Pharmacist's Role in Transgender and Gender Non-Conforming Care

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Disclosure

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Pharmacist Objectives

- Define current terminology with regards to transgender and gender non-conforming (TGNC) patients
- Discuss monitoring parameters for TGNC patients taking hormone replacement therapy
- Design proper medication therapies for TGNC patients undergoing medical transition
- Investigate the role of pharmacists' in TGNC care

Pharmacy Technician Objectives

- Describe correct gender pronouns
- Recognize barriers to healthcare faced by TGNC patients
- Examine different medication therapies for TGNC patients

Introduction

- The transgender and gender non-conforming community face considerable barriers to quality of healthcare
- Report inability to find healthcare providers properly trained to treat them
- 41.6% worry about discrimination by pharmacists
- 52.5% felt pharmacists had very little or no competency in transgender health
- Pharmacist require education on the unique needs for TGNC patients

Webb AJ, et al. *Am J Health Syst Pharm*. 2020;77(6):427-433

Prevalence of TGNC

	United States	New York State
Total TGNC (No., %)	1,397,150 (0.58)	78,600 (0.51)
TGNC: Age 18-24 yo (No., %)	205,850 (0.66)	11,150 (0.56)
TGNC: Age 25-64 yo (No., %)	967,100 (0.58)	54,150 (0.51)
TGNC: Age 65+ yo (No., %)	217,050 (0.50)	12,850 (0.47)

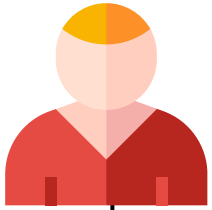
The Williams Institute (2016)

Definitions

Gender assigned at birth, based on external genitalia	**Assigned Gender**
Individual's gender identity	**Affirmed Gender**
Expression of their gender	**Gender Behavior**
Behaviors, attitudes, and personality tracts designating by societal standards	**Gender Role**

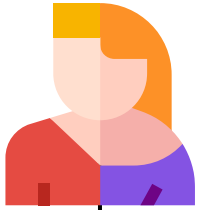
Selvaggi G, et al. *Adv Urol*. 2012;2012:581712

Gender Spectrum



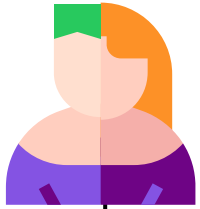
Cisgender

Individuals who identify with their assigned gender



Transgender

Individuals who identify as a different gender than their assigned gender



Gender non-conforming

Individual who does not express their gender in cultural or socio-typical ways

Transgender male
Assigned female at birth, but identifies as a male (FTM)

Transgender female
Assigned male at birth, but identifies as a female (MTF)

Selvaggi G, et al. *Adv Urol*. 2012;2012:581712

Gender Spectrum

Agender

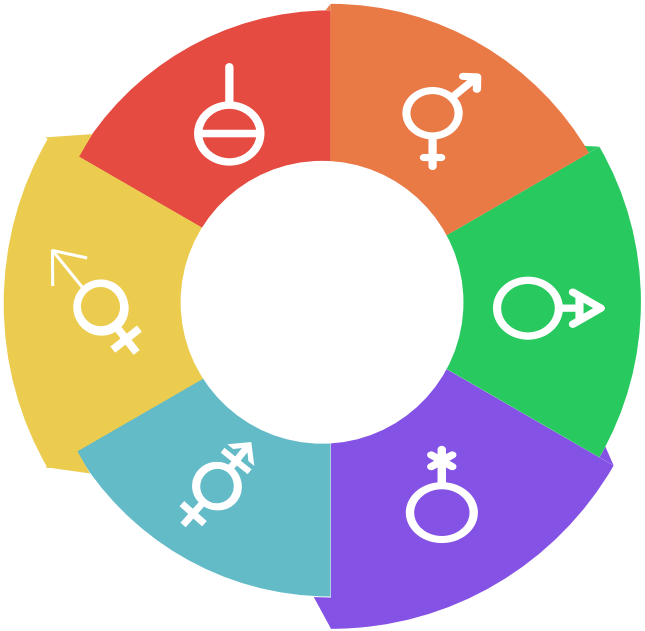
Does not identify with any gender (neutral gender, null-gender, genderless)

Genderfluid

Has a gender identity that shifts between societal expectation of gender

Androgyne

Identifies as a gender that is both masculine and feminine or between



Intersex

Discrepancy between internal and external genital

Aliagender

Does not fit into existing gender schemas or constructs

Non-binary

Does not experience gender within societal limitations

Selvaggi G, et al. *Adv Urol*. 2012;2012:581712

Gender Pronouns

- Pronouns: use based on patient preference
- Patient's may identify as one gender, but not ready to use pronoun
- Gender identity varies at different stages of life
- Ask and check each visit
- Normalize interaction
  - "Hi my name is Tony; I'm a pharmacist and I use he/him pronouns. Can you tell me about yourself?"
  - Last time we spoke you were using she/her pronouns. What pronouns are you using currently?"

Selvaggi G, et al. *Adv Urol*. 2012;2012:581712

Gender Pronouns

He/Him/His	She/Her/Hers	They/Them/Theirs	Ze/Hir/Hirs

Take time to learn and use people's correct pronouns

Selvaggi G, et al. *Adv Urol*. 2012;2012:581712

Sexual Vs. Gender Identity

- Straight
- Bisexual
- Gay
- Lesbian
- Asexual
- Pansexual

Sexual Identity

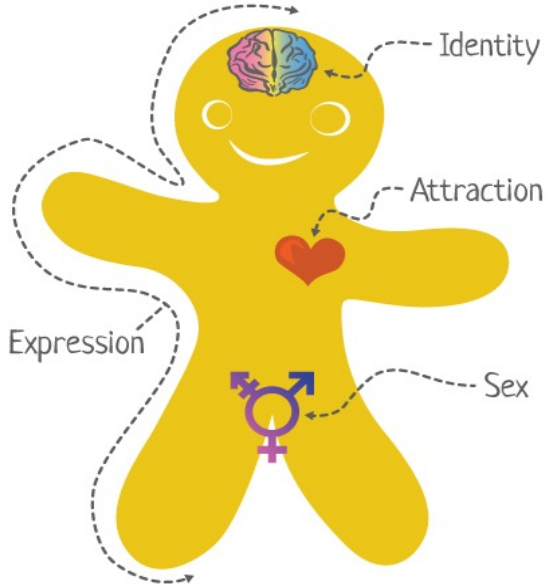
- Female
- Male
- Non-binary
- Agender
- Gender fluid

