

Integrating Transgender Health Care Into Our Medical Culture

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Disclosures

- ▶ None
- ▶ I have been a member of the University of Michigan Comprehensive Gender Services Program since it was formed in 1994.

How do you care for a population of which you were unaware and for which you have received no training?

- ▶ You don't, so patients can't find care.
- ▶ You try, but your setting and care do not meet patients' needs, so they don't return and may not get care.
- ▶ You really try, so your patients teach you what they need.
- ▶ You learn how to care for them optimally, and they get high quality long term care.

Objectives

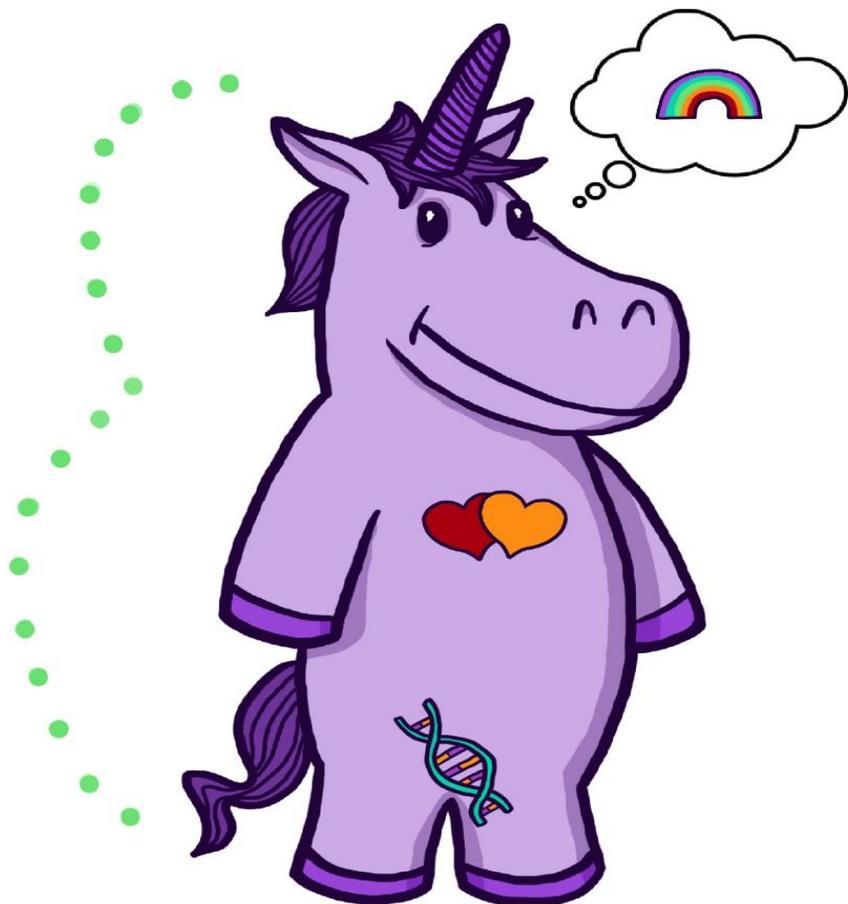
- ▶ Extend cultural competence to clinical competence.
 - ▶ Let's talk about gender dysphoria.
 - ▶ Health issues for transpeople.
 - ▶ What is the role of an obstetrician-gynecologist?
 - ▶ Transgender medical therapy: the basics.
 - ▶ What needs to happen next?
 - ▶ A vision of transcare in the future.

Translanguage

- ▶ Transgender (trans): A term for people whose gender identity, expression or behavior is different from those typically associated with their assigned sex at birth.
 - ▶ Cisgender (cis): A term for people whose gender identity, expression or behavior matches those typically associated with their assigned sex at birth.
- ▶ Gender non-conforming: A term for individuals whose gender expression is different from societal expectations related to gender.
- ▶ Gender dysphoria in adult (DSM-5): A noticeable incongruence between the gender the patient believes they are, and what society perceives them to be. (ICD 10: F64.0)
 - ▶ Gender identity disorder (DSM-4): Do not use; replace it in the Problem List.

The Gender Unicorn

Graphic by:
TSER
Trans Student Educational Resources



Gender Identity



Female / Woman / Girl

Male / Man / Boy

Other Gender(s)



Gender Expression



Feminine

Masculine

Other



Sex Assigned at Birth

Female

Male

Other/Intersex



Physically Attracted to



Women

Men

Other Gender(s)



Emotionally Attracted to



Women

Men

Other Gender(s)

To learn more, go to:
www.transstudent.org/gender

Design by Landyn Pan and Anna Moore

Etiology of Gender Dysphoria

- ▶ Unknown, but generally agreed now to be inborn.
 - ▶ Earliest theories argued for a psychosocial disorder or failure of optimal parent-child interactions.
 - ▶ Origins of initial care recommendations.
 - ▶ Biological theories postulate early prenatal exposure to incongruent sex steroids.
 - ▶ Not well supported by DSD experience.
 - ▶ Scattered evidence for differences in hypothalamic nuclei.
 - ▶ Uncertain cause.
- ▶ Gender Dysphoria is not a lifestyle choice!

Prevalence of Gender dysphoria

- ▶ DSM-5: “0.005-0.014% for adult natal males and 0.002-0.003% for adult natal females.”
- ▶ Halley Crissman, M.D., HO 2: “Approximately 1 in 189 U.S. adults identify as transgender.”
 - ▶ Secondary analysis of data from 20 states and territories in the 2014 Behavioral Risk Factor Surveillance System.
 - ▶ 151,456 asked “Do you consider yourself to be transgender?”
 - ▶ Transgender individuals made up 0.53% and were more likely to be non-white, below the poverty line, and less likely to attend college.
 - ▶ ‘Transgender prevalence and demographics: a household probability sample of United States adults, 2014’ currently under revision for AJPH.
- ▶ New Zealand teens: 1.2 %.

Sobering numbers

- ▶ US population January 1, 2016 (projected): 322,762,018.
- ▶ US transgender population January 1, 2016 (Crissman projected): 1,710,661.
 - ▶ Require lifetime care.
 - ▶ ~51% could desire a hysterectomy: 872,437.
- ▶ US transgender population of 20-24 year olds January 1, 2016 (7% estimate): 119,746.
 - ▶ Potential initial presentation for care.
- ▶ NP visits for gender care UM Ob-Gyn FY '16: 142.
 - ▶ Primarily to initiate hormone therapy.
 - ▶ Some requesting surgery.
 - ▶ Some with gynecologic concerns.

Changing insurance climate

- ▶ May, 2014: Medicare no longer considers gender surgery as experimental and will cover it.
- ▶ May 13, 2016: HHS finalizes Section 1557 of the Affordable Care Act “Prohibiting denial of health care or health coverage based on an individual’s sex, including discrimination based on pregnancy, gender identity, and sex stereotyping.”
- ▶ June 2, 2016: VA proposes to provide coverage for gender surgery.
- ▶ June 30, 2016: DoD “Service members with a diagnosis from a military medical provider indicating that gender transition is medically necessary will be provided medical care and treatment for the diagnosed medical condition.”

