
TRANSGENDER MEDICINE 2026 AND BEYOND

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## DISCLAIMER

- I have no conflicts of interest or financial disclosures

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## ANOTHER DISCLAIMER

- This presentation WILL NOT discuss the ethics of transgender medicine. Regardless of your stance on the subject, you will encounter patients on hormonal therapy and need to know about the treatment, side effects, and long term health maintenance.

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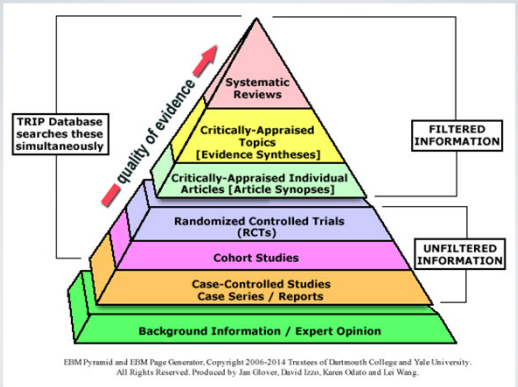


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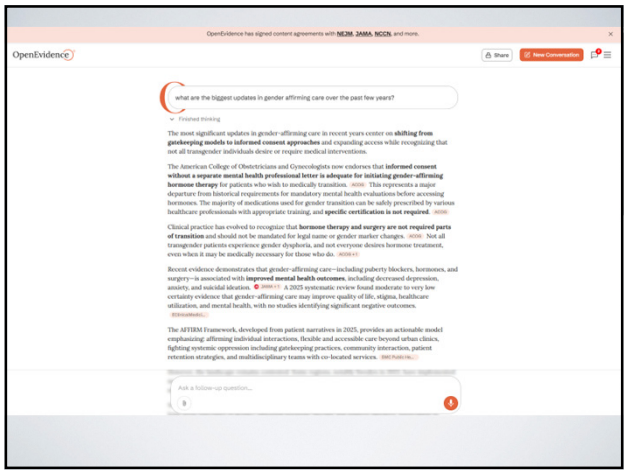


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Review

Provision of gender-affirming care for trans and gender-diverse adults: a systematic review of health and quality of life outcomes, values and preferences, and costs

- 7 reported outcomes: quality of life, mental health, suicidal behaviors, utilization of health services, stigma related to gender identify, gender incongruence, perception of well being
- Generally positive effects, no studies reported substantive harms
- Moderate to very low certainty

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# OBJECTIVES

- Define **terms** related to gender dysphoria
- Identify **which patients are suitable for hormonal transition** to the opposite gender
- Describe the **typical changes** associated with hormonal therapy
- Identify **complications** of hormonal therapy

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# 1984 → 2012 → 2015 → 2025


50-70 100 300 1,300

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# WHY DO I CARE?

- Most recent estimate is 0.3 to 0.6 percent of the adult population is transgender


AJPH TRANSGENDER HEALTH

Transgender Population Size in the United States: a Meta-Regression of Population-Based Probability Samples

Prevalence of Transgender Depends on the "Case" Definition: A Systematic Review


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- Patients can be started on gender affirming hormonal therapy after **informed consent** OR meeting WPATH criteria
- Main complication from estrogen is blood clots
- Hormonal therapy improves mental health outcomes and quality of life

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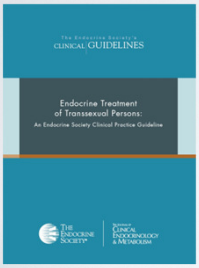






FENWAY HEALTH

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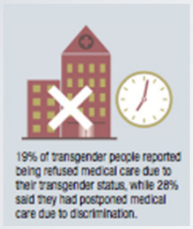
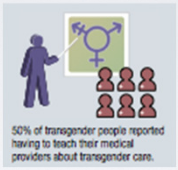
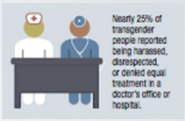
## WHY DISCUSS TRANSGENDER MEDICINE?

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## TERMINOLOGY

- Gender Identity: Innate sense of feeling male, female, neither, or somewhere in between
- Natal Sex: birth assigned sex, usually designated by genitalia or chromosomes
- Gender Expression: How gender is presented to the outside world
- Gender Dysphoria/Incongruence: Distress or discomfort when gender identity and natal sex are not completely congruent

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## GENDER IDENTITY

- Transgender: Umbrella term, used to describe individual with gender diversity – typically used an adjective, NOT a noun, NOT a mental disorder


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## TERMINOLOGY

- Transsexual: Fallen out of favor – historically referred to people who sought medical interventions for gender affirmation
- Sexual orientation: Individual pattern of physical and emotional arousal and the gender(s) of whom an individual is attracted
- Nonbinary gender identity: gender identity that is neither masculine nor feminine, is some combination of the two, or is fluid.

