A stethoscope is positioned diagonally across the frame, resting on a piece of ECG paper. The background is a solid purple color, and the stethoscope and ECG paper are in a lighter shade of purple, creating a monochromatic effect. The title text is overlaid on the upper half of the image.

# Care of Transgender and Gender Diverse Patients in Primary Care

**Jenny Siegel, MD**

Assistant Professor of Medicine, Boston University School of Medicine  
Section of General Internal Medicine, Boston Medical Center  
Medical Director, Center for Transgender Medicine & Surgery



[Jennifer.siegel@bmc.org](mailto:Jennifer.siegel@bmc.org)

**Annie Potter, MSN, MPH, FNP-C, CARN-AP**

Assistant Professor of Medicine, Boston University School of Medicine  
Section of General Internal Medicine, Boston Medical Center  
Center for Transgender Medicine & Surgery



[Annie.Potter@bmc.org](mailto:Annie.Potter@bmc.org)

February 3, 2022

## Disclosures

- No relationships or commercial interests to disclose.
- Some medications discussed are used for gender-affirming hormone therapy on an off-label basis.

## Learning Objectives

1. Consider how transgender health is a fundamental component of primary care
2. Brief review of terminology related to gender identity
3. Recognize the holistic needs of transgender populations inclusive of preventative and gender-affirming medical care.

## Our Pragmatic Hopes

That after this talk you will feel more comfortable:

- Greeting patients with inclusive language
- Discussing patient goals for gender affirmation
- Offering psychosocial support to your patients
- Providing routine preventive health care to transgender/gender diverse patients
- Helping with documentation for name/gender marker changes
- Prescribing gender-affirming hormones in primary care

# Transgender Health is Primary Care

## Wellness promotion

- Role of gender identity/gender affirmation in overall health
- Inclusive preventive screening

## Psychosocial Context

- Address mental health, social supports
- Resources for legal/social transition

## Chronic Health Management

- Gender-affirming medications
- Addressing concurrent health conditions

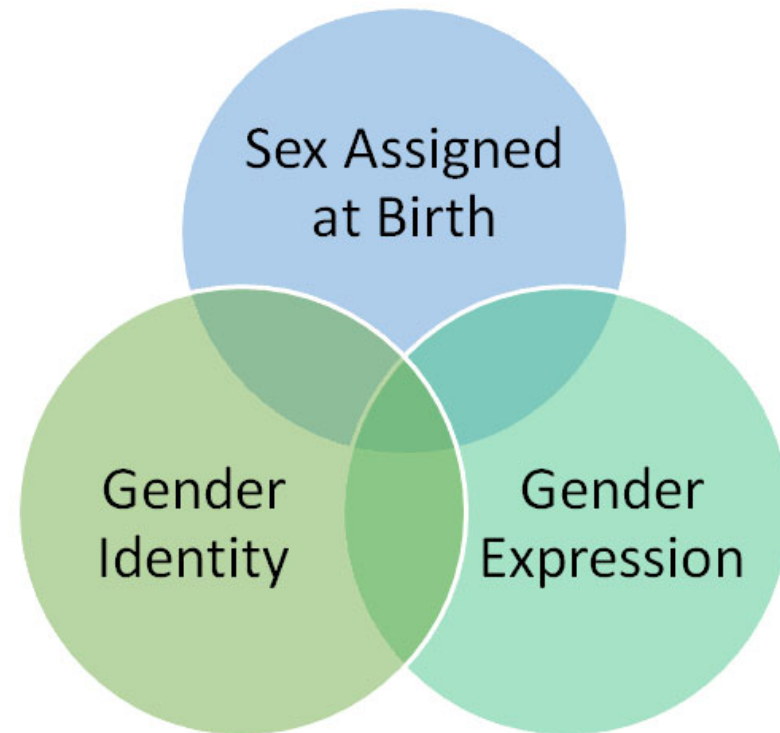
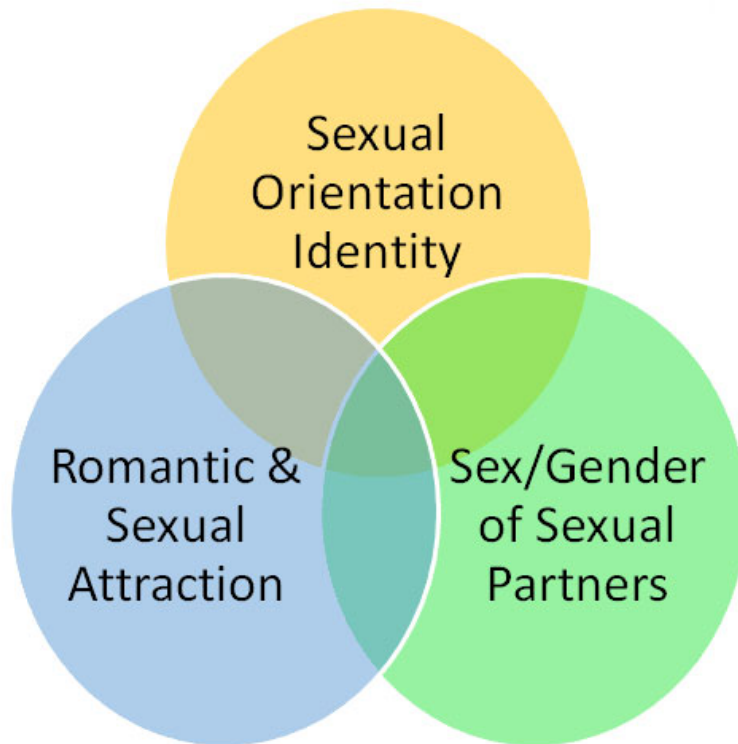
## Inter-professional Teamwork