Financial access to gender health care is changing

- ▶ Lack of coverage has been the primary impediment to both hormone therapy and gender surgery.
- ▶ Increasing numbers of health plans cover all services.
 - ▶ Cost is minimal to date due to relatively low numbers.
- ▶ It is unclear how the ACA ruling will be interpreted by the courts.
 - ▶ It may be mandated that all plans cover all services offered to other patients for recognized medical conditions.

The legal climate is changing

- ▶ June, 2010: U.S. State Department policy issues passports that reflect a person's current gender.
 - ▶ A previous passport or certification from a physician confirming that he or she has had appropriate clinical treatment for gender transition.
 - ▶ Can then change Social Security gender status.
- ▶ Gender 'marker' determined by states.
 - ▶ Varies widely.
 - ▶ March 10, 2016: Michigan Secretary of State revises the rule requiring gender confirming surgery to change drivers' license gender designation.
 - ▶ Passport, birth certificate or court order is needed.
- ▶ Gender identity is not a protected class under Michigan's anti-discrimination law.
 - ▶ Elliott-Larsen Civil Rights Act 1976.
 - ▶ Employment and housing are not protected.

Demand for transgender health care services will continue to increase

- ▶ Increasing social acceptance.
 - ▶ Varies widely.
- ▶ Increasing economic access.
- ▶ Increasing legal access.
- ▶ A major limiting factor is a lack of available high quality care.

Health issues for transpeople

- ▶ 2011 National Transgender Discrimination Survey: 6450 transgender and gender non-conforming study participants
 - ▶ Barriers to care:
 - ▶ 19% reported being refused medical care due to their transgender or gender non-conforming status.
 - ▶ 28% were subjected to harassment in medical settings .
 - ▶ 2% were victims of violence in the doctor's office.
 - ▶ 50% reported having to teach their medical providers about transgender care.
 - ▶ Despite barriers, 62% had accessed hormone therapy.
 - ▶ Disparities:
 - ▶ Greater than 4 times the national average of HIV infection (2.6% vs. 0.6%).
 - ▶ 26% use or have used alcohol and drugs to cope with discrimination.
 - ▶ 41% reported attempting suicide compared to 1.6% of the general population.
 - ▶ 57% faced some rejection by their family.
 - ▶ Family rejection significantly increased rates of homelessness, incarceration, sex work, HIV, suicide attempts, smoking, and use of drugs and alcohol.

Health care needs for transpeople

▶ Routine health care

- ▶ Screening.
 - ▶ Breast and cervix/uterus/ovaries in transmen.
 - ▶ Breast and prostate in transwomen.
 - ▶ STI in a traditionally high risk population.
- ▶ All other needs, with cultural competence.

▶ Mental health care

- ▶ High rate of need.
- ▶ Uncertain intersection of gender dysphoria and other mental health conditions.
- ▶ Trained professionals.

Health care wants for transpeople

- ▶ Hormonal transition to the gender of identity.
 - ▶ Transwomen: estrogen, anti-androgen.
 - ▶ Transmen: testosterone.
- ▶ Surgery.
 - ▶ Gender confirming/affirming.
 - ▶ NOT sex reassignment surgery (SRS)!
 - ▶ Transmen: bilateral mastectomies/hysterectomy/BSO/vaginectomy/phalloplasty/scrotoplasty.
 - ▶ Transwomen: orchiectomy/penectomy/vulvo-vaginoplasty.
 - ▶ Identity enhancing.
 - ▶ Facial feminization/tracheochondroplasty/body contouring/implants.
 - ▶ Vocal cord.
 - ▶ Hair transplants.

More health care wants for transpeople

- ▶ Reproductive options.
 - ▶ Gamete cryopreservation/ART.
 - ▶ Counseling on recovery of reproductive capacity.
 - ▶ Contraception/STI prevention.
- ▶ Cosmetic options.
 - ▶ Electrolysis/ laser for unwanted terminal hair.
 - ▶ Counseling in make-up and hair care.
- ▶ Behavior modification.
 - ▶ Vocal coaching for pitch and speech patterns.
 - ▶ Gender specific patterns of dress and action.

Standards of care for transpeople

▶ WPATH.

- ▶ Incorporated in 1979 as the Harry Benjamin International Gender Dysphoria Association, changed to World Professional Association for Transgender Health in 2007.
- ▶ 7th version of Standards of Care (SOC) published in 2012.
- ▶ Mission to promote evidence based care, education, research, advocacy, public policy, and respect in transgender health.

▶ Fenway Center, Boston.

- ▶ The Medical Care of Transgender Persons, 2015.

▶ UCSF Center of Excellence for Transgender Health.

- ▶ Primary Care Protocol, 2011.

What is the role of an obstetrician-gynecologist in the care of transpeople?

- ▶ Women's Health consultants.
 - ▶ Remember, the need is for lifelong health care.
 - ▶ Screening recommendations/provision.
 - ▶ STI and cervix: same care as anyone with a vagina and cervix.
 - ▶ May not use and/or want either: use a Pederson or pediatric speculum.
 - ▶ Ask about sexual behaviors and concerns.
 - ▶ Discuss contraception.
 - ▶ Breasts: same care as anyone who has breasts, spontaneously or medically induced.
 - ▶ Risk with long term hormone use, estrogen or testosterone, is unknown.
 - ▶ Uncertain recommendations after mastectomies; concern is occurrence, not recurrence.
 - ▶ Estrogen use will (probably) be lifelong.
 - ▶ Prostate: same care as anyone who has a prostate.
 - ▶ Unknown effect on cancer risk with long term estrogen use.

What is the role of an obstetrician-gynecologist in the care of transpeople?

▶ Gynecologists.

- ▶ Abnormal bleeding in transmen with a uterus.
 - ▶ Any bleeding is a concern, but usually explained by hormone use.
 - ▶ Work-up if modifying the use doesn't resolve it.
 - ▶ Long term risk of cancer with androgen use is unknown.
- ▶ Care of a neovagina/neovulva.
 - ▶ Frequently, the initial surgery was done elsewhere.
 - ▶ Graft sloughing/incisional breakdown are not uncommon.
 - ▶ Need for long term dilation; strictures are the most common problem.
 - ▶ Postop neoclitoral/labial pain or hypersensitivity may require revision.
 - ▶ HPV surveillance?

