



## BEFORE WE GET STARTED

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CONSIDERATIONS OF SENSITIVITY

## CONSIDERATIONS OF GENDER & PHYSIOLOGY

### EMERGING RESEARCH

- A biological connection to gender identity
- Several researchers have stated a gender-identity can be surmised through FMRI assessment
- Post-mortem autopsy studies of transgender individuals show brain matches gender identity

## CONSIDERATIONS OF GENDER & PHYSIOLOGY

### ISSUES WITH BIOLOGICAL BASIS OF GENDER IDENTITY

- How would our health care insinuations and treatment change for those who did not qualify through such assessments?
- Who would have access to such assessments?
- If we could identify a direct correlation between gender identity and physiology, does this now become a curable issue?
- Where do we draw the line between biological factors and social norms of expression and behavior?

## CONSIDERATIONS OF GENDER & PHYSIOLOGY

### NOT MENTALLY OR PHYSICALLY DISORDERED

- Claims that transgender people suffer from a mental illness or are otherwise disordered are commonplace in social media, news, work and education
- Shortened life spans and increase health concerns for transgender people are the result of discrimination, drug use, STD, suicide and assault and homicide
- Transgender individuals with a background in gendered religions reported finding comfort in a biological basis of gender identity.
- Younger generations and those with non-binary identities reported biological connection with gender identity as counterproductive and invalidating.

## SEX + GENDER

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DIFFERATION IN EARLY DEVELOPMENT

## DEFINITIONS | HUMAN RIGHTS COUNCIL

### SEX

The designation made at birth as “male” or “female” currently based on a medical professionals visual inspection of genitalia. Frequently assumed to be the same as gender, a person’s sex is only one of the dimensions that constitute an individual’s gender.

### GENDER & GENDER IDENTITY

Refers to the ways in which people externally communicate their gender identity to others through behavior, clothing, haircut, voice and other forms of presentation. Gender expression also works the other way -- as people assign gender to others because of their appearance, mannerisms and other characteristics based on societal conventions, which are continually shifting and vary across cultures, race and region.

## DEFINITIONS | HUMAN RIGHTS COUNCIL

### AMAB | AFAB

Assigned male at birth; assigned female at birth. These acronyms are commonly used in the trans community to talk about groups of people without having to specify if they are trans men, trans women, intersex, or nonbinary. It also places an action on the label male or female of being ‘assigned’ instead of continuing to perpetuate the idea that individuals are either ‘born’ male or female. (The act of being assigned male or female is one way in which gender-diverse individuals are harmed based on systemic and binary practices)

## SEX DIFFERENTIATION BASICS

### THE XY CHROMOSOME STANDARD

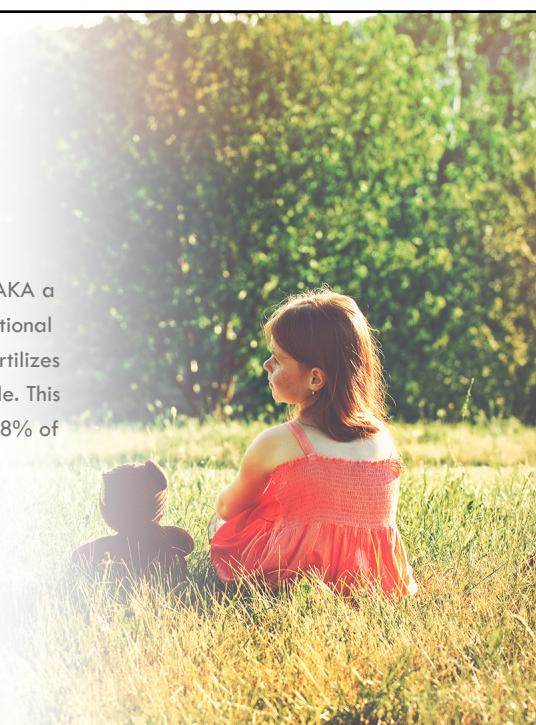
The use of chromosomes, specifically the presence of XX (Female) or XY (Male) gene pair, is the current accepted standard of determining if a human is male or female. This standard has been fine tuned since the late 1950's, and considered the gold standard of accuracy since 1990. These genes are the map for the fetus to develop.