Gender Identity

Sexuality and Gender are NOT the same concepts

The Genderbread Person v3.2

by it's pronounced METROsexual .com



Gender Identity

Nobody
- Woman-ness
- Man-ness

Gender Expression

Nobody
- Feminine
- Masculine

Biological Sex

Nobody
- Female-ness
- Male-ness

Sexually Attracted to

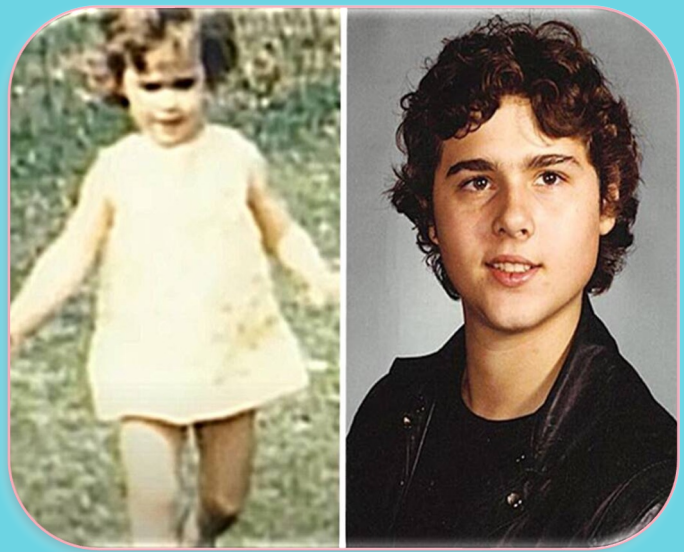
Nobody
- (Women/Females/Femininity)
- (Men/Males/Masculinity)

Romantically Attracted to

Nobody
- (Women/Females/Femininity)
- (Men/Males/Masculinity)

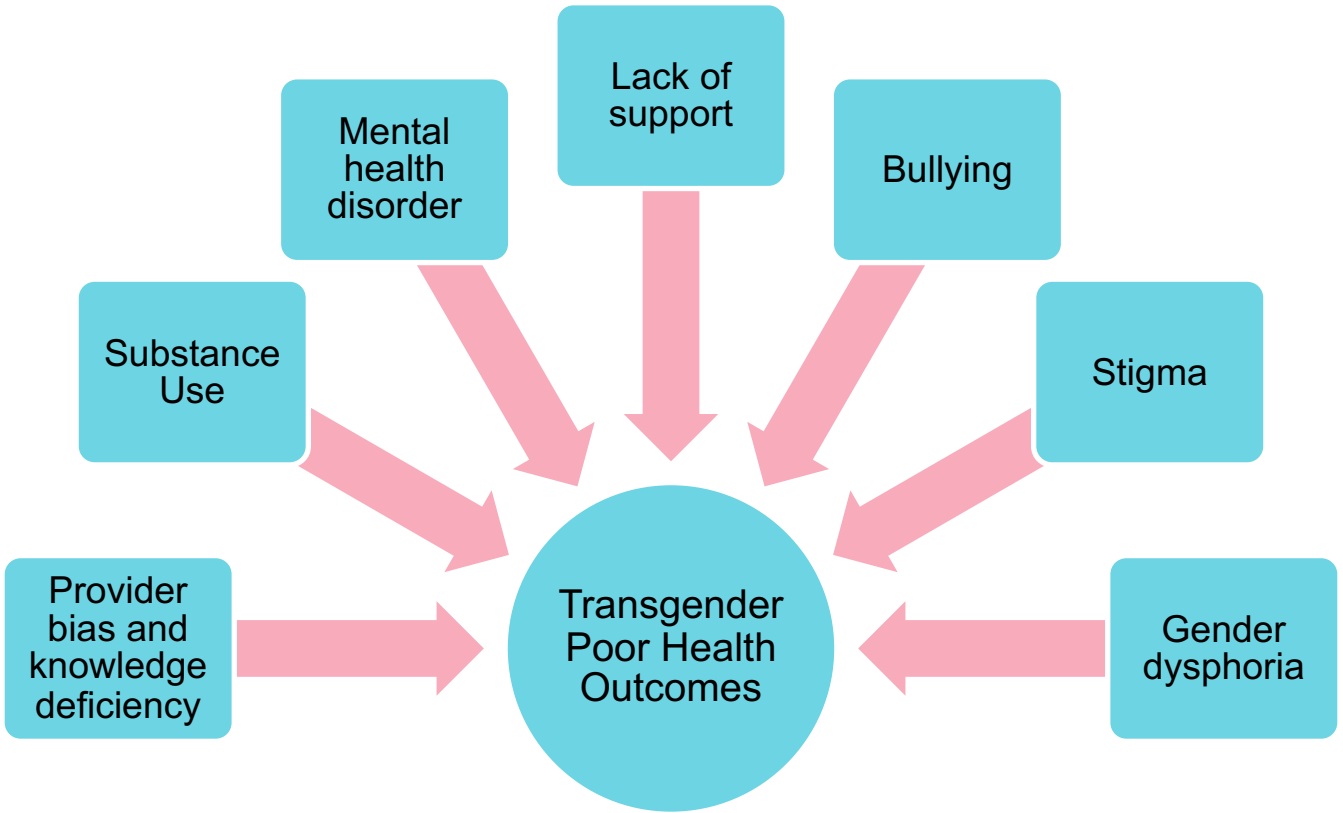
Neurobiological Factors

- Gonadal hormones can influence gender identity and sexual orientation during prenatal and early neonatal development
- Genes, hormones, neuroanatomy suggestively influence gender identity
  - Most data from the case of David Reimer
  - Inconsistent data



Roselli CE. *J Neuroendocrinol*. 2018;30(7):e12562

Risk Factors



Eisenberg ME, et al *J Adolesc Health*. 2017;61(4):521-526

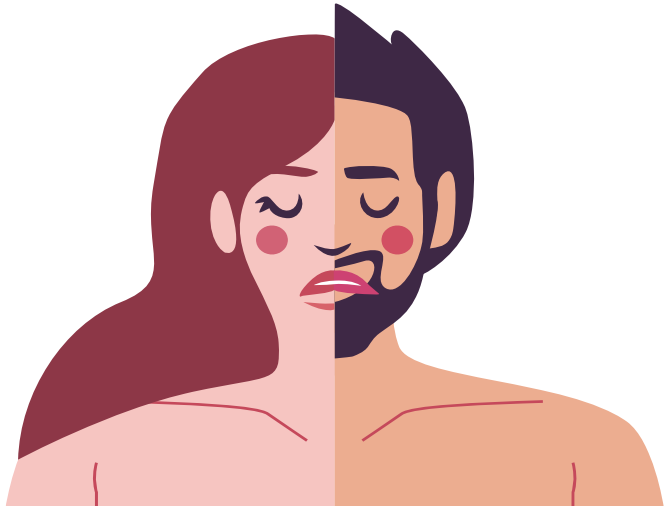
Substance Use in TGNC Individuals

- 2.5–4 times higher substance use
  - Hazardous alcohol use
  - 2–2.5 times more likely to use illicit drugs in lifetime
  - 2 times likely to report recent 30-day prescription pain medication use
  - More than 3 times likely to smoke cigarettes
- Higher rates of depression, suicidality, self-harm and eating disorders than other sexual minority groups or cisgender individuals