Medical Care of Transpeople

- ▶ Hormones and hormone therapy
 - ▶ Sex steroids
 - ▶ Goals
 - ▶ Risks
 - ▶ Options
- ▶ Surgery
- ▶ Other issues

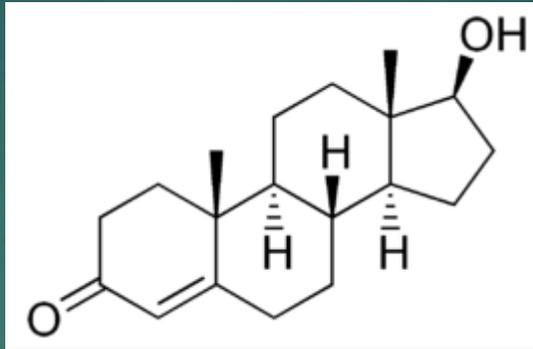
Sex steroids

- ▶ Androgens
 - ▶ Testosterone and derivatives
 - ▶ Androstenedione
 - ▶ Precursor only
 - ▶ Dihydrotestosterone (DHT)
 - ▶ Potent metabolite of T in skin
 - ▶ Not used clinically
 - ▶ Synthetics

Sex steroids

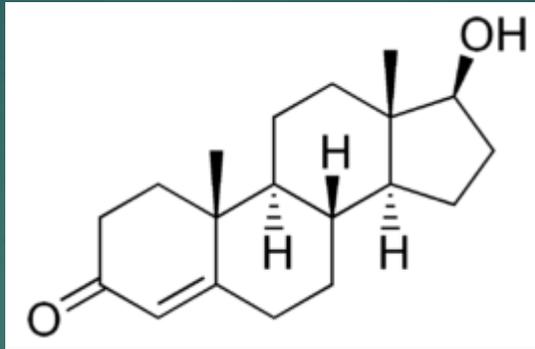
- ▶ Estrogens
 - ▶ Estradiol and derivatives
 - ▶ Most potent
 - ▶ Estrone
 - ▶ Estriol
 - ▶ Conjugated equine (CEE)
 - ▶ Synthetic

Testosterone



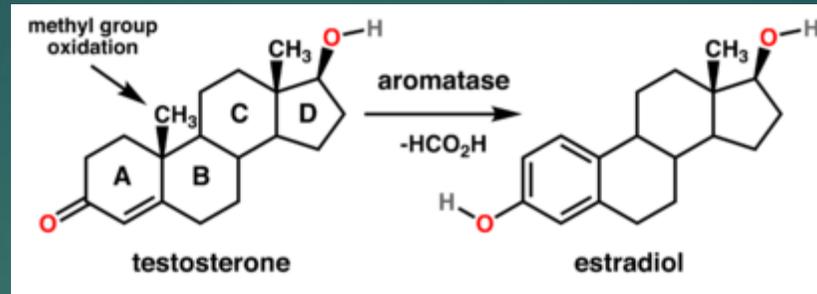
- ▶ Where does it come from?: gonads and adrenal glands
- ▶ What does it do?:
 - ▶ Spermatogenesis
 - ▶ Muscle density and mass
 - ▶ Bone density and length, cartilage growth
 - ▶ Libido
 - ▶ Male secondary sex characteristics
 - ▶ organs, voice, hair, growth

Testosterone



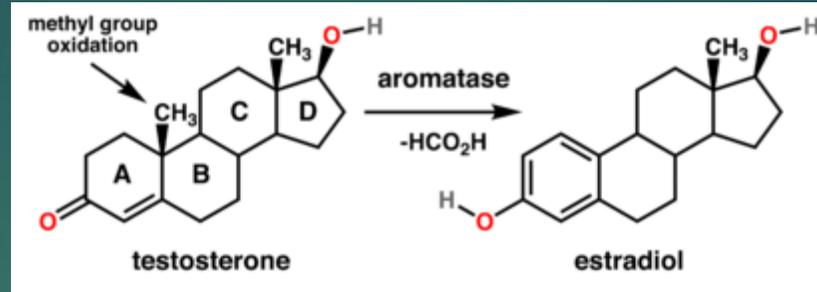
- ▶ The primary androgen.
- ▶ How much does it take to make things happen?:
 - ▶ Men have ten-fold higher T levels than women.
 - ▶ Adult Male: 2.50 - 9.50 ng/mL.
 - ▶ Adult Female: 0.10 to 0.90 ng/mL.
 - ▶ Slightly elevated levels can cause acne and hirsutism.

Estradiol



- ▶ Where: gonads, fat, muscle
- ▶ What does it do?:
 - ▶ Menstrual cycle, endometrium
 - ▶ Bone, skin, hair, GI, lungs
 - ▶ Clotting factors
 - ▶ Lipids
 - ▶ Female secondary sex characteristics
 - ▶ Breast, vaginal growth, fat distribution

Estradiol



- ▶ The primary estrogen.
- ▶ How much does it take to make things happen?:
- ▶ Harder to estimate: women cycle!
 - ▶ Adult male: 6-44 pg/ml
 - ▶ Adult female: early follicular 10-50 pg/ml; late follicular 60-200 pg/ml; midcycle 120-375 pg/ml; luteal phase 50-260 pg/ml; postmenopausal <20 pg/ml.
- ▶ Ballpark mid-range: 100-200 pg/ml.

Two Primary goals of hormone therapy

- ▶ Induce the desired secondary sex characteristics ('Mini-puberty'), a direct effect of the administered hormone.
 - ▶ Women: breast growth, body composition.
 - ▶ Men: voice deepening, terminal facial and body hair, body composition.
- ▶ Cause regression of already induced characteristics, an indirect effect through suppression of the pituitary hormones that drive the gonads (FSH/LH).
 - ▶ Men: Amenorrhea, fat mass, some breast tissue.
 - ▶ Women: facial and body terminal hair, muscle mass, gonads, spontaneous erections.
 - ▶ Unnecessary after gonadectomy.

Adjunct goal of hormone therapy

- ▶ Do no harm.
 - ▶ Short term:
 - ▶ Several studies of overall risk.
 - ▶ Long term:
 - ▶ Few data on long term risks.
- ▶ Patients don't consider hormones an elective option.

TABLE 1a. Effects and Expected Time Course of Masculinizing Hormones^a

Effect	Expected onset ^b	Expected maximum effect ^b
Skin oiliness/acne	1–6 months	1–2 years
Facial/body hair		
Growth	3–6 months	3–5 years
Scalp hair loss	>12 months ^c	Variable
Increased muscle mass/strength	6–12 months	2–5 years ^d
Body fat		
Redistribution	3–6 months	2–5 years
Cessation of Menses	2–6 months	n/a
Clitoral Enlargement	3–6 months	1–2 years
Vaginal atrophy	3–6 months	1–2 years
Deepened voice	3–12 months	1–2 years

a Adapted with permission from Hembree et al. (2009). Copyright 2009, The Endocrine Society.

b Estimates represent published and unpublished clinical observations.

c Highly dependent on age and inheritance; may be minimal.

d Significantly dependent on amount of exercise.

TABLE 1b. Effects and Expected Time Course of Feminizing Hormones^a

Effect	Expected onset ^b	Expected maximum effect ^b
Body fat redistribution	3–6 months	2–5 years
Decreased muscle mass/strength	3–6 months	1–2 years ^c
Softening of skin/decreased oiliness	3–6 months	Unknown
Decreased libido	1–3 months	1–2 years
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	Variable	Variable
Thinning/slowed growth of body facial hair	6–12 months	> 3 years^d
Male pattern baldness	No regrowth, loss stops 1–3 months	1–2 years

^a Adapted with permission from Hembree et al. (2009). Copyright 2009, The Endocrine Society. ^b Estimates represent published and unpublished clinical observations.

