TRANSGENDER MEDICINE 2022 AND BEYOND

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Big Sky Family Medicine 2022

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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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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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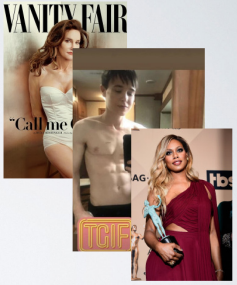
1984 → 2012 → 2015 → 2021







50-70 100 300 1,100

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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

J Sex Med. Author manuscript; available in PMC 2017 Apr 1.
Published in final edited form as:
J Sex Med. 2016 Apr; 13(4): 615–626.
Published online 2016 Mar 25. doi: 10.1016/j.jsxm.2016.02.001
PMCID: PMC4823615
NIHMSID: NIHMS764641
PMID: 27045261

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 drastically decreases suicide

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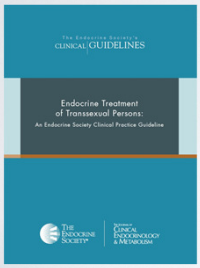

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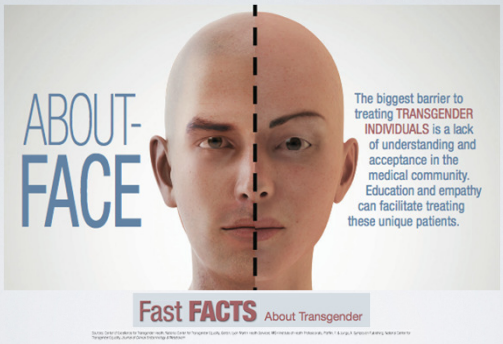

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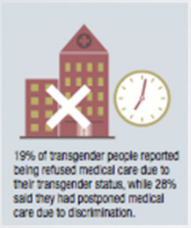
WHY DISCUSS TRANSGENDER MEDICINE?



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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

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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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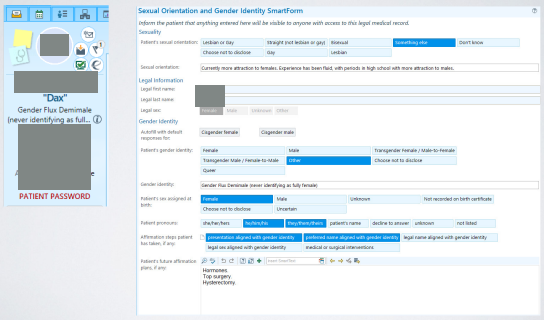
EMR BUILD



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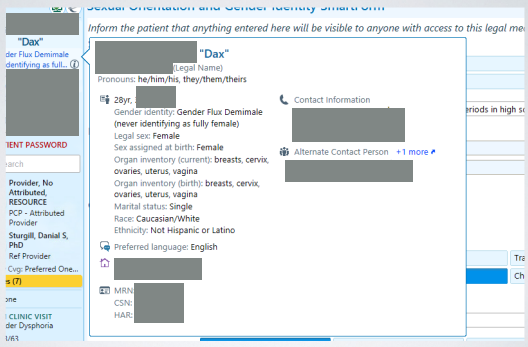

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3 AREAS TO TREAT

- Psychosocially
- Hormonally
- Anatomically






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COMMUNITY SUPPORT

A Little About Who We Are.

For a few years now we have been meeting on third Saturday of each month at the pride collect.

We are a support group that can help with various levels of support. We often try to network people in finding the various support systems transgender people need.

Our goals are to spread awareness and support for transgender people in MN, SD, and ND. Most importantly we give a chance for people to be themselves in a safe setting.

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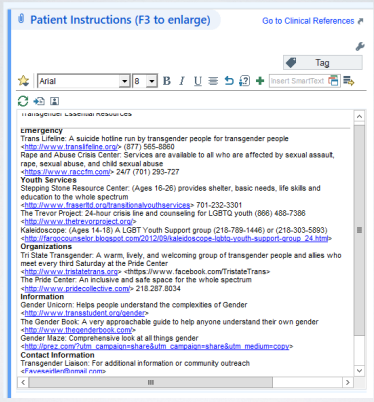

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HORMONES

WPATH WORLD PROFESSIONAL ASSOCIATION for TRANSGENDER HEALTH

- 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"	Hormonal therapy initiated by prescribing provider based on:
•Psychotherapy not required	•Clinical judgment
•Experienced hormone prescribing medical provider may meet requirement	•Lack of contraindications
	•Patient capacity to give informed consent
	•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 patients advocacy groups
- Chromosomal, Gonadal, or anatomical

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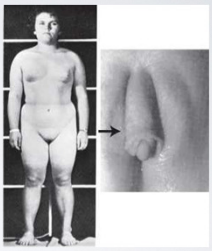
DSD