Grant JM et al. Washington: National Center for Transgender Equality. 2011

Discrimination of TGNC Individuals

- In 2011, the National LGBTQ Task Force and the National Center for Transgender Equality surveyed 6,450 TGNC individuals.
  - 90% reported harassment or mistreatment on the job
  - 26% lost a job due to being transgender
  - 53% had been verbally harassed in a place of public accommodation



Grant JM et al. Washington: National Center for Transgender Equality. 2011

Discrimination of TGNC in Healthcare

33%
Have delayed or did not access healthcare due to discrimination

50%
Report having to educate their medical providers

28%
Postpone care due to fear of discrimination

48%
Cannot afford medical care

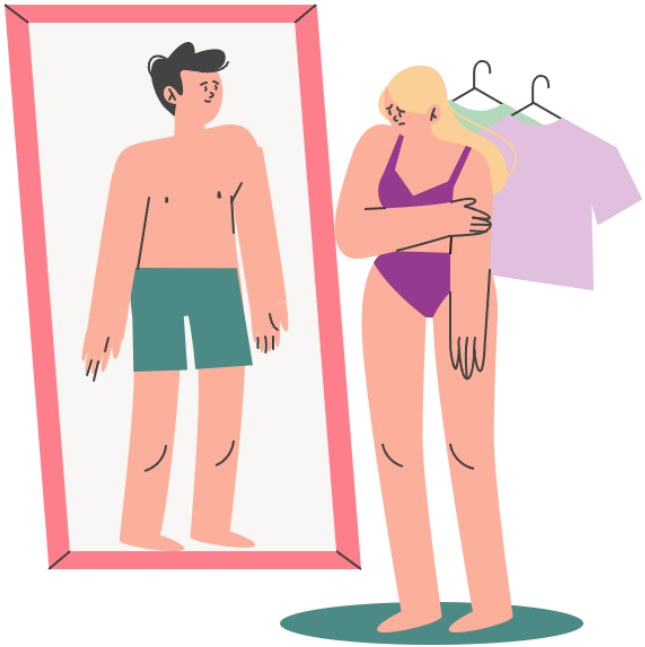
30%
Report having a disability or mental health condition

19%
Report being refused medical care

Grant JM et al. Washington: National Center for Transgender Equality. 2011

Gender Dysphoria

- Added to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) in 2013
- Clinical Symptom
  - “Discomfort, distress, or functional impairment caused by incongruence between assigned gender and affirmed gender”
- DSM-4 diagnosis of gender identity disorder no longer acceptable by TGNC community



Byne W, et al. *Transgend Health*. 2018;3(1):57-70.

Assessment Question #1

True or False: All TGNC patients experience gender dysphoria?

a. True

b. False

Gender Dysphoria

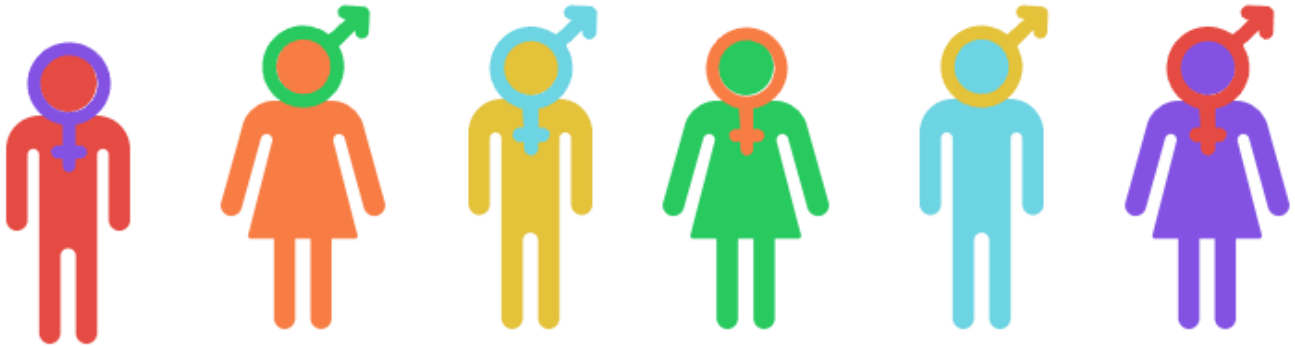
- Not everyone who identifies as a different gender has gender dysphoria
- Must be a level of distress and impairment to diagnose
- Symptoms: persistent for six months

Marked incongruence between one's experienced/expressed gender and primary and/or secondary sex characteristics	A strong desire to be rid of one's primary and/or secondary sex characteristics	A strong desire for the primary and/or secondary sex characteristics of the other gender
A strong desire to be of the other gender	A strong desire to be treated as the other gender	A strong conviction that one has the typical feelings and reactions of the other gender

Byne W, et al. *Transgend Health*. 2018;3(1):57-70.