^c Significantly dependent on amount of exercise. ^d Complete removal of male facial and body hair requires electrolysis, laser treatment, or both.

TABLE 2. Risks Associated with Hormone Therapy

Risk level	Feminizing hormones	Masculinizing hormones
Likely increased risk	<ul style="list-style-type: none"> • Venous thromboembolic disease ^a • Gallstones • Elevated liver enzymes • Weight gain • Hypertriglyceridemia 	<ul style="list-style-type: none"> • Polycythemia • Weight gain • Acne • Androgenic alopecia (balding) • Sleep apnea
Likely increased risk with presence of additional risk factors ^b	<ul style="list-style-type: none"> • Cardiovascular disease 	
Possible increased risk	<ul style="list-style-type: none"> • Hypertension • Hyperprolactinemia or prolactinoma 	<ul style="list-style-type: none"> • Elevated liver enzymes • Hyperlipidemia
Possible increased risk with presence of additional risk factors ^b	<ul style="list-style-type: none"> • Type 2 diabetes ^a 	<ul style="list-style-type: none"> • Destabilization of certain psychiatric disorders ^c • Cardiovascular disease • Hypertension • Type 2 diabetes
No increased risk or inconclusive	<ul style="list-style-type: none"> • Breast cancer 	<ul style="list-style-type: none"> • Loss of bone density • Breast cancer • Cervical cancer • Ovarian cancer • Uterine cancer

Note. Bolded items are clinically significant.

^a Risk is greater with oral estrogen administration than with transdermal estrogen administration.

^b Additional risk factors include age.

^c Includes bipolar, schizoaffective, and other disorders that may include manic or psychotic symptoms. This adverse event appears to be associated with higher doses or supraphysiologic blood levels of testosterone.

Hormone Therapy Quagmire



- ▶ There are no scientifically valid data to serve as the basis for “hormonal augmentation” regimens.
- ▶ This is not “evidence-based medicine”.
- ▶ Hormones will be administered for unapproved indications.
- ▶ WPATH: Letter of recommendation from a qualified mental health professional.

Assessment of Response to Hormone Therapy

- ▶ *Short term:* Suppression of serum levels of the principal endogenous gonadal hormone.
- ▶ *Long term:* Development of biological effects of the administered hormones, and suppression of the manifestations of the endogenous gonadal hormones.

Hormone Therapy in Transwomen

- ▶ Initial and principal therapy:
 - ▶ Estrogens
- ▶ If adequate suppression of testicular function is not achieved, consider adjunctive therapy, using:
 - ▶ Anti-androgens
 - ▶ GnRH agonists

Estrogen Therapy in Transwomen

- ▶ Dosage is typically 6-8 times that used in menopausal hormone therapy (reduced after orchiectomy, if GCS is performed).
- ▶ Oral preparations, twice daily most commonly.
- ▶ Avoid oral preparations of unknown bioavailability.
- ▶ Non-oral options are increasingly requested, and may become the option of choice to minimize risk.

Preferred Estrogen Therapy in Transwomen

- ▶ Estradiol (micronized)
(e.g. Estrace) 4-8 mg/day p.o.
- ▶ *Conjugated estrogens USP*
(e.g. Premarin) 5-10 mg/day p.o.
- ▶ Transdermal patches
 - ▶ More expensive
 - ▶ One-three 0.1 mg patches at a time
 - ▶ Decreased thromboembolic risk
- ▶ Intramuscular depo-estradiol
 - ▶ (e.g. Delestrogen) 5 mg weekly
- ▶ Buccal micronized estradiol
 - ▶ Dose is half of oral dose
 - ▶ No good studies, but theoretically same safety profile as transdermal

Adjunctive Hormonal Therapy in Transwomen

- ▶ Anti-androgens:
 - ▶ Spironolactone 100 mg/2x a day p.o.
 - ▶ Finasteride 1-5 mg/day p.o.
 - ▶ Other 5^α reductase inhibitors
 - ▶ Cyproterone acetate (FDA denied approval in the U.S.)
- ▶ Progestins: Requests for breast growth
 - ▶ Medroxyprogesterone (e.g. Provera) 5-10 mg/day p.o.
 - ▶ Micronized progesterone 100-200 mg/day p.o.

Surveillance of Hormone Therapy in Tranwomen

- ▶ Baseline, 2, 6, 12 months, then annually
 - ▶ Serum estradiol & testosterone
 - ▶ E2 100-200 pg/mL; T < 0.9 ng/mL.
 - ▶ Blood pressure
 - ▶ Electrolytes
- ▶ Per standard guidelines
 - ▶ Mammograms
 - ▶ Prostate

Hormone Therapy in Transmen

- ▶ Initial and principal therapy:
 - ▶ Testosterone
- ▶ If adequate suppression of ovarian function is not achieved, consider adjunctive therapy, using:
 - ▶ Anti-estrogen
 - ▶ GnRH agonist

Testosterone Therapy in Transmen

- ▶ Dosage is typically 2-4 times that used as hormone replacement in male hypogonadism (reduced after oophorectomy, if GCS performed).
- ▶ Intramuscular administration is the standard.
 - ▶ Depot testosterone esters (cypionate or enanthate) 100-300 mg IM q 1-3 weeks

Testosterone Therapy in Transmen

- ▶ Other routes:
 - ▶ Transdermal gel
 - ▶ Steadier levels
 - ▶ More expensive
 - ▶ Avoid contact with others
 - ▶ Transdermal patch (inconvenient & costly)
 - ▶ Oral fluoxymesterone (Halotestin) (not recommended: frequent adverse effects at high dosages)

Adjunctive Hormonal Therapy in Transmen

- ▶ Anti-estrogens (infrequently used)
 - ▶ Aromatase inhibitors (testosterone to estradiol): anastrozole, letrozole
 - ▶ Estrogen receptor antagonists: tamoxiphene, toremifene, raloxifene

Surveillance of Hormone Therapy in Transmen

- ▶ Baseline, 2, 6, 12 months, then annually
 - ▶ Serum testosterone & estradiol
 - ▶ T in the mid-normal male range; E2 <50 pg/mL.
 - ▶ Hemoglobin/hematocrit
 - ▶ Liver function tests
- ▶ Baseline, annually
 - ▶ Serum lipid profile
- ▶ Per standard guidelines
 - ▶ Gyn screening

Adjunct Hormone Therapy in adolescents

- ▶ Inhibition of pituitary gonadotropins & thus gonadal steroidogenesis
 - ▶ Goserelin subcutaneous implant
q 3-4 weeks
 - ▶ Leuprolide acetate depot suspension
IM q 4 weeks
 - ▶ Nafarelin nasal spray

Street-based hormone therapy

- ▶ Easy to get
 - ▶ Internet
 - ▶ Friends
- ▶ Many regimens
 - ▶ Usually oral or transdermal.
 - ▶ Oral androgens are most concerning.
 - ▶ Frequently underdosed or overdosed.
 - ▶ No screening for risks or monitoring for safety.