- Pharmacy – injection supplies
- Electronic medical record

## Engagement with Specialists

- Endocrine, behavioral health, surgery, voice therapy, dermatology
- Medical records, legal services, social work

# Sexual Orientation vs. Gender Identity



# Terminology - Gender

**Gender identity** - one's innermost concept of self as male, female, a blend of both or neither – how individuals perceive themselves and what we call themselves.

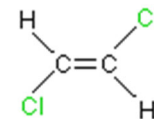
**Gender expression** - external appearance of one's gender identity, usually expressed through behavior, clothing, haircut or voice. May be on a spectrum.

\*\*\*\*\*

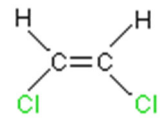
**Cisgender** - gender identity is aligned with sex assigned at birth.

**Transgender** - umbrella term for people whose gender identity and/or expression is different from cultural expectations based on the sex they were assigned at birth.

**Nonbinary/gender non-conforming/gender diverse/genderqueer** – all terms that describe those who do not have a binary gender identity



*trans*-1,2-dichloroethene



*cis*-1,2-dichloroethene

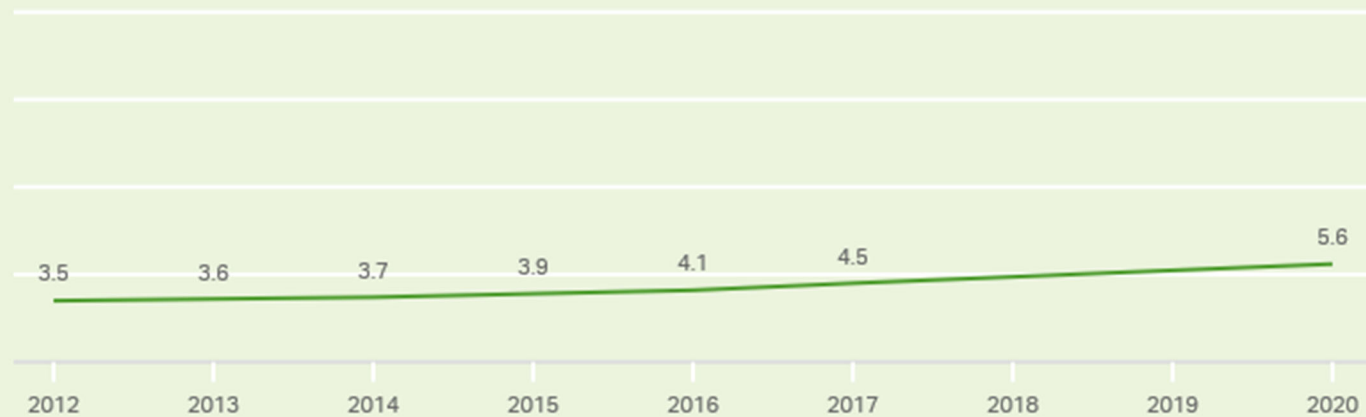


# How Many?

## Americans' Self-Identification as LGBT

Which of the following do you consider yourself to be? You can select as many as apply: Straight or heterosexual; Lesbian; Gay; Bisexual; Transgender.