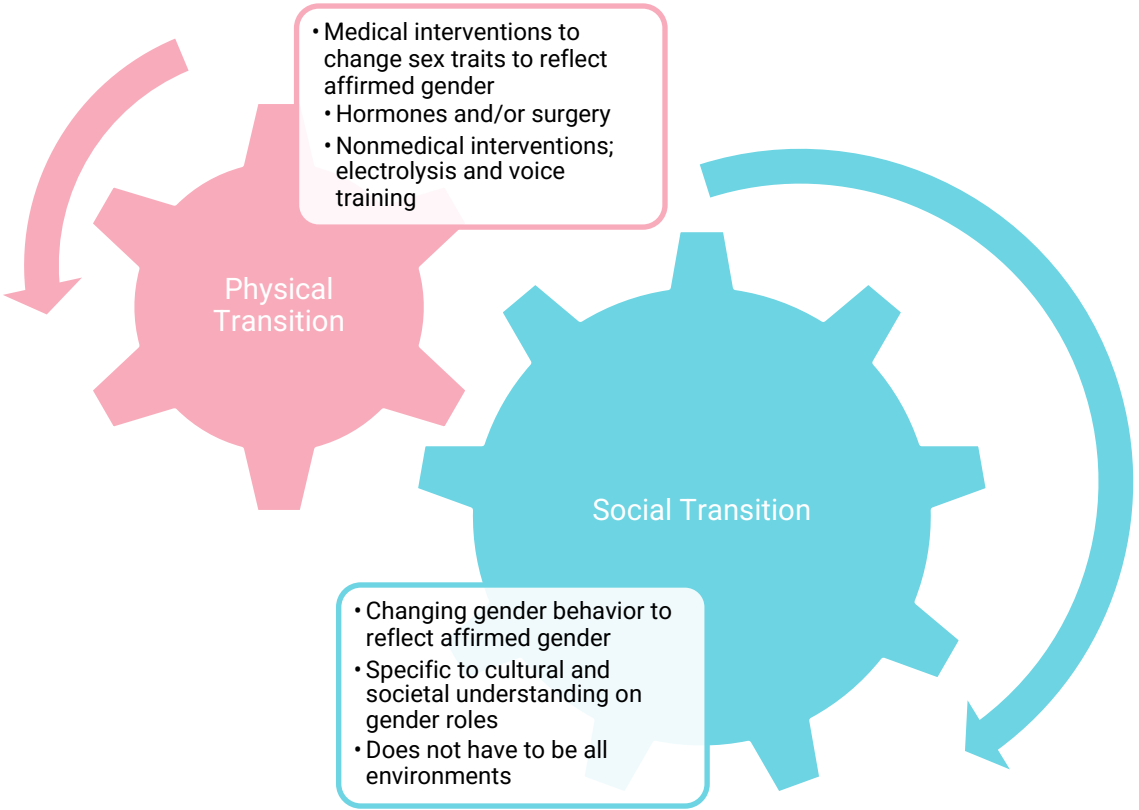
Diagnosis: Gender Dysphoria

- Diagnosis often facilitates access to health care
  - ICD-10 code of F64.9 (gender identity disorder) needed for insurances to pay for gender-affirming therapy
    - Not required for starting hormone replacement therapy
- Goal of gender affirming therapy is not always to fully transition to the opposite of assigned gender



Byne W, et al. *Transgend Health*. 2018;3(1):57-70.

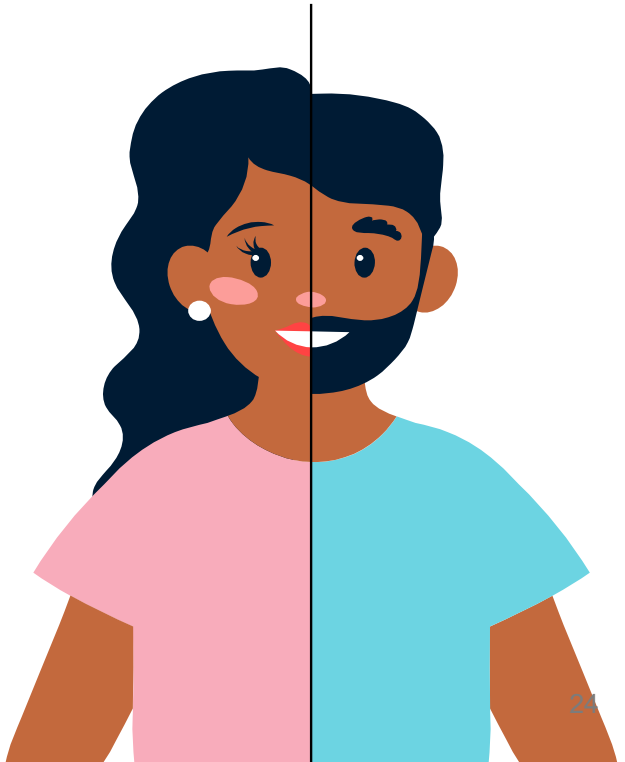
Types of "Transitions"



Selvaggi G, et al. *Adv Urol*. 2012;2012:581712

Goal of Pharmacologic Interventions

- Induce physical change that is more congruent with gender identity
- Individualize based on patient's goal
  - Maximum masculinization/feminization
  - Minimal masculinization/feminization for a more androgynous presentation
- Feminizing Hormone Therapy: Estrogen + androgen blocker
- Masculinizing Hormone Therapy: Testosterone monotherapy



Selvaggi G, et al. *Adv Urol*. 2012;2012:581712

Guidelines for Transgender Medicine

- No major medical societies that publish standard of transgender care
- Treatment regimens are mostly anecdotal
  - Published recommendations are from observations
  - Recommendations created by white/cisgender men
- Hormone therapy often dosed by older transgender people in the community with little to no formal medical education for new generations
  - Patients often know what their dose of hormone therapy should be
- Available guidelines
  - World Professional Association for Transgender Health (WPATH) Standards of Care
  - University of California, San Francisco (UCSF) Transgender Care and Treatment Guidelines
  - Transline Gender Affirming Hormone Therapy Guidelines

Initiation of Hormone Replacement Therapy

- Historically letters from > 2 providers needed to start hormone replacement therapy
  - Wanting to start hormones for a full calendar year
  - Assessment of readiness completed

Readiness

1. Persistent, well-documented gender dysphoria
2. Capacity to make a fully informed decision and to consent for treatment
3. Age of majority in a given state
4. If significant medical or mental concerns are present, they must be reasonably well-controlled.

Selvaggi G, et al. *Adv Urol*. 2012;2012:581712

Informed Consent

01 Inform patient of risk and benefits of hormone replacement therapy

02 Evaluate mental capacity of making informed decisions

03 Set realistic and attainable patient-directed goals

Feminizing Therapies

Estrogen	• Suppress/minimize male secondary sex characteristics, develop female secondary sex characteristics
Anti-androgen (T-Blockers)	• Directly inhibit testosterone secretion and androgen binding to the androgen receptor
GnRH agonists (Puberty Blockers)	• Block the release of follicle stimulating hormone and luteinizing hormone

GnRH = Gonadotropin-releasing hormone

Selvaggi G, et al. *Adv Urol*. 2012;2012:581712

Estrogen

- Three natural occurring human estrogens
  - Estrone (E1)
  - Estradiol (E2)
  - Estriol (E3)
- E2 principle intracellular human estrogen; more potent than estrone and estriol at receptor level
- E1 levels higher in early development of cisgender females; breast bud formation
- Exogenous oral estradiol results in higher serum levels of E1 due to first pass hepatic metabolism:

UCSF Accessed October 1, 2012

Estrogen Therapies

Medication	Initial - Low dose	Typical Max Dose	Frequency
Estradiol Valerate	5 – 10 mg IM	20 mg	Weekly
Estradiol Cypionate	1.25 -2.5 mg IM	5 mg	Weekly or Bi-weekly
Estradiol Transdermal	0.1 – 0.2 mg	0.4 mg	Bi-weekly
Estradiol Oral	2 mg - 6 mg PO or SL	8 mg	Daily

Transline. Accessed October 2, 2021

Estrogen Therapies

Medication	Pros	Cons
Estradiol Valerate	• Less frequent administration • Avoids first pass metabolism • May help better suppress endogenous hormone production	• Fluctuation in levels • Injection
Estradiol Cypionate		
Estradiol Transdermal	• Less fluctuation in levels • No first pass metabolism	• Cost • Max single patch dose of 0.1 mg
Estradiol Oral	• Oral option • Less fluctuation in levels	• First pass metabolism • Daily administration • SL TID dosing

Transline. Accessed October 2, 2021

Feminizing Therapies: Onset of Effect

Effect	Expected Onset	Maximal Effect
Decreased libido	1-3 months	1-2 years
Decreased spontaneous erections	1-3 months	3-6 years
Body fat redistribution	3-6 months	2-5 years
Decreased muscle mass/strength	3-6 months	1-2 years
Softening of skin	3-6 months	unknown
Breast growth	3-6 months	2-3 years
Male sexual dysfunction	Variable	Variable
Male pattern baldness	No regrowth, loss stops 1-3 months	1-2 years

Selvaggi G, et al. *Adv Urol*. 2012;2012:581712

Monitoring Estrogen Therapy

- **Estradiol Reference Range :** 100 to 300 ng/mL
  - Based on female follicular/pre-ovulatory phase reference range
  - In patients who can't achieve targeted estradiol (E2) levels, check E1:E2 ratio
  - Case series support ratio up to 3:1 (Ideal ratio 1:1)
  - Can switch to IM to shift ratio in favor of E2; no first pass metabolism
- **Testosterone Reference Range:** <50-75 ng/dL
- **Prolactin Reference Range:** < 20 ng/dL
  - >40 ng/dL consider decreasing dose of estrogen

Table 4. Laboratory monitoring for feminizing hormone therapy

Test	Comments	Baseline	3 months*	6 months*	12 months*	Yearly	PRN
BUN/Cr/K+	Only if spiro used	X	X	X	X	X	X
Lipids	No evidence to support monitoring at any time; use clinician discretion	Based on USPSTF guidelines					X
A1c or glucose	No evidence to support monitoring at any time; use clinician discretion	Based on USPSTF guidelines					
Estradiol			X	X			X
Total Testosterone			X	X	X		X
Sex Hormone Binding Globulin (SHBG)**			X	X	X		X
Albumin**			X	X	X		X
Prolactin	Only if symptoms of prolactinoma						X

Shifren JL, et al. *J Clin Endocrinol Metab*. 2008 May;93(5):1702-10

Estrogen Dose Equivalence

Estradiol Valerate	Estradiol Cypionate	Estradiol Transdermal	Estradiol Oral
5mg weekly	1.25mg weekly	0.1mg	2mg
10mg weekly	2.5mg weekly	0.2mg	4mg
20mg weekly	5mg weekly	0.4mg	8mg

Transline. Accessed October 2, 2021

Thromboembolic Risk of Estrogen Therapy

- Transgender females taking estrogen at high risk for venous thromboembolism (VTE)
- Risk depends on formulation and dose of estrogen and presence of other risk factors
  - Tobacco use, history of VTE, comorbidities
- Padua risk assessment accounts for ongoing hormone treatment
- Unclear if additional point for female should be given in $CHADS_2$-VASc scoring
  - Clinical decision based on risk factors

Grant JM et al. Washington: National Center for Transgender Equality. 2011

Antiandrogen (T – Blockers)

Anti-Androgen	Starting Dose	Max Dose	Notes
Spironolactone	100 mg PO daily	400 mg PO daily	• Risk of hyperkalemia • Diuretic effect • Can contribute to breast development
Finasteride	5 mg PO daily	5 mg PO daily	• Slows and prevents balding due to androgen alopecia • Used as adjunct therapy for patients who can't use spironolactone • Dutasteride can be used every 3 days with finasteride for additive effect
Dutasteride	0.5 mg PO daily	0.5 mg PO daily	

Transline. Accessed October 2, 2021

GnRH Agonists (Puberty Blockers)

- Used in the care of peripubertal transgender youth who require pubertal delay
- Guideline recommendation initiation when first signs of puberty are seen; with cessation when cross-sex hormones are initiated
- Can be used in adults who are not achieving goal with hormone therapy
- Significant bone density loss with prolonged use

Medication	Starting Dose	Typical Max Dose	Frequency
Leuprolide Acetate	11.25 mg	22.5 mg	Every 3 months
Histrelin Pellets	50 mg	50 mg	Once yearly

Transline. Accessed October 2, 2021

Nonpharmacologic Approaches in MTF

Tucking	Voice Therapy	Surgery
• Used to obtain feminine genital appearance before or instead of surgery	• Evaluation and support provided by a trained speech and language pathologist to achieve feminine voice	• Feminizing surgery (vaginoplasty, penectomy) • Breast surgery recommended after 2 years of hormone therapy

Poteat T et al. *J Clin Transl Sci*. 2018;2(S1):76

Assessment Question #2

MJ is a 56 YO transgender female with a PMH of HTN and tobacco use. She has been on 1 year of hormone replacement therapy and comes into your clinic today for a follow up

Medications
Aspirin 81 mg PO daily
Spironolactone 300 mg PO daily
Chlorthalidone 25 mg PO daily
Estradiol 4 mg PO daily

Labs	
Estrone (ng/mL)	500
Estradiol (ng/mL)	50
Testosterone (ng/mL)	40
Prolactin (ng/mL)	10

Assessment Question #2

MJ is concerned she is not getting the results she expected. Based on MJ's labs and goals of therapy what is the best option for MJ at this time

a) Discontinue PO estradiol and initiate IM estradiol valerate
b) Discontinue PO estradiol and initiate IM leuprolide acetate
c) Increase the dose of PO estradiol
d) Continue current medication regimen