Bio-identical hormones

- ▶ 'Natural' compounds of varying potency.
 - ▶ Frequently don't achieve levels to suppress the endogenous gonads.
 - ▶ Frequently associated with a lab to monitor levels: expensive.
- ▶ No evidence that they are safer or more effective than 'approved' compounds.

Gender Confirming Surgery (GCS)

- ▶ Irreversible and final.
- ▶ Recommendation by an appropriate counselor.
 - ▶ WPATH: Two letters, one by an independent psychologist/psychiatrist.
- ▶ Financial obstacles must be overcome.
- ▶ Multidisciplinary surgeon teams.
- ▶ May need several sessions of surgery.

Gender Confirming Surgery WPATH Readiness Criteria

- ▶ Demonstrable progress in consolidating the evolving gender identity.
- ▶ Demonstrable progress in dealing with work, family, and interpersonal issues resulting in a significantly better state of mental health.
- ▶ Tolerating hormonal therapy and maintaining good health.
- ▶ May become a prerequisite for insurance coverage.

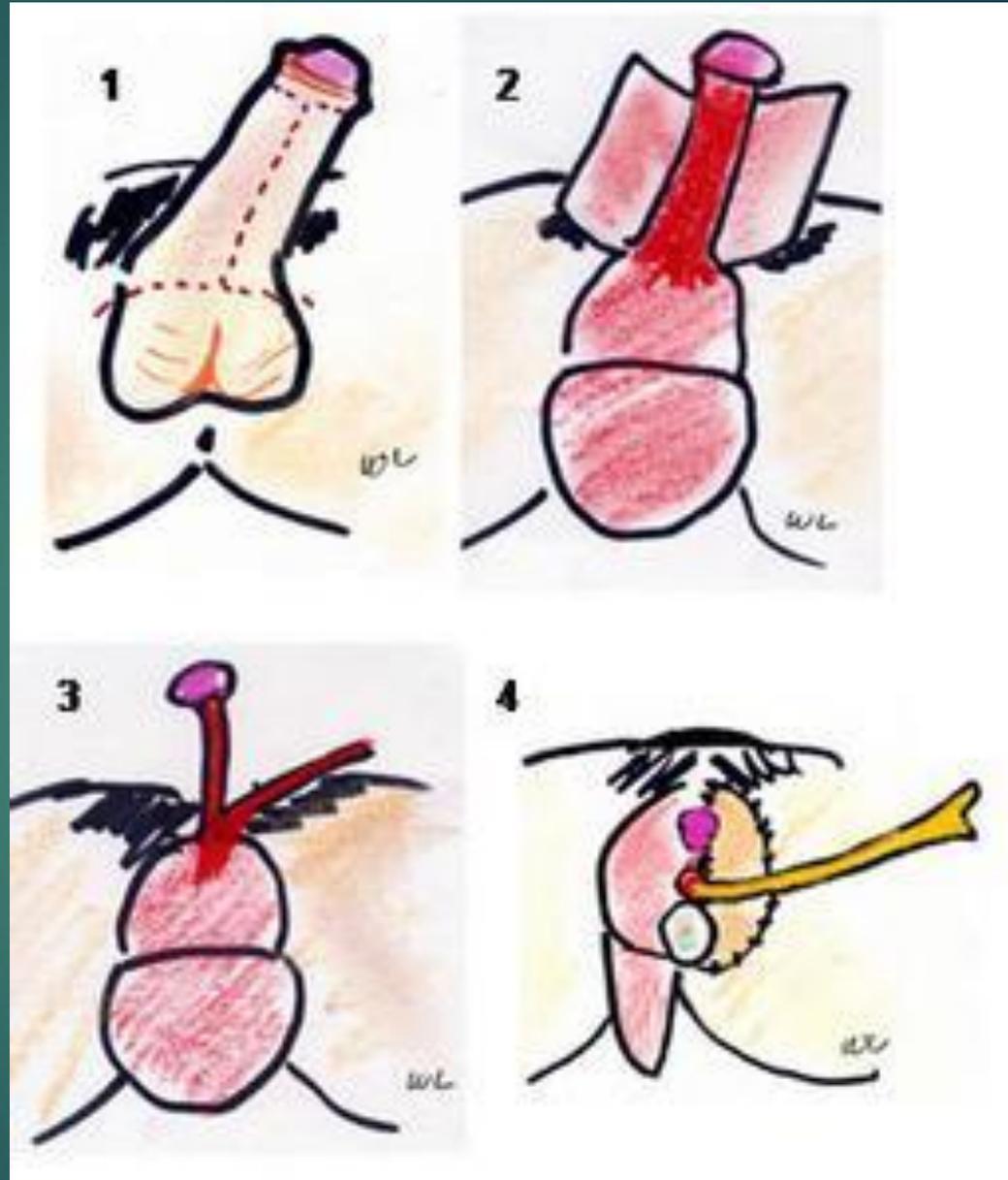
Gender Confirming Surgery

Male-to-Female

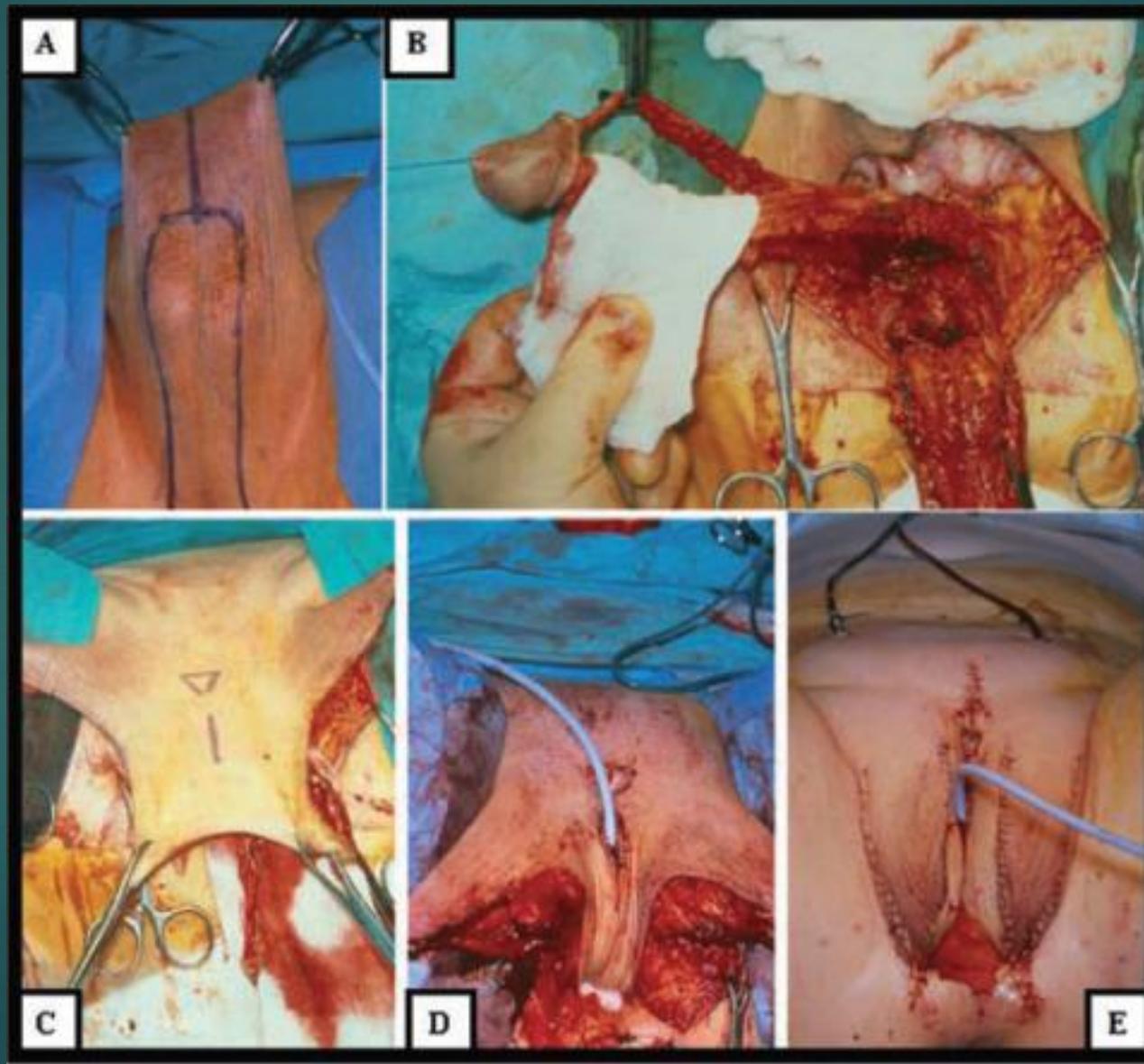
- ▶ Genital GCS
 - ▶ Orchiectomy
 - ▶ Vaginoplasty/clitoroplasty/labiaplasty
 - ▶ Inversion of penile/scrotal skin
 - ▶ Penectomy and pedicled rectosigmoid transplant;
or
 - ▶ Penectomy and free skin graft to line a neovagina