— % Identify as LGBT



2012-2017 wording: Do you, personally, identify as lesbian, gay, bisexual or transgender?

GALLUP



# How Many?

## Americans' Self-Identified Sexual Orientation

Which of the following do you consider yourself to be? You can select as many as apply: Straight or heterosexual; Lesbian; Gay; Bisexual; Transgender.

	Among LGBT U.S. adults	Among all U.S. adults
	%	%
Lesbian	11.7	0.7
Gay	24.5	1.4
Bisexual	54.6	3.1
Transgender	11.3	0.6
Other (e.g., queer, same-gender-loving)	3.3	0.2

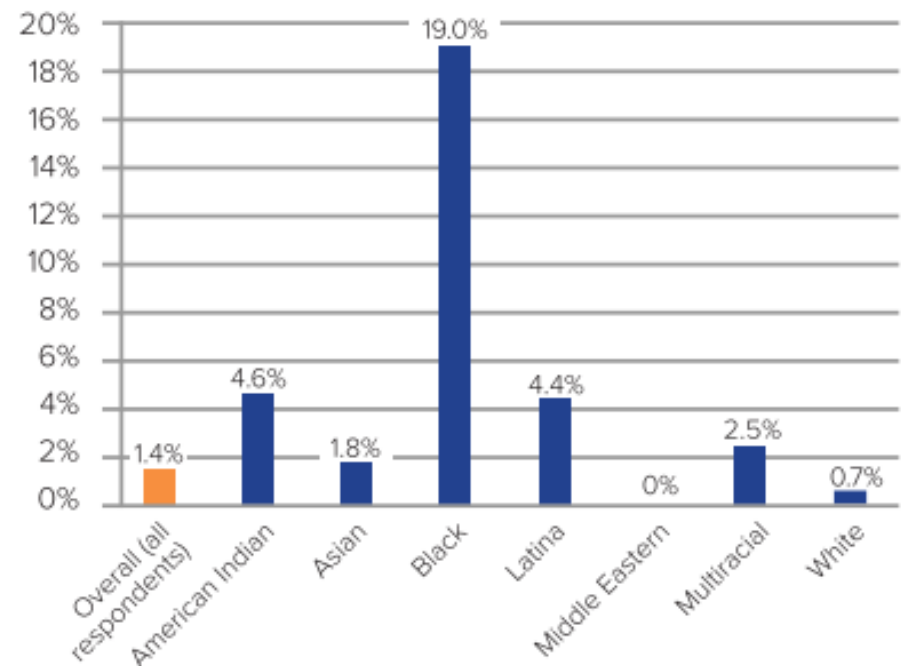
Percentages total more than 100% because respondents may choose more than one category.

GALLUP, 2020

# Health Inequities

- Higher prevalence of overall poor health
- 40% (vs 5%) serious psychological distress
- 40% (vs 4.6%) lifetime suicide attempt
- 50% bullying in school
- Less likely to have regular health insurance or regular health provider
- No difference in burden of chronic illness

**Figure 7.43: Living with HIV among transgender women  
RACE/ETHNICITY (%)**



Flores, A.R., Herman, J.L., Gates, G.J., & Brown, T.N.T. (2016). How Many Adults Identify as Transgender in the United States? Los Angeles, CA: The Williams Institute.

Meyer IH, Brown TN, Herman JL, Reisner SL, Bockting WO. Demographic Characteristics and Health Status of Transgender Adults in Select US Regions: Behavioral Risk Factor Surveillance System, 2014. Am J Public Health. 2017 Apr;107(4):582-589. doi: 10.2105/AJPH.2016.303648. Epub 2017 Feb 16. PMID: 28207334; PMCID: PMC5343705.