## SEX DIFFERENTIATION BASICS

### THE ZYGOTE

The cell formed by the union of a male and female reproductive cell, AKA a fertilized egg. One X chromosome comes from the egg, while the additional X or Y chromosome is carried by sperm. Depending on which sperm fertilizes the egg, you have a gestational trajectory of biological male or female. This process remains the accepted standard and typical experience for ~98% of humanity.



## SEX DIFFERENTIATION BASICS

### SEXUAL ANATOMY IN GESTATION

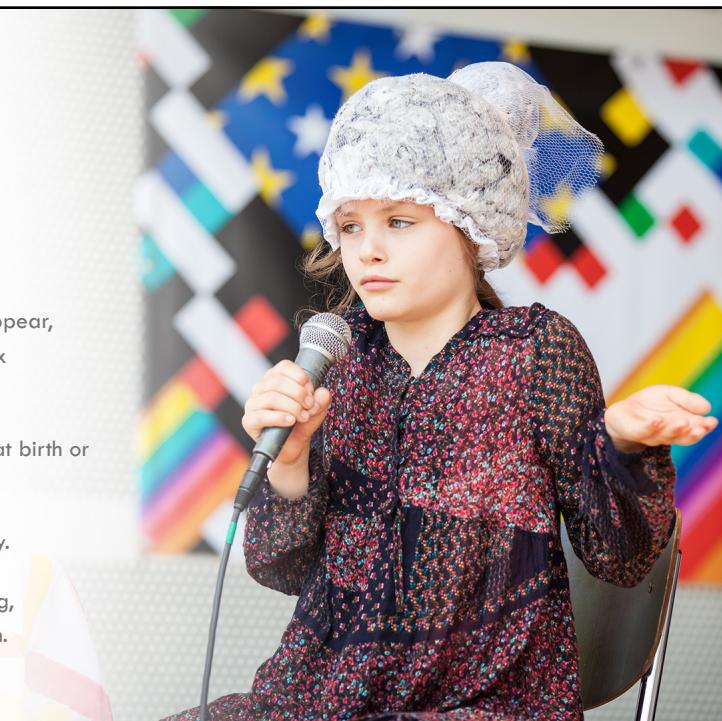
During the first eight weeks of development the physical development of XX and XY individuals is identical. Each fetus develops gonads, and a genital tubercle. Depending on the genetics and hormone processing, the gonads will either start to become ovaries or testicles near week nine. The tubercle will either become the clitoris or extend to become a penis.

Substantial evidence denotes an imprinting period in brain development, wherein the brain receives instructions or hormones to develop in a male or female structure and composition.



## ENTER INTERSEX

- Atypical chromosomal, hormonal, gonadal and neurological differences.
- Variances in development can lead a child to appear, think, or feel different than those with typical sex development.
- Some conditions are immediately recognizable at birth or through advanced imaging in the womb.
- Certain conditions may not manifest until puberty.
- Many conditions go unnoticed until genetic testing, ultrasound, or some other happenstance situation.



## THE H WORD

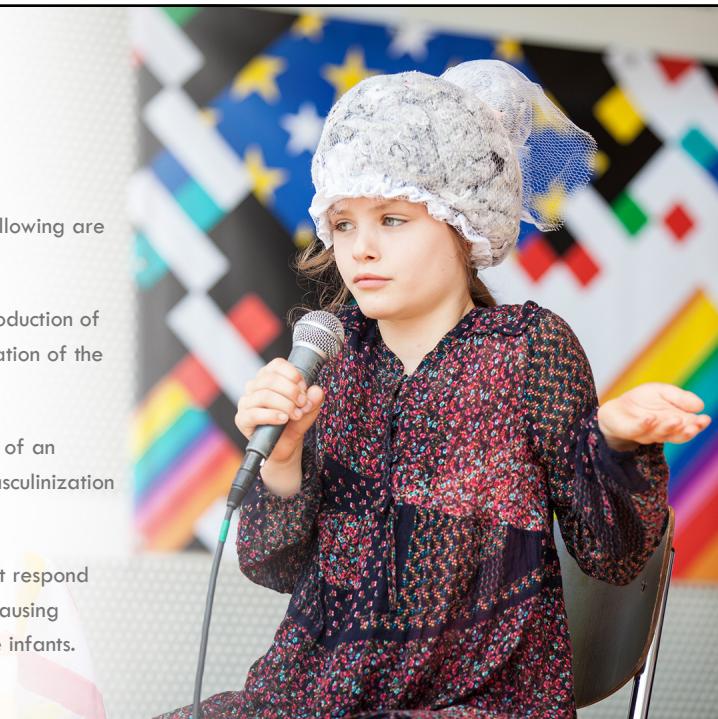
In many historical and current medical articles, the term *hermaphrodite* is used to describe people with an atypical or mixed sex development. That term, the “H” word, is now considered pejorative and should **never** be used in treatment.



