

Beyond the Binary: The Gender Diverse Patient from a Surgical Perspective

Transgender and Gender Non-Binary Awareness

TRANSGENDER & GENDER NON-BINARY HEALTH PROGRAM

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PRONOUNS: HE/HIM OR THEY/THEM

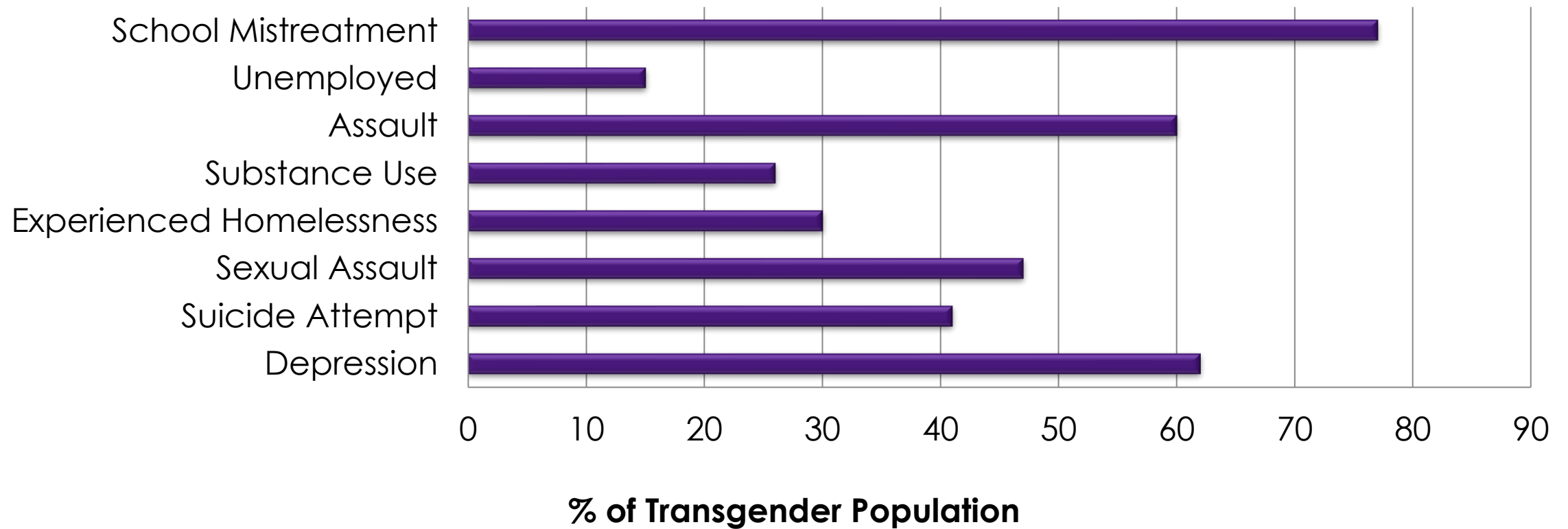
IT IS IMPORTANT TO BE KNOWLEDGEABLE ABOUT TRANS IDENTITIES

You WILL work with Transgender and Gender Non-Binary (TGNB) patients if you haven't already.

- Approx. **1.4 million trans adults**¹ in the U.S.
- Estimated **35,950** trans identified adults and youth in Washington¹
- UW System has captured over
 - **5,000** TGNB encounters (since April 2019)
 - **400** referrals for TGNB related health care (since August 2018)
- HMC/UWMC logged **617 ED** visits (since August 2018)

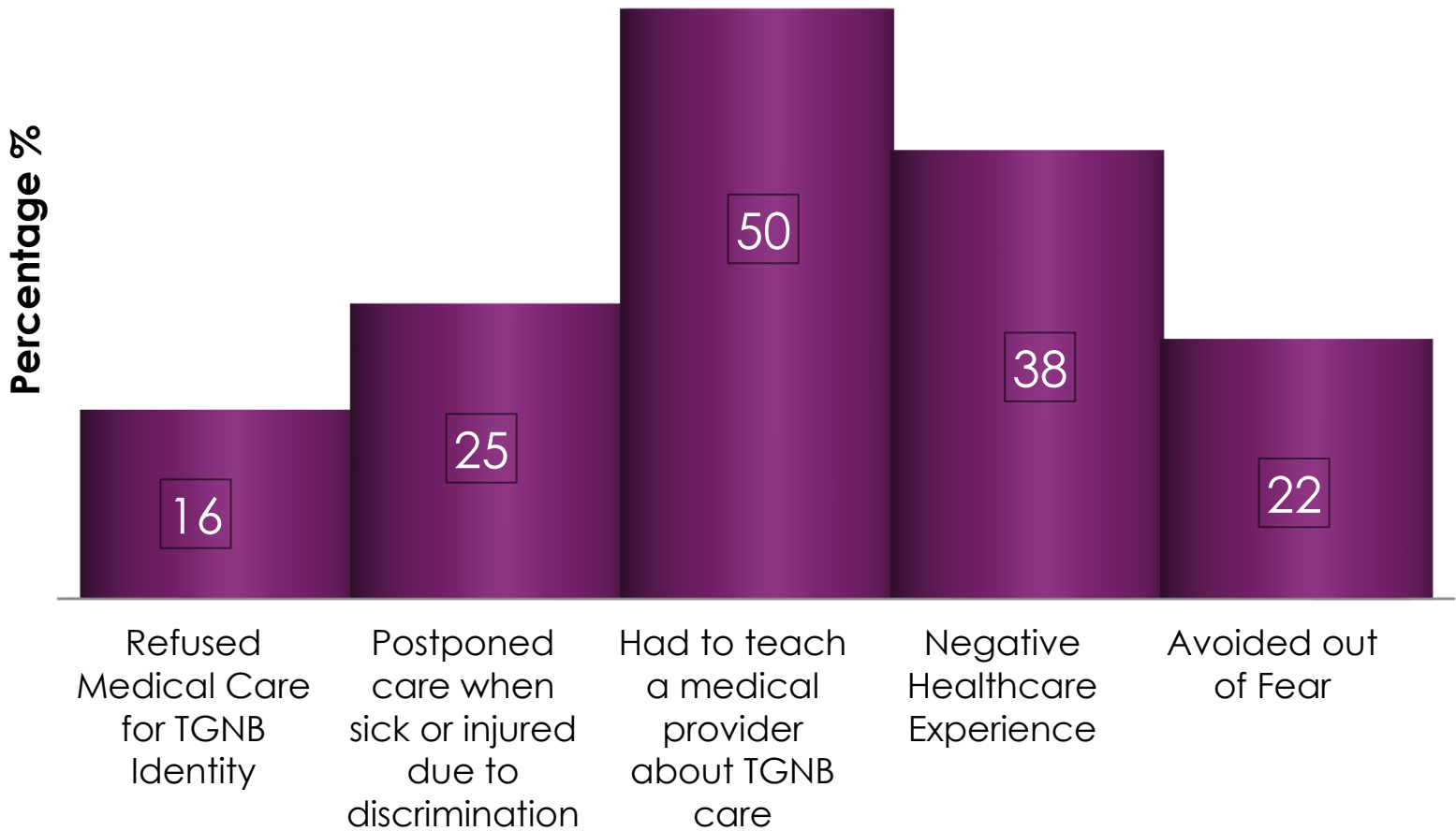
TGNB POPULATION EXPERIENCES HIGHER RATES