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## NONBINARY

- Genderqueer
- Gender Creative
- Gender independent
- Bigender
- Non cisgender
- Agender
- Two-spirit
- Third Sex
- Gender Blender

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# WHAT DO I CALL MY PATIENTS?

- Ask them
- Preferred name
- Preferred pronoun
- Update the medical record

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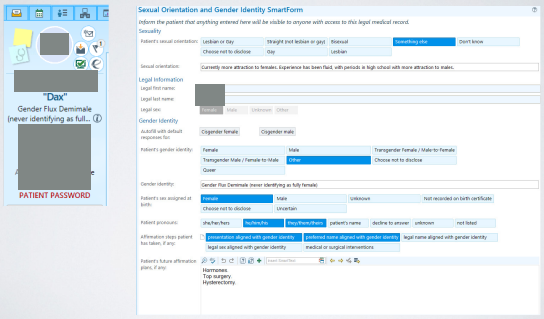
# EMR BUILD

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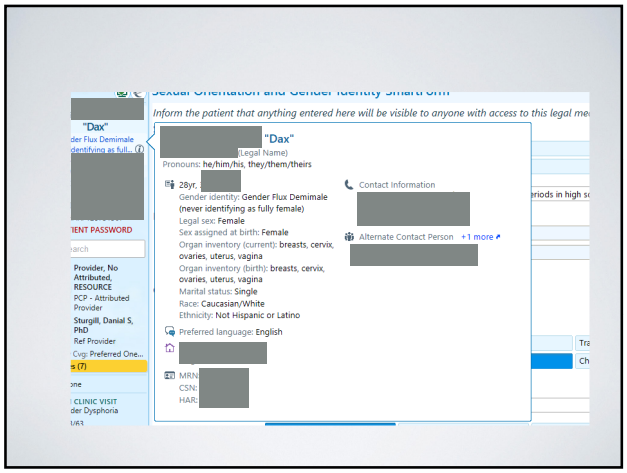


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# 3 AREAS TO TREAT

- Psychosocially
- Hormonally
- Anatomically






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# COMMUNITY SUPPORT


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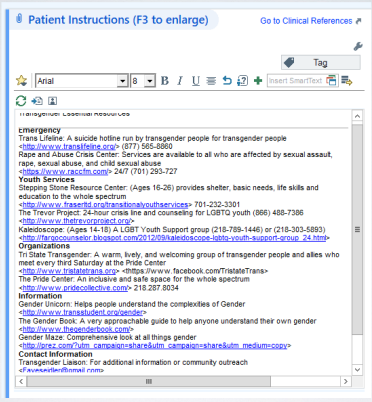


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# HORMONES

- Persistent, well documented gender dysphoria
- Capacity to make a well-informed choice
- Of legal age
- Medical or mental issues are well-controlled

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# STANDARD VS. INFORMED CONSENT

| Standard | Informed Consent Model |
|---|---|
| •Initiation of hormonal therapy after psychosocial assessment by "qualified mental health professional"<br>•Psychotherapy not required<br>•Experienced hormone prescribing medical provider may meet requirement | Hormonal therapy initiated by prescribing provider based on:<br>•Clinical judgment<br>•Lack of contraindications<br>•Patient capacity to give informed consent<br>•Informed consent |

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# INFORMED CONSENT MODEL

- Requires healthcare provider to effectively communicate benefits, risks and alternatives of treatment to patient
- Requires healthcare provider to judge that the patient is able to understand and consent to the treatment
- Does NOT preclude mental health care
- Prescribing decision ultimately rests with clinical judgment of provider
- Informed consent is not equivalent to treatment on demand

(Deutsch, 2012)

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# WHEN TO REFER

- Behavioral Health: When the diagnosis is uncertain
- Endocrinology: When you are uncomfortable with treatment
  - Disorder of sexual development (DSD)
  - Clotting disorder
  - Progression has plateaued
  - Insurance barriers

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# DISORDERS OF SEX DEVELOPMENT

- Replaces terms "intersex," "hermaphrodite," and "psuedohermaphrodite"
- DSD term sometimes not supported by patient advocacy groups
- Chromosomal, Gonadal, or anatomical

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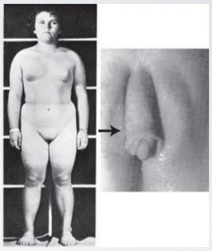
# DSD



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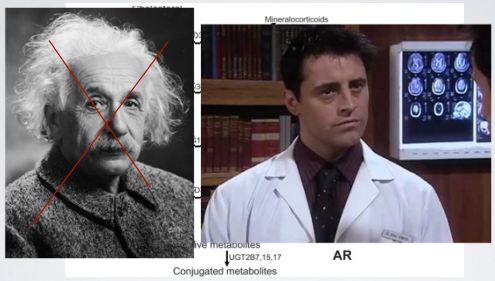
# BASIC REFRESHER