# Health Care Access and Behavioral Health

There is a protective effect on mental health status and substance use for trans women who utilize transition-related medical care:

- Utilization of hormones, breast augmentation, and genital surgery were all associated with lower odds of suicidal ideation, binge drinking, and non-injection drug use
- A history of gender-affirming surgery was associated with lower odds of psychological distress, tobacco smoking, and suicidal ideation as compared with no history of gender-affirming surgery

Wilson et al., 2015  
Almazan & Keuroghlian, 2021



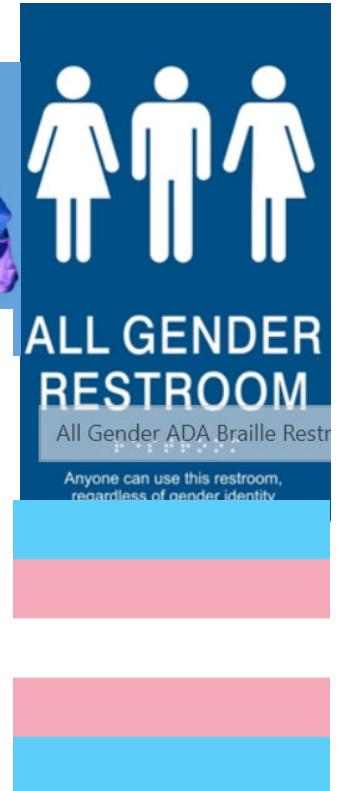
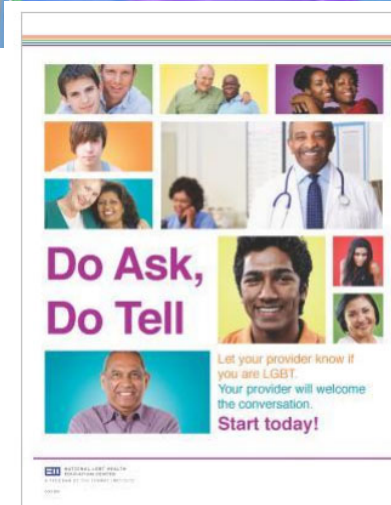
Boston University School of Medicine



# Creating a Welcoming Environment

- Display symbols welcoming LGBTQ community
- Include brochures addressing relevant health concerns
- Update intake forms/EMRs
- Staff training re: gender neutral language
- ASK
  - Correct name
  - Pronouns
  - Language for body (anatomy)
- Recognize that much care being sought is not specifically related to gender

GLMA. Guidelines for Caring for Lesbian, Gay, Bisexual, Transgender Patients.



# More Tips for Inclusive Language

Instead of “Nice to meet you, sir”

- Try “Nice to meet you”

Instead of “I see here your name is XXX”

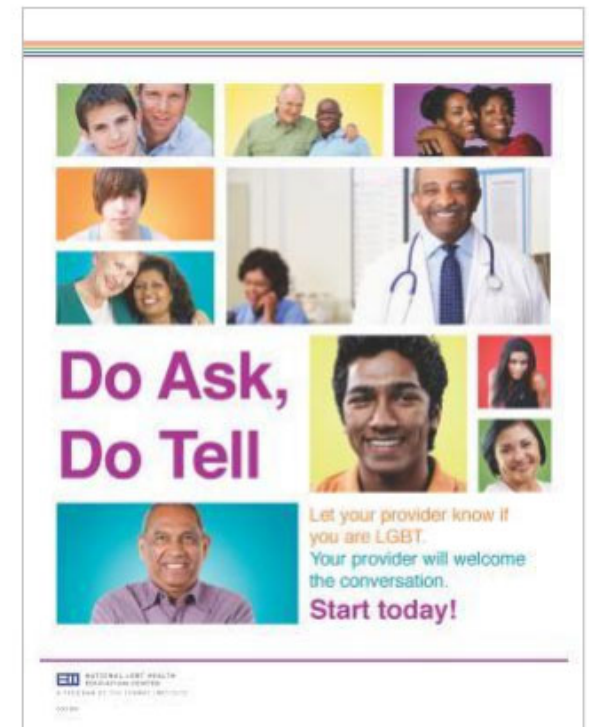
- Try “Hi, I’m XX, how should I address you during our visit today”

Instead of “we still need to examine your female organs”

- Try “Can we talk about why a pap test is indicated for you?”

Instead of “Women and Transgender Women”

- Try Cisgender Women and Transgender Women or just Women
- Avoid describing cisgender individuals as “normal” or “regular”



## Gender Transition or Affirmation Process

Psychological (sense of self)

Medical (hormone therapy)

Social (outward expression)

Surgical

Legal (identity documents)



# Changing Identity Documents

- Rules vary widely between states
  - Physician/provider letter often needed for gender marker changes
  - National Center for Transgender Equality provides state-by-state guidance
    - In MA – for drivers license/state ID
    - Federally – birth certificate, Soc Security card
  - “appropriate clinical treatment for gender transition”
- Significant delays with COVID-19
- Birth certificate changes require notary
- Changes are linked with better mental health

Letter Certifying Applicant's Gender Change

I, \_\_\_\_\_  
(Physician's Full Name)

\_\_\_\_\_  
(Physician's medical license/certificate number) (Issuing State/Country of license/certificate)

am the physician of \_\_\_\_\_  
(Name of Patient)

\_\_\_\_\_  
(Date of Birth of Patient)

with whom I have a doctor/patient relationship and whom I have treated, or  
with whom I have a doctor/patient relationship and whose medical history I  
have reviewed and evaluated.

