennis balls.

And he wants ALL of them





Learning Objectives

1. To learn the components of managing transgender patients and how that process can play out
2. To learn the components of the medical regimens and guidelines for monitoring and follow up.



Agenda

1. Transgender terminology
2. Diagnosis
3. Prevalence
4. Hormone regimens
5. Impact of long-term hormone therapy
6. Conclusions
7. Recommendations



Transgenderism: What does it mean?

Common descriptions you will hear that you should confront and clarify:

“Born into the wrong body”

“Crazy/weird”

“Confused” or “really just gay”

“Rejecting societal norms”

“A phase/whim”

“Other/tranny” (gets confused with transvestite)

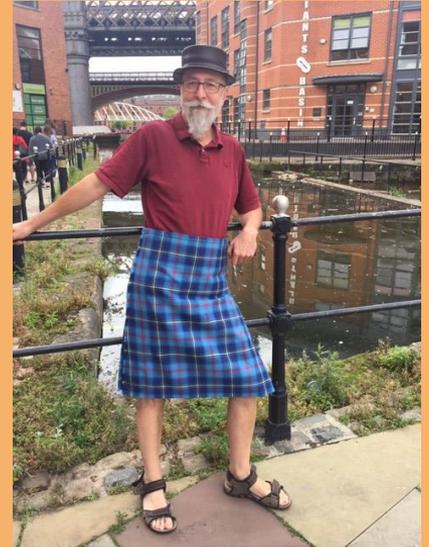


Basic Terminology: Sex and Gender

Sex: Attributes that characterize biologic ‘maleness’ or ‘femaleness’ usually based on internal and external genitalia and secondary sex characteristics.
male/female

Natal Sex/sex assigned at birth: the sex assigned at birth usually based on anatomy. male/female

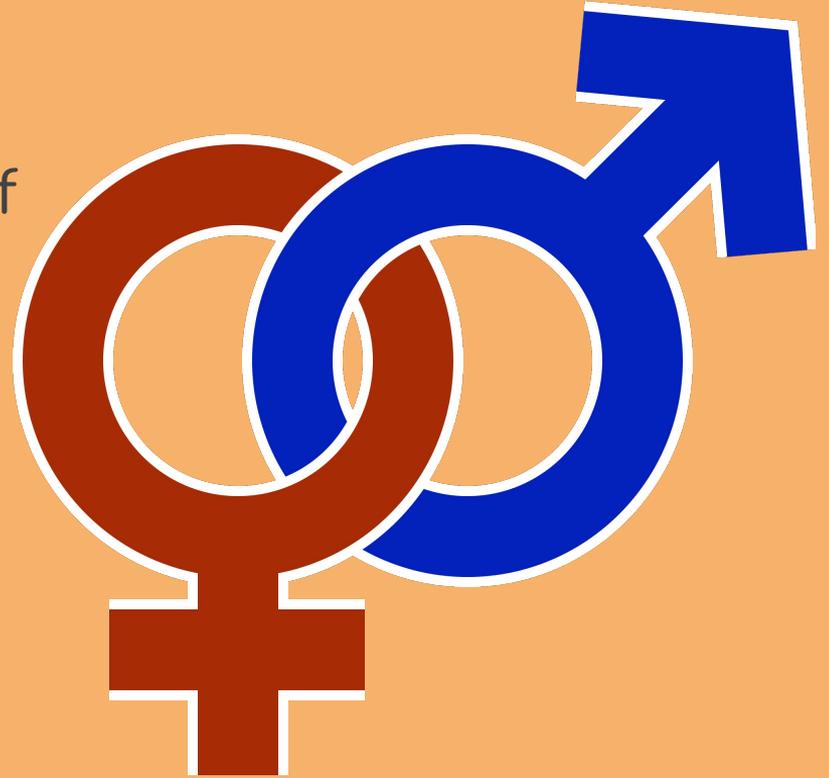
Basic Terminology: Sex and Gender



Gender: attitudes, feelings and behaviors that a given culture associates with a person's birth sex.

Basic Terminology: Sex and Gender

Gender identity: One's internal, deeply held sense of one's own gender.





Basic Terminology: What is Transgender?

Transgender: People who express that their gender identity does not match the sex they were assigned at birth. (termed *gender dysphoria*)

Most people have a gender identity as a man or a woman
(boy/girl)

Gender non-conforming: behaviors that are viewed as incompatible with these expectations constitute *gender non-conforming*.



Cis-gender

People who express their gender identity as consist with their sex assigned at birth.