Penile inversion vaginoplasty

1. Incise penis and scrotum, remove testes.
2. Denude penile shaft.
3. Remove erectile tissue, preserving the urethra and neurovascular bundle and glans.
4. Create neovagina by inverting penile skin, shortening urethra, and trimming glans to form a clitoris. Form scrotal skin into labia.



Penile inversion vaginoplasty



Gender Confirming Surgery

Male-to-Female

- ▶ Cosmetic GCS
 - ▶ Augmentation mammoplasty
 - ▶ After achieving stable breast growth
 - ▶ Optional procedures to assist feminization:
 - ▶ Reduction thyroid chondroplasty
 - ▶ Suction lipoplasty/lipofilling
 - ▶ Rhinoplasty
 - ▶ Facial bone reduction, face-lift, blepharoplasty
 - ▶ Pectoral/gluteal implants
 - ▶ Vocal cord reconstruction

Gender Confirming Surgery Male-to-Female

- ▶ Post-op problems
 - ▶ Graft failure
 - ▶ Vaginal stenosis
 - ▶ Maintenance requires use of dilators/stents or regular intercourse.
 - ▶ Cosmetic appearance
 - ▶ Hypersensitivity of reconstructed clitoris/vulva
 - ▶ Anorgasmia

Gender Confirming Surgery

Female-to-Male

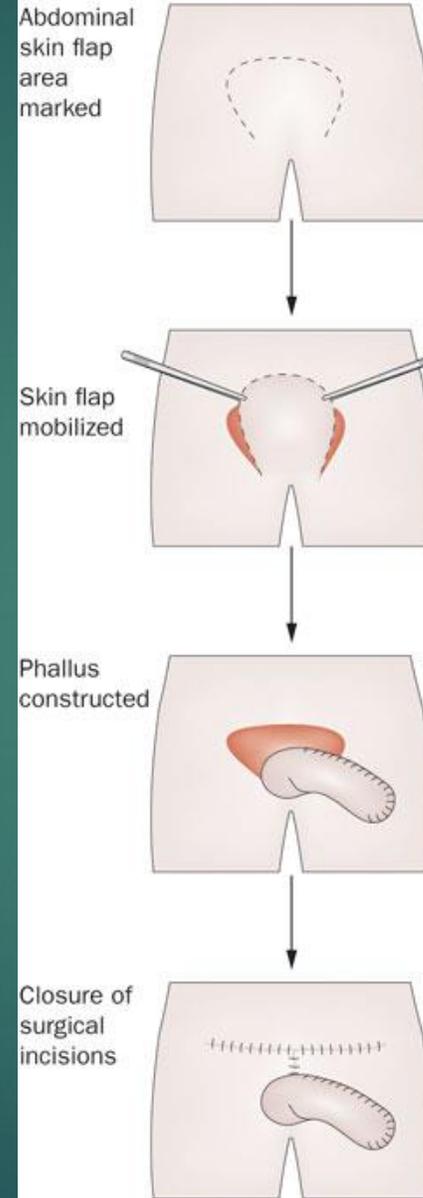
- ▶ Genital GCS
 - ▶ Hysterectomy +/- salpingo-oophorectomy
 - ▶ Usually laparoscopic
 - ▶ Vaginectomy
 - ▶ Phalloplasty
 - ▶ Free vascular graft/urethroplasty
 - ▶ Flap
 - ▶ Metoidioplasty
 - ▶ Scrotoplasty with testicular implants
- ▶ Cosmetic GCS
 - ▶ Reduction mammoplasty

Phalloplasty techniques

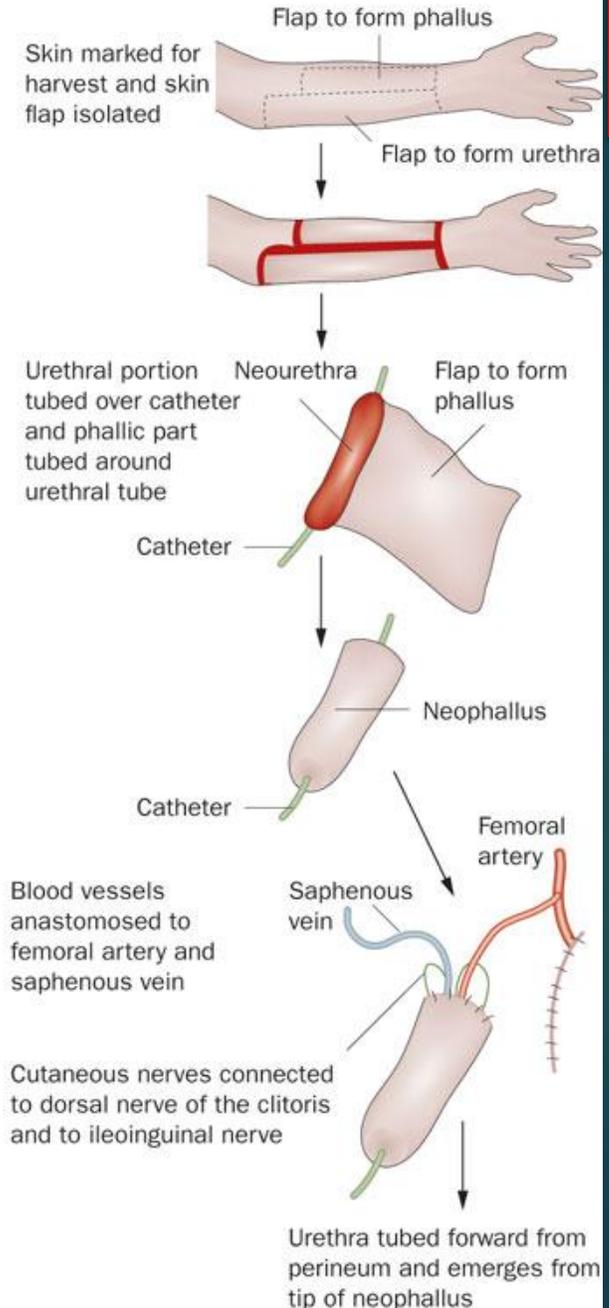
Both require subsequent scrotoplasty and testicular implants using labial skin.