\_\_\_\_\_  
(Name of Patient)

has had appropriate clinical treatment for transition to ☐ male ☐ female.

I declare under penalty of perjury under the laws of the United States that the  
foregoing is true and correct.

\_\_\_\_\_  
Signature of Physician

\_\_\_\_\_  
Physician's Address

\_\_\_\_\_  
Typed Name of Physician

\_\_\_\_\_  
Date

\_\_\_\_\_  
Physician's Phone Number



# Taking a Gender History





## Providing Psychosocial Support

- Earning patient trust
- Assessing social determinants of health (good primary care) and connecting to resources
  - Working with social work, case management, and patient navigators
- Discuss mental health and well-being
  - Mental health services are not required to access gender-affirming **medical** interventions at Boston Medical Center
- Connect to services when requested or required
  - Specific requirement for Gender-affirming **surgical** interventions
  - Many interested in a variety of other behavioral health services

## Gender Affirming Hormones: Before you Start

### Models of Care

- “Gatekeeping” vs. Informed Consent

### Diagnosis

- Gender Dysphoria
- Gender Incongruence

### Individualize Treatment Goals

- Medications, surgery, hair removal, behavioral health, other

### Fertility Preservation

- Discuss before starting hormones
- Be aware of insurance issues

# Hormone Therapy - Adults

## Goals of therapy:

- Reduce endogenous sex hormone levels
- Replace with exogenous sex hormones that will support the expressed gender identity

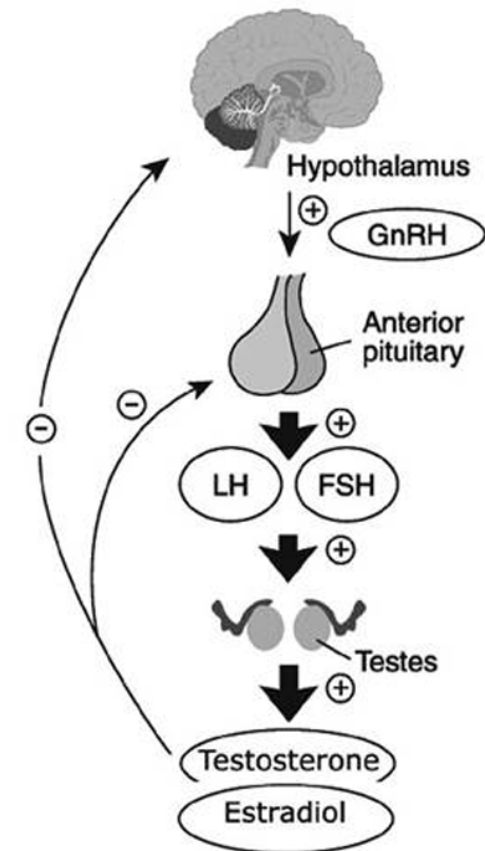
## Transgender males

- Testosterone
- Goals: testosterone 400-800 ng/dL, estradiol <50 pg/mL and cessation of menses

## Transgender females

- Estrogen replacement
- Androgen blockers
- Goal estradiol level 100-200 pg/mL and testosterone <50 ng/dL

## Nonbinary/Gender Diverse Individuals



# Masculinizing Regimens

Androgen	Initial - low dose <sup>b</sup>	Initial - typical	Maximum - typical <sup>c</sup>	Comment
<b>Testosterone Cypionate<sup>a</sup></b>	20 mg/week IM/SQ	50mg/week IM/SQ	100mg/week IM/SQ	For q 2 wk dosing, double each dose
<b>Testosterone Enanthate<sup>a</sup></b>	20mg/week IM/SQ	50mg/week IM/SQ	100mg/week IM/SQ	"
<b>Testosterone topical gel 1%</b>	12.5-25 mg Q AM	50mg Q AM	100mg Q AM	May come in pump or packet form
<b>Testosterone topical gel 1.62%<sup>d</sup></b>	20.25mg Q AM	40.5 - 60.75mg Q AM	103.25mg Q AM	"
<b>Testosterone patch</b>	1-2mg Q PM	4mg Q PM	8mg Q PM	Patches come in 2mg and 4mg size. For lower doses, may cut patch