## INTERSEX CONDITIONS

From the American Psychological Association, the following are a small sample of intersex condition:

- Congenital adrenal hyperplasia, in which overproduction of hormones in the adrenal gland causes masculinization of the genitals in female infants
- 5-alpha-reductase deficiency, in which low levels of an enzyme, 5-alpha-reductase, cause incomplete masculinization of the genitals in male infants
- Partial androgen insensitivity, in which cells do not respond normally to testosterone and related hormones, causing incomplete masculinization of the genitals in male infants.



## INTERSEX CONDITIONS

- Complete androgen insensitivity, in which cells do not respond at all to testosterone and related hormones, causing female-appearing genitals in infants with male chromosomes
- Klinefelter syndrome, in which male infants are born with an extra X (female) chromosome, which typically causes incomplete masculinization and other anomalies
- Turner syndrome, in which female infants are born with one, rather than two, X (female) chromosomes, causing developmental anomalies.



## INTERSEX EXAMPLE

### THE GUEVODOCES

Be sure and check out this video regarding an example of intersex conditions and their diverse way of manifesting in individuals. View this and other videos at: [transkit.org/videos](http://transkit.org/videos)



# PUBERTY

FIRST | DELAYED | SECOND

## PUBERTY

### FEMALE PHENOTYPE

Typical changes at puberty include breast development, widening of hips, presence of pubic hair and armpit hair, menstruation, and a growth spurt.

### MALE PHENOTYPE

Typical changes at puberty include a growth spurt, greater presence of body and public hair, voice change, and genital growth.

### INTERSEX PHENOTYPE

A combination of symptoms depending on hormone processing, genetic instruction, and predominant genes.



## PUBERTY & GENDER TRAUMA

- Physical changes in puberty commonly induce intensified feelings of dysphoria, self-loathing, increased suicidal ideation and attempts, increased self-harm, and complex trauma.
- Transgender girls (AMAB) may experience these effects due to the irreversibility of testosterone induced physical changes; larger stature, deepening voice, masculinizing of facial structure and body frame, increased body hair, etc.
- Transgender boys (AFAB) may experience these effects due to breast development, widening hips, and limited vertical growth. Changes such as increased body hair, facial hair, lowering of voice, masculinizing muscle and facial structure, can be achieved at a later point through HRT.



## DELAYING PUBERTY

- Utilizing hormone blocking treatments has become standard practice working with transgender youth.
- Administration of hormone blocking regimens begins after the first stage of puberty, allowing growth in stature, but stopping the process before sex specific changes occur.
- This approach allows a gender-questioning child the time to explore their identity before making permanent decisions.
- Once the child has consistently, persistently, insistently understood and voiced their desire for sexual development, the administration of hormones (HRT) can begin. This has happened as early as the age of 14.



## DELAYING PUBERTY

- Typical puberty will resume if a youth decides not to continue with blocking.
- Opponent decry usage as harmful, with numerous medical side effects. Negative side effects are rare.
- Without this blocking treatment negative mental and physical outcomes are assured.



# HORMONES

HORMONE INTEVENTIONS AND THERAPY

## HORMONE REPLACEMENT THERAPY

- For those seeking to transition from the sex assigned at birth, hormone administration is typically the first medical intervention in treatment.
- Assessment, treatment and administration is typically handled by an endocrinologist.
- Primary care providers are becoming more adept in maintenance and monitoring.
- For a patient or client to begin HRT, a gender assessment and letter is standard practice. Information and templates for letters can be found on this site.