Gender Dysphoria in Adults: DSM V

Synopsis: A marked incongruence between one's expressed gender and one's assigned gender of at least six months duration AND

Strong desire to:

Get rid of one's sex characteristics

Obtain the sex characteristics of another gender

Desire to be another gender

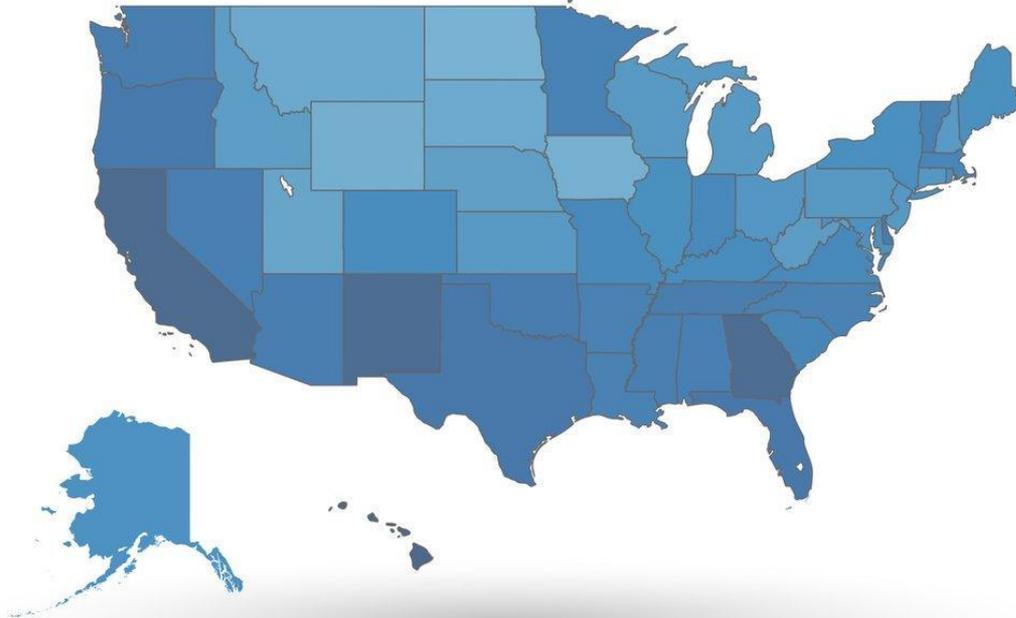
Desire to be treated as another gender

Prevalence depends on definition

Collin L, Reisner SL, Tangpricha V, Goodman M, J Sex Med. 2016. Per 100,000 people

Transgender defined as...	Male to Female	Female to Male	Overall
Requests for surgery	10-30	1-15	5-10
Diagnostic codes (i.e. ICD9)	5-30	1-10	2-10
Self report	500-700	200-500	500-750

1.4 million Adults in the U.S. Identify as **Transgender**, 0.6% of the Adult Population



the
Williams
INSTITUTE

Percent of adults identifying
as transgender in the U.S.

0.00%  0.78%



Related learning point

Transgender people exhibit the same array sexual preferences as the general population.

Meaning: identify as gay/lesbian/bisexual and heterosexual in roughly the same proportions as the non-transgender population

Medical context: you have to know their gender identity and sexual preferences to guide health conversations

(eg transgender male who practices vaginal intercourse → pregnancy risk, bleeding risk from vaginal atrophy)



Guiding principles

R-E-S-P-E-C-T

PROFESSIONALISM

Typical medical note

HPI: John Doe is a 26 year old transgender female

Transition began: YEAR; desired name Jane

HRT: yes/no; **date begun;** **regimen** past/current

Surgery: yes/no; **surgery planned/desired:** yes/no

Presentation to you: Any stage - early (not yet on HRT); On HRT;

On HRT and top surgery (female)/On HRT and top + bottom surgery

Social: current partner, family support yes/no



Mental Health Evaluation

Guidelines formerly recommended a letter from therapist to support the transition process but no longer required prior to starting therapy.



Initial Visit

Ask preferred name and USE IT.

Document preferred name prominently in the chart

EDUCATE your staff as to using preferred names and also use as much gender-neutral terminology as possible “How are you today?” vs. “How are you today Sir?”



Case for consideration

- 52 yo male with type 2 diabetes and history of poor control; A1c about 9
- Seen as a new patient, expresses gender dysphoria; desires to start MTF hormone transition
- After discussion including risks and unknowns with HRT in transgender population, estrogen and spironolactone started
- 9 months later returns, had MI while on vacation, ICU and heart failure, 6 week + hospital stay; off spiro due to hyperkalemia, off E 2/2 PE during hospitalization
- Still desires to live as female, including hormone treatment.