<https://transcare.ucsf.edu/guidelines>



# Masculinizing Effects

**Table 12. 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	— <sup>a</sup>
Increased muscle mass/strength	6–12 mo	2–5 y
Fat redistribution	1–6 mo	2–5 y
Cessation of menses	1–6 mo	— <sup>b</sup>
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

Estimates represent clinical observations: Toorians *et al.* (149), Assche-man *et al.* (156), Gooren *et al.* (157), Wierckx *et al.* (158).

Hembree, W. C., Cohen-Kettenis, P. T., Gooren, L., Hannema, S. E., Meyer, W. J., Murad, M. H., Rosenthal, S. M., Safer, J. D., Tangpricha, V., & T'Sjoen, G. G. (2017). Endocrine treatment of gender-dysphoric/ gender-incongruent persons: An endocrine society\*clinical practice guideline. *Journal of Clinical Endocrinology and Metabolism*, 102(11), 3869–3903. <https://doi.org/10.1210/jc.2017-01658>



# Hormone Therapy – Goal Serum Levels

## Goals of therapy:

- Reduce endogenous sex hormone levels
- Replace with exogenous sex hormones that will support the expressed gender identity

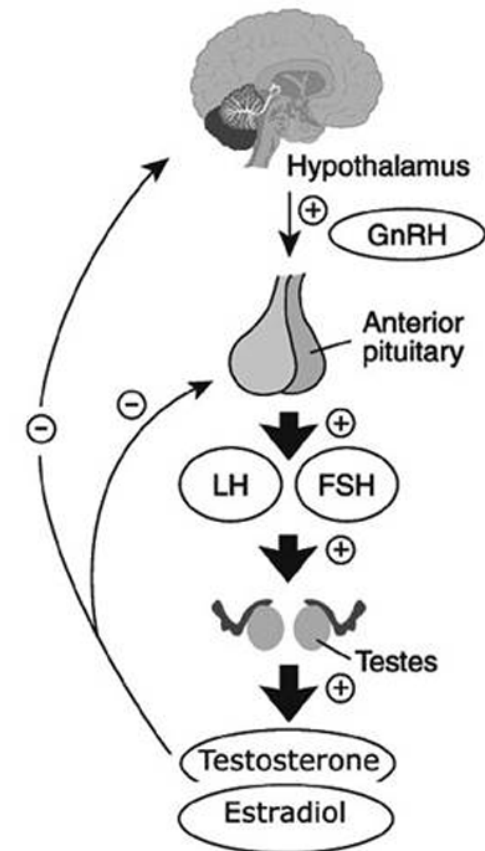
## Transgender males

- **Testosterone**
- **Goals: testosterone 400-800 ng/dL, estradiol <50 pg/mL and cessation of menses**

## Transgender females

- Estrogen replacement
- Androgen blockers
- Goal estradiol level 100-200 pg/mL and testosterone <50 ng/dL

## Nonbinary/Gender Diverse Individuals



## Masculinizing Hormones – Challenges

- Persistent menses
- Erythrocytosis
- Lipid changes ( $\downarrow$  HDL,  $\uparrow$  TG)
- Liver dysfunction (transaminases  $> 3x$  ULN)
- Acne
- Worsening of hypertension
- Mood and Energy changes
- Male Pattern Baldness

### Contraindications:

- Pregnancy
- Hormone sensitive cancer
- Frank polycythemia (Hct  $>55\%$ )

# Feminizing Regimens

Hormone	Initial-low <sup>b</sup>	Initial	Maximum <sup>c</sup>	Comments
<b>Estrogen</b>				
Estradiol oral/sublingual	1mg/day	2-4mg/day	8mg/day	if >2mg recommend divided bid dosing
Estradiol transdermal	50mcg	100mcg	100-400 mcg	Max single patch dose available is 100mcg. Frequency of change is brand/product dependent. More than 2 patches at a time may be cumbersome for patients
Estradiol valerate IM <sup>a</sup>	<20mg IM q 2 wk	20mg IM q 2 wk	40mg IM q 2wk	May divide dose into weekly injections for cyclical symptoms
Estradiol cypionate IM	<2mg q 2wk	2mg IM q 2 wk	5mg IM q 2 wk	May divide dose into weekly injections for cyclical symptoms
<b>Androgen blocker</b>				
Spironolactone	25mg qd	50mg bid	200mg bid	