**2015 U.S. NCTE Transgender Survey
(n=27,715)**



TGNB Healthcare Experiences

2015 NCTE Washington State TGNB Healthcare Experiences (n = 1,667)



Barriers to Healthcare Access and Utilization
Discrimination by healthcare providers and staff
Lack of cultural competence among health care providers
Lack of provider knowledge on transgender health and identity issues
Denial of services
Poor communication
Financial constraints and insurance limitations
Inappropriate/incorrect electronic records or forms
Incorrect reference points for biochemical measures
Unwelcoming physical facilities
Lack of transportation and/or housing
Mental health issues

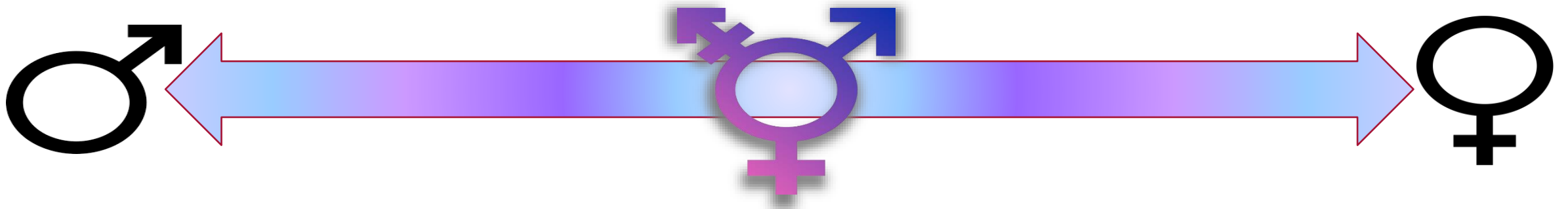
Table 2. Barriers to healthcare access and utilization

Rahman, Rabia et al. (2019)

Gender Identity and Terminology

WHAT IS GENDER?

- Gender identity is complex. It includes multiple facets of who we are, what we believe, and how we relate to others. It is different from sex.
- It can be imagined as a spectrum where each end represents the binary opposites of male and female.



The middle would represent gender identities & expressions that
are **NOT**
what societal standards have labeled as being solely male or
female.

GENDER VS. SEX

8

Gender (identity)

Internal sense of being male, female, or another gender.
Not always visible but can be expressed outwardly.

Behaviors

Attitudes

Feelings

Clothing/Hair

Body language/mannerisms

Sex

(assigned at birth)

The state of being either male or female – often decided
by a physician.