FTM Treatment guidelines

Hormone regimens for transgender men (female to male, FTM)

Oral: Testosterone undecanoate* 160–240mg/day --*not approved in USA

Arimidex or tamoxifen for estrogen suppression

Parenterally (IM or subQ): Testosterone enanthate or cypionate 50–200mg/week or

100–200mg/2 weeks OR

Testosterone undecanoate (aveed) 1000 mg/12 weeks

Transdermal: Testosterone 1% gel 2.5 – 10 g/day OR Testosterone patch 2.5 – 7.5 mg/day



FTM guidelines: monitoring on HRT

Monitor for virilizing and adverse effects every 3 months for first year and then every 6 – 12 months. (clinical exam)

Monitor serum testosterone at follow-up visits with a practical target in the male range (300 – 1000 ng/dl).

→ Peak levels for patients taking parenteral testosterone can be measured 24 – 48 h after injection. Trough levels can be measured immediately before injection.



FTM monitoring of HRT continued

Monitor hematocrit and lipid profile before starting hormones and at follow-up visits.

Bone mineral density (BMD) screening before starting hormones for patients at risk for osteoporosis. Otherwise, screening can start at age 60 or earlier if sex hormone levels are consistently low.

FTM patients with cervixes or breasts should be screened appropriately.



Hormone regimens for male-to-female (MTF)

Anti-androgen

- Spironolactone 100 – 200 mg/day (up to 400 mg) dosing most effective *BID*
- Cyproterone acetate 50–100mg/day
- GnRH agonists 3.75 mg subcutaneous monthly (rarely used)



Hormone regimens for male-to-female (MTF)

Oral estrogen: Oral conjugated estrogens *2.5–7.5mg/day*

Oral 17-beta estradiol *2–6mg/day*

Parenteral estrogen:

Estradiol valerate *5–20mg i.m./2 weeks* or cypionate

2–10mg i.m./week

Transdermal estrogen: Estradiol patch *0.1–0.4mg/2X week*

Monitoring for male-to-female (MTF)

Monitor for feminizing and adverse effects every 3 months for first year and then every 6– 12 months.

Monitor serum testosterone and estradiol at follow-up visits with a practical target in the female range (testosterone 30 – 100 ng/dl; E2 <200 pg/ml).

Monitor prolactin and triglycerides before starting hormones and at follow-up visits.

Monitor potassium levels if the patient is taking spironolactone.

BMD screening before starting hormones for patients at risk for osteoporosis. Otherwise, start screening at age 60 or earlier if sex hormone levels are consistently low.



Other healthcare reminders

MTF patients should be screened for breast and prostate cancer appropriately.

FTM must continue to get PAPs as indicated by current guidelines for women

Discuss fertility preservation strategy prior to hormone initiation



Long-term health outcomes: Transmasculine

Testosterone therapy adversely affects lipids
(↑LDL, ↓ HDL, ↑Trigs) (Weirckx, et al. E J of Endocrinology 2013).

No apparent increased risk of MI, stroke or
thromboembolic disease, bone issues or cancers

(risk of MI among transfeminine Kaiser cohort)

However, study designs, cohort size, relatively young age of those studies limits confidence in these results.



Long-Term health outcomes: transfeminine

Both estrogen and testosterone lowering therapy is associated with increased triglycerides. (Maraka et al JCEM september 2017)

Increased risk of thromboembolic disease, stroke, and likely MI as seen in the WHI (Weirckx, et al. E J of Endocrinology 2013; Kaiser Cohort; Strong Cohort)

There does not appear to be an increased risk of cancer or osteoporosis. (JCEM September 2017)

The doses of estrogen are higher than what are provided to post-menopausal women.

Competency questions

1. What are the elements of a basic MTF transgender regimen:
 - a. Spironolactone only
 - b. Spironolactone plus arimidex or tamoxifen
 - c. Estrogen, spironolactone
 - d. Estrogen, spironolactone, progesterone
2. What are the elements of a basic MTF transgender regimen:
 - a. Spironolactone only
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 - c. Estrogen, spironolactone
 - d. Estrogen, spironolactone, progesterone
3. What are the issues highlighted in the case?
 - a. A person with type 2 diabetes should not also be given gender-affirming therapy
 - b. Cardiovascular disease is a contraindication to gender affirming therapy
 - c. Risk and benefit of gender affirming therapy should be discussed with each patient
 - d. There are clear guidelines with substantial data related to gender affirming therapy



Where to read more?

**Full Guideline: Endocrine Treatment of
Gender-Dysphoric/Gender-Incongruent Persons:
An Endocrine Society Clinical Practice Guideline
JCEM September 2017**



Summary/Conclusions

Transgender care should be normalized and patients supported; refer to endocrinology with therapy initiation and for ongoing management as desired.

Comorbid disease is managed no differently; medication interactions must be addressed

Thank you for your attention