Evidence Based Approach to Screening Transgender and Gender-diverse (TGD) Adults

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Overview of Terms, Definitions, and Statistics
An estimated 1.4 million adults (0.6% of the US adult population) identify as transgender, according to data extrapolated from the CDC's Behavioral Risk Surveillance System.

The recently published *Guidelines for the Primary and Gender-Affirming Care of Transgender and Gender Nonbinary People* (UCSF guidelines) define *transgender* as: “A person whose gender identity differs from the sex that was assigned at birth.”
Transgender or Trans

Having a gender identity that is not commonly considered to match a person’s assigned sex. Transgender is an umbrella term for a range of people, behaviors, expressions, and identities that challenge the gender system. "Trans" as a prefix means "to cross over."
Cisgender

- Having a gender identity that is commonly considered to match a person’s assigned sex. "Cis" as a prefix means "to stay on the same side."
Transsexual

- A person who identifies with the gender different than the sex assigned at birth and desires to access or has accessed medical transition, e.g. hormone therapy, surgical procedures.
- Originally used as a medical term and often used by older generations.
- Not commonly used today.
Medical terms

MTF = male to female. This refers to a person assigned male at birth, who identifies as a woman. Also known as a transgender woman or a transfeminine person.

FTM = female to male. This refers to a person assigned female at birth, who identifies as a man. Also known as a transgender man or a transmasculine person.
Community terms

The term “Affirmed Male or “Affirmed Female” is commonly used in reference to transgender children/adolescents/teens as well as adults.

Some transgender people use “trans man/boy” or “trans woman/girl” and some do not use “trans” at all.
Genderqueer, gender fluid, gender non-binary, gender diverse, and more...

Having a gender identity that is neither male nor female, is between or beyond genders, or is some combination of genders, in terms of expression and/or identity.
Primary Care

- Increasing access-PCP does need to specialize in endocrinology.

- **Listen** to how people describe their own identities, partners, and bodies; use the same terms!
  - Refer to patients by their preferred name and pronouns
  - Refer to body parts by their preferred name

- Avoid asking questions out of curiosity; ask what you NEED to know.
Office Environment

- Each patient should be approached as an individual with no preconception.
- Staff training
- Waiting areas
- Bathrooms
- Gender identity data
Gender identity (two-step):

- **What is your gender identity?**
  - ☐ Male
  - ☐ Female
  - ☐ Transgender man / Transman
  - ☐ Transgender woman / Transwoman
  - ☐ Genderqueer / Gender nonconforming
  - Additional identity (fill in) ________________
  - ☐ Decline to state

- **What sex were you assigned at birth?**
  - ☐ Male
  - ☐ Female
  - ☐ Decline to state
Guidelines for Taking a history

- If you are not sure what terms to use, ask your patient what they prefer.
- History – similar to other histories you would take.
- Keep in mind the following:
  - Ask about use of cross-sex hormones and gender affirmation surgeries
  - What are risk factors for smoking, substance use, or engaging in sexual risk behaviors?
  - What is their personal support group look like?
Guidelines For Physical Examination

- Physical examination should be relevant to the anatomy that is present, regardless of gender presentation, and without assumptions as to anatomy or identity.
- If patient has URI- no need to do a genital examination.
- If doing a pelvic on MTF- walk patient through steps.
Guidelines For Physical Examination

Special Considerations:

- Binding of the chest to create a masculine appearance may lead to skin breakdown or other complications of the skin.
- Patients may be hesitant to remove the binder for a physical exam.
  - Discuss safety of binders with all patients.
- Tucking of the testicles and penis may lead to hernias or other complications at the external inguinal ring or skin breakdown at the perineum.
  - Sensitive preventative education is recommended.
Sexual Health – 5ps revisited

- Five Ps
  - Partners, practice, protection from STIs, past history of STIs and prevention of pregnancy
  - Prevention of pregnancy – discuss “family planning”
Sex Reassignment Surgery - Transwomen

- Removal of testes and scrotum
- Creation of vagina using “penile inversion”
- Re-positioning of urethra
- Creation of clitoris and labia
- Requires post-op dilations to maintain neovagina
- Often require lubricant for intercourse
- Can get vaginitis like any other women
Sex Reassignment Surgery-Transmen

- Metoidioplasty (separation of clitoris from the labia minora)
- Phalloplasty (creation of phallus using the skin from the forearm, chest wall or thigh)
- Can occur alone or in combination with vaginectomy or colpocleisis (removal of vagina)
Sex Reassignment Surgery-Transmen

- Testosterone is used to enlarges the clitoris into a substitute penis
- Creates a small neo-phallus
- Freeing of the hypertrophied glans clitoris from suspensory ligaments
- Repositioning to more superior location
- +/- liposuction of mons area
- +/- bulking up on glans with other tissues
- +/- scrotoplasty, testicular implants, and urethroplasty
- Some patients will use topical 2% testosterone and/or clitoral pumps to increase size of glans in preparation for genital surgery
Non-Genital Surgery

**Transwomen**
- Facial Feminization
  - Rhinoplasty
  - Facial bone reduction
  - Blepharoplasty
  - Face lift
- Breast Augmentation
- Thyroid chondroplasty (trach shave)
- Voice modification

**Transmen**
- Chest Reconstruction
  - b/l mastectomy
  - Nipple grafting
  - Re-contouring
- Liposuction
EBM Guide to Preventative Health

- Treat and/or Screen what is there.
- Guidelines are not always clear.
- Literature can be confusing and conflicting!
Cardiovascular Disease

- Transgender women (MTF) between the ages of 40 and 64 have a higher cardiac mortality rate and higher risk of CVD morbidity compared to both cisgender (non-transgender) males and females.
  - may be due to anthropometric changes such as increase in body fat, decrease in lean body mass and overall weight gain secondary to cross-sex hormone therapy (CSHT (estrogen)) use.
- The American Heart Association currently offers no guidance in regards to assessing CVD risk among transgender patients, MTF or FTM, in order to assess the need for preventive medication such as statin use and aspirin use.
Cardiovascular Disease

- Consensus- when selecting risk assessment identifiers for use with risk calculators providers may choose the natal sex, the affirmed gender, or a combination of the two.

- Maximum physiologic changes associated with CSHT are reached between 1-3 years of initiation of treatment.
Reducing CV Risk

- For transgender women with cardiovascular risk factors or established CVD:
  - using the transdermal route of estrogen may be preferred due to lower rates of venous thromboembolism.
  - Encourage diet, exercise and quitting tobacco use
CVD-Hypertension

- Blood pressure at every visit for FTM and MTF
- Both exogenous estrogen and testosterone can cause increases in blood pressure
- In MTF patients with hypertension, spironolactone should be part of treatment if tolerated
CVD- Lipids

- The age to begin lipid screening is also less concrete for the transgender population using CSHT.
- The Endocrine Society recommends that lipid screening should begin after CSHT is initiated, regardless of age.
- A reasonable screening interval, based on USPSTF expert opinion, is every 5 years until a patient has levels approaching the need for therapeutic intervention at which point the intervals would shorten.
CVD- Tobacco use

- LGBT communities have greater rates of smoking, alcohol, and drug abuse
  - Bar culture
  - Targeted marketing
  - Vulnerable youth
- Smoking is a greater risk in MTFs due to risk of DVTs with estrogen supplementation
Diabetes

- Recommendations for diabetes screening in transgender patients (regardless of hormone status) do not differ from current national guidelines.
- Patients with diabetes seeking gender-affirming surgeries represent a special group for whom aggressive treatment to normalize glucose control is desirable.
Osteoporosis Risks

Transgender women
- Known risk factors for osteoporosis include underutilization of hormones after gonadectomy or use of androgen blockers without or with insufficient estrogen.
- GnRH analogues also may result in short term decrease in bone mineral density (reverses once medications are stopped)

Transgender men
- Risk factors for osteoporosis in this population include oophorectomy before age 45 without optimal hormone replacement.
Osteoporosis

- There is insufficient evidence to guide recommendations for bone density testing in transgender women or men.
- Transgender people (regardless of birth-assigned sex) should begin bone density screening at age 65.
- Screening between ages 50 and 64 should be considered for those with established risk factors for osteoporosis.
- Transgender people (regardless of birth assigned sex) who have undergone gonadectomy and have a history of at least 5 years without hormone replacement should also be considered for bone density testing, regardless of age.
Cancer Screening

- At a minimum both transgender women and transgender men should receive cancer screening specific to their natal sex.
- Many transgender patients never have gender reassignment surgeries.
  - Frequently have residual organs such as the prostate in transgender women or remnants of these organs such as cervical tissue in transgender men.
- Because of this retention, prostate and cervical cancer risks, screening, and examination recommendations remain identical to cisgender males regardless of CSHT use.
Cancer Screening – Breast (FTM)

- Transgender men (FTM) with or without breast surgery should be encouraged to follow the guidelines of their natal sex.
Cancer Screening – Breast (MTF)

- Screening mammography is the primary recommended modality for breast cancer screening in MTF (Dense breasts are common).

- Breast cancer screening with mammography for transgender women (MTF) should generally not commence until the patient is older than 50 years of age and has been on feminizing hormones for at least 5 years.
  - Once the screening criteria are met, screening should be done biennially, a recommendation based on observational studies.
  - Transgender women (MTF) who have a family history of breast cancer or BRCA mutation may require earlier or more frequent screening than other transgender women.
Cancer Screening – Breast (MTF)

- It is recommended that screening mammography be performed every 2 years, once the age of 50 and 5-10 years of feminizing hormone use criteria have been met.
- Providers and patients should engage in discussions that include the risks of over screening and an assessment of individual risk factors.
- Transgender women are often concerned with their breast appearance and development, and may perform frequent unguided self-examinations.
- Early breast development may be associated with breast pain, tenderness, and nodularity.
- Transgender women may request breast exams for these symptoms, or may find breast examinations to be gender-affirming.
There are multiple surgical techniques and autologous tissues – penile, scrotal, small intestine, and colon - used to perform vaginoplasty in transgender women (MTF) who elect gender reassignment procedures.

None of these techniques requires subsequent need for Pap smears or HPV testing of the neovagina because there is no cervical tissue.
Cancer Screening- Cervical (FTM)

- Cervical cancer screening for FTM, including interval of screening and age to begin and end screening follows recommendations for non-transgender women.
- May be uncomfortable to be a man patient in a female-centered office.
- Physical discomfort throughout the exam is a frequent complaint among transgender men using testosterone, a common component of Hormone therapy which causes atrophy of the vaginal and cervical epithelium.
- Testosterone results in a 10-fold increase in unsatisfactory cervical cytology specimens
- In order to optimize the chances of an acceptable specimen, collection of multiple cervical samples using a variety of instruments to swab a wider circumference of the cervix is advised.
- If specimen still proves inadequate, consider a short, five-day course of low-dose topical estrogen prior to retesting in two to four months.
- For the least discomfort, use a small, narrow speculum with water-based lubricant.
Cancer Screening- Prostate

- The decision to perform screening for prostate cancer in transgender women should be made based on guidelines for non-transgender men.
- Transgender women who have undergone vaginoplasty have a prostate anterior to the vaginal wall, and a digital neovaginal exam examination may be more effective.
The administration of exogenous testosterone, which then undergoes aromatization to estrogen, as well as the possible anovulatory state induced by testosterone, may create a hormonal milieu of "unopposed" estrogen.

This creates a theoretical risk of endometrial hyperplasia or cancer.

Despite this theoretical risk, only one case report of an endometrioid adenocarcinoma exists in the literature.
Cancer Screening– Endometrial

- Routine screening for endometrial cancer in transgender men using testosterone is not recommended.
- Unexplained vaginal bleeding (in the absence of missed or changed dosing of testosterone) in a patient previously with testosterone-induced ameorrhea should be explored.
- Transgender men should be educated on the need to inform their provider in the event of unexplained vaginal bleeding
- **Hysterectomy for primary prevention of endometrial cancer is not currently recommended**
Sexually Transmitted Infections

- Recommendations for management of confirmed STIs does not differ from those for non-transgender people.
- Screening intervals should be based on risk, with screening every three months in individuals at high risk:
  - multiple partners
  - sex without condoms
  - transactional sex/sex work
  - sex while intoxicated
- Often avoid screening procedures and physical examinations due to fear of discrimination.
STI - continued

- The Fenway Guide provides suggested sexual risk assessment questions [6] including:
  - Are you having sex? How many sex partners have you had in the past year?
  - Who are you having sex with? (including anatomy and gender of partners) What types of sex are you having? What parts of your anatomy do you use for sex?
  - How do you protect yourself from STIs? (How often do you use condoms/barriers? Any use of PrEP?)
  - What STIs have you had in the past, if any? When were you last tested for STIs?
  - Has your partner(s) ever been diagnosed with any STIs?
  - Do you use alcohol or any drugs when you have sex?
  - Do you exchange sex for money, drugs, or a place to stay?
Transgender women who have undergone vaginoplasty (either penile inversion or colo-vaginoplasty) do not have a cervix, therefore screening for cervical HPV is not appropriate.

Anatomy of a neovagina created in a transgender woman differs from a natal vagina in that it is a blind cuff, lacks a cervix or surrounding fornices, and may have a more posterior orientation.

If urethral tissue is present = could result in mucosal infectious such as chlamydia or gonorrhea, syphilitic chancre, herpes or chancroid – incidence is not known.

In Transgender women prostate tissue may be present, therefore infectious prostatitis should be included in the differential diagnoses for sexually active trans women with suggestive symptoms.
Many transgender people have experienced violence, including sexual violence. Therefore, providers should take a chaperone trauma-informed approach to the exam, whenever possible.

Gives a sense of control to the patient and includes: greeting patients while they are dressed; explaining what you plan to do and why; providing information, choices, and decision-making ability.

Some may prefer to collect their own specimens to allow for greater control over the screening process.

Self-collected vaginal and rectal swabs as well as urine specimens have equivalent sensitivity and specificity to provider-collected samples for nucleic acid amplification testing.

The physical exam should focus on organs that are present and have the potential for infection based on the sexual history.
HIV Prophylaxis

- Pre-exposure prophylaxis (PrEP), use of anti-retroviral (ARV) drugs such as tenofovir disoproxil fumarate prevent infection by HIV, is strongly recommended for transgender women (MTF) who have sex with men.

- Research has suggested that when PrEP was offered free of charge, sexual practices became safer by self-reports, and the incidence of syphilis did not rise.
<table>
<thead>
<tr>
<th>USPSTF recommendation</th>
<th>Modification for transgender men</th>
<th>Modification for transgender women</th>
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</thead>
<tbody>
<tr>
<td>Aspirin for prevention of CVD</td>
<td>When using the CVD risk calculator, use the patient’s birth sex until the patient has reached maximal effect of CSHT, 1-3 years after onset of treatment.</td>
<td></td>
</tr>
<tr>
<td>Statin use for primary prevention of CVD in adults</td>
<td>Initiate lipid screening at the onset of CSHT. Screening interval: every 5 years</td>
<td></td>
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<tr>
<td>Osteoporosis screening</td>
<td>Follow birth sex guidelines</td>
<td>Use FRAX to determine age to begin screening</td>
</tr>
<tr>
<td>Breast cancer screening</td>
<td>Follow birth sex guidelines</td>
<td>Age 50 years AND 5 or more years of CSHT:</td>
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<td></td>
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<td>screen biennially</td>
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<tr>
<td>Cervical cancer</td>
<td>Follow birth sex guidelines</td>
<td>No screening needed</td>
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<tr>
<td>HPV vaccination</td>
<td>Follow CDC guidelines with no modifications</td>
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<tr>
<td>HIV screening</td>
<td>No modifications</td>
<td>Transgender women are at high risk for HIV</td>
</tr>
<tr>
<td>Syphilis screening</td>
<td>No modifications</td>
<td>Transgender women are at high risk for syphilis with the additional risk factors</td>
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<td>(in addition to USPSTF) of age ≥30 years, ≥10 sexual partners in the last week, and HIV-positive status</td>
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<tr>
<td>Gonorrhea and chlamydia</td>
<td>Follow birth sex guidelines</td>
<td>Follow female guidelines if the patient has had a vaginoplasty</td>
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<tr>
<td>screening</td>
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</table>
A brief word on hormones.....

- Cross sex hormone therapy (CSHT) for transgender women uses estrodiol to enhance feminization, progestins to encourage breast development, and antiandrogens such as spironolactone and finasteride to reduce testosterone levels and male secondary sex characteristics.
- CSHT for transgender men uses testosterone to enhance male sex characteristics and promote cessation of menses.
Femininizing Hormones – A brief overview

- The primary class of estrogen used for feminizing therapy is 17-beta estradiol, which is a "bioidentical" hormone in that it is chemically identical to that from a human ovary.
  - most commonly delivered to transgender women via a transdermal patch, oral or sublingual tablet, or injection of a conjugated ester (estradiol valerate or estradiol cypionate).
- Conjugated equine estrogens have been used in the past but are not recommended for a number of reasons, including inability to accurately measure blood levels and some suggestion of increased thrombogenicity and cardiovascular risk.
- Migraines, mood swings, hot flashes, and weight gain
Feminizing Hormones – A brief overview

- Spironolactone is the most commonly used androgen blocker in the U.S.
  - It is a potassium sparing diuretic, which in higher doses also has direct anti-androgen receptor activity as well as a suppressive effect on testosterone synthesis.
- There have been no well-designed studies of the role of progesterone in feminizing hormone regimens.
Masculinizing Hormones- a brief review

- The goal of masculinizing hormone therapy is the development of male secondary sex characteristics, and suppression/minimization of female secondary sex characteristics.
- Mainly use testosterone
- Route of injection (intramuscular vs. subcutaneous): While testosterone for injection is labeled for the intramuscular route, many providers have administered testosterone using the subcutaneous route with good efficacy and patient satisfaction, and without complications.
- Benefits of subcutaneous administration include a smaller and less painful needle, and may avoid scarring or fibrosis from long term (possibly > 50 years) intramuscular therapy
Transgender Adolescents

- Mental health support should not be sought in order to convince transgender and gender non-conforming (TGNC) youth into accepting a gender identity that aligns with their assigned sex.
  - Provide a safe and welcoming space for young people to discuss and explore their gender, and any mental health challenges that may exist.
  - Support model is in favor.
- Hormones are controversial.
Puberty delay for youth with gender dysphoria may be achieved with gonadotropin-releasing hormone analogues such as leuprolide acetate or histrelin.

While the current Endocrine Society guidelines recommend starting gender-affirming hormones at about age 16, some specialty clinics and experts now recommend the decision to initiate gender-affirming hormones be individually determined, based more on state of development rather than a specific chronological age.

- May start earlier if there is a lot of distress
- Studies suggest working with a mental health worker and talking to adolescents in this case – parents have to assist with the final decision in young youth.
Transgender Apps

- Long Story – takes you through a teen life where they are uncertain of their identity – first part is free- then costs
- The “Huddle” place to talk about transgender- must join.
- Twitter: Education Nation #ToolkitTalk- information throughout about transgender and kids
Abuse

- 1 in 2 transgender individuals are sexually abused or assaulted at some point in their lives.
- Some reports estimate that transgender survivors may experience rates of sexual assault up to 66%, often coupled with physical assaults or abuse.
- 12% of transgender youth report being sexually assaulted in K–12 settings by peers or educational staff;
  - 13% of African-American transgender people surveyed were sexually assaulted in the workplace;
  - and 22% of homeless transgender individuals were assaulted while staying in shelters.
Mental Health

- Routine primary care visits should include screening for co-occurring mental health conditions, past treatments, and history of suicide and self-injurious behaviors, symptoms of posttraumatic stress, and substance use.
- Primary care providers should be equipped to handle basic mental health needs of transgender patients (e.g., depression and anxiety) just as any other patient.
- Any primary mental health concerns beyond the scope of the provider's routine practice should be referred to transgender-affirming mental health providers.
Abuse

- 15% of transgender individuals report being sexually assaulted while in police custody or jail, which more than doubles (32%) for AA transgender people.
- 5-9% of transgender survivors were sexually assaulted by police officers.
- Another 10% were assaulted by health care professionals.
Abuse

- In the NCAVP 2009 report on hate violence, 50% of people who died in violent hate crimes against lesbian, gay, bisexual, transgender, and queer (LGBTQ) people were transgender women;
  - the other half were male, many of whom were gender non-conforming.
- Sexual assault and/or genital mutilation before or after their murders was a frequent occurrence.
- Some studies indicate that between 20 and 35% of LGBTQ couples experience domestic violence.
Abuse

- 50% of transgender people surveyed had been hit by a primary partner after coming out as transgender.
- LGBTQ youth report a 30% incidence of dating violence, compared to 9 percent for heterosexual students.
Insurance Coverage

- Varies state to state and by employer to employer
- As of 2015, an increasing number of employers are offering transgender-inclusive health benefits plans, and insurance Commissioners in numerous states and the District of Columbia have issued regulations prohibiting the sale of insurance plans that discriminate against transgender people.
- May have mismatch – transgender female getting denied for prostate exam
  - Patient and office would need to provide support documentation and the claim should get covered.
Don’t forget to ask!

Ask questions about relationships, support systems, abuse, violence!