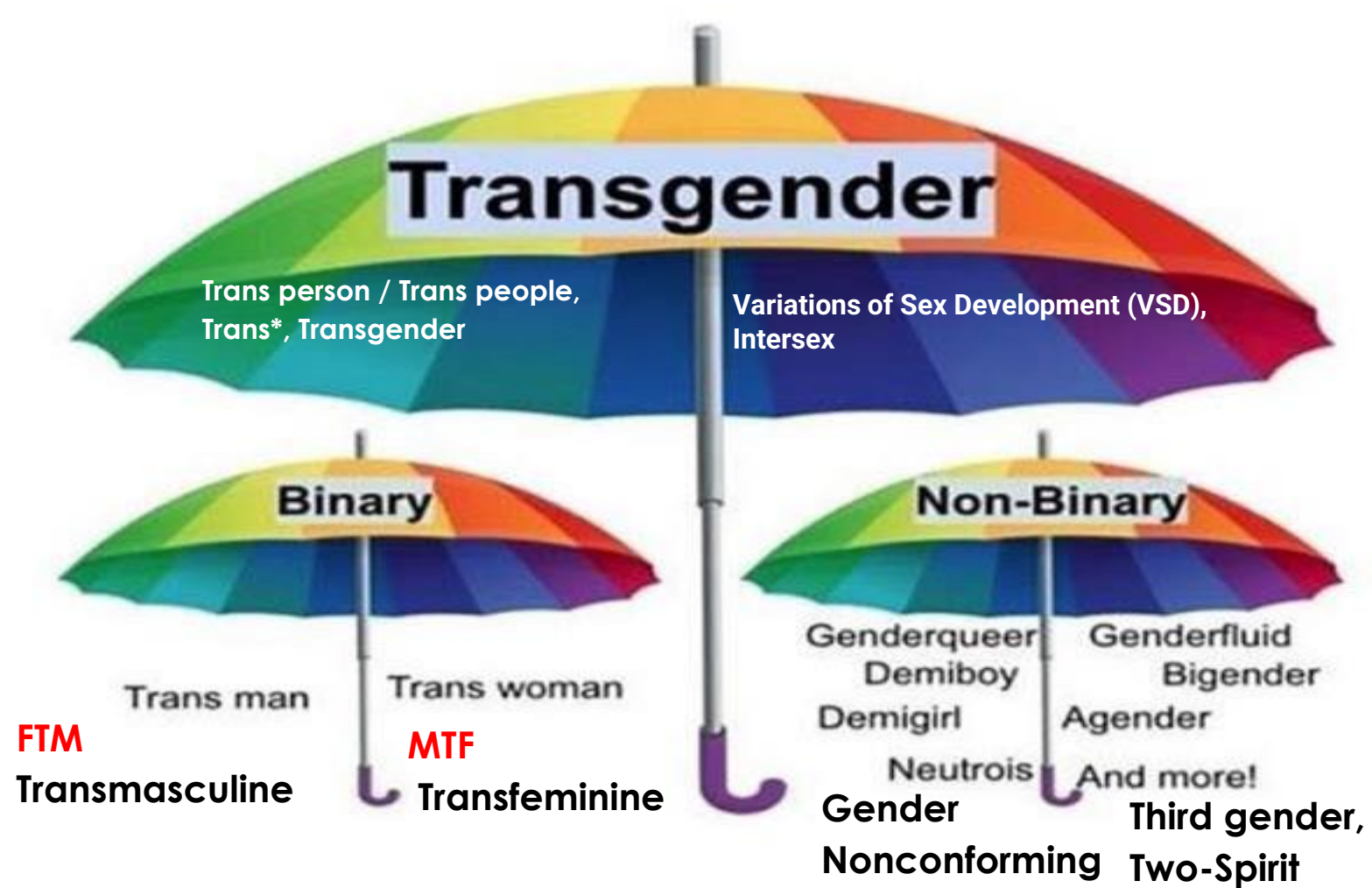
Sex chromosomes

Sex hormones

Internal reproductive organs

External genitalia

THE UMBRELLA



TERMINOLOGY TO CONVEY NATAL STATUS

“**Assigned** Male At Birth” = AMAB

“**Assigned** Female At Birth” = AFAB

Terms used to convey the gender assigned to an infant based on anatomy

PATIENT LANGUAGE TO CONVEY IDENTITY

Female Identified

Transgender woman / **transwoman** /
transfeminine / woman

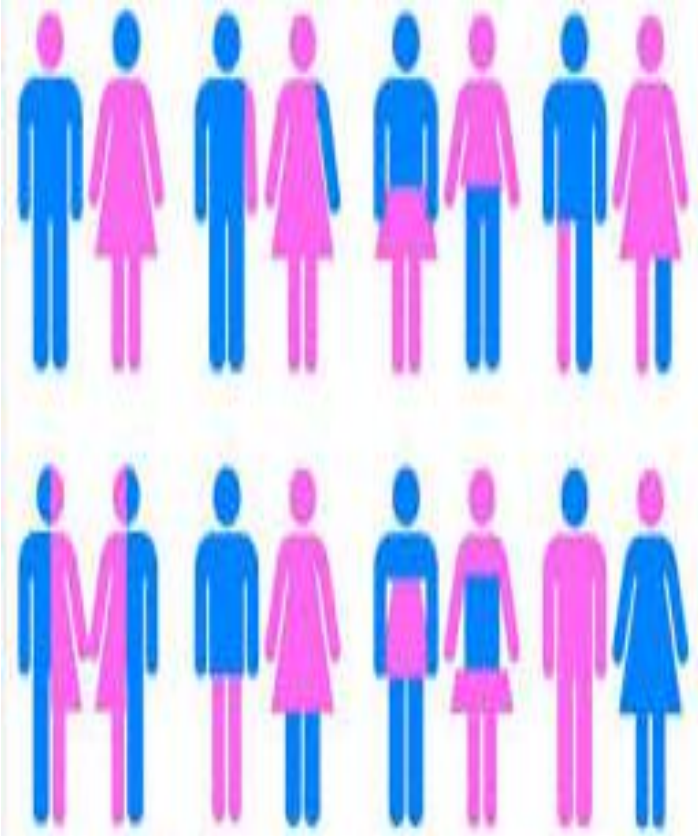
Memory device:

Trans-woman = transitioning => womanhood

Male Identified

Transgender man / **transman** /
transmasculine / man

NON-BINARY TERMINOLOGY



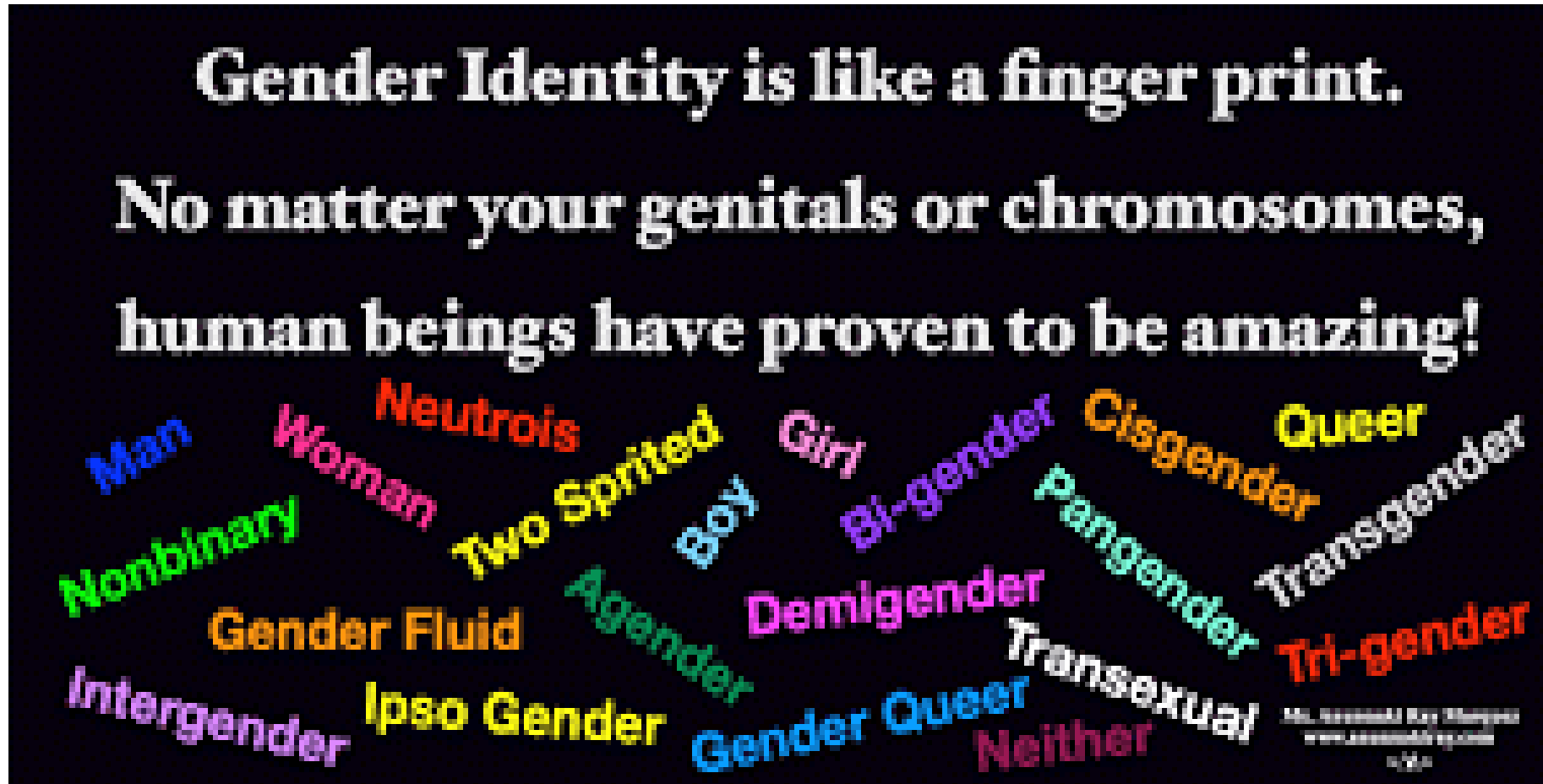
Genderqueer, Nonconforming or Variant

- Define their gender outside the binary construct of male/female
- Feel their gender identity is intermediate or contains elements of both

Gender Neutral

- May feel themselves to be between genders

There is No One Way to Be Transgender or Gender Diverse



Leave Assumptions and Comments at the Door

Some trans people don't pursue surgical or medical interventions

Some are unable to safely express their gender at work, school, home, etc.

Some express their gender in ways that don't conform to societal norms of male/female, masculine/feminine

A person's gender expression may evolve or change during their transition



FOLLOW THE PATIENTS LEAD

Gender Affirming Surgery

Post-op/Pre-op

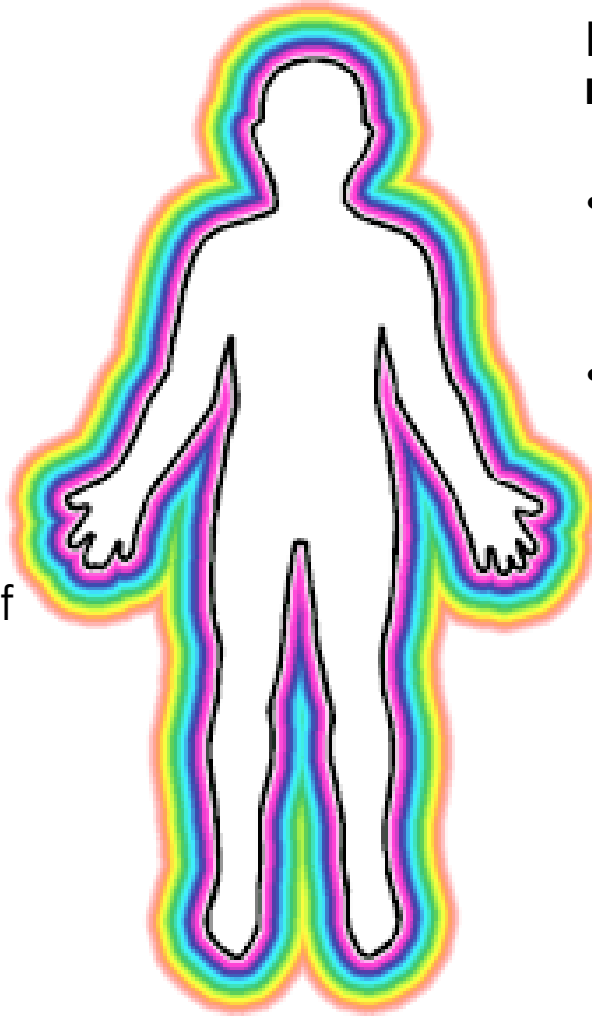
Top Surgery

Chest Masculinization,
Breast Augmentation
Breasts ↔ Chest

Bottom Surgery

Genital reconstruction, removal of
reproductive organs
Penis ↔ Vagina

Vagina - *Front Hole, Mangina*
Penis – *Girdick, Outie*



Many Trans and Gender Non-Binary people refer to their anatomy differently regardless of surgery