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# HORMONAL TREATMENT: FTM

- Testosterone
  - Intramuscular
  - Topical
  - Implantable pellets


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| Androgen | Initial - low dose[b] | Initial - typical | Maximum - typical[c] | Comment |
|---|---|---|---|---|
| **Testosterone Cypionate[a]** | 20 mg/week IM/SQ | 50mg/week IM/SQ | 100mg/week IM/SQ | For q 2 wk dosing, double each dose |
| **Testosterone Enthanate[a]** | 20mg/week IM/SQ | 50mg/week IM/SQ | 100mg/week IM/SQ | " |
| **Testosterone topical gel 1%** | 12.5-25 mg Q AM | 50mg Q AM | 100mg Q AM | May come in pump or packet form |
| **Testosterone topical gel 1.62%[d]** | 20.25mg Q AM | 40.5 - 60.75mg Q AM | 103.25mg Q AM | " |
| **Testosterone patch** | 1-2mg Q PM | 4mg Q PM | 8mg Q PM | Patches come in 2mg and 4mg size. For lower doses, may cut patch |
| **Testosterone cream[e]** | 10mg | 50mg | 100mg | |
| **Testosterone axillary gel 2%** | 30mg Q AM | 60mg Q AM | 90-120mg Q AM | Comes in pump only, one pump = 30mg |
| **Testosterone Undecanoate[f]** | N/A | 750mg IM, repeat in 4 weeks, then q 10 weeks ongoing | N/A | Requires participation in manufacturer monitored program[f] |

UCSF Transgender Care

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# WHAT TO EXPECT: FTM

| Effect | Onset (months) | Maximum (years) |
|---|---|---|
| Skin oiliness/acne | 1 - 6 | 1 - 2 |
| Facial/body hair growth | 6 - 12 | 4 - 5 |
| Scalp hair loss | 6 - 12 | |
| Increased muscle mass/strength | 6 - 12 | 2 - 5 |
| Fat redistribution | 1 - 6 | 2 - 5 |
| Cessation of menses | 2 - 6 | |
| Clitoral enlargement | 3 - 6 | 1 - 2 |
| Vaginal atrophy | 3 - 6 | 1 - 2 |
| Deepening of voice | 6 - 12 | 1 - 2 |

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https://parkerkierr.e.wordpress.com/tag/hrt/

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# CHAZ BONO

http://www.timeshdnow.com/14771/13-famous-transgender-celebrities/#1

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# SURGICAL REASSIGNMENT: FTM

- Mastectomy (Top)
- Hysterectomy and bilateral salpingo-oophorectomy (Bottom)
- Addition of phallus (Bottom)

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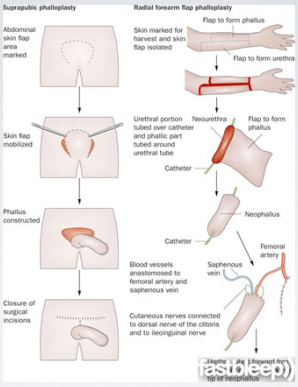


http://www.fwbbeauty.com/assets/notes/image7053_1.jpg

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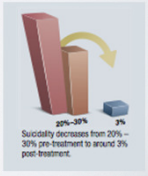
# COMPLICATIONS: FTM

- Heart Disease: uncertain
- Breast, uterine, and ovarian cancer: uncertain, but possibly increased
- Erythrocytosis
- LFT abnormalities

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- https://www.trulygeeky.com/wp-content/uploads/2017/05/transgender-woman-to-man-10.jpg

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# HORMONAL TREATMENT: MTF

- Spironolactone —> blocks synthesis of testosterone and androgen receptor
- Estrogen
  - Oral/sublingual – don't use ethinyl estradiol (oral contraceptive pill)
  - Patch
  - Injections
- Progesterone

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| Hormone | Initial-low[b] | Initial | Maximum[c] | Comments |
|---|---|---|---|---|
| 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[a] | <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 |

| Hormone | Initial-low[b] | Initial | Maximum[c] |
|---|---|---|---|
| Spironolactone | 25mg qd | 50mg bid | 200mg bid |
| Finasteride | 1mg qd | | 5mg qd |
| Dutasteride | | | 0.5mg qd |

| Hormone | Initial-low[b] | Initial | Maximum[c] |
|---|---|---|---|
| Medroxyprogesterone acetate (Provera) | 2.5mg qhs | | 5-10mg qhs |
| Micronized progesterone | | | 100-200mg qhs |