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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]

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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://parkerkiercewordpress.com/tag/hrt/

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CHAZ BONO

http://www.timetobreak.com/147711/13-famous-transgender-celebrities/4/

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SURGICAL REASSIGNMENT: FTM

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

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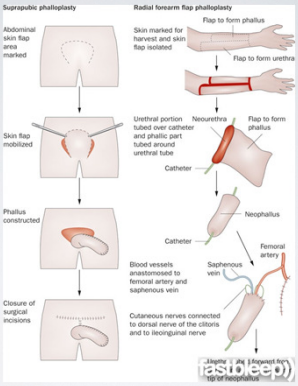

http://www.fastbleep.com/medicalnotes/image/7055_1.jpg

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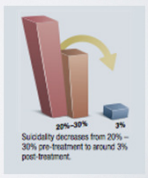
COMPLICATIONS: FTM

- 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 cyplonate 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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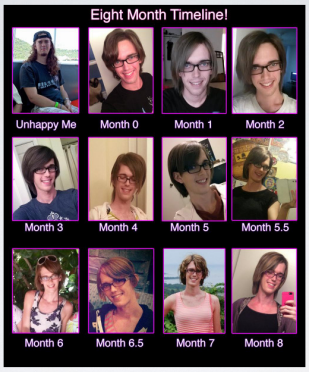

http://i.imgur.com/BS0ad27.jpg

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SURGICAL REASSIGNMENT: MTF

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

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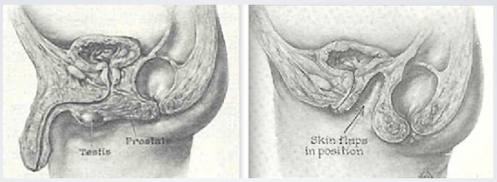

https://gendertrender.files.wordpress.com/2014/08/srs-male.jpg

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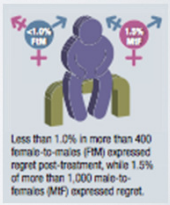
COMPLICATIONS: MTF

- 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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https://i.pinimg.com/736x/ce/0c/d8/ce0cd8f91e2c472ad8458f9da7f7adfa3c--transgender-mtf-mtf-transition.jpg

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- https://i.pinimg.com/564x/cf/36/f7/cf36f795bc05b7886fcf8af2cb18f36d--mtf-transition-transgender.jpg

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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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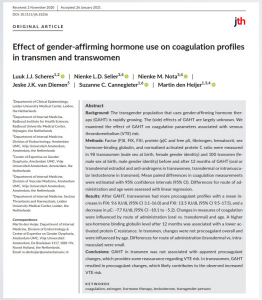
CLOTTING



ORIGINAL ARTICLE

jth

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

Louk J.J. Scheres[1,2] | Nienke L.D. Seller[3,4] | Nienke M. Nota[3,4] | Jeske J.K. van Diemen[3] | Suzanne C. Cannegieter[2,5] | Martin den Heijer[3,4]

Abstract

Background: The transgender population that uses gender-affirming hormone therapy (GAHT) is rapidly growing. The (side) effects of GAHT are largely unknown. We examined the effect of GAHT on coagulation parameters associated with venous thromboembolism (VTE) risk.

Methods: Factor (F)II, FV, FVII, protein (p)C and free pS, fibrinogen, hematocrit, sex hormone-binding globulin, and normalized activated protein C ratio were measured in 98 transwomen (male sex at birth, female gender identity) and 100 transmen (female sex at birth, male gender identity) before and after 12 months of GAHT (oral or transdermal estradiol and anti-androgens in transwomen, testosterone or intramuscular testosterone in transmen). Mean paired differences in coagulation measurements were estimated with 95% confidence intervals (95% CI). Differences for route of administration and age were assessed with linear regression.

Results: After GAHT, transwomen had more procoagulant profiles with a mean increase in FIX 9.6 IU/dL (95% CI 3.5–16.0) and FXI 13.5 IU/dL (95% CI 9.5–17.5), and a decrease in pC −7.7 IU/dL (95% CI −10.1 to −5.3). Changes in measures of coagulation were influenced by route of administration (oral vs. transdermal) and age. A higher sex-hormone binding globulin level after 12 months was associated with a lower activated protein C resistance. In transmen, changes were not procoagulant overall and were influenced by age. Differences for route of administration (transdermal vs. intramuscular) were small.

Conclusions: GAHT in transmen was not associated with apparent procoagulant changes, which provides some reassurance regarding VTE risk. In transwomen, GAHT resulted in procoagulant changes, which likely contributes to the observed increased VTE risk.

KEYWORDS

coagulation, estrogen, hormone therapy, testosterone, transgender persons

- 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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