- May use terms descriptive of the gender they identify as
- May use slang or other descriptor

A screenshot of a software interface titled "Gender Identity SmartForm". The interface has a light blue header and a white main area. At the top, there are several tabs: "presentation aligned with gender identity", "preferred name aligned with gender identity", "legal name aligned with gender identity", "legal sex aligned with gender identity", and "medical or surgical interventions". Below these tabs, there is a section for "Patient's future plans to transition, if any:" with a text input field and a "Insert SmartText" button. A "Comments" window is open over the main form, displaying the text "Pt calls his chest 'breasts'". The "Comments" window has a blue header and a white body with a text input field. Below the "Comments" window, there is a section titled "Organ Inventory" with a list of organs: "breasts", "same as curr", "breasts", "breasts", "breasts", "vagina", and "penis". Each organ name is next to a small blue icon.

TERMS TO AVOID

He-she, She-male, It, Tranny / Trannie

“Real” man / woman, Biological male / female, “Normal” female/male or body

Transgendered, Transgenderism,

*Preferred, self-identified

Sex Change

ACCEPTABLE TERMS

Transman, Transwoman, Transmasculine, Transfeminine, Genderqueer, Non-Binary, Agender, etc.

Trans, Transgender, Trans*, Trans people

Pronoun, name, gender identity

Medical Transition, Top Surgery, Bottom Surgery, Gender Affirming/Confirming Surgery, Chest Surgery, etc.

References

1. Herman, J.L., Flores, A.R., Brown, T.N.T., Wilson, B.D.M., & Conron, K.J. (2017). *Age of Individuals who Identify as Transgender in the United States*. Los Angeles, CA: The Williams Institute.
2. James, S. E., Herman, J. L., Rankin, S., Keisling, M., Mottet, L., & Anafi, M. (2016). Executive Summary of the Report of the 2015 U.S. Transgender Survey. Washington, DC: National Center for Transgender Equality.
3. National Center for Transgender Equality. (2016). *Washington State Results of Findings from the National Transgender Discrimination Survey*. Washington, DC: National Center for Transgender Equality.
4. Rahman, Rabia et al. Caring for Transgender Patients and Clients: Nutrition-Related Clinical and Psychosocial Considerations. *Journal of the Academy of Nutrition and Dietetics* 2019; 119(5):727 – 732.

Medical Treatment of Gender Dysphoria

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Medical Transition: General Principles

- **Treat the whole person (confidentiality/engage parents/consent)**
- **Screen for and treat comorbidities**
- **Remember that doing no harm means avoiding undertreating as well as not overtreating**
- **Treating dysmorphia assists with dysphoria**
- **The goals of therapy & therefore the treatments needed differ based on the individual's needs**

Pubertal Blockers & Cross Sex Hormones

Pubertal Blockers

GnRHa

- Leuprolide
- Histrelin LA(peds)/Histrelin (adult)
- Triptorelin



Feminizing Agents

Estrogen

- Oral/sublingual: 17 β estradiol
- Transdermal: estradiol patch
- Parenteral: estradiol valerate or cypionate

Progestins

- Progesterone micronized
- Medroxyprogesterone acetate

Anti-androgens

- Spironolactone
- Finasteride or Dutasteride

Other- Bicalutamide

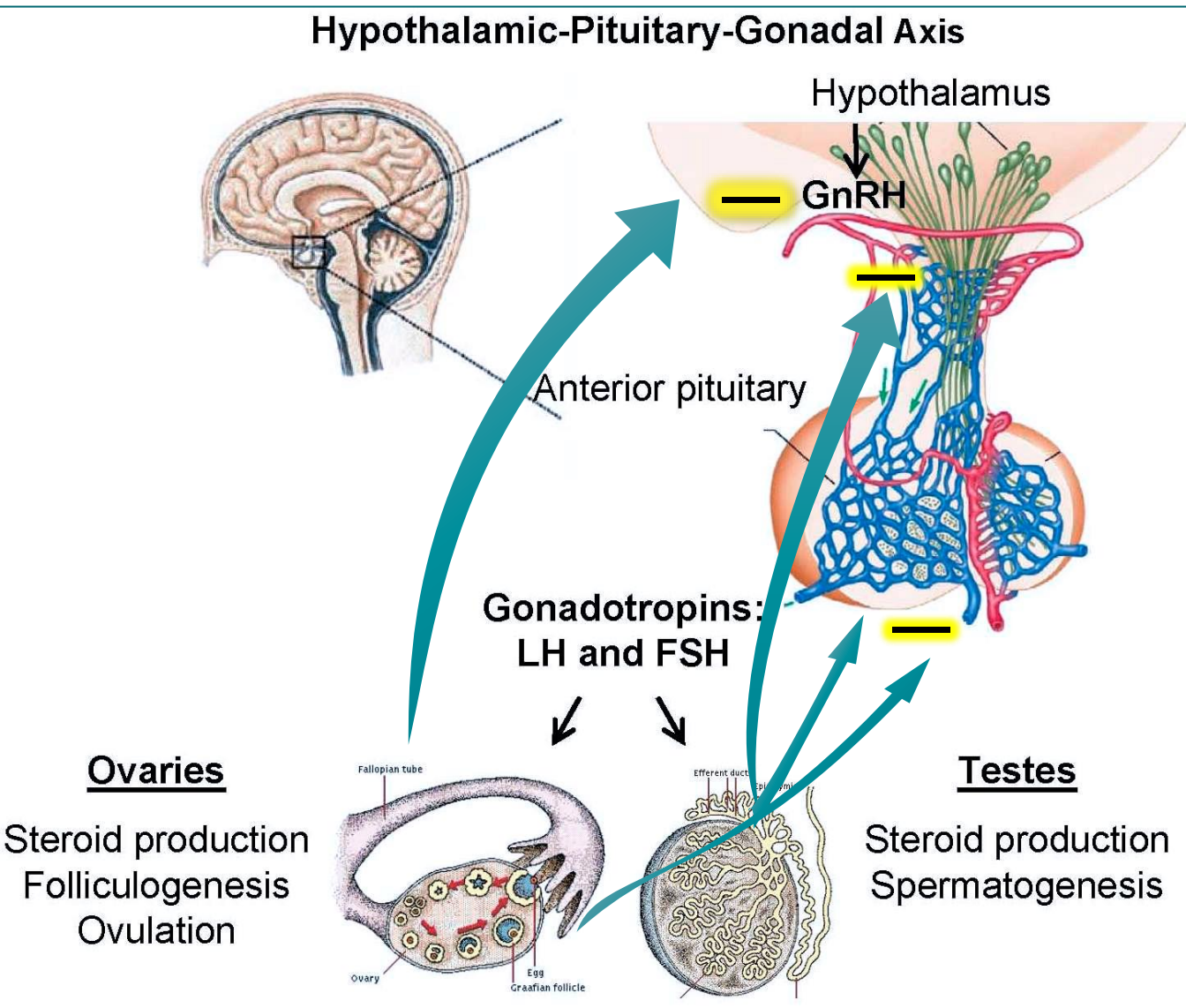
Masculinizing Agents

Testosterone

- Parenteral: testosterone cypionate or enanthate
- Transdermal: testosterone gel or patch



Medical Transition: Cross Sex Hormones



Transmasculine: Testosterone
Physiologic dosing works

Transfeminine: Estradiol
Supraphysiologic doses needed

Estrogen & testosterone, even if exogenous, create negative feedback loops that affect LH & FSH production, so that innate gonads will not be stimulated to produce sex steroids.

