CARE OF THE TRANSGENDER PATIENT

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OBJECTIVES

- Understand the terms associated with sex and gender
- Appreciate the role of the primary care provider in transgender care
- Identify specific risk factors for transgender patients
- Understand gender dysphoria and the importance of mental health care
- Learn the basics of hormone therapy and the clinical outcomes
- Be informed on the benefits and risks of gender reassignment surgery

TRANSGENDER

- The term "transgender" is generally used to describe a diverse group of individuals whose gender identity or expression differs from that assigned at birth.

https://www.local10.com/news/local/2021/09/14/miami-beach-pride-2021-events-drag-brunches-more/

A Would-Be Trans And Queer Haven In Rural Colorado Just Wants To Be Left Alone

June 2, 2021 · 2:06 PM ET
Heard on All Things Considered

DAN BOYCE

FROM CPR News

3-Minute Listen + PLAYLIST

https://www.npr.org/2021/06/01/999929259/a-would-be-trans-and-queer-haven-in-rural-colorado-just-wants-to-be-left-alone

https://abcnews.go.com/Lifestyle/meet-bowsers-transgender-parents-raising-sons/story?id=28228493

TERMINOLOGY

- **Sex** refers to a person's biological status and is typically assigned at birth, usually on the basis of external anatomy. Sex is typically categorized as male, female or intersex.
- **Gender** is often defined as a social construct of norms, behaviors and roles that varies between societies and over time. Gender is often categorized as male, female or nonbinary.
- **Gender identity** is one's own internal sense of self and their gender, whether that is man, woman, neither or both. Unlike gender expression, gender identity is not outwardly visible to others.
- **Gender expression** is how a person presents gender outwardly, through behavior, clothing, voice or other perceived characteristics. Society identifies these cues as masculine or feminine.

TERMINOLOGY

- **Cisgender,** or simply **cis**, is an adjective that describes a person whose gender identity aligns with the sex they were assigned at birth.
- **Transgender,** or simply **trans,** is an adjective used to describe someone whose gender identity differs from the sex assigned at birth
- **Nonbinary** is a term that can be used by people who do not describe themselves or their genders as fitting into the categories of man or woman.
- **Agender** is an adjective that can describe a person who does not identify as any gender.

TERMINOLOGY

- **Gender-expansive** is an adjective that can describe someone with a more flexible gender identity than might be associated with a typical gender binary.
- **Gender transition** is a process a person may take to bring themselves and/or their bodies into alignment with their gender identity.
- **Gender dysphoria** refers to psychological distress that results from an incongruence between one's sex assigned at birth and one's gender identity.
- **Sexual orientation** refers to the enduring physical, romantic and/or emotional attraction to members of the same and/or other genders, including lesbian, gay, bisexual and straight orientations.
- **Intersex** is an umbrella term used to describe people with differences in reproductive anatomy, chromosomes or hormones that don't fit typical definitions of male and female.

GENDER PRONOUNS

Pronouns-- A How To Guide

Subject: ____[1] laughed at the notion of a gender binary.

Object: They tried to convince ____[2] that asexuality does not exist.

Possessive: ____[3] favorite color is unknown.

Possessive Pronoun: The pronoun card is ____[4].

Reflexive: ____[1] think(s) highly of ____[5].

The pronoun list on the reverse is not an exhaustive list.
It is good practice to ask which pronouns a person uses.

1	2	3	4	5
(f)ae	(f)aer	(f)aer	(f)aers	(f)aerself
e/ey	em	eir	eirs	eirself
he	him	his	his	himself
per	per	pers	pers	perself
she	her	her	hers	herself
they	them	their	theirs	themself
ve	ver	vis	vis	verself
xe	xem	xyr	xyrs	xemself
ze/zie	hir	hir	hirs	hirself

EPIDEMIOLOGY

- Reports suggest that 0.3 to 0.6 percent of the adult population is transgender.
- The prevalence of transgender individuals depends upon the definition used to classify a person as transgender.

PATHOPHYSIOLOGY

- Although the mechanisms remain unclear, there is evidence for a biologic basis of gender identity.
- Evidence for a biologic basis for gender identity primarily includes:
  - Data on gender identity in intersex individuals.
  - Data from twins showing greater transgender concordance among identical twins relative to fraternal twins.
  - Neuroanatomical differences associated with gender identity.
  - Gender identity may be influenced by prenatal androgen exposure

ROLE OF THE PRIMARY CARE PROVIDER

- The role of the primary care provider for transgender patients includes the tasks typical for all patients (e.g., primary and secondary prevention and the specific needs of transgendered individuals.
- Referrals may also be sought for gender-affirming procedures
- Become comfortable in working with transgender patients to meet their healthcare needs.
- Possibly manage hormone therapy. Those that do not manage hormone therapy should be aware of common medications, doses, and potential side effects.
- Become knowledgeable regarding appropriate postsurgical self-care after genital surgeries.

CLINICAL COMPONENTS

- Providers should refer to transgender patients by their preferred name and pronouns.
- Reassure about confidentiality
- Educate other clinical staff regarding these issues.
- History
- Physical Exam

HISTORY

- In general, the history is similar to that of non-transgender patients. History that is specifically important for transgender patients includes:
- Gender-related hormonal and surgical interventions
- Reproductive history – including gynecologic and obstetric history
- Family history
- Sexual history
- Psychiatric history
- Social history

PHYSICAL EXAMINATION

- Physical exams should be based on the organs present and the patient's presenting symptoms.
- Transgender patients may be uncomfortable with their bodies and find some elements of physical examination traumatic therefore consider delay until strong clinician- patient rapport has developed.
- In the absence of hormone therapy, findings suggestive of intersex conditions (e.g., congenital adrenal hyperplasia, abnormal androgen synthesis, or Turner syndrome) should be evaluated.

TRANSGENDER WOMEN (MALE TO FEMALE, MTF)

- Feminizing physical changes vary depending on the length of time on hormones.
- Patients may have feminine breast shape and size, often with relatively underdeveloped nipples; breasts may appear fibrocystic if there have been silicone injections.
- Galactorrhea is sometimes seen in patients with high prolactin levels, especially among those using breast pumps to stimulate development.
- There may be minimal body hair and variable facial hair.
- Testicles may become small and soft.
- Defects or hernias at the external inguinal ring may be present due to the practice of "tucking" the testicles up into the inguinal canal.
- Gender-affirming surgical procedures for transgender women include bilateral orchiectomy, penectomy, the creation of a clitoris and neovagina, and breast augmentation.

TRANSGENDER MAN (FEMALE TO MALE, FTM)

- Masculinizing physical changes vary depending on the length of time on hormones.
- These patients may have beard growth, clitoromegaly, acne, and androgenic alopecia.
- Those who have bound their breasts for many years may have rash or yeast infection of the skin under the breasts.
- Gender-affirming surgical procedures for transgender men include oophorectomy, hysterectomy, and vaginectomy. They may also undergo chest reconstruction (including mastectomy), metoidioplasty (creation of a microphallus), or phalloplasty (creation of a neophallus).

LAB STUDIES

- Normal values for transgender patients who are undergoing or have completed gender transition have not been established for any laboratory test.
- In the absence of laboratory determined reference ranges, clinicians should interpret values based on the hormonal status of the patient, noting that this may differ from the lab-reported reference range.
- Transgender women - creatinine may remain elevated above the female upper limit of normal due to preserved muscle mass
- Transgender men on hormone therapy, hematocrit might be expected to be in the male range due to amenorrhea and the erythropoietic effects of testosterone supplementation

SCREENING & PREVENTIVE CARE

- The recommendations for screening and prevention for transgender patients who have not been on hormonal therapy and had no surgery are the same as those of the general population.
- For patients who have received hormones and/or undergone surgery, recommendations for screening and preventive care may depend on the patient's hormonal and surgical status.

CARDIOVASCULAR DISEASE

- Assessing and treating risk factors for CVD is important in transgender patients as hormone therapy may increase cardiovascular risks, particularly in transgender women taking feminizing hormones.
- Management of CV risk factors may decrease the hazards associated with long-term hormone therapy.

SMOKING

- Smoking prevalence is higher among transgender patients compared with the general population.
- Similar to non-transgender patients, encourage smoking cessation.

DIABETES MELLITUS

- Generally follow screening guidelines for non-transgender patients.
- Transgender men with polycystic ovarian syndrome (PCOS) should have diabetes screening.
- Transgender men on testosterone therapy may increase visceral fat and decrease fasting glucose, with little effect on insulin resistance
- Transgender women on estrogen therapy may be at higher risk for diabetes because of increased insulin resistance, weight gain, and an increase in body fat.

POLYCYSTIC OVARIAN SYNDROME

- Similar to natal females, transgender men with PCOS are at increased risk for insulin resistance and hyperlipidemia.
- The evaluation of transgender men with PCOS is similar to non-transgender women.

LIPIDS

- Follow lipid levels yearly in patients taking hormones.
- For transgender women, oral estrogen therapy is known to increase triglycerides (risk of pancreatitis.
- For transgender men, testosterone therapy tends to show a decrease in high-density lipoprotein (HDL) cholesterol, with no changes or, more commonly, increases in low-density lipoprotein (LDL) cholesterol.

OSTEOPOROSIS

- There are no long-term studies of fracture risk.
- Loss of bone density is most likely after gonadectomy in those patients with other risk factors (eg, Caucasian or Asian ethnicity, smoking, family history, high alcohol use, hyperthyroidism) and in those who are not fully adherent to hormone therapy.
- Prevention
  - For patients who have had gonadectomy, estrogen, or testosterone therapy should be continued to reduce the risk of osteoporosis.
  - Advise patients to participate in weightbearing exercise and have adequate calcium and vitamin D intake to limit bone loss, as have been recommended for postmenopausal women.

BREAST CANCER

- There are no studies evaluating routine screening mammography for transgender women receiving hormonal therapy
- Breast cancer risk may increase with a longer length of feminizing hormone exposure and use of progestins.
- Discuss mammography screening with transgender women ≥50 years with additional risk factors for breast cancer (e.g., estrogen and/or progestin use >5 