<https://transcare.ucsf.edu/guidelines>





## Feminizing Effects

**Table 13. Feminizing Effects in Transgender 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 <sup>a</sup>
Scalp hair	Variable	— <sup>b</sup>
Voice changes	None	— <sup>c</sup>

<sup>a</sup>1658 Dates represent clinical observations: Toorians *et al.* (149), Asscheman *et al.* (156), Gooren *et al.* (157).

Hembree, W. C., Cohen-Kettenis, P. T., Gooren, L., Hannema, S. E., Meyer, W. J., Murad, M. H., Rosenthal, S. M., Safer, J. D., Tangpricha, V., & T'Sjoen, G. G. (2017). Endocrine treatment of gender-dysphoric/ gender-incongruent persons: An endocrine society clinical practice guideline. *Journal of Clinical Endocrinology and Metabolism*, 102(11), 3869–3903. <https://doi.org/10.1210/jc.2017-01658>



# Hormone Therapy – Goal Serum Levels

## Goals of therapy:

- Reduce endogenous sex hormone levels
- Replace with exogenous sex hormones that will support the expressed gender identity

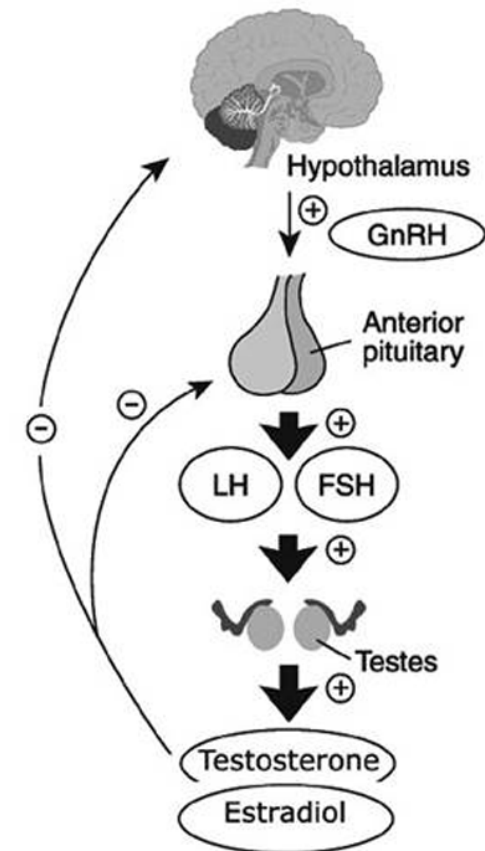
## Transgender males

- Testosterone
- Goals: testosterone 400-800 ng/dL, estradiol <50 pg/mL and cessation of menses

## Transgender females

- Estrogen replacement
- Androgen blockers
- Goal estradiol level 100-200 pg/mL and testosterone <50 ng/dL

## Nonbinary/Gender Diverse Individuals



# Challenges with Feminizing Hormones

## Side Effects

- Estrogen
  - Headache
  - Mood swings
  - Weight Gain
- Spironolactone
  - Polyuria
  - Orthostasis

## Complications

- **Venous Thromboembolism**
- Prolactinoma
- +/- cardiovascular effects
- Changes in Libido
- Migraines
- Mental Health

# Gender Affirming Hormones & CV Risk

Study	Outcomes	Findings		F/U yrs *	Limitations: data not included
		TW	TM		
Nota 2517 TW 1358 TM	VTE	+++	NS		tobacco comorbid conditions aspirin, statin
	MI	NS	+++	9±9	
	Stroke	+++	NS	8±9	
Getahun 2842 TW 853 TM	VTE	+++	NS		comorbid conditions aspirin, statin
	MI	NS	NS	4±3	
	Stroke	+++	NS	4±3	
Asscheman 966 TW 365 TM	VTE	+++	NS		tobacco comorbid conditions aspirin, statin
	MI	NS	NS	19±8	
	Stroke	NS	NS	19±6	