Changes Seen with Estrogens and Anti-Androgens

Effect	Onset (months)	Maximum (years)
Decreased erections	1-3	3-6
Softening of skin	3-6	unknown
Decrease muscle mass	3-6	1-2
Breast growth	3-6	2-3
Decreased testicular volume	3-6	2-3
Decrease sperm production	unknown	>3
Voice changes	none	

Average max is an A cup

Changes Seen with Testosterone

Effect	Onset (months)	Maximum (years)
Skin oiliness/ acne	1-6	1-2
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
Facial hair	6-12	4-5
Androgenic hair loss	6-12	
Increased muscle mass	6-12	2-5

Counseling Regarding Pubertal Blockers / Cross Sex Hormones

- **Blockers are reversible; bone density/fertility/genitalia**
- **Some effects are reversible;** some are not
- **Effects take time,** just like any puberty
- **Effects depend on genetic potential**
- **Supratherapeutic doses** can cause side effects and complications, but **do not speed the development** of secondary sexual characteristics
- **Excess testosterone can be converted** peripherally to estrogen
- **Testosterone** causes amenorrhea but **cannot be relied on as an effective contraceptive**

Risks of Cross Sex Hormones

Estradiol

(supraphysiologic dosing required)

- Venous thromboembolism:
no increased risk if patch at cis postmenopausal doses*, which can be used S/P orchiectomy
- Migraines
- Breast cancer
- Prolactinoma
- Decreased libido
- Loss of fertility
- Becoming a woman in our society

Testosterone

(physiologic doses suffice)

- Weight gain
 - Hypertension
 - Sleep Apnea
 - Lipid abnormalities
 - Polycythemia
 - Increased libido
 - Fragility of vaginal mucosa
 - Acne, male pattern balding
 - At times permanent loss of fertility
- } **Cardiovascular risk**
- } **STI risk, if MSM**

*Canonico, M, Hormone therapy & VTE among postmenopausal women, Circulation. 2007 Feb 20;115(7):840-5

Considerations When Initiating Cross Sex Hormones

- Begin Puberty Blockers at **Tanner 2**, ≤ 4 years, block/replace
- Assess mental health readiness & consent in **youth**
- Start **slow**, ~a quarter of max dose of T or estradiol
- The **real focus is 2ndary sexual characteristic development**; no need to check levels until you are somewhere in the target range
- There is no clear path at achieving **maximal breast development**

Surgical Considerations

- Consider early referral for **chest masculinization** surgery
 - Binding → restrictive pattern on PFTs; ptotic effects; dermatitis/acne
 - Surgery delay until on testosterone → ↑ dysphoria
- **Non-binary person** seeking surgery but may not be on HRT
- Blocking puberty early → **under-developed genitalia** may decrease tissue for surgical options later
- **Holding estradiol/testosterone** before surgery – opinions vary
- **BMI considerations/substance use/nicotine**

Olson-Kennedy et al. Chest Reconstruction and Chest Dysphoria in Transmasculine Minors and Young Adults; Comparison of Nonsurgical and Postsurgical Cohorts. JAMA Pediatr. 2018;172(5):431-436.

Khan et al. Venous Thrombotic Risk in Transgender Women Undergoing Estrogen Therapy: A Systemic Review and Metaanalysis. Clinical Chemistry. 2019; 65:1;57-66.

SOGI Data & the Gender Identity SmartForm



Sexual
Orientation &
Gender
Identity data

has been
mandated to be
collected as part of
Meaningful Use 3

Finding Preferred / Legal Name, Pronouns & Legal Sex in the Header

Knit, Pat Erco

Knit, Pat Erco

Legal Name: Knit, Jenny Erco

Preferred Pronoun: he/him/his

MRN: U3659023

Age: 47 year old

Female, 07/07/1971

Registration

Response His...

Knit, Jenny Erco "Pat"

DEMOGRA

Gender Identity SmartForm

Sexuality

Gender Identity

Organ Inventory

Lesbian or Gay

Straight (not lesbian or gay)

Bisexual

Something else

Don't know

Choose not to disclose

female

male

Female

Male

Transgender Female / Male-to-Female

Transgender Male / Female-to-Male

Other

Choose not to disclose

Female

Male

Unknown

Not recorded on birth certificate

Choose not to disclose

Uncertain

she/her/hers

he/him/his

they/them/theirs

patient's name

decline to answer

unknown

presentation aligned with gender identity

preferred name aligned with gender identity

legal name aligned with gender identity

legal sex aligned with gender identity

medical or surgical interventions

breasts

same as curr

breasts

breasts

breasts

vagina

penis

Comments

Patient uses term "chest tissue"

Accept

Cancel

Organ Inventory

Surgical Approaches to Gender-Affirmation

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Transfeminine (M→F)

Facial gender-confirming surgery

Chest feminization

Vocal feminization

Removal of primary sex organs →
Orchiectomy and penectomy

Vaginoplasty

- Penile inversion vaginoplasty
- Intestinal interposition vaginoplasty

Transmasculine (F→M)

Facial gender-confirming surgery (rare)

Chest masculinization

Removal of primary sex organs →
hysterectomy and BSO +/- vaginectomy

Metoidioplasty

Phalloplasty

Scrotoplasty

Penile/testicular implants

Transfeminine Surgery

M → F

FACIAL GENDER-CONFIRMING SURGERY

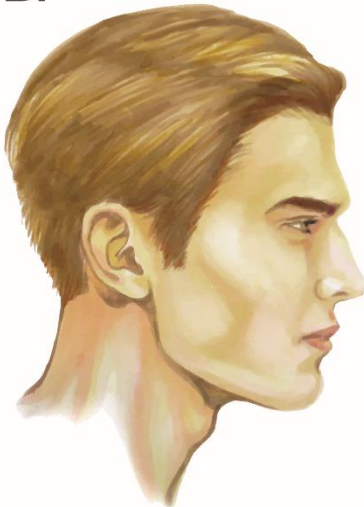
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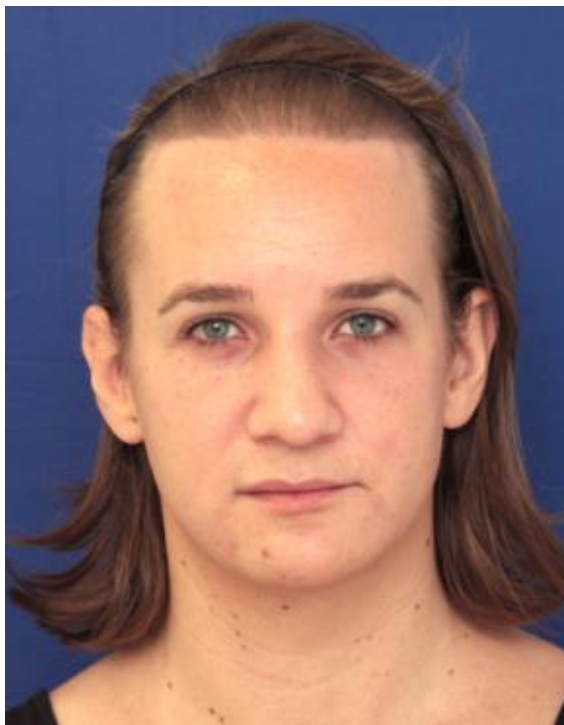