## TREATMENT REGIMES

**Transfeminine** patients are generally seeking to decrease testosterone effects and increase estrogen levels. The regime will generally include adding estrogen via oral administration, injection or patch. Additionally, a testosterone blocker (androgen-antagonist) will also be prescribed. The most common testosterone blocker is Spiro (spironolactone). Estrace, Estradiol, and Delestrogen (Estradiol valerate) are the typical estrogen supplements.

**Transmasculine** patients are generally seeking increased testosterone in their bodies in attempts to masculinize appearance, features and expression. Treatment will include adding testosterone to their system, typically delivered via injection, and commonly referred to as "T".



## TREATMENT EFFECTS

### YOUTH

Youth who begin HRT prior to second-stage puberty will have a puberty experience nearly identical to their genetic counterparts. This is the standard we are working towards as a community.

### POST PUBERTY

The sooner a transfeminine individual can start HRT, the more noticeable the effects will be. The body continues to masculinize itself well into mid-life; the period when testosterone levels naturally decrease.



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## NONBINARY HRT | NO TYPICAL INTERVENTION

- Nonbinary individuals may choose to take hormones to allow them to present as more masculine or feminine.
- Masculine-of-center nonbinary people may take testosterone to lower their voice or increase body/facial hair.
- Feminine-of-center individuals may take estrogen for breast development.
- The dose and length of time an individual will stay on hormones depends on the effects they desire.



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## NONBINARY HRT | NO TYPICAL INTERVENTION

- It is important for clinicians to allow individuals to guide their care based on what they want, even if their desires don't follow the "typical" arc of what we expect transition to look like.
- Receiving medical treatment as a nonbinary individual presents challenges that are not present for those who have a more binary desire, including resistance from medical providers and insurance companies to explore diverse treatment goals in transition related care.
- Nonbinary individuals report the authenticity of their desires and gender identity questioned at a significantly higher rate than transgender patients seeking treatment.



## ANCILLARY HORMONE EFFECTS

- Transgender patients will typically notice a placebo effect upon starting HRT with reduced dysphoria, and increased self-esteem.
- Patients commonly voice frustration regarding the slow process of physical change resulting from HRT. Help the patient set realistic timelines and expectations of physical changes.
- Typically, patients should be informed that six months is the bare minimum before physical changes may be noticeable. Many patients will see changes sooner.
- Patients should be supported to talk to their doctors about various hormone levels and what is appropriate for their body.



## ANCILLARY HORMONE EFFECTS

- Encourage patients to document their transition progress in regular intervals. Many transgender patients have identified daily selfies as being an effective way of combatting frustration; providing confirmation that changes are occurring.
- A Second Puberty is commonly experienced when beginning HRT post-puberty, regardless of age. This includes influx of emotions which can manifest very similarly to a puberty aged genetic female or male.
- To a cisgender provider this second puberty may present as a lack of maturity and exaggerated emotional effects.



## ADDITIONAL HRT CONSIDERATIONS

- HRT has been shown to pose similar risk as oral contraceptives.
- The continued use of oral medication can potentially lead to liver issues.
- Procedures such as an orchiectomy can reduce testosterone in a system.
- Anecdotal evidence suggests injectable estrogen is the most potent and effective in feminization.
- Many gender-diverse individuals obtain black market hormones. These are extremely dangerous and should be avoided.
- Insurance providers are mandated to provide HRT for those who have coverage, including Medicaid.



# COMMON PROCEDURES

COSMETIC & SURGICAL GENDER CONFIRMING INTERVENTIONS

## SURGICAL PROCEDURES

- Nomenclature surrounding surgical procedures is in a continual state of evolution. Procedures once called “sex-change” or “sex-re-assignment” have shifted to “gender confirming” to denote that one’s gender is a consistent element of their identity and has existed since birth.
- Transgender, nonbinary or other gender-expansive individuals may or may not desire any number of procedures to bring their physical expression into alignment with their gender.

