



MedStar Washington
Hospital Center

Knowledge and Compassion
Focused on You

Transgender Health and Primary Care

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Medstar Washington Hospital Center

November 4, 2017

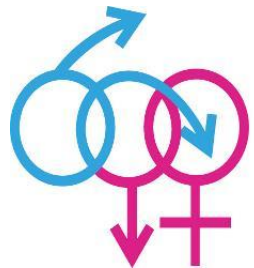
Financial Disclosures and Conflicts of Interest

- Financial Disclosures: None
- Conflicts of Interest: None
- Off-Label Pharmaceuticals: use of sex steroids, androgen blockers, and puberty blockers for the purposes of Gender Affirming Therapy are all off-label uses not approved by the FDA
- Caveat: no drugs are approved by the FDA for Gender Affirming Therapy

Other Disclosures

- I am NOT an expert
- Why am I giving this talk?
 - Friends who are Trans, friends with kids who are Trans
 - My residents needed the talk, so I made one
 - No education on gender minority health in med school: 50%
 - Med school education on gender minority health was poor or very poor: 80%
 - Self-assessment on knowledge of gender minority health poor or very poor: 60%
 - Wanted more education on gender minority health: 87%
 - Gender Minorities desperately need our help
 - Vast gap in medical education on gender minority health
- Not comprehensive – scratches surface

Resources



WPATH WORLD PROFESSIONAL
ASSOCIATION for
TRANSGENDER HEALTH

<http://transhealth.ucsf.edu/protocols>

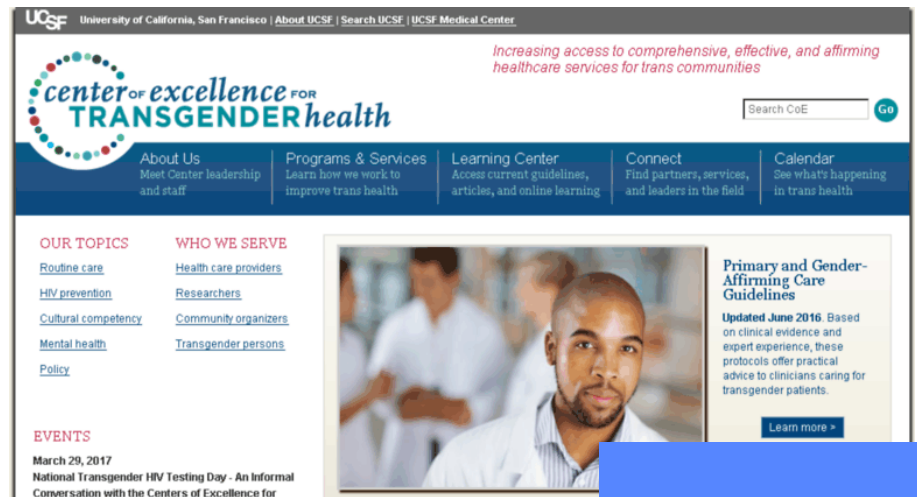
<https://www.transequality.org/sites/default/files/docs/USTS-Full-Report-FINAL.PDF>

<http://fenwayhealth.org/the-fenway-institute/education/transgender-health-conference/>

<https://academic.oup.com/jcem/article-lookup/doi/10.1210/jc.2017-01658>

<https://www.lgbthealtheducation.org/>

<http://www.wpath.org>



NATIONAL LGBT HEALTH
EDUCATION CENTER

A PROGRAM OF
THE FENWAY INSTITUTE

Endocrine Treatment of
Gender-Dysphoric/
Gender-Incongruent
Persons:
An Endocrine Society
Clinical Practice
Guideline

Objectives

Gender Minority Basics (Lai)

- Terminology
- Conceptual Framework
- Health Impact
- Cultural Competence
- Transitioning

Med/Surg Transitions (Gomez-Lobo)

- Puberty Blocking
- Hormonal Therapy
- Fertility & Pregnancy
- Surgical Gender Affirmation Therapy

Primary Care Considerations (Lai)

- Puberty Blocking and Psychosocial Considerations
- Transfeminine Care
- Transmasculine Care

Leon L. Lai, MD

GENDER MINORITY BASICS

LGBTQIA Basic Terminology

- Lesbian – women sexually attracted to women
- Gay – men sexually attracted to men (may include Lesbians in a broader definition)
- Bisexual – men and women who are sexually attracted to both genders
- Transgender/Trans – men or women who feel that their gender does not match their assigned sex at birth
- Queer – anyone not confirming to societal sex, sexual orientation, or gender roles (non-cis, non-straight)
- Intersex – 0.5% of population under broadest definitions, born with both male and female sexual characteristics
- Asexual – increasing numbers of individuals identifying this way – uninterested in sex

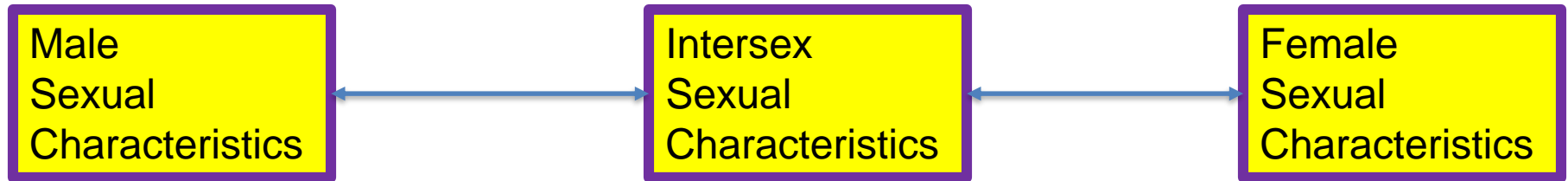
LGBTQIA Basic Terminology

- Sexual and Gender Minorities=LGBTQIA
- Sexual Minorities= LGBTQ
- Gender Minorities=TQIA
- Genderqueer/Gender-nonbinary – individuals who identify their gender somewhere in between male and female
- MSM/WSW – men who have sex with men, women who have sex with women: behavior, not identity,
- Straight – men sexually attracted only to women, women sexually attracted only to men
- Cis – individuals whose gender identity correlate to their assigned gender at birth

Other Terminology

- Cross-Dresser, Drag King, Drag Queen
 - Wears clothing of the opposite gender for entertainment or social statement
 - Not necessarily due to underlying gender identity
- Transmasculine/Transfeminine
- Genderqueer/Nonbinary
- Pronouns
 - It, It, Its
 - They, Them, Theirs
 - Hir, Hir, Hirs
 - Ze, Zer,Zers

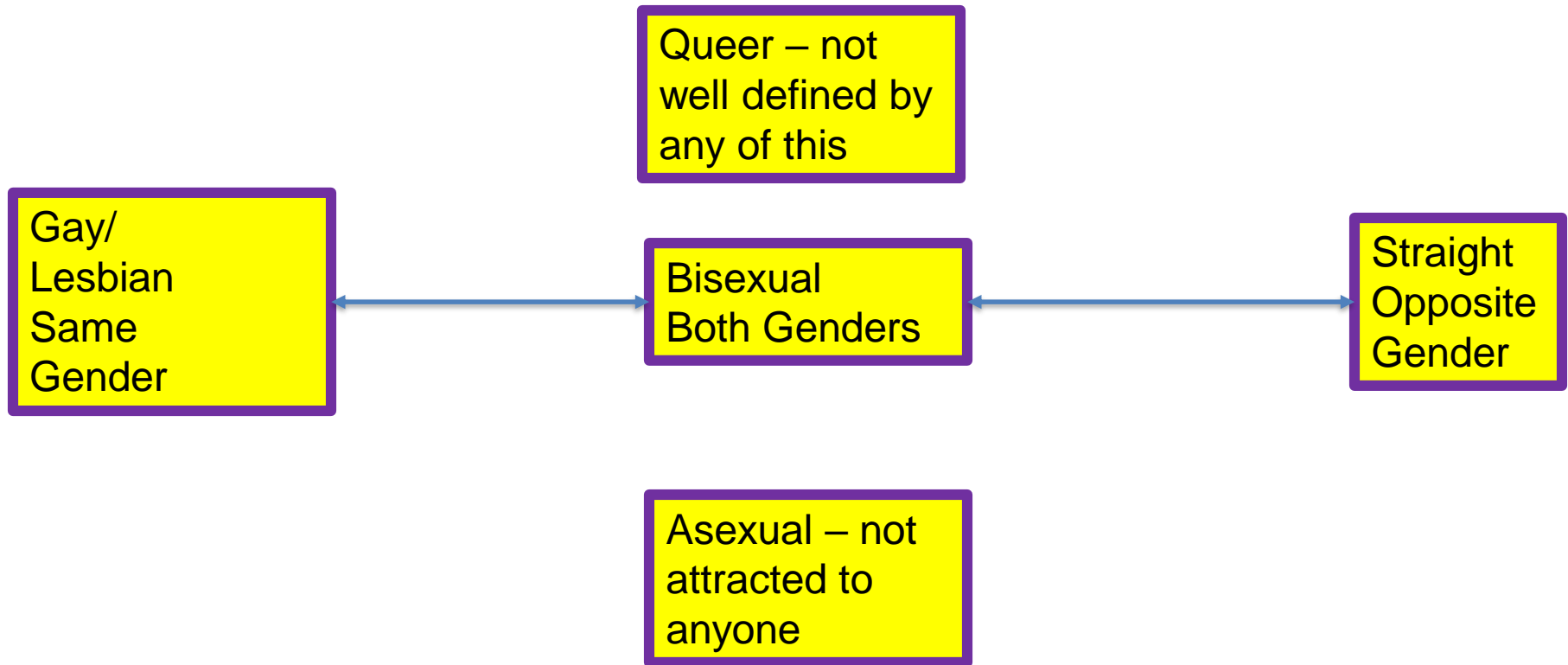
Dimensions of Sexuality and Gender: Assigned Gender/Birth Sex (Physical)



Dimensions of Sexuality and Gender:

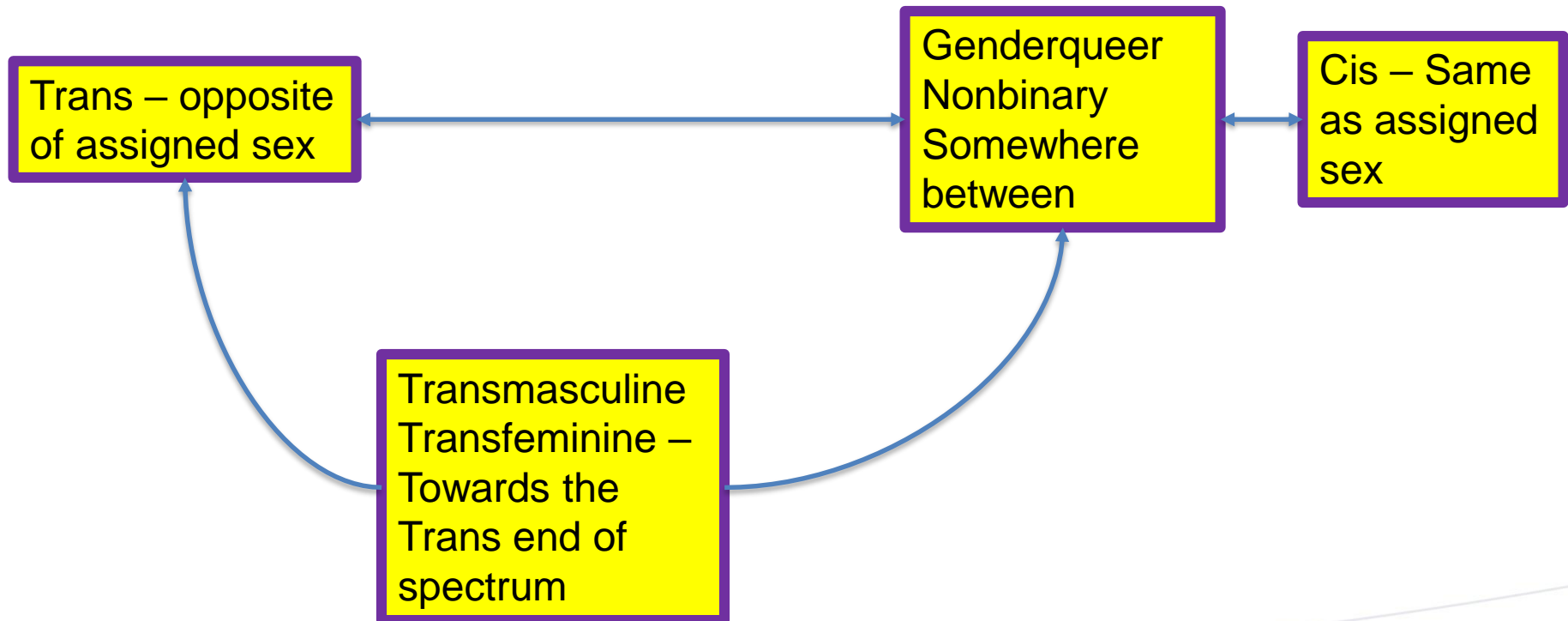
Sexual Orientation (Who You Love)

Fluid – can move across spectrum over time



Dimensions of Sexuality and Gender:

Gender Identity (more fixed, but can also move over time)



Examples

- Gay Cis Woman
- Gay Cis Man
- Gay Trans Man
- Straight Trans Man
- Gay Trans Woman
- Straight Trans Woman
- Transmasculine Bisexual
- Genderqueer Bisexual
- May or may not use any of the above identities

Outmoded Terms

- Transsexual, Transgenderist, Transgendered, Tranny
→ Transgender or Trans
- Homosexual
→ Gay, Lesbian
- Cross-Dressing
→ Cisgender → Cross-Dressing, Drag
→ Transgender → Social Transitioning
- Hormone Therapy
→ Medical Gender Affirmation Therapy
- Sex Change
→ Surgical Gender Affirmation Therapy
- Passing
→ Blending

Whoa – What If I Mess Up?

- It's a lot of terms to keep straight (haha!)
- It's OK to make mistakes
- Just apologize and approach it from place of cultural humility – you'll be forgiven

Nature vs Nurture

- No convincing data either way
- Likely combination of both
- Argument a dead end trap
- Issue of social justice, social equality, and morality

Medical Care for Sexual and Gender Minorities

- 2011 IOM Report - The Health of LGBT People, Building a Foundation for Better Understanding
 - Dearth of literature on all sexual and gender minorities
 - Most of literature regarding Gay Men due to HIV/AIDS epidemic
 - Increasing literature on Lesbian and Bisexual Health
 - Greatest need in research, studies and guidelines on Gender Minorities
 - Current data and guidelines primarily based on experiences in Europe, UCSF, and Harvard Fenway

Societal Changes: Increasing Awareness



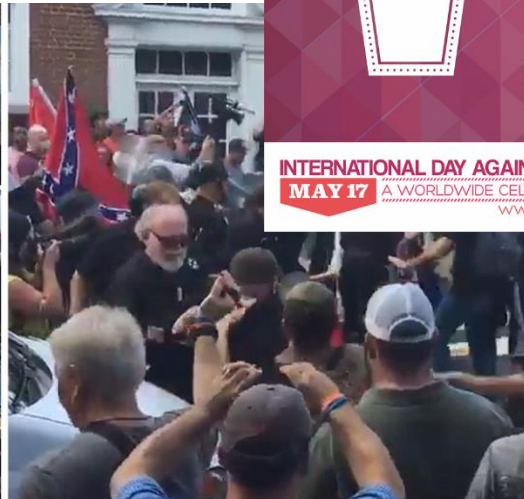
Societal Changes: Increasing Challenges



#MAY17BECAUSE #6

OVER 1,500 PEOPLE HAVE BEEN KILLED IN TRANSPHOBIC HATE CRIMES IN THE LAST 6 YEARS WORLDWIDE.

INTERNATIONAL DAY AGAINST HOMOPHOBIA AND TRANSPHOBIA
MAY 17
A WORLDWIDE CELEBRATION OF SEXUAL AND GENDER DIVERSITIES
WWW.DAYAGAINSTHOMOPHOBIA.ORG



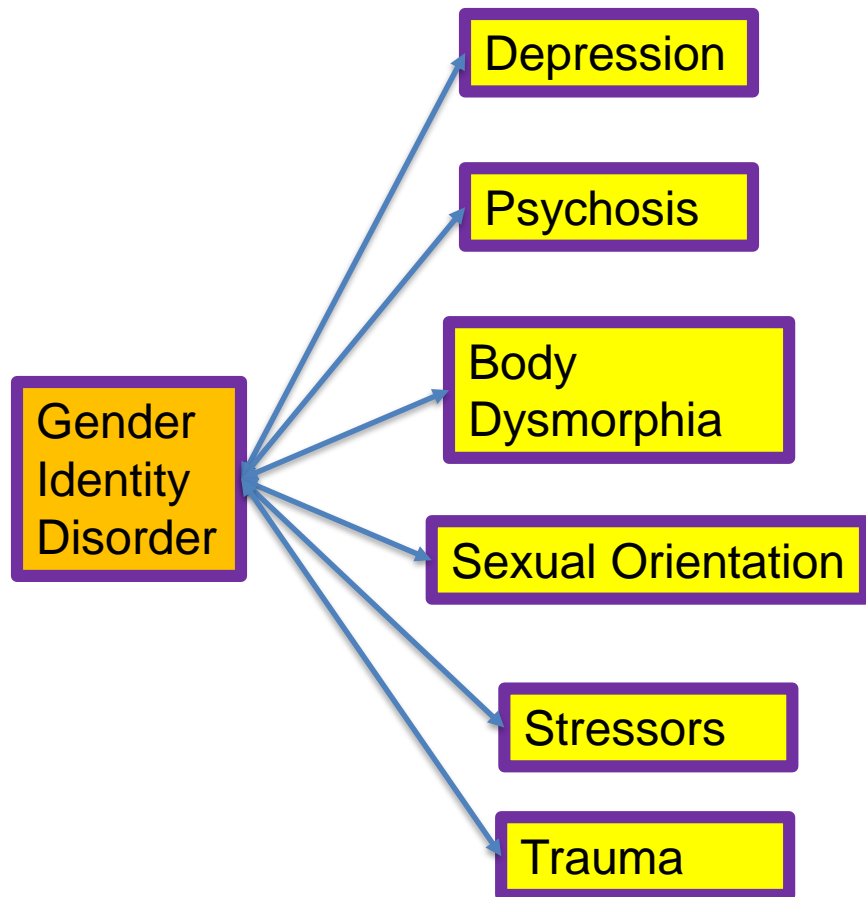
DSM IV and V

- DSM IV: Gender Identity Disorder
 - A strong and persistent cross-gender identification
 - Persistent discomfort with his or her sex or sense of inappropriateness in the gender role of that sex
 - Disturbance is not concurrent with physical intersex condition
 - Disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning

DSM IV and V

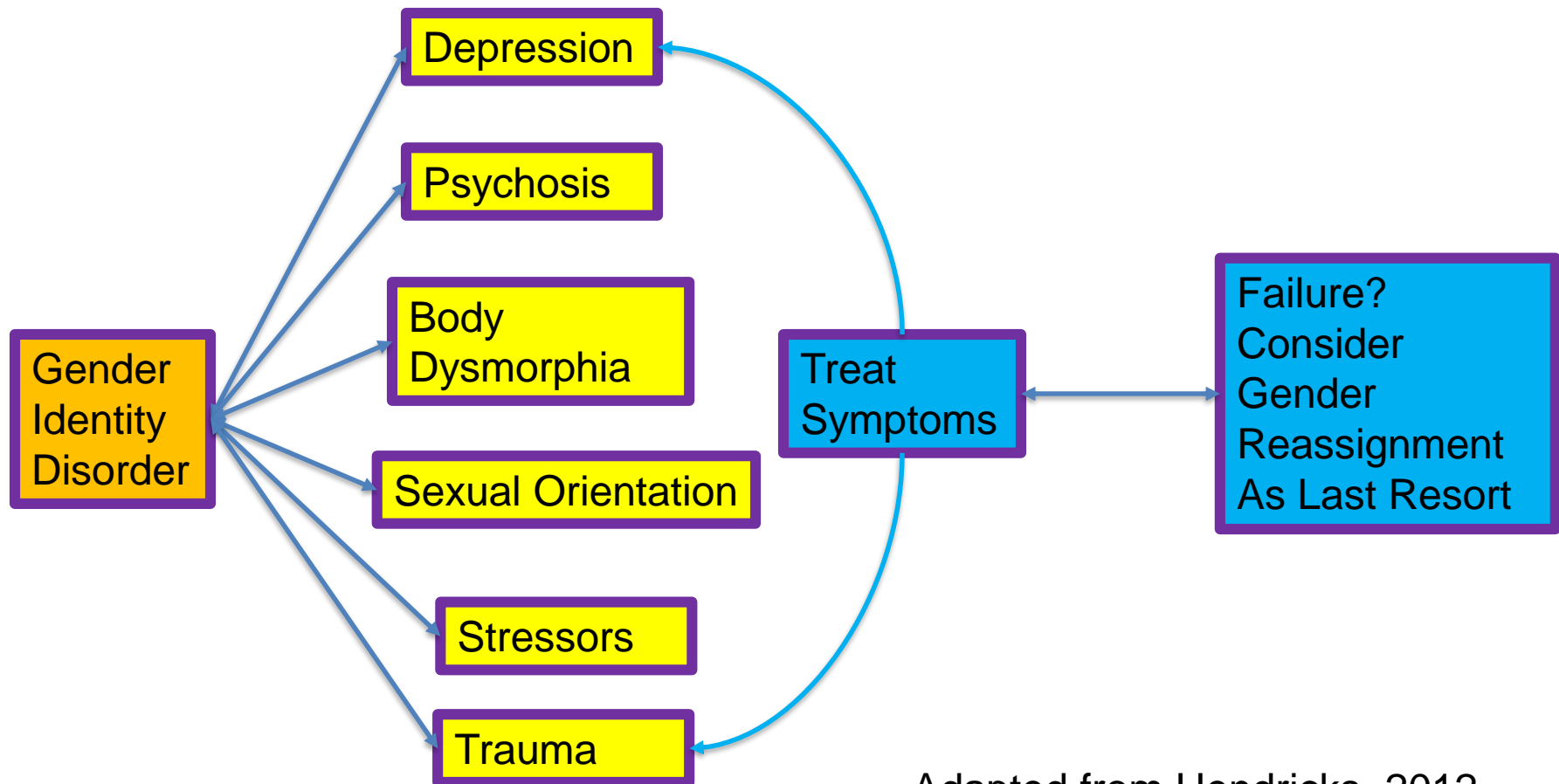
- DSM V: Gender Dysphoria – 2 of the following
 - A marked incongruence between one's experience/expressed gender and primary or secondary sex characteristics
 - A strong desire to be rid of one's primary and/or secondary sex characteristics
 - A strong desire for the primary and/or secondary sex characteristics of the other gender
 - A strong desire to be of the other gender
 - A strong desire to be treated as the other gender
 - A strong conviction that one has the typical feelings and reactions of the other gender

Old Conceptual Framework DSM IV



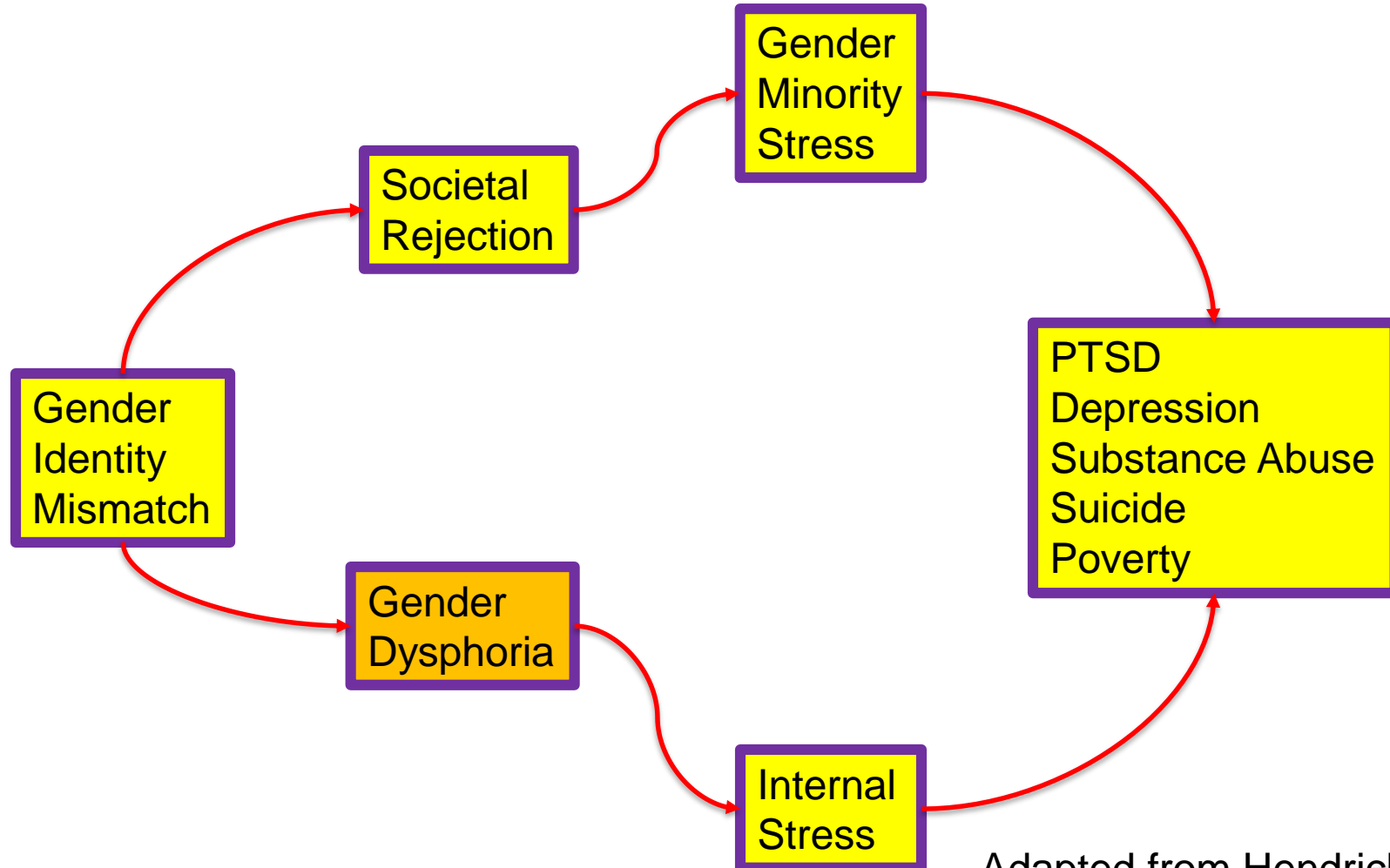
Adapted from Hendricks, 2012

Old Conceptual Framework DSMIV



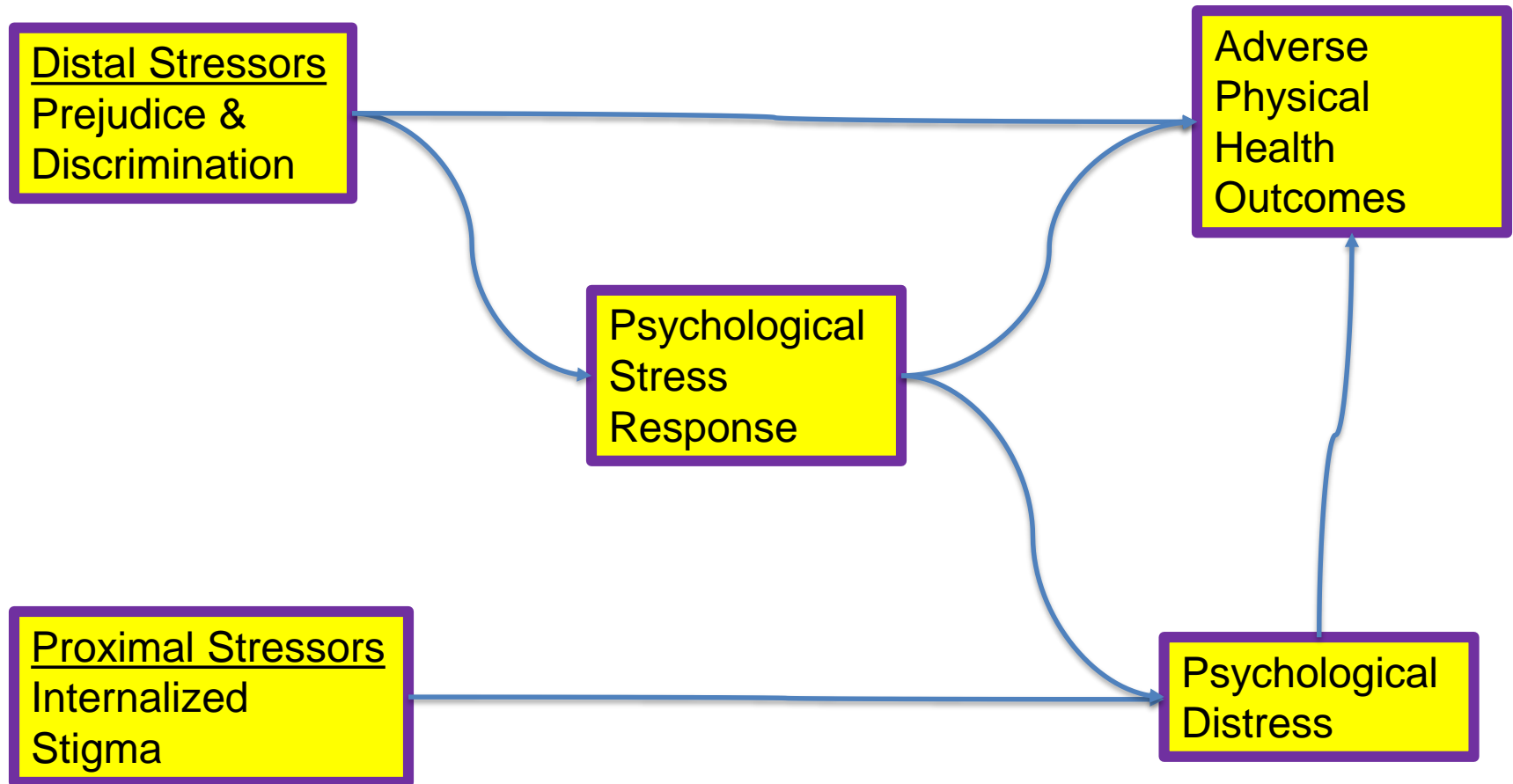
Adapted from Hendricks, 2012

New Conceptual Framework DSM V



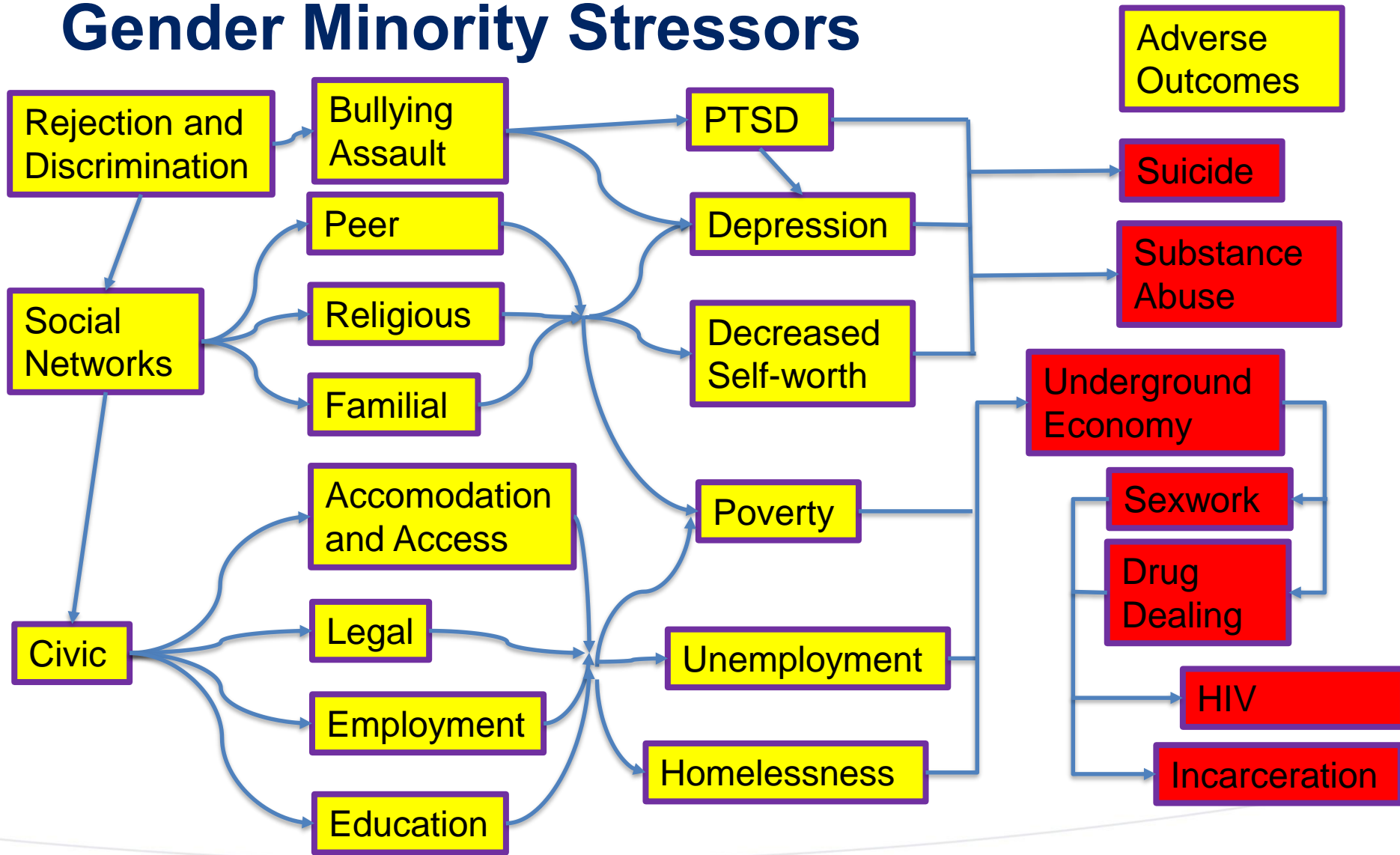
Adapted from Hendricks, 2012

Minority Stress Theory



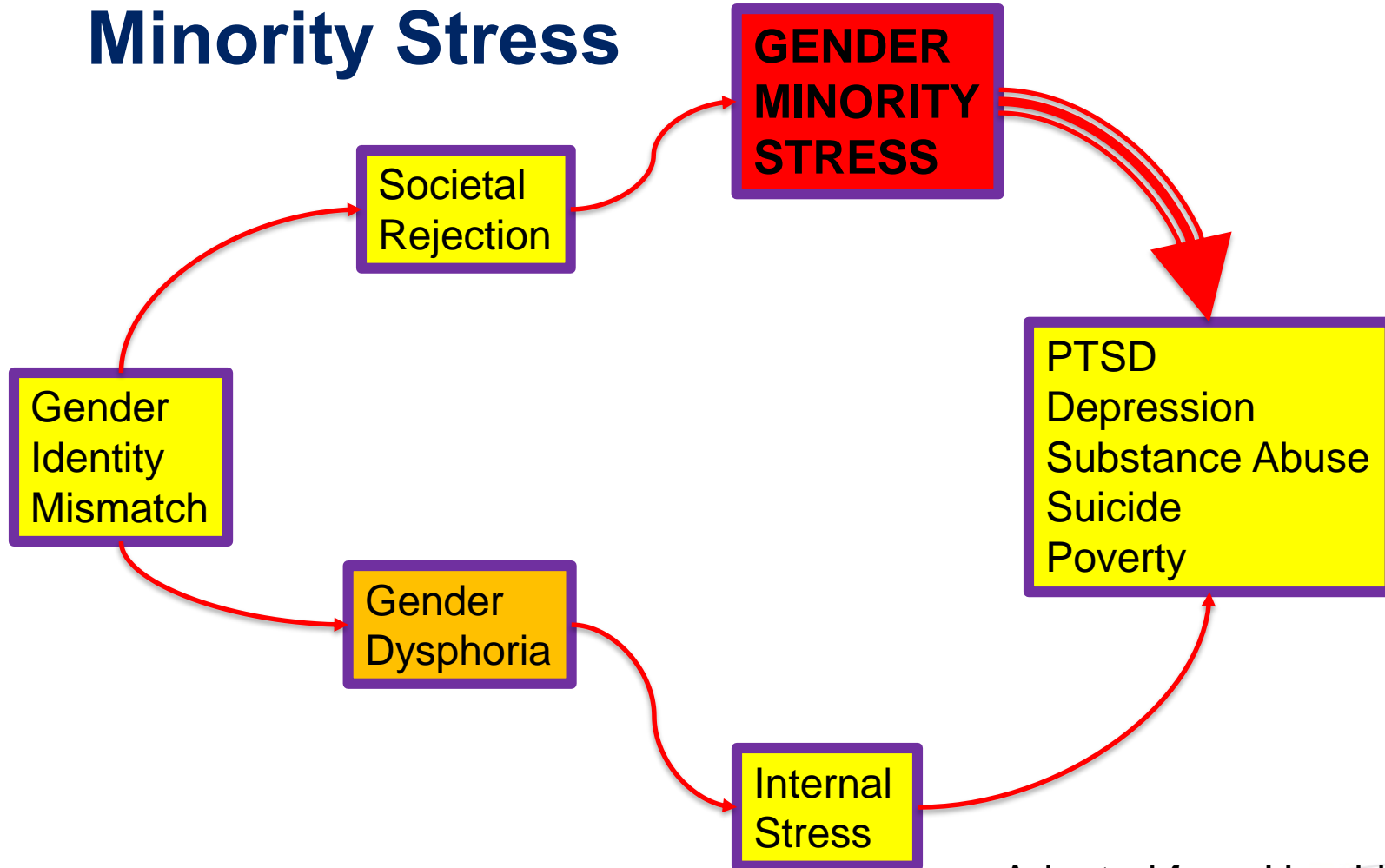
Adapted from Hendricks, 2012

Gender Minority Stressors



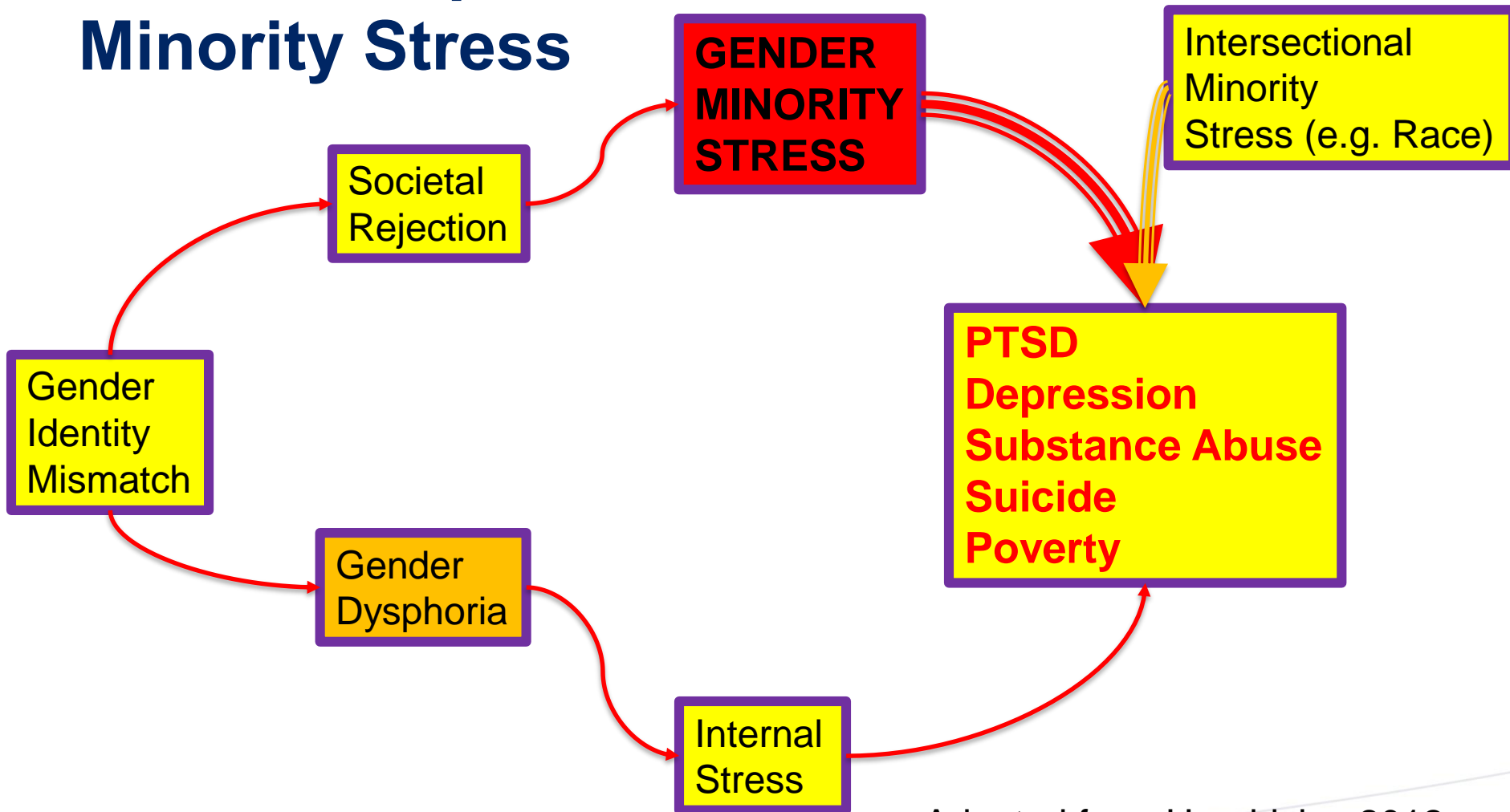
Adapted from Hendricks, 2012

New Conceptual Framework Gender Minority Stress



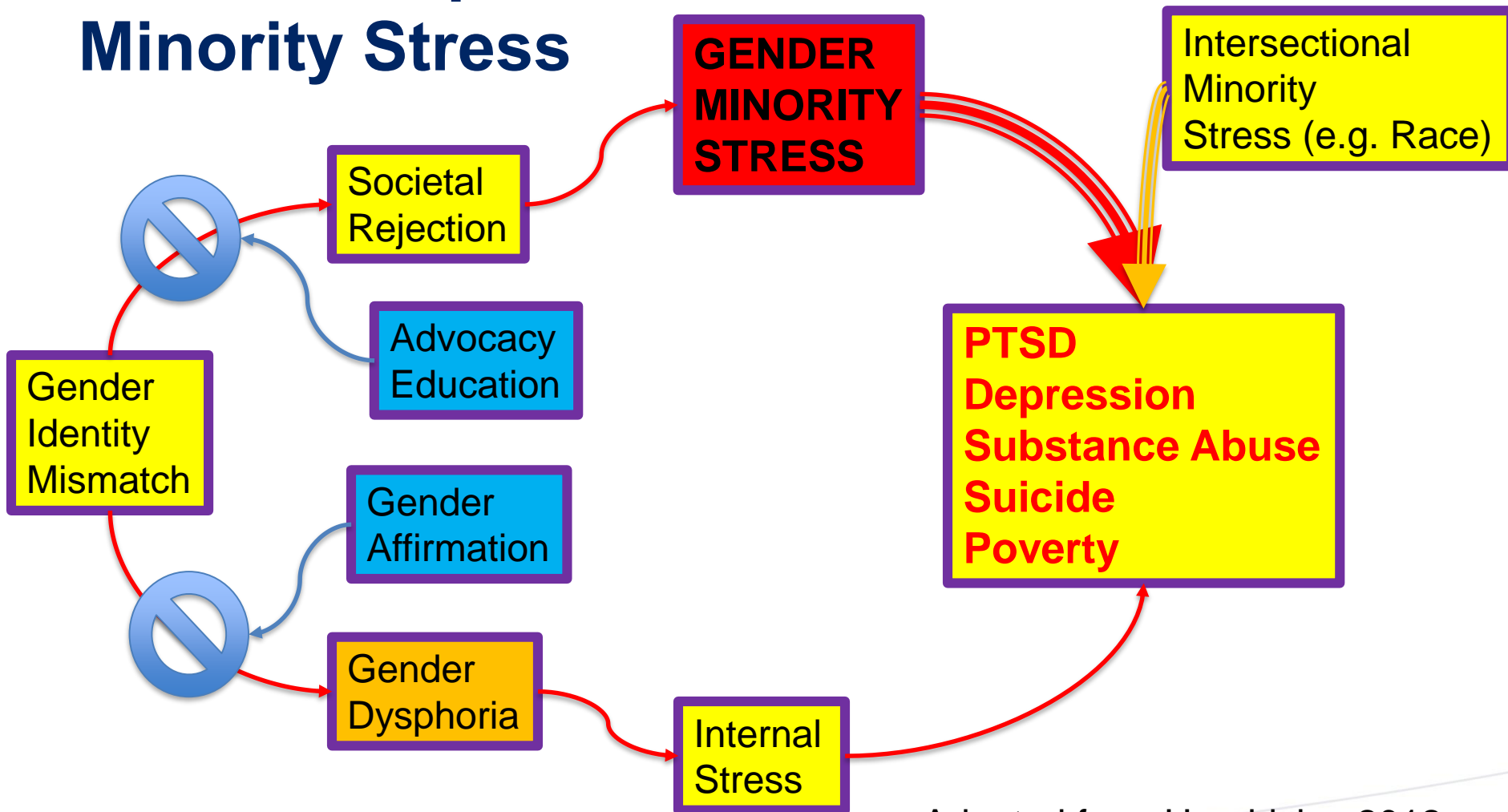
Adapted from Hendricks, 2012

New Conceptual Framework Gender Minority Stress



Adapted from Hendricks, 2012

New Conceptual Framework Gender Minority Stress



Adapted from Hendricks, 2012

Transgender Social Outcomes

- Problems in school due to gender identity:
 - Teacher, administrator mistreatment: 77%
 - Peer verbal harassment: 54%
 - Peer physical assault: 24%
 - Peer sexual assault: 13%
- Physical violence from a family member: 10%
- Homelessness: 27% currently, 45% ever
- Sexwork at some point: 12%
 - Of these 86% report police harassment or mistreatment
 - Of these 77% reported intimate partner violence or sexual assault

Transgender Social Outcomes

- Unemployment: 15% compared to 5% generally
 - Middle Eastern 35%
 - Black 20%
 - Latinx 21%
 - Multiracial 22%
- Fired/not hired due to gender identity: 27%
- Verbally harassed, physically or sexually assaulted at work: 15%
- Denied access to a restroom: 9%
- Harrassed while using a restroom: 14%

Transgender Health Outcomes

- 0.5% of population not cis-gendered (Conron 2012)
- According to the 2015 US Transgender Survey
 - 39% experienced serious psychologic distress in the months before the survey (compared to 5% of the US population)
 - 40% have attempted suicide (9x general US rate)
 - 7% attempted suicide in the last year
 - 1.4% living with HIV (5x general US rate)
 - 3.4% Transgender Women
 - 19% Black Transgender Women
 - 4.6% American Indian Transgender Women
 - 4.4% Latina Transgender Women

Transgender Health Outcomes

- Nobody decides to be a gender minority because it is fun – they reveal their status to relieve their internal stress from gender dysphoria – to be the same on the outside as how they feel on the inside
- Requires incredible sense of self and determination to come out as transgender
- Each time they are denied the ability to be themselves, they lose trust
- Exactly what has been done to them by modern medicine

Medical Community Response

- 30% of transgender people avoid healthcare due to discrimination (Transgender Law Center, 2013)
- 28% delay care due discrimination (Grant, 2011)
- 19% were denied care outright (Grant, 2011)
- 50% have to teach their own providers how to provide care for them (Grant, 2011)
- 33% reported negative experience with a health provider due to transgender status (Hermann, 2016)
- 25% reported issues with insurance due to transgender status (Hermann, 2016)
- 25% denied coverage for hormones (Hermann, 2016)
- 55% denied coverage for transition related surgery (Hermann, 2016)

Creating a Culturally Competent and Sensitive Atmosphere for Gender Minorities

- A welcoming environment
- Educated ancillary staff
- An EMR that acknowledges their existence and identity gathering
- Gender neutral bathrooms
- Posters, magazines, flyers that acknowledge their existence and lets them know they are welcome (a rainbow flag can be all it takes)
- Respect wishes in terms of name and pronouns

Creating a Culturally Competent and Sensitive Atmosphere for Gender Minorities

- Cultural Humility
 - Do not project your own identity, beliefs and experiences onto those of others
 - Meet your patients where they are without judgement or editorializing
 - Learn about your patient's needs so they do not have to educate you about their healthcare
 - If they feel the need to provide further education, listen with humility
 - Listen to the goals of the visit and address them – the goals may be very different from what you expected or had in mind
 - Validate their struggles, empathy, earn trust

Creating a Culturally Competent and Sensitive Atmosphere for Gender Minorities

- Incorporate Gender and Sexual Health in your initial History and Physical
 - Describe your gender and sexual identity to me
 - What pronouns would you like me to use for you?
 - Has your gender identity ever changed for you?
 - When you have sex, how do your partners identify their gender?
 - How many partners have you had in the past year?
 - When you have sex, what body parts do you use?
 - When you have sex, what precautions do you take to prevent sexually transmitted disease and pregnancy?

Other Important Social History and Behavioral Health Questions

- Depression Screening
- PTSD/Anxiety Screening
- Substance use screening
- How secure do you feel financially?
- How secure do you feel in your housing?
- Has your partner or a family member ever hurt you physically? Have they used words to hurt you or control you or gain access to your money?
- Have you ever needed to exchange sex for money, drugs, or a place to stay?

Creating a Culturally Competent and Sensitive Atmosphere for Gender Minorities

- Use of typical words for body parts may or may not increase gender dysphoria and discomfort for gender minorities
- Ask what terms they would use
 - What words do you use to call your top parts?
 - What words do you use to call your bottom parts?
 - What words do you use to call your front part?
- Use the terms with which they are most comfortable

Creating a Culturally Competent and Sensitive Atmosphere for Gender Minorities

- Incorporate culturally competent and sensitive care for gender minorities as a routine part of primary care
 - Most have been traumatized by medical system
 - Seeing you is an act of bravery and determination
 - Don't turn them away
 - Don't make them try to find another sympathetic provider to provide them medical affirmation therapy

Transitioning

- Social Transitioning:
 - Dressing and acting in accordance to one's gender identity as opposed to one's assigned gender
 - Can include changes in legal gender, housing, social milieu
 - Completely reversible, no significant medical issues
- Medical Transitioning/Gender Affirmation Therapy
 - Provision of female sex hormones, or male sex hormones with or without estrogen blockers
 - To create physiology aligned with gender identity to decrease gender dysphoria
 - Can include voice therapy for transgender women
 - Some physical changes are not reversible
- Surgical Transitioning/Gender Affirmation Therapy
 - Top and/or bottom surgery to align genitalia with gender identity to decrease gender dysphoria
 - Difficult to reverse

Transitioning

- Gender Affirmation Therapy
 - 2011 meta-analysis showed medical gender affirmation therapy likely improves gender dysphoria, psychological function, comorbidities, sexual functioning, and quality of life (Murad, 2011)
 - Gender minority young adults had improved psychological outcomes after puberty suppression and gender affirmation therapy (Devries 2014)
 - Gender minority children had improved mental health when parents were supportive of their gender identity (Olson, 2016)
 - More research needed

ICATH: Informed Consent Access to Trans Health

- The Informed Consent Model of Care for Gender Affirming Care
 - Reject the role of gatekeeper
 - Not your role to define someone else's identity
 - Educate the patient about the risks and benefits, the expected changes and possible complications
 - Allow patient to decide for themselves if this is appropriate for them rather than enforced waiting periods
 - Guide them in their treatment but respect their choices
 - Do not offer if you think harm outweighs benefits but only in the most clear cut situations
- Insurance may still have specific requirements

Transitioning is Not All or None

- Different individuals may want to transition to different stages
 - Only social transitioning
 - Medical transitioning (to various degrees)
 - Surgical transitioning (to various degrees)
 - Wishes may change over time
- Meet the patient where they are
 - Where do you see yourself in your transition?
 - What do you think medical (surgical) transition will offer? What effects do you want to see?

Ways to Ask About Transition History

- Tell me about your history of hormone therapy to assist your transition
- Tell me how you were provided hormones
 - Physicians, Friends, Off the street/online
 - Do not be judgmental, just make sure they are safe (not sharing needles for example)
 - Ask if trying the hormones had the effect they wanted
- Tell me about any surgeries you've had for your transition
- Tell me about any complications you might have had in your transition
- Who is aware of your transition? Do you feel you have support? Do you feel safe?

When to Offer Medical Transition Therapy

- Has at least attempted social transition
- Still wants to attempt medical transition after starting social transition
 - no definite period but should be reasonable
- Gives informed consent
 - Clear on goals and outcomes
 - Clear on adverse effects
 - Clear on reversible and irreversible (without surgery) effects
- Some guidelines and insurance include time criteria (advocates suggest this is medical paternalism)
 - 6-24 months of mental health evaluation and treatment
 - 6-24 months of persistent gender dysphoria

Veronica Gomez-Lobo, MD

MEDICAL AND SURGICAL TRANSITION

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Fully Reversible

Fully Reversible

- **GnRH analogues**
- Medroxyprogesterone
- Anti-estrogens
- Anti-androgens



Physical Benefits

- Preventing the need for mammoplasties
- Preventing menarche/menses
- Allowing for longer period of growth in biological females via delayed epiphyseal closure
- Preventing skeletal changes, especially facial bones, that accentuate brow, zygoma, mandible, and to prevent development of an Adam's apple
- Preventing unwanted phallic growth and psychologically spontaneous erections
- Preventing permanent male voice and virilized facial and scalp hair patterns



Negative Effects

- **Expensive!!**
- Possible impact on brain development
 - Brain undergoes major reorganization during the adolescent period
- Arrest of the normal pubertal bone mass increase
 - May catch-up once cross-sex hormone treatment is begun
- Insufficient penile tissue for penile inversion vaginoplasty techniques.



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Cross-Sex Steroids

Cross Sex steroids

- Pubertal development of the desired, opposite sex be initiated at the age of 16 years (earlier in selected cases), using gradually increasing dose schedule of cross-sex steroids
- **Following repeat intensive psychometric evaluation**



Cross Sex steroids

- There are no published reports of randomized clinical trials comparing safety and efficacy
- A wide variety of regimens have been published
 - Cross sex hormone after puberty suppression
 - Cross sex hormone without prior use of puberty suppression

TRANS MASCULINE

- Relatively straight forward regimens
- Testosterone usually sub-cutaneous or intra-muscular
 - Try to keep testosterone in normal male range (320-1000 ng/dL)
 - Teach patient to self administer



Masculinizing effects in female-to-male transgender persons

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

**** Prevention and treatment as recommended for biological men.

***** Menorrhagia requires diagnosis and treatment by a gynecologist.

TRANS FEMININE

- Male-to-Female
 - More complex than FTM regimen
- Estrogen
 - Oral , transdermal (?benefit less VTE), or parenteral
 - Serum estradiol levels should be maintained <200 pg/dL (premenopausal women)
 - Testosterone <55ng/dl
 - Conjugated estrogens or synthetic estrogens can not be monitored by blood tests
- Antiandrogens
 - Spironolactone
 - GnRH Agonists ?



Feminizing effects in male-to-female transgender persons

Effect	Onset		Maximum
Redistribution Body Fat	3-6 months		2-3 years
Decrease 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		***

* Complete removal of male sexual hair requires electrolysis and/or laser

** Familial scalp hair loss may occur if estrogens are stopped.

*** Treatment by speech pathologists for voice training is most effective.

Risks Associated with Hormone Therapy

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

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Follow up during hormone therapy:

Male-to-Female

Evaluate patients every 2-3 months in the first year and then 1-2 times per year thereafter to monitor for appropriate signs of feminization and for development of adverse reactions

Measure serum testosterone and estradiol levels every 3 months

Serum testosterone levels should be <55 ng/dL

Serum estradiol levels should be 100–200 pg/dL

Adjust estradiol dosage according to serum levels

Measure serum electrolytes every 2-3 months for the first year if patients are taking spironolactone

Measure serum prolactin levels at baseline, at 12 months following initiation of treatment, and biennially thereafter

Female-to-Male

Evaluate patients every 2-3 months in the first year and then 1-2 times per year thereafter to monitor for appropriate signs of feminization and for development of adverse reactions

Measure serum testosterone every 2-3 months until levels are in the normal physiologic range (320–1000 ng/dL)^a

Testosterone enanthate/cypionate: measure between injections

Testosterone undecanoate: measure prior to the next injection

Transdermal testosterone: measure any time after week 1

Measure estradiol levels during the first 6 months of testosterone treatment or until there is cessation of menses for 6 months

Estradiol levels should be <50 ng/dL

Measure complete blood count and liver function tests at baseline and every 3 months for the first year and then 1-2 times per year thereafter

Effects of Cross-Sex Hormones on Adolescents With Gender Dysphoria

	FTM	MTF
Total	72	44
Age (Mean)	16	18
(Min)	13	14
(Max)	22	25
Comorbidities		
○ Depression	22	13
○ Anxiety	8	3
○ ADHD	5	3
○ HIV	0	10
Other Medications		
○ GnRH agonists/ Puberty Blockers	8	6
○ Spironolactone	0	36
○ Psychotropic medications	26	13
○ HAART	0	5

Outcomes: Transmasculine

	Baseline	1-3 Months	4-6 Months	Beyond 6 months
BMI (kg/m2)	26.0	26.2 (<.0001)	27.2 (<.0001)	27.0 (.0003)
SBP (mm/Hg)	118	122*	119*	118*
DBP (mm/Hg)	71	72*	67 (.01)	69*
HCT (%)	39.4	42.4 (<.0001)	43.0 (<.0001)	44.5 (<.0001)
HGB (g/dL)	13.5	14.2*	14.3 (.0156)	15.0 (<.0001)
Total T (ng/dL)	29.5	342.8 (<.0001)	462.6 (<.0001)	424.8 (<.0001)
Estradiol (pg/dL)	55.1	51.1*	42.9*	46.0*
Tchol (mg/dL)	151.2	157.4*	160.7*	153.5*
LDL (mg/dL)	84.5	93.0*	98.3*	90.6*
HDL (mg/dL)	50.2	44.3 (.0159)	42.9 (0.0030)	45.1 (0.0156)
TG (mg/dL)	93.2	102.6*	108.5*	98.1*
TG:HDL Ratio	2.0	2.5*	2.9 *	2.3*
BUN (mg/dL)	10.7	10.5*	8.3*	6.5*
Cr (mg/dL)	0.7	0.9*	0.9*	0.8*
Prolactin (ng/mL)	16.5	26.6*	12.0*	28.1*
AST (U/L)	18.8	20.1*	25.9*	19.5*
ALT (U/L)	21.1	21.7*	26.9*	20.0*
HgbA1c (%)	5.3	5.5*	4.9*	5.3*

Outcomes: Transfeminine

	Baseline	1-3 Months	4-6 Months	Beyond 6 months
BMI (kg/m2)	23.7	23.0*	23.6*	23.6*
SBP (mm/Hg)	125	124*	121*	121*
DBP (mm/Hg)	72	74*	72*	72*
HCT (%)	43.8	38.3*	40.3*	42.3*
HGB (g/dL)	14.5	12.7*	13.6*	14.4*
Total T (ng/dL)	391.7	256.3 (.0128)	233.6 (.0008)	199.3 (.0002)
Estradiol (pg/dL)	21.6	40.9*	49.9 *	96.4 (<.0001)
Tchol (mg/dL)	147.8	158.0*	138.2*	142.8*
LDL (mg/dL)	82.6	95.9*	73.0*	77.4*
HDL (mg/dL)	48.2	47.4*	51.2 *	49.3*
TG (mg/dL)	93.5	77.9*	74.7*	83.6*
TG:HDL Ratio	2.1	1.7*	1.0*	1.9*
BUN (mg/dL)	14.6	14.9*	15.0*	11.5*
Cr (mg/dL)	0.7	0.6*	0.7*	0.7*
Prolactin (ng/mL)	11.9	10.9*	17.5*	20.7*
AST (U/L)	20.1	24.9*	19.6*	17.5*
ALT (U/L)	25.4	23.5*	15.2 (.0141)	17.3 (.0217)

Fertility



“We recommend that all transsexual individuals be informed and counseled regarding options for fertility prior to initiation of puberty suppression in adolescents and prior to treatment with sex hormones of the desired sex in both adolescents and adults”

- Endocrine Society Clinical Practice Guidelines for the Treatment of Transsexual Persons

Partially Reversible Methods Effect on Fertility



Estrogen:

- ❑ Prolonged exposure of the testes to estrogen has been associated with testicular damage
- ❑ May decrease libido.
- ❑ Reduces nocturnal erections, with variable impact on sexually stimulated erections.

Testosterone:

- Reduces fertility, although the degree and reversibility are unknown.
- Can induce permanent anatomic changes in the developing embryo or fetus.

Pregnancy has been reported in FTM individuals on testosterone

Fertility Options: Male-to-Female

❓ Sperm Banking (Sperm Cryopreservation)

- ❑ Sperm have been successfully after Tanner 3 has been reached
- ❑ In boys around 12 who are peri-pubertal may be a candidate for testicular sperm extraction
 - Has to be done in the operating room as it is painful

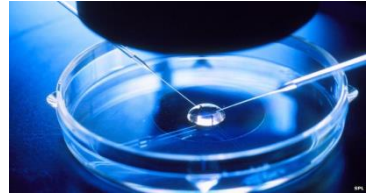


❓ Special Consideration with children and adolescents

- ❑ May require cessation of hormone therapy prior to sperm retrieval
- ❑ Children on hormone blockers may not have mature sperm to preserve.



Fertility Options: Female-to-Male



- ❑ Egg Freezing (Oocyte cryopreservation)
 - ❑ Optimally performed prior to testosterone treatment
 - ❑ Primarily done after ovarian stimulation
 - ❑ ? Response if Tanner 2 and received GnRH
 - ❑ Requires transvaginal aspiration of eggs



❑ Case Report:

- ❑ Fertility preservation in the transgender patient
 - ❑ Posted online on September 25, 2014.

Fertility Options: Adulthood

❑ Testicular or Ovarian Tissue Freezing:

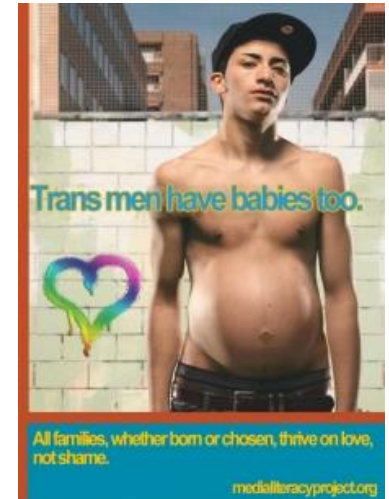
- ❑ It can be an option at age 18 or older, if the teen is thinking about gender confirming surgery.
 - But by then gonads often have been exposed to estrogen and testosterone
- ❑ Puberty blockers would stop development of the testes and ovaries , so they may require in-vitro maturation of gametes which is still has no yielded offspring in humans.

PREGNANCY

Risk of Pregnancy

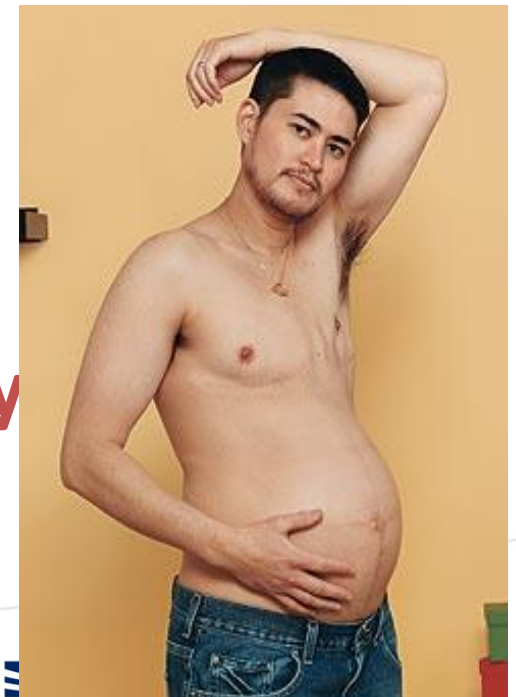
❑ Though fertility is compromised:

- ❑ Puberty suppression can be associated with sperm production and ovulation
- ❑ Trans men can become pregnant while on T
- ❑ Trans females may still produce sperm and impregnate female partners.



Pregnancy in Trans Men

- 48% of 25 trans men who answered a web-based questionnaire who were on testosterone prior to pregnancy used no contraceptive.
- 40% used condoms
- 12% abstinence
- **6/25 patients reported pregnancy was not planned**





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Gender Affirmation Surgery

Surgical Procedures for Affirmed Males

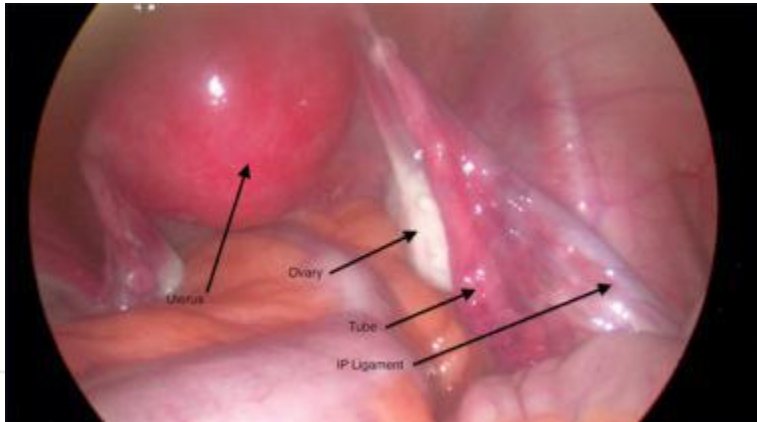
- Breast/chest surgery
 - Considered before age 18



- Nongenital, nonbreast surgical interventions
 - voice surgery
 - liposuction, lipofilling, pectoral implants, and various aesthetic procedures

Surgical procedures for Transmasculine

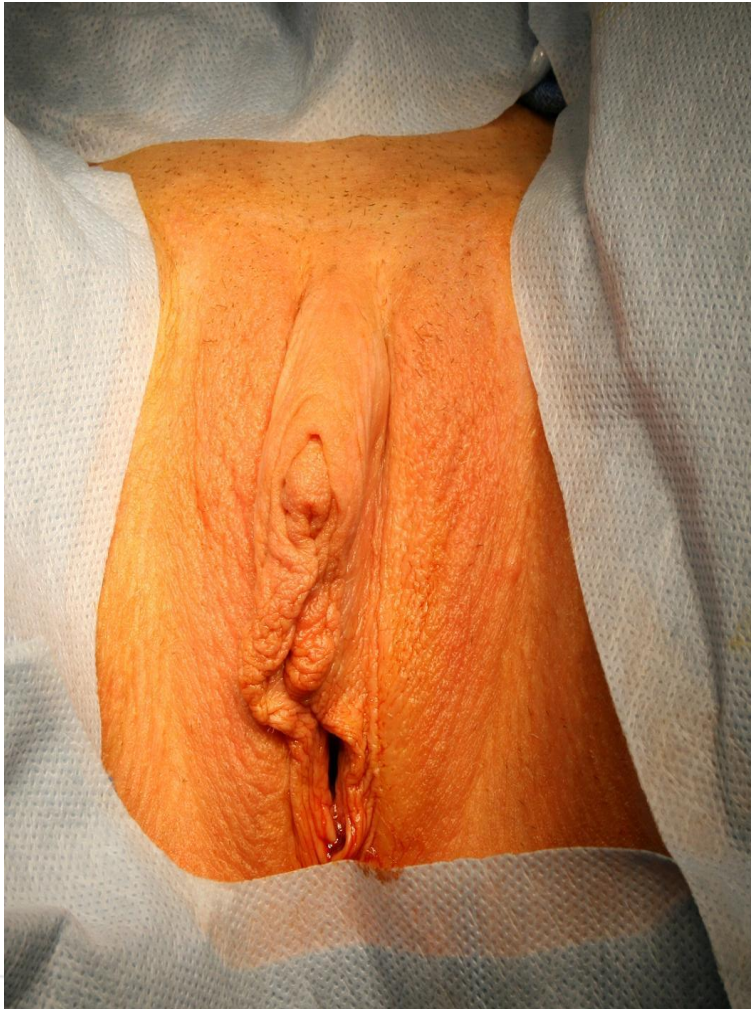
- Hysterectomy/Salpingo-oophorectomy
 - Unlikely to be screened
 - Possible risk of aromatization of testosterone and endometrial hyperplasia
 - Required in some states to legally change sex
- ? Risk of taking out the ovaries



Surgical Procedures: Transmasculine

- Genital surgery
 - Rarely seek genital because final surgical product lacks functionality and has limited cosmetic result
 - High complication risks
 - Reconstruction of the fixed part of the urethra combined with:
 - Metoidioplasty or with phalloplasty
 - Vaginectomy

Metoidioplasty



Metoidioplasty



Phalloplasty



Surgical Procedures for Affirmed Females

- Breast/chest surgery
 - Augmentation mammoplasty (implants/lipofilling);



Surgical Procedures for Affirmed Females

- Nongenital, nonbreast surgical interventions
 - Facial feminization surgery,
 - liposuction,
 - lipofilling,
 - voice surgery,
 - thyroid cartilage reduction,
 - gluteal augmentation,
 - hair reconstruction,



Surgical procedures for MTF

- Genital surgery:
 - Penectomy,
 - orchiectomy,
 - vaginoplasty,
 - clitoroplasty,
 - vulvoplasty



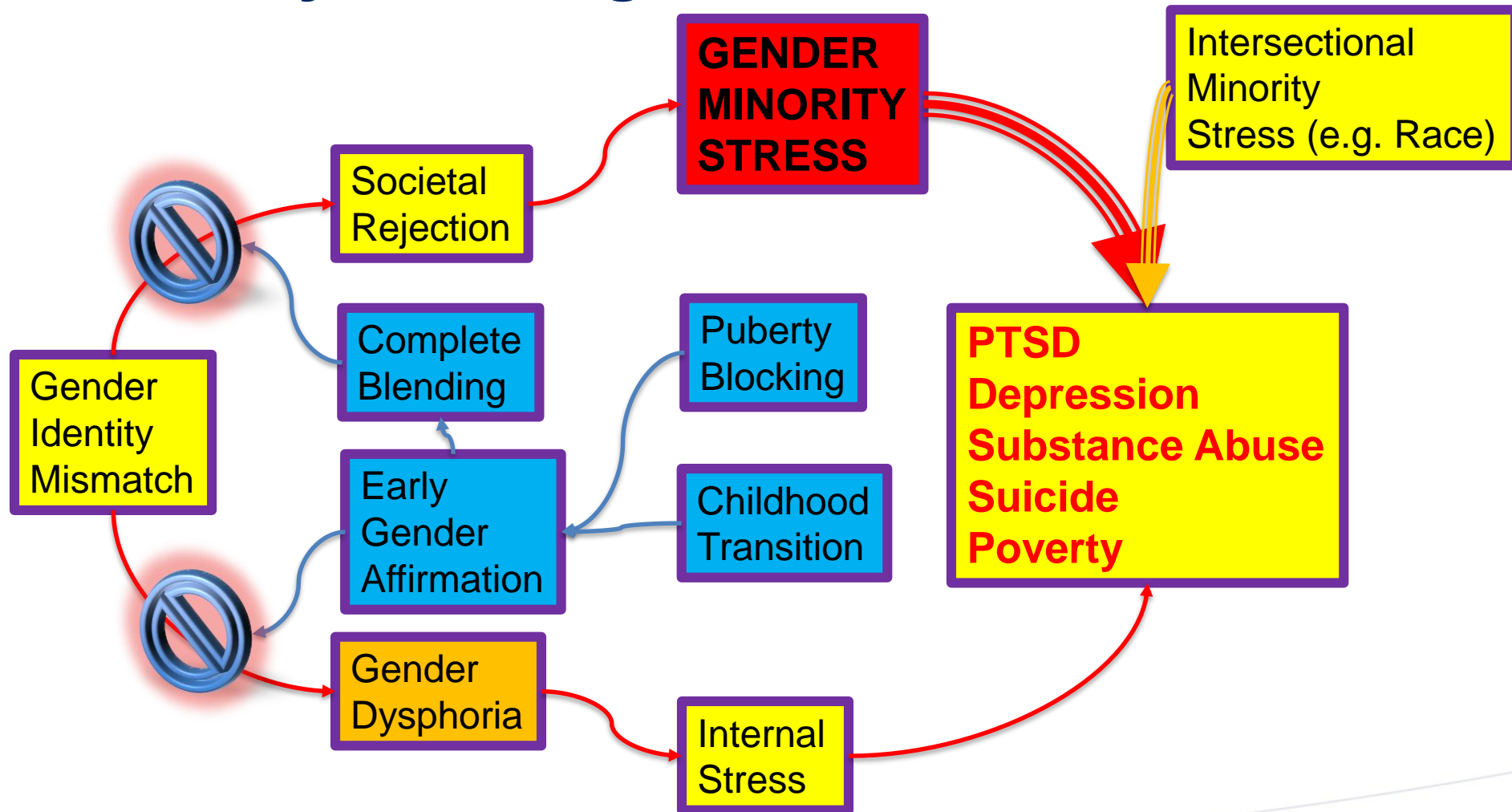
Leon L. Lai

PRIMARY CARE FOR GENDER MINORITIES

Puberty Blocking: Developmental Considerations

- Unique opportunity to alleviate dysphoria and minority stress
 - Prepubertal children's gender marked only by clothing and hair in public – complete blending is possible
 - Puberty blocking hits the pause button in Tanner stages 2-4 and completely reversible
 - Social transition in childhood or adolescence without interruption by adolescent secondary sex characteristics allows easier blending in adulthood
 - Blending can also decrease minority stress
 - CON: sterility if puberty in assigned sex never proceeds, can make bottom transition surgery more difficult

Puberty Blocking in Adolescents



General Care for Gender Minority Patients

- If they have it, check it: routine screening guidelines
- Lack of evidence - best to be conservative
 - BMD (probably follow routine guidelines for ciswomen for both transmasculine and transfeminine)
 - Breast cancer screening (if adequate breast tissue routine breast cancer screening for ciswomen probably should apply)
 - Cardiovascular risk (probably best to follow guidelines for cismen in both cases)
- HIV Screening
 - Routine initial screening
 - Annually for sexually active transfeminine patients and transmasculine men with risk factors
- PREP
 - Transfeminine who have sex with men
 - Transmasculine who have sex with men
 - Exceptions: longterm monogamous partners

Care for the Transfeminine Patient

- Pre-Bottom Surgery: check groin for erosions, hernias due to tucking
- Post Bottom Surgery
 - Longterm neovaginal dilation schedule
 - Routine douching (soap and water) for skin care
 - Discharge: usually skin bacteria treatable
 - Douching with vinegar solution or 25% povidone iodine in water x2-3 days
 - Alternatively 5 day course of metronidazole
 - Yearly external exam for complications and cancer – use **anoscope instead of speculum** for comfort
 - Prostate – can be assessed through digital neovaginal exam
 - Urethral-neovaginal fistulas and granulation tissue – surgical treatment, non-emergent

Care for the Transfeminine Patient

- Thromboembolism and Estrogens
 - If continued hormonal therapy is desired despite risk and potential need for lifelong anticoagulation, switch to Transdermal Estrogen (lowest risk of VTE events) at lowest effective dose
 - Decrease risk by stopping smoking
 - Chronic anticoagulation if indicated by guidelines
- Erectile Dysfunction
 - Sildenafil and tadalafil can be used
- Older transgender women
 - Can consider stopping therapy at age 50 after orchiectomy, but pre-orchiectomy likely to have return of virilizing effects of testosterone
- Prolactinomas
 - Theoretically increased risk but routine monitoring not justified
 - Referral to Endocrinology with any symptoms
- Cancer
 - Contraindicated if history of estrogen-sensitive cancer (breast or pituitary)
 - Age appropriate yearly breast cancer screening if adequate breast tissue present, alternatively yearly manual exams

Adapted from Endocrine Society Guidelines 2017



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Care for the Transfeminine Patient

- Vocal Transition
 - Female Hormone therapy does not alter vocal pitch
 - Speech Therapy to alter pitch, intonation, and resonance
 - Speaking in a higher or lower speech long term can increase vocal fatigue or risk of vocal cord nodules or scarring
 - Multiple surgical options available but all have a risk of scars, nodules, decreased vocal volume and increased hoarseness

Care of the Transmasculine Patient

- Pre-Top Surgery
 - mammogram as per cis guidelines
 - annual exam for skin breakdown from chest binding
- Post-Top Surgery:
 - annual manual exams of remaining breast tissue
- Pre-Bottom Surgery: pelvic exam as per cis-guidelines
 - May be more traumatic (invasive to identity, vaginal atrophy due to hormone therapy can increase pain, lack of experience)
 - Provide educational materials and defer until trusting relationship develops
 - Allow support person in the room, or music on earbuds
 - Use terms they are comfortable with rather than anatomic terms
 - Low dose benzodiazepine 20-60 min prior for severe anxiety
 - Vaginal estrogens 1-2 weeks prior can help prevent pain
 - Alternative: offer self-exam/self-collection of specimens as a segue
- Post-Bottom Surgery: routine yearly external exam

Summary

- Gender minorities suffer increased adverse physical and mental outcomes due to
 - Internal stress from gender dysphoria
 - External minority stress due to stigma, rejection from family and peers, assault, legal and employment and accomodation discrimination
 - A healthcare system that feels hostile, indifferent and uneducated regarding their needs
- Awareness and treatment of the special healthcare needs of gender minorities can alleviate some of their external minority stress
- More widespread availability of physicians willing to help gender minorities in medical transitioning can help ameliorate their internal stress from gender dysphoria

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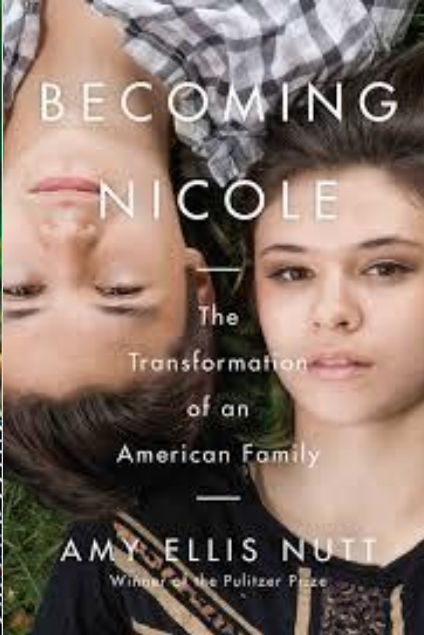
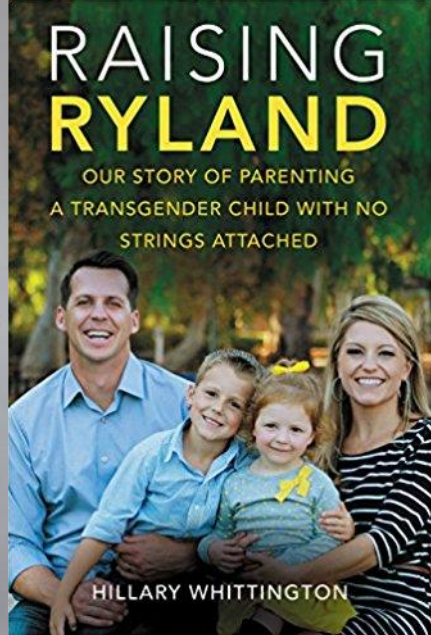
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