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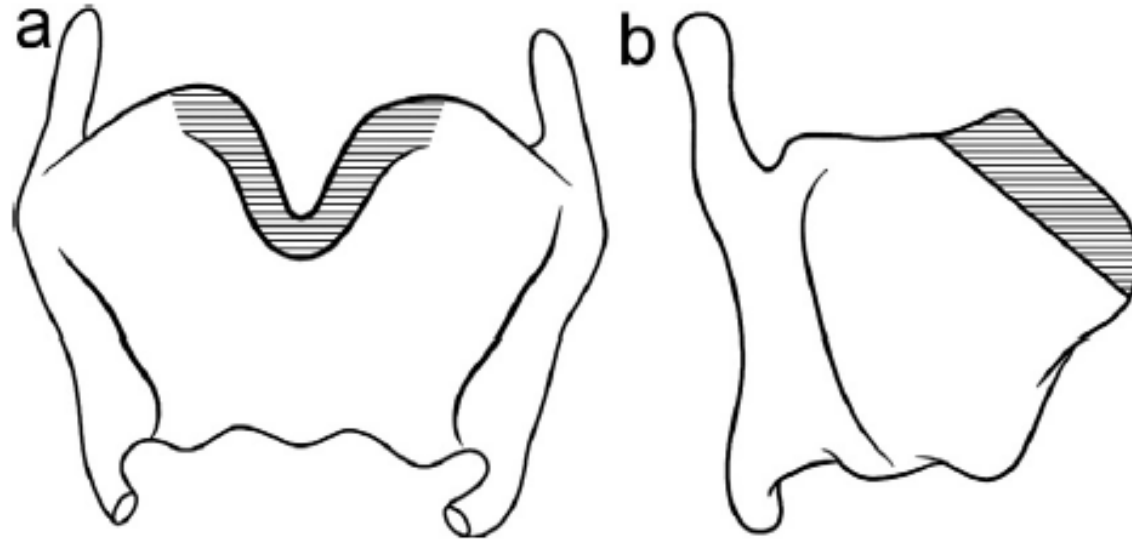


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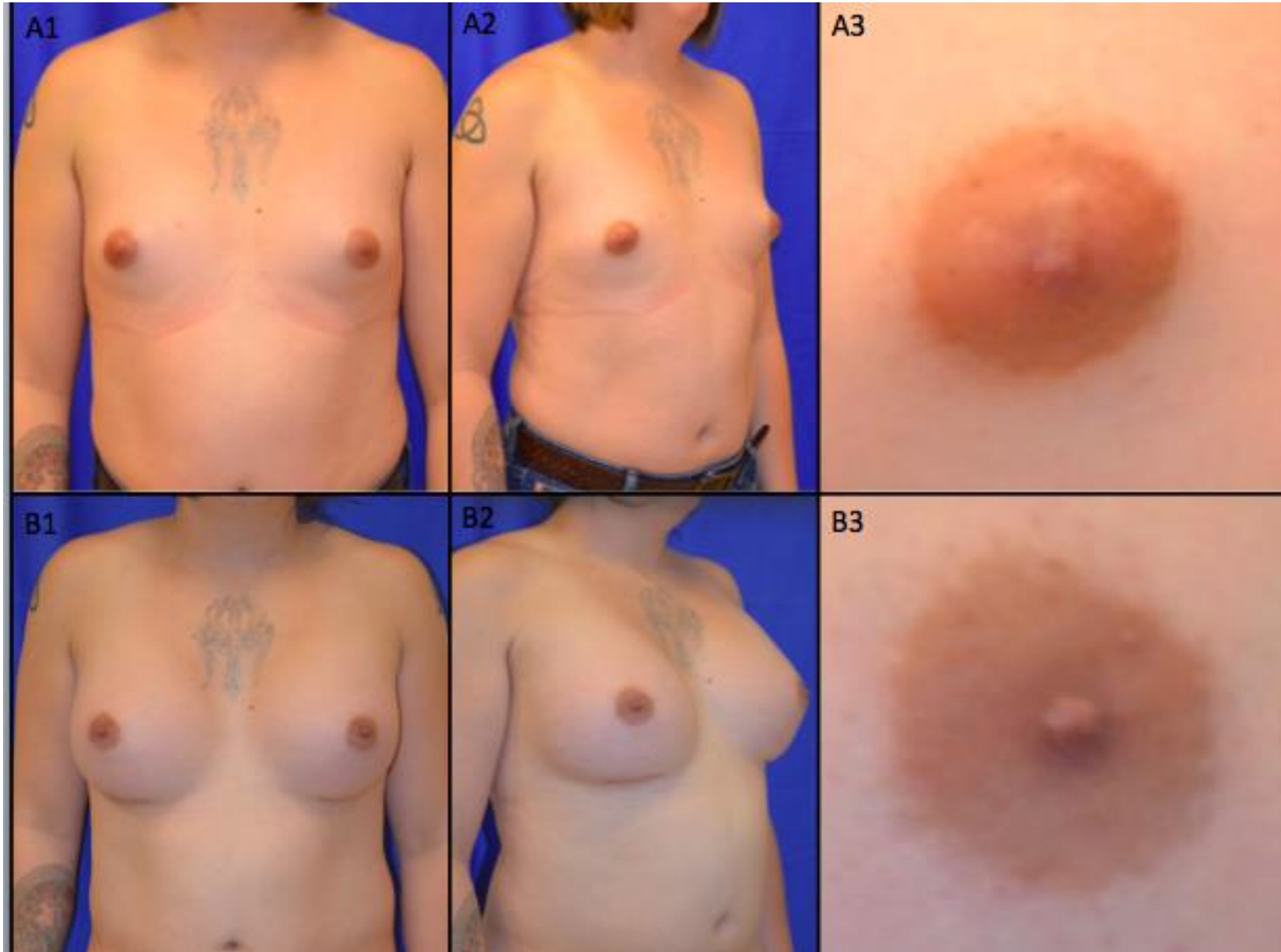