Erections will require placement of an erectile device.

Suprapubic phalloplasty



Radial forearm flap phalloplasty

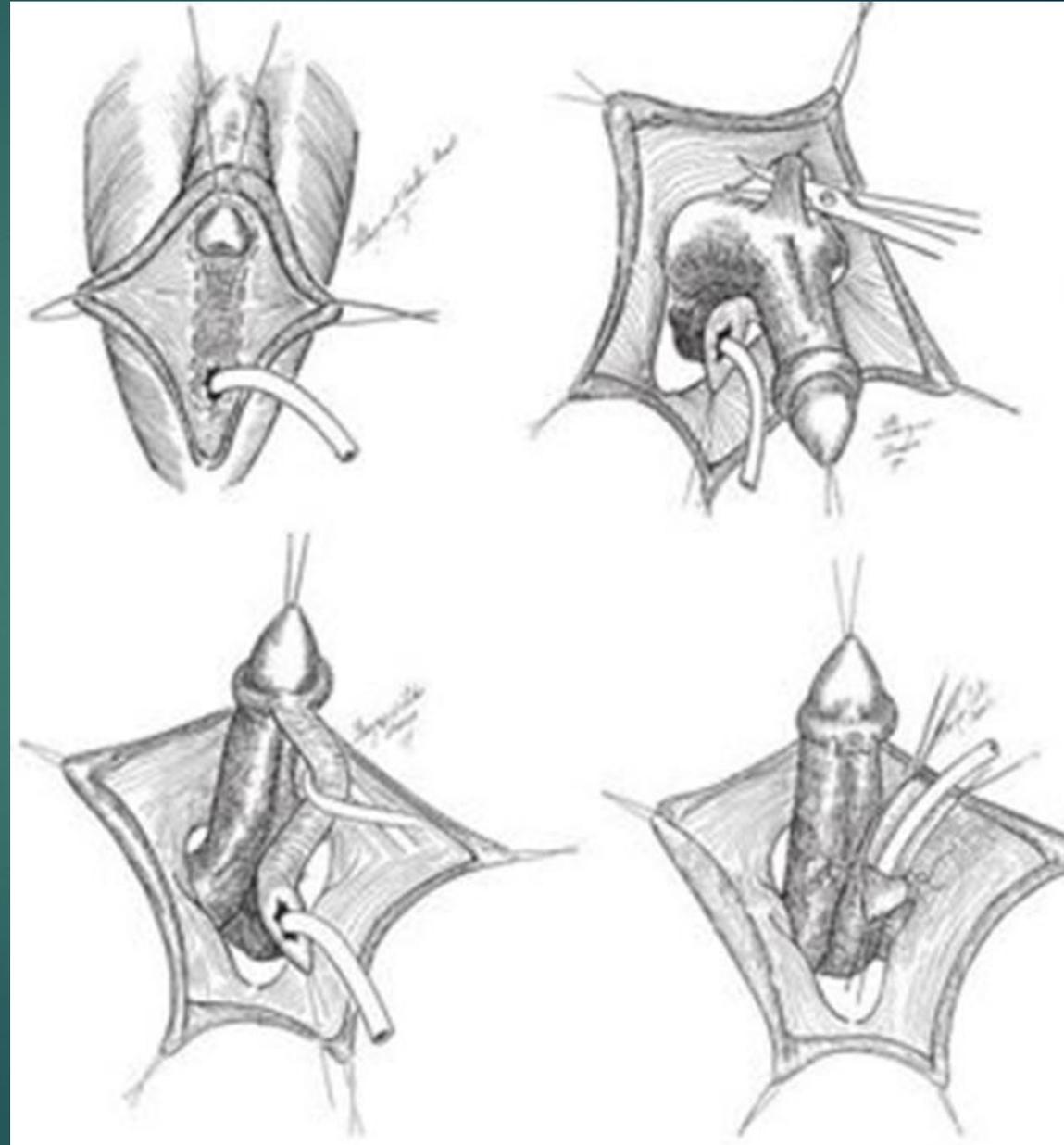


Free forearm flap phalloplasty

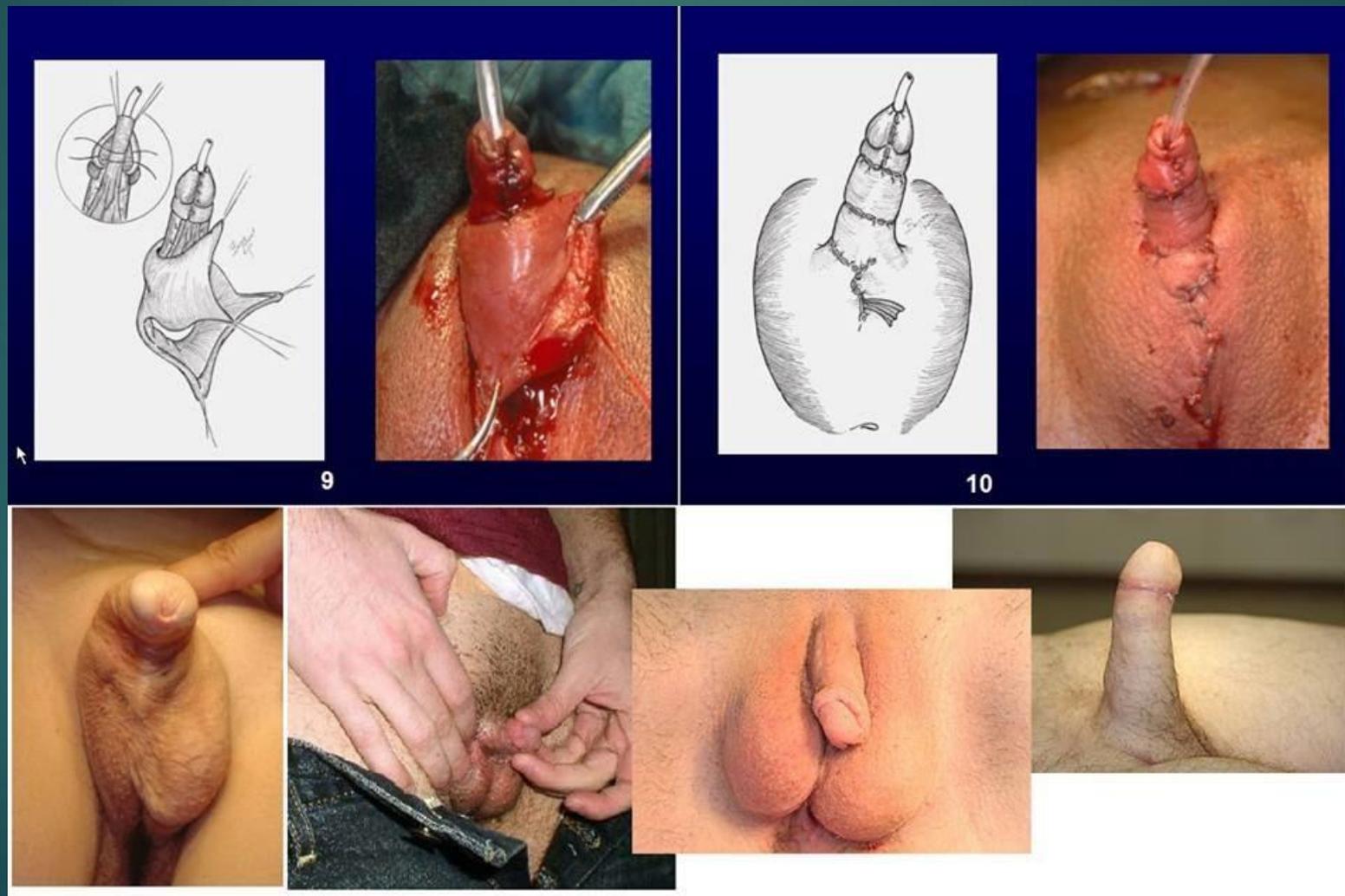


Metoidioplasty

1. Incise mucosa around urethral meatus and clitoral shaft.
2. Cut suspensory ligament.
3. Create an elongated urethra from vaginal/labial mucosa.
4. Attach neourethra to ventral shaft, and cover with mucosa.
5. Create a neoscrotum from vaginal mucosa, place implants.



Metoidioplasty



Gender Confirming Surgery Female-to-Male

- ▶ Post-op problems
 - ▶ Urethral strictures/fistulas
 - ▶ Graft failure
 - ▶ Pain
 - ▶ Scarring at the graft donor site

Gender Confirming Surgery Post-Operative Care



- ▶ Reduce hormone therapy: suppression of gonadal function is no longer needed.
- ▶ Stop adjunctive medications.
- ▶ Continue counseling.
- ▶ Once completely healed, establish maintenance surveillance.
- ▶ Good primary care!

Gender Confirming Surgery Fertility Concerns

- ▶ Hormone therapy suppresses gonadal function and fertility.
 - ▶ Returns with cessation of therapy.
 - ▶ Does not automatically cause gonadal failure.
- ▶ Gonadectomy precludes genetic reproduction.
 - ▶ Sperm can be frozen and stored, but must be collected off of hormones.
 - ▶ Egg freezing is now available, but requires stimulation and retrieval, and is expensive.

Adjunctive therapies

Hair biology

- ▶ Ambisexual hair
 - ▶ Becomes terminal (thick, dark) at T levels above the female range.
 - ▶ Chin, neck, upper back, midline chest and upper abdomen.
 - ▶ Has a 3-5 year growth cycle.
- ▶ Scalp hair
 - ▶ With genetic predisposition, will lose follicles in a 'male' pattern with T.

Adjunctive therapies

Hair induction

▶ Ambisexual hair

- ▶ Providing male levels of T will induce terminal growth in those areas.
- ▶ Density is determined by family.
- ▶ Takes as long as the hair cycle.

▶ Scalp hair

- ▶ Providing male levels of T will induce follicle loss in susceptible men.

Adjunctive therapies

Hair removal

- ▶ Temporary
 - ▶ Shaving, plucking, depilatories, bleaches.
- ▶ Semi-permanent: laser
 - ▶ Wavelength targeted to the pigment in hair follicles.
 - ▶ Faster, fewer sessions, less painful.
- ▶ Permanent: electrolysis
 - ▶ 'Hot' needle inserted down a hair follicle to destroy the papillae.