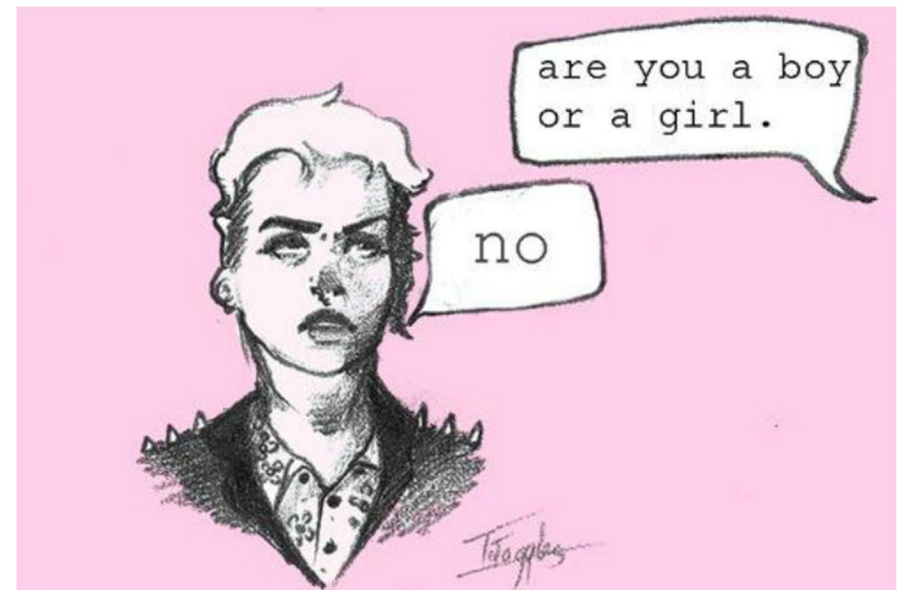
TM = Transgender men; TW = Transgender women; F/U = mean follow up;  
VTE = venothromboembolism; MI = myocardial infarction; NS = no significant finding;  
(+++) = significant increased risk of outcome, \*mean ± SD yr follow-up

Andrologia 2014;46:791. Ann Intern Med 2018;169:205. Circulation 2019;139:1461.



# Non-binary and Gender Diverse Individuals

- Adjust doses of spironolactone and/or estradiol to maintain testosterone levels in a range between standard male and female levels
- Use of anti-androgens alone
  - BUT – WATCH FOR BONE LOSS!
- Limited courses of hormone therapy
- Surgical affirmation without hormone treatment



# Surgical Options

## Trans Feminizing

- Breast augmentation
- Genital Surgeries
  - Vaginoplasty with orchiectomy
  - Genital remodeling
- Vocal Cord Procedures
- Facial feminization
  - Forehead and brow bone reshaping
  - Jaw and chin contouring
  - Rhinoplasty
  - Hairline changes
  - Tracheal shave

## Trans Masculinizing

- Chest reconstruction
- Hysterectomy +/- BSO
- Metoidioplasty (creating phallus from clitoral tissue)
- Phalloplasty (creating phallus from other part of the body, such as from a radial forearm flap)

# Preventive Care

## Cancer Screening

Screen all organs that are present in line with national guidelines

## Substance Use and Mental Health Screening

Consider screening for depression/anxiety

Assessment for unhealthy substance use

## Bone Health

Consider Hx of blockers, anti-androgens without estrogen, +/- gonads

Osteoporosis: consider screening at baseline if risk factors for osteoporotic fracture present

## Sexual Health

Thorough sexual history taking

Comprehensive STI screening

Contraceptive Needs

## Vaccinations

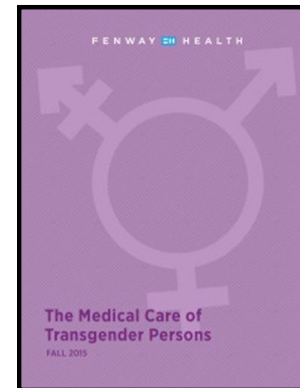
## Cardiovascular Risk Assessment/Mitigation

Challenges include sex-specific calculators



## Helpful Guidelines & Learning More

- UCSF Guidelines for Primary and Gender-Affirming Care  
<https://transcare.ucsf.edu/guidelines>
- Transgender Health ECHO  
<https://www.lgbtqiahealtheducation.org/project-echo/trans-echo/>
- Project Health TransLine  
<http://project-health.org/transline/>





# Center for Transgender Medicine and Surgery



Boston University School of Medicine



# Questions?



Boston University School of Medicine