CHONDROLARYNGOPLASTY

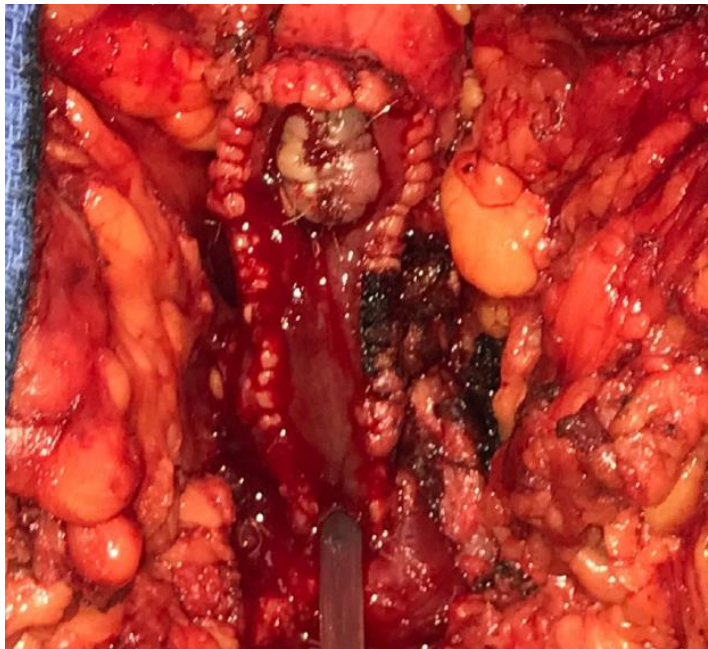
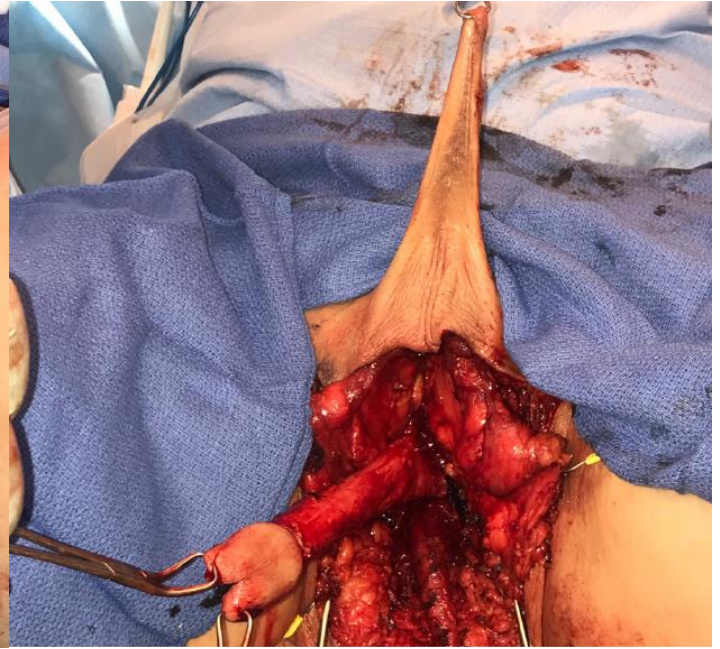
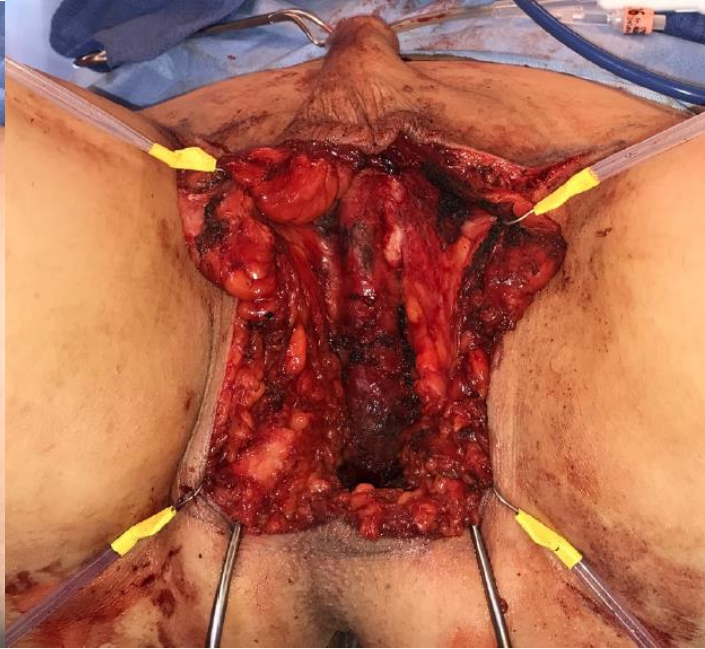


CHEST FEMINIZATION



PENILE INVERSION VAGINOPLASTY

Massie, 2018



PENILE INVERSION VAGINOPLASTY

Massie, 2018



Pre



Post

Transmasculine Surgery

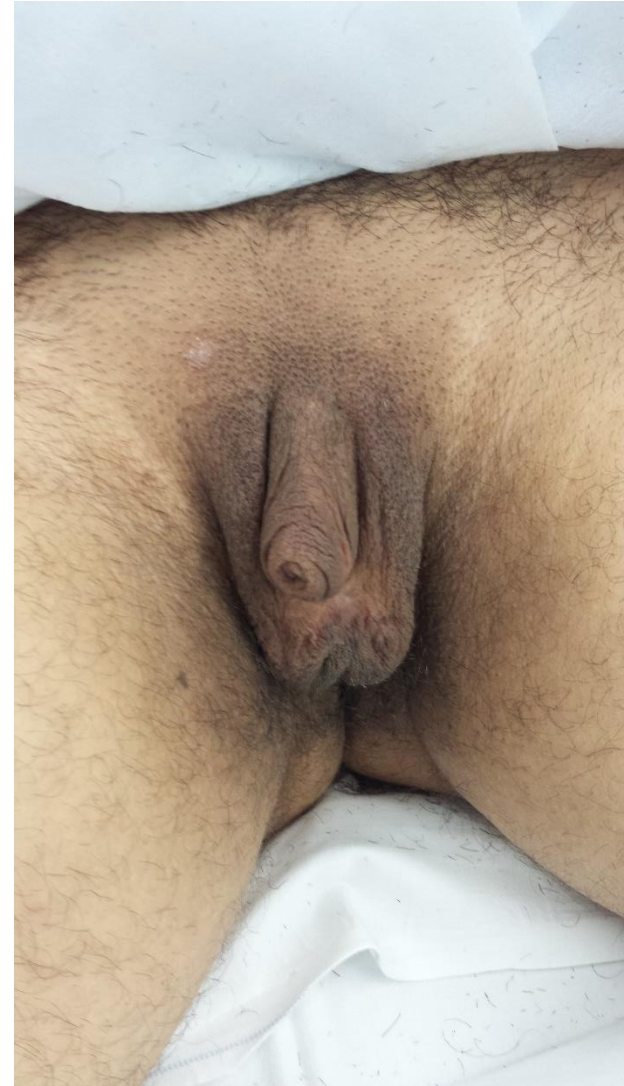
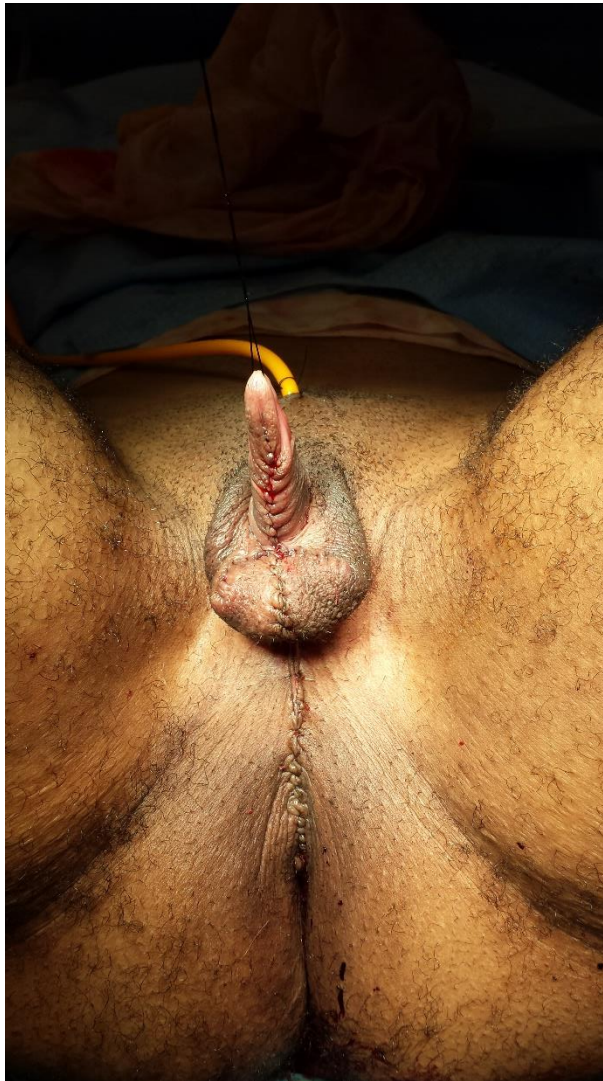
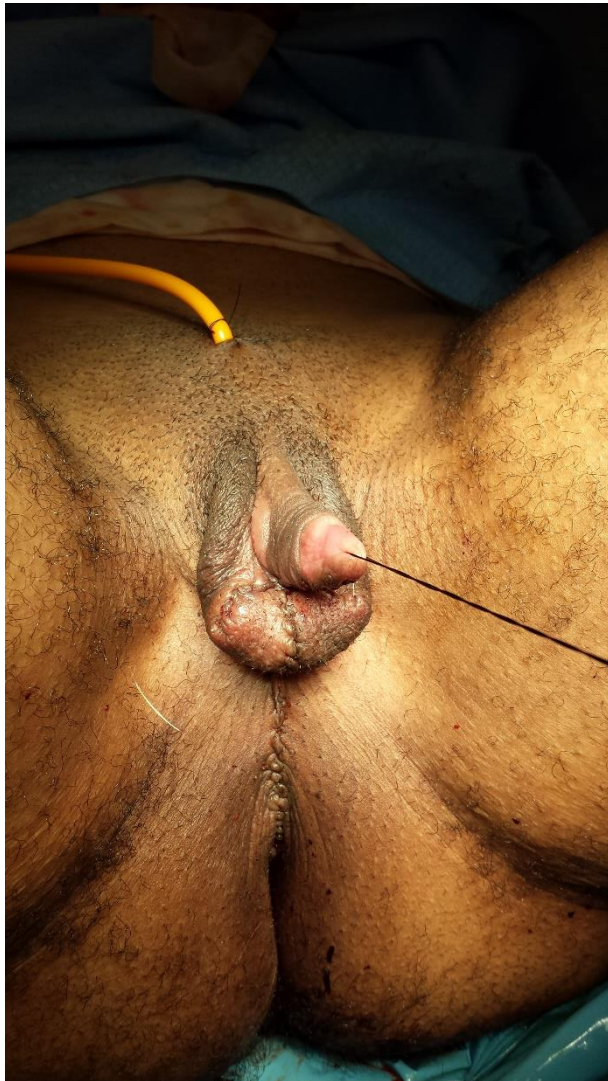
F → M