Adjunctive therapies

Hair removal

- ▶ Unless T is blocked or removed, or all susceptible follicles are destroyed, terminal hair will return.
 - ▶ Must maintain therapy if T or follicles are still present.
 - ▶ Uncertain regrowth of follicles.
- ▶ Combination of T blocker or gonadectomy and laser/electrolysis provides the fastest cosmetic result.

Adjunctive therapies

Vocal

- ▶ Vocal cords lengthen with T.
 - ▶ longer→lower pitch.
 - ▶ Will not ever shorten, even with T removal.
- ▶ Speech therapy can train women to speak in their upper range.
- ▶ Speech therapy can instruct in gender-specific speech patterns.
- ▶ Voice feminization surgery.

Adjunctive therapies

Restrictive

- ▶ Chest binding
 - ▶ Tight, hot, restrictive of movement
 - ▶ No known health consequences
- ▶ Genital tucking
 - ▶ Uncomfortable
 - ▶ Unclear effect on fertility

Transgender Clinical Care

- ▶ Education
- ▶ Risk assessment
- ▶ Informed decision making
- ▶ Appropriate therapy with appropriate monitoring
- ▶ Well considered surgery with experienced surgeons
- ▶ Good primary care

Transgender health care: What needs to happen next?

- ▶ Cultural competence
 - ▶ All health care systems.
 - ▶ Starting to happen.
- ▶ Clinical competence
 - ▶ Integrated into ALL training programs at all levels.
 - ▶ Medical school.
 - ▶ Residency: Family Medicine, Internal Medicine, Pediatrics, Obstetrics and Gynecology.
 - ▶ Post-residency.
 - ▶ Must be part of each curriculum.
 - ▶ Standard content.
 - ▶ Assessment of competence.

A vision of transgender healthcare in the future

- ▶ Early recognition
 - ▶ Childhood (or earlier?).
 - ▶ Gender identity is ascertained, not assigned.
- ▶ Early treatment
 - ▶ Puberty determined by identity, not genitals.
 - ▶ Age-appropriate induction by the hormones of identity.
- ▶ Surgery when appropriate, and desired.
 - ▶ At adulthood?
 - ▶ Reproductive capacity preserved, if desired.
- ▶ Lifelong maintenance by competent providers.

Observations/musings/insights

- ▶ I have yet to see a patient start hormones and have major emotional problems.
- ▶ It's hard to be patient.
- ▶ Health insurance is the biggest current impediment to care, but access to competent clinical care will become so in the near future.
- ▶ Once hormonal/surgical changes have stabilized, patients frequently move on.

OBGYN Diversity, Equity, and Inclusion Initiative