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# WHAT TO EXPECT: MTF

| Effect | Onset | Maximum |
|---|---|---|
| Redistribution of body fat | 3 - 6 months | 2 -3 years |
| Decrease in muscle mass and strength | 3 - 6 months | 1 - 2 years |
| Softening of skin/decreased oiliness | 3 - 6 months | unknown |
| Decreased libido | 1 - 3 months | 3 - 6 months |
| Decreased spontaneous erections | 1 -3 months | 3 - 6 months |
| Male sexual dysfunction | Variable | Variable |
| Breast growth | 3 - 6 months | 2 - 3 years |
| Decreased testicular volume | 3 - 6 months | 2 - 3 years |
| Decreased sperm production | Unknown | > 3 years |
| Decreased terminal hair growth | 6 - 12 months | > 3 years |
| Scalp hair | No regrowth | |
| Voice changes | None | |

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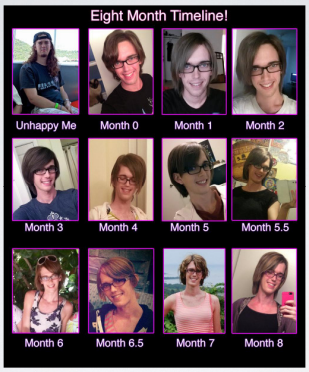


http://i.imgur.com/BS0ad27.jpg

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# ISIS KING

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# LEA - T

http://www.timetobreak.com/14771/13-famous-transgender-celebrities/7/

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# SURGICAL REASSIGNMENT: MTF

- Orchiectomy and/or
- Vaginoplasty
- Facial feminization
- Vocal cord surgery
- Breast augmentation
- Tracheal shave
- Buttock augmentation

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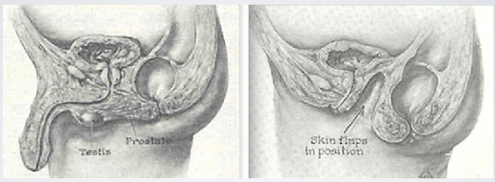


https://genderbenderfiles.wordpress.com/2014/08/srs-male.jpg

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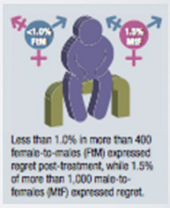
# COMPLICATIONS: MTF

- Venous thromboembolism: Increase
  - Discontinue estrogen three to four weeks before surgery
- Coronary Artery Disease
  - Familial hypertriglyceridemia
- Mortality: Increased (no adjusted data)
- Elevated prolactin
- Electrolyte issues

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# MYA TAYLOR

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# HORMONE PEARLS

- Maximum effect dose not necessarily require maximum dose
- Check with insurance prior, use term "medically necessary" in documentation
- Don't forget syringes and education for intramuscular/subcutaneous medications
- Hormonal therapy is not great birth control

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# LAB MONITORING

- Transgender male: Testosterone in cisgender male range, estrogen levels not very useful
- Transgender female: Testosterone under 55, estrogen in cisgender female range but under 200
- Non binary: Labs based on patient centered goals

Table 3. Lower and upper limits of normal to use when interpreting selected lab tests in transgender men using masculinizing hormone therapy

| Lab measure | Lower Limit of normal | Upper Limit of normal |
|---|---|---|
| Creatinine | Not defined | Male value |
| Hemoglobin/Hematocrit | Male value if amenorrheic* | Male value |
| Alkaline Phosphatase | Not defined | Male value |

* If menstruating regularly, consider using female lower limit of normal.

Table 5. Lower and upper limits of normal to use when interpreting selected lab tests in transgender women using feminizing hormone therapy

| Lab measure | Lower Limit of normal | Upper Limit of normal |
|---|---|---|
| Creatinine | Not defined | Male value |
| Hemoglobin/Hematocrit | Female value | Male value |
| Alkaline Phosphatase | Not defined | Male value |

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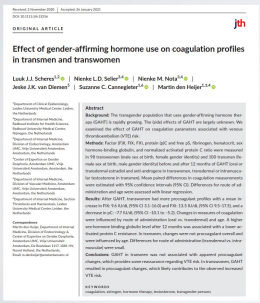
# CLOTTING



Effect of gender-affirming hormone use on coagulation profiles in transmen and transwomen

- Increased risk with estrogen, not with testosterone
- Tobacco cessation
- Aspirin?
- NOT an absolute contraindication
- Stop estrogen for a few weeks preoperatively or before immobilization

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# HEALTH MAINTENANCE

- Bone Density
- Prostate
- Mammograms
- HIV
- Cervical/Uterine/Ovarian Health
- Fertility

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# TRANSGENDER BROKEN ARM SYNDROME


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# WHAT SHOULD I DO?

- What would you do for any other patient of their age?
- Referral to psychology or endocrinology if you are uncomfortable
- Routine Health Maintenance
  - Refer as necessary
- Be aware of complications

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# QUESTIONS?


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