CHEST MASCULINIZATION

Bartlett, 2017



METOIDIOPLASTY



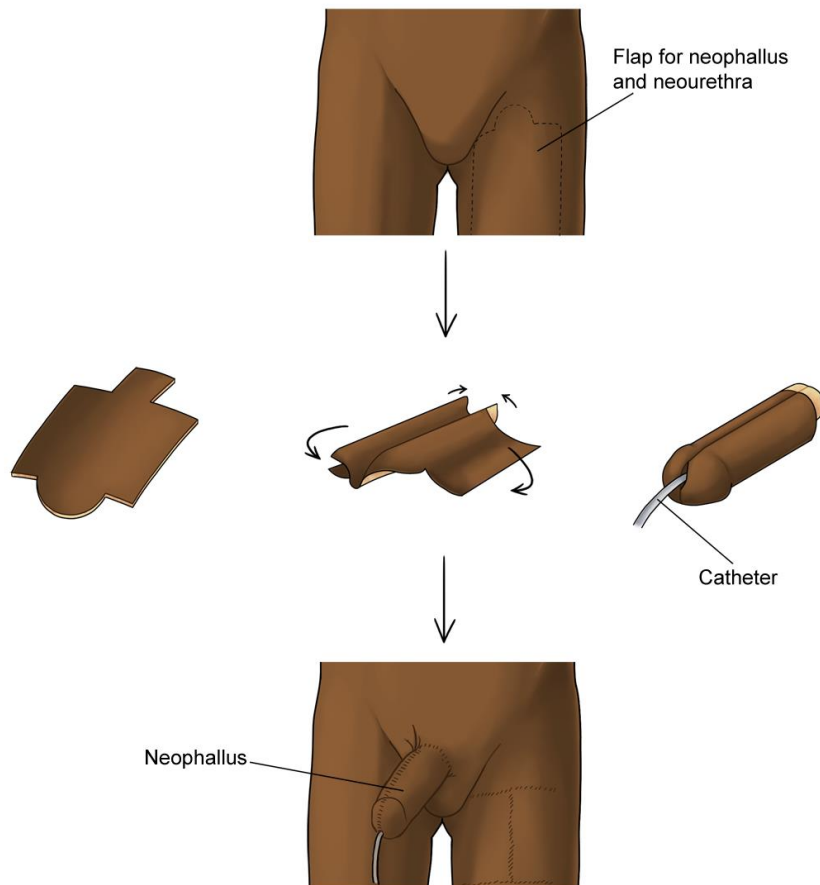
RADIAL FOREARM PHALLOPLASTY



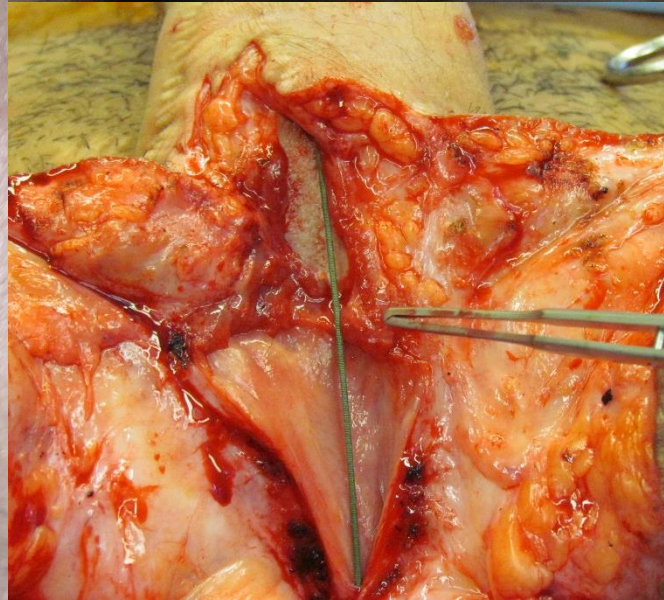
RADIAL FOREARM PHALLOPLASTY



THIGH BASED PHALLOPLASTY



COMPLICATIONS



REFERENCES

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2. Altman, K. Facial Feminization Surgery: Current State of the Art. *Int J Oral Maxillofac Surg.* 2012;41(8):885-94.
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10. Ascha et al. Outcomes of Single Stage Phalloplasty by Pedicled Anterolateral Thigh Flap Versus Radial Forearm Free Flap for Gender Confirming Surgery. *J Urol.* 2018;199(1):206-214.