## FEMINIZING PROCEDURES

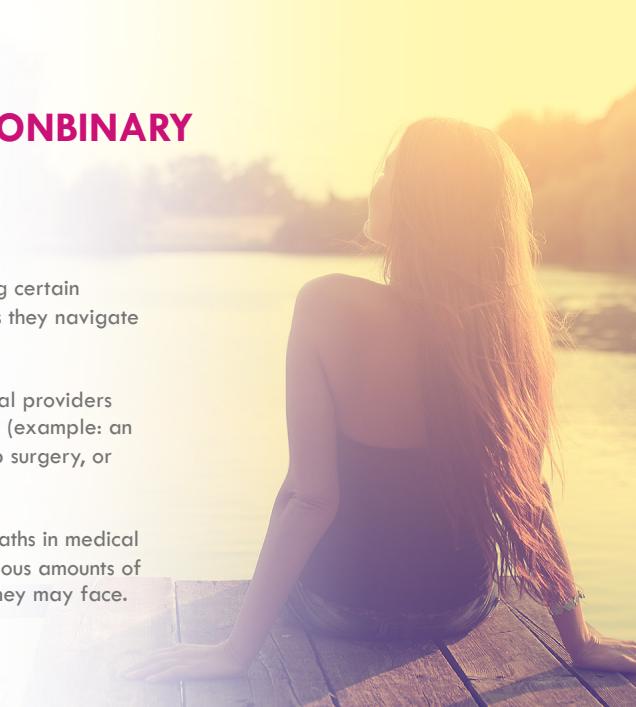
- Laser / Electrolysis: Facial Hair Removal
- Facial Feminization Surgery (FFS): Jaw recontouring, brow lift, hair line lowering, rhinoplasty, lip-shaping, etc..
- Tracheal Shave: Reducing Adams apple protrusion
- Orchiectomy: Removal of testicles.
- Breast Augmentation
- Vaginoplasty: Creation of a vagina, currently a penile inversion process.
- Labiaplasty – Forming of labia, typically from scrotum tissue.

## MASCULIZING PROCEDURES

- Top surgery – removal of breast tissue to allow a flat chest. Typically results in substantial scarring. Many transmen pursue tattoos to hide scars. Can also include a reduction in nipple size and nipple repositioning.
- Hysterectomy/Oophorectomy- Removal of uterus/ovaries
- Phalloplasty- Creation of a phallus resembling a penis using skin grafts from the forearm or thigh, combined with urethroplasty. Erection is possible through a penile implant in a second surgery.
- Scrotoplasty- Construction of a scrotum using labia majora and silicone testicular implants

## SURGICAL PROCEDURES FOR NONBINARY

- They may not want hormones but may want a surgery.
- Some physicians may require hormones before performing certain surgeries and it will be important to support your client as they navigate getting their needs met by medical practitioners.
- Some individuals may be asking for something that medical providers have not been asked to do under non linear circumstances (example: an individual who wants a hysterectomy but no hormones, top surgery, or bottom surgery).
- Nonbinary individuals may find themselves forging new paths in medical care and need a higher level of support to cope with various amounts of education they have to provide to doctors and rejection they may face.



## ADDITIONAL CONSIDERATIONS

REVIEW

## KEY CONCEPTS | PHYSIOLOGY

- Despite evidence suggesting a biological connection to gender identity, this has numerous precarious considerations in treatment.
- The patients age can dramatically affect the experience of gender expression and transition. The younger a patient can start transition the greater likelihood of positive mental and physical outcomes.
- Older patients' expectations of HRT need to be assessed to get ahead of potentially disappointing outcomes. Breast growth, and feminizing of the face/body rarely occur after age 40.
- Prior to assessing and drafting a letter stating a patient is a suitable candidate for HRT, consider the patients emotional state. HRT can dramatically magnify experiences of depression, anger, anxiety, and other emotions.



## KEY CONCEPTS | PHYSIOLOGY

- Gender dysphoria is often the source of these symptoms in which case HRT would reduce the severity of problematic mental health symptoms.
- There is no standard path towards a physiological transition. Listen, learn and support the patients process of exploration.
- Epigenetic research into gender may fundamentally change the way the world understands gender, expression and identity.



# THANK YOU

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THIS MODULE IS COMPLETE