Masculinizing Therapies

Androgen	Initial - Low dose	Initial - Typical	Maximum - Typical
Testosterone Cypionate	20 mg/week IM or SQ	50 mg/week IM or SQ	100 mg/week IM or SQ
Testosterone Enthanate	20 mg/week IM or SQ	50 mg/week IM or SQ	100 mg/week IM or SQ
Testosterone topical gel 1%	12.5-25 mg in the morning	50 mg in the morning	100 mg in the morning
Testosterone topical gel 1.62%	20-25 mg in the morning	40.5 - 60.75 mg in the morning	103.25 mg in the morning
Testosterone patch	1-2 mg at bedtime	4 mg at bedtime	8mg at bedtime
Testosterone cream	10 mg	50 mg	100mg
Testosterone Undecanoate	N/A	750 mg IM, repeat in 4 weeks, then Q 10 weeks ongoing	N/A

Transline. Accessed October 2, 2021

Masculinizing Therapies

Androgen	Pros	Cons
Testosterone Cypionate	• Less frequent administration compared with transdermal • Peak concentration may better suppress endogenous hormone production	• Peak/trough fluctuation effect • Self-injection or frequent in-office injections
Testosterone Enthanate		
Testosterone topical gel 1%	• Topical • Less fluctuation in levels • Good for more gradual effects	• Slower to stop menses and may not fully stop at lower doses • Risk of transferring to others/pets (except patch) • Some products are scented • Daily application • May be expensive if not covered by insurance
Testosterone topical gel 1.62%		
Testosterone patch		
Testosterone cream		
Testosterone Undecanoate	• Least frequent dosing	

Transline. Accessed October 2, 2021

Masculinizing Therapies: Onset of Effect

Effect	Expected Onset	Maximal Effect
Skin Oiliness/Acne	1-6 months	1-2 years
Cessation of menses	2-6 months	-----
Clitoral enlargement	3-6 months	1-2 years
Body fat redistribution	3-6 months	2-5 years
Vaginal atrophy	3-6 months	1-2 years
Facial/body hair growth	3-6 months	3-5 years
Increased muscle mass/strength	6-12 months	2-5 years
Deepened voice	3-12 months	1-2 years

Selvaggi G, et al. *Adv Urol*. 2012;2012:581712

Masculinizing Therapies: Monitoring

- Cisgender male testosterone reference ranges used
- Recommended mid-cycle reference ranges vary
  - WPATH/Endocrine Society: 400-700 ng/dL
  - UCSF: 350-1100 ng/dL unless in the setting of undesired effects
- Clinical response can be measured in presence of amenorrhea by month 6

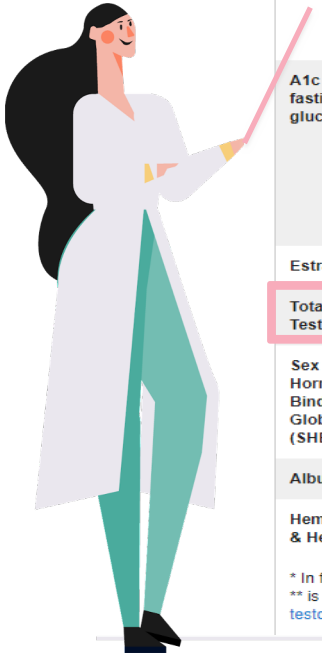


Table 2. Titration and monitoring of masculinizing hormone therapy

Therapy	Comments	Baseline	3 months*	6 months*	12 months*	Yearly	PRN
Lipids	No evidence to support lipid monitoring at any time; use clinician discretion	Based on USPSTF guidelines					X
A1c or fasting glucose	No evidence to support lipid monitoring at any time; use clinician discretion	Based on USPSTF guidelines					X
Estradiol							X
Total Testosterone			X	X	X		X
Sex Hormone Binding Globulin (SHBG)**			X	X	X		X
Albumin**			X	X	X		X
Hemoglobin & Hematocrit		X	X	X	X	X	X

* In first year of therapy only;
** is optional and may be helpful in complex cases (see text) Used to calculate bioavailable testosterone; monitoring bioavailable testosterone

UCSF Accessed October 1, 2012
Selvaggi G, et al. *Adv Urol*. 2012;2012:581712

Monitoring Testosterone Therapy

- Testosterone levels difficult to measure in cis-gender males due to rapid fluctuation in levels
- Recommended mid-cycle reference ranges vary
  - Related to release of gonadotropin
  - Produce more testosterone in the morning
  - Not the same for transgender males
- Mid-cycle levels often sufficient unless patient experiencing cyclic symptoms (migraine, pelvic cramps, mood swings)
  - Obtain peak (1-2 days post injection) and trough to check fluctuations in hormone levels
  - Can consider switching to transdermal preparation or reducing injection interval
- Estradiol levels not routinely monitored unless experiencing cyclic symptoms

UCSF Accessed October 1, 2012

Special Considerations and Conditions

Mental Health

No clear association; may experience anxiety and depression

PCOS

Monitor hyperlipidemia and diabetes

History of Cancer

Active sex hormone -sensitive cancer an absolute contraindication. Refer to oncologist

Androgenic Alopecia

Add finasteride and/or dutasteride

UCSF Accessed October 1, 2012

Polycythemia and Testosterone Therapy

- Transgender males taking testosterone at high risk for polycythemia (Hematocrit >55%)
  - Increased risk of hypertension and thrombosis
- Rule out pulmonary disease (asthma, COPD, smoking) or other causes of elevated erythropoietin
- If polycythemia is secondary to testosterone can consider:
  - Changing to a weekly injection schedule
  - Switching to transdermal
  - Therapeutic phlebotomy
- Re-check labs for normalization 1-3 months after changes made

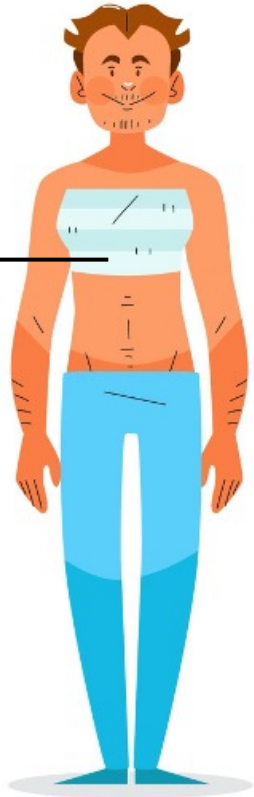
Grant JM et al. Washington: National Center for Transgender Equality. 2011

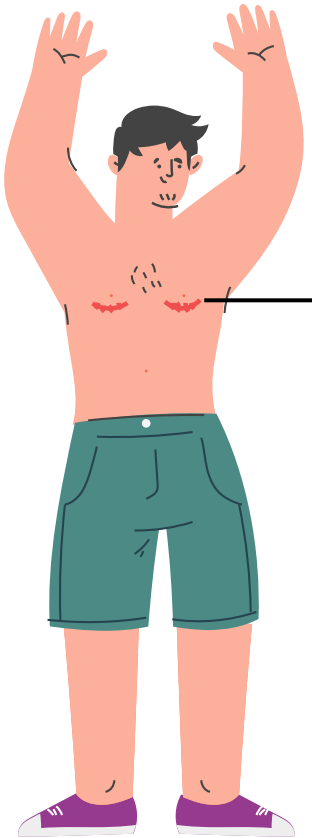
Nonpharmacologic Approaches in FTM

Breast Binding

Create the appearance of a flatter chest profile

- Sports Bras
- Elastic Bandages
- Duct Tape





Surgery

Masculinizing surgery

- Mastectomy
- “Bottom surgery”

Poteat T et al. *J Clin Transl Sci*. 2018;2(S1):76

Assessment Question #3

AK is a 52 YO transgender male with a PMH of diabetes, PCOS, and tobacco use. He has been on 6 months of hormone replacement therapy and comes into your clinic today for a follow up

Medications
Metformin 1000 mg PO BID
Testosterone Cypionate 50 mg IM weekly
Atorvastatin 20 mg PO daily
Aspirin 81 mg PO daily

Labs	
Total Testosterone (ng/mL)	1000
Hemoglobin (g/dL)	18
Hematocrit (%)	54

Assessment Question #3

AK reports increased headaches and pelvic cramps since his last visit. Based on AK's clinical presentation what would be the best therapeutic option for him at this time?

a) Discontinue IM testosterone cypionate and initiate IM testosterone enthanate

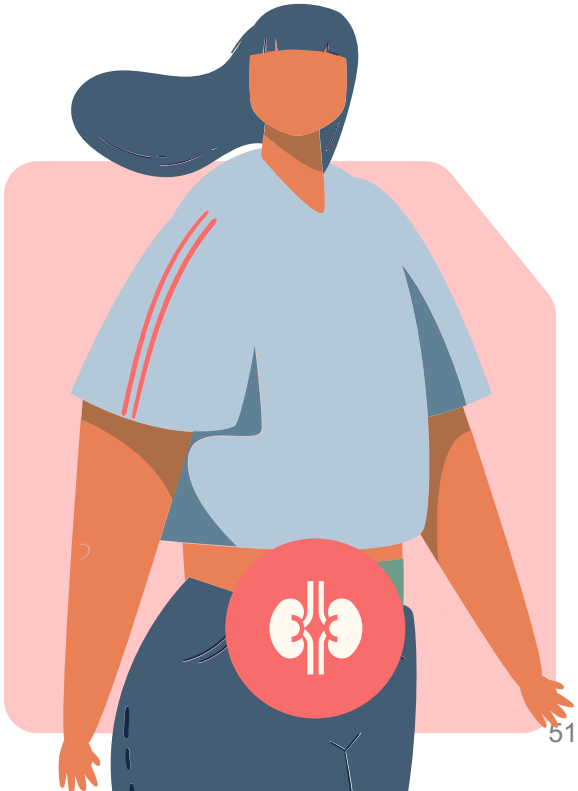
b) Discontinue IM testosterone cypionate and initiate testosterone patch

c) Increase dose of IM testosterone cypionate

d) Continue current medication regimen

Creatinine Clearance in Transgender Patients

- Effects of gender-affirming hormone therapy on renal function and ideal body weight unknown
  - Differences in fat, muscle, and plasma volume distribution between genders
- Cockcroft-Gault equation for creatinine clearance (CrCl) commonly used to dose various medications
  - Uses Devine formula for ideal body weight (IBW) as part of calculation
- Unclear how to best use these formulas in transgender patients



Webb AJ, et al. *Am J Health Syst Pharm*. 2020;77(6):427-433

Lapaw B et al.

Lapaw B, et al. Body composition, volumetric and areal bone parameters in male-to-female transsexual persons. Bone. 2008;43(6):1016-1021.	
Methods	• Observation cross-sectional study of transgender women (n=23) and cis-gender men (n=46) • Assessed bone composition, lean body mass (LBM), and standard laboratory values including serum creatinine (SCr)
Inclusion Criteria	• Transgender women must have completed gender affirmation surgery at least 3 years prior and must have taken estrogen therapy for 2 years
Results	• Median LBM: (51.2 kg vs. 61.8 kg, $p<0.001$) • Median SCr: (0.78 mg/dL vs. 0.94 mg/dL, $p<0.001$)
Author's Conclusion	• Biometrics more closely resemble gender identity than assigned gender in transgender women after prolonged hormone therapy

Giltay EJ et al.

Giltay EJ, et al. Effects of sex steroids on plasma total homocysteine levels: a study in transsexual males and females. J Clin Endocrinol Metab. 1998;83(2):550-553.		
Methods	• Prospective cohort trial comparing LBM, and laboratory values including SCr, prior to and 4 month after gender-affirming hormone therapy. • Transgender women (n=17) and transgender men (n=17)	
Inclusion Criteria	• Transgender women treated with ethinyl estradiol in combination with cyproterone acetate • Transgender men treated with testosterone	
Results	Transgender Women	Transgender Men
	• Change in LBM (-0.03 kg; p=0.56) • Change in SCr (-0.08 mg/dL; p<0.001)	• Change in LBM (4.1 kg; p<0.001) • Change in SCr (0.09 mg/dL; p<0.001)
Author's Conclusion	• After 4 months of hormone therapy SCr more closely reflects affirmed gender rather than assigned gender	

Assessing CrCl and IBW in Transgender Patients

Duration of Hormone Gender-Affirming Therapy	Recommendation for IBW Dosing	Recommendation for Estimation of Renal Function
< 1 month	Calculate IBW based on assigned gender	Calculate renal function based on assigned gender
< 6 month	Consider calculating IBW based on assigned gender	Consider calculating renal function based on assigned gender
≥ 6 months	Consider calculating IBW based on gender identity	Consider calculating renal function based on gender identity

Webb AJ, et al. *Am J Health Syst Pharm*. 2020;77(6):427-433

Assessment Question #4

BB is a 30 YO transgender female patient who has been on hormone therapy for 12 months. Which version of Cockcroft-Gault formula is most appropriate to use when calculating BB renal function?

a) $$CrCl = \frac{[140-age] \times weight}{72 \times SCr}$$

b) $$CrCl = \frac{[140-age] \times weight}{72 \times SCr} \times 0.85$$

Preventive Screening for Transgender Patients

Specific issues in screening for transwomen and transmen with past or current hormone use

	Transwomen (MTF)	Transmen (FTM)
Breast cancer	Discuss screening in patients >50 years with additional risk factors for breast cancer*	Intact breasts: Routine screening as for natal females
		Postmastectomy: Yearly chest wall and axillary exams ¶
Cervical cancer	Vaginoplasty: No screening	Cervix intact: Routine screening as for natal females
		No cervix: No screening
Prostate cancer	Routine screening as for natal males	N/A
Cardiovascular disease	Screen for risk factors	Screen for risk factors
Diabetes mellitus	On estrogen: Increased risk	Routine screening Δ
Hyperlipidemia	On estrogen: Annual lipid screening	On testosterone: Annual lipid screening
Osteoporosis	Testes intact: Routine screening as for natal males	Screen all patients >65 years
	Postorchiectomy: Screen all patients >65 years	Screen patients age 50 to 65 if off hormones for >5 years
	Screen patients age 50 to 65 years if off hormones for >5 years	

* Estrogen/progestin therapy for >5 years, family history, body mass index (BMI) >35.

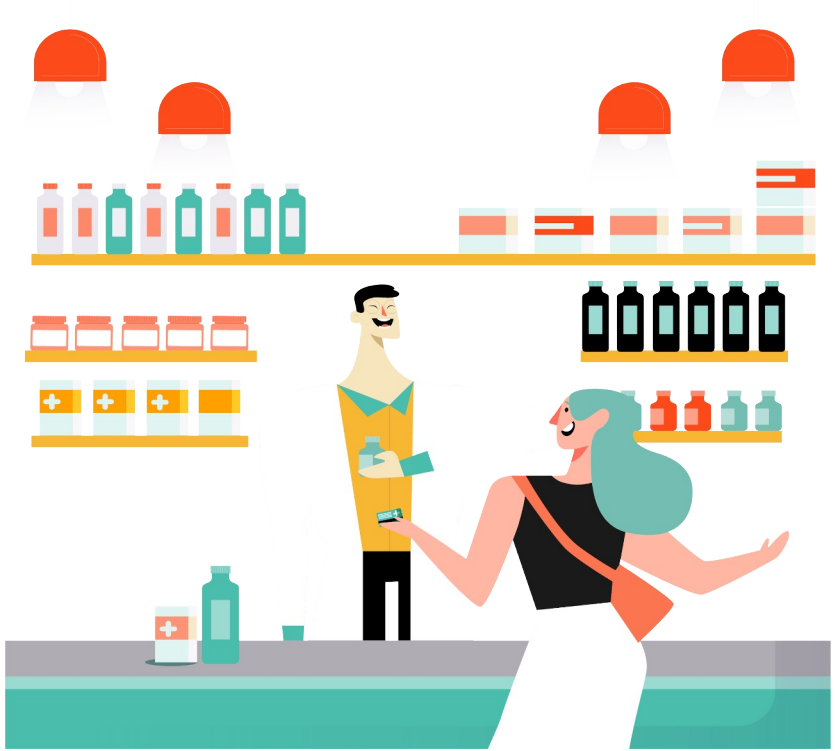
¶ While there is no evidence to support clinical breast examinations in this population, we perform yearly chest wall and axillary exams and use this as an opportunity to examine scar tissue, examine any changes, and educate the patient about the small but possible risk of breast cancer.

Δ Transmen with polycystic ovary syndrome (PCOS) should be screened for diabetes as for natal females with PCOS.

Edmiston EK, et al. *Transgend Health*. 2016;1(1):216-230, Hayon R. *FP Essent*. 2016;449:27-36

Pharmacist's Role

- Be aware of issues TGNC individuals face
- Provide a gender affirming experience
- Troubleshoot how to record assigned gender vs. affirmed gender in electronic medical record (EMR)
- Proper vaccinations
- Proper dosing of medications
- Assist in preventive measures
- Medication education

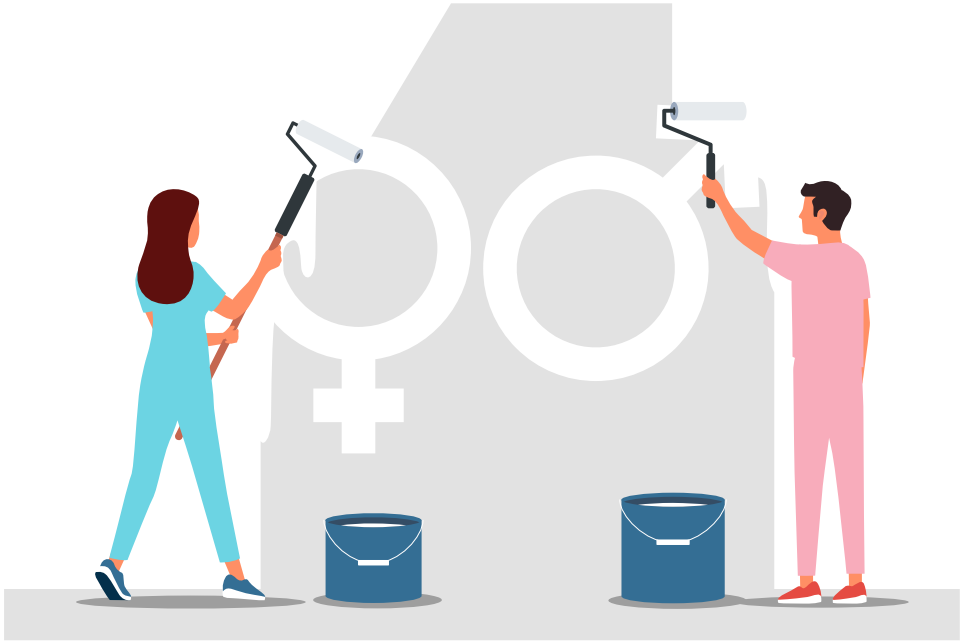


Resources

- World Professional Association for Transgender Health (WPATH)
- Education/training
  - World Professional Association for Transgender Health (WPATH.org)
  - The Endocrine Society Guidelines
  - Fenway National LGBTQ Health Education Center
  - UCSF Center of Excellence for Transgender Health
  - Genderspectrum.org
  - GLAAD.org
- Consent forms, example letters for insurances, example letters for gender marker changes
  - UCSF CoE for Transgender Health
  - WPATH
  - Fenway Health
  - San Francisco Department of Health, Transgender Health Services

Conclusion

- Important to recognize terminology when caring for TGNC patients
- Understanding physiologic differences between cisgender and transgender individuals can aid in proper medication therapy
- Fundamental to set realistic expectations with regards to gender affirming therapy
- Addressing unique needs TGNC patients is essential in improving lives of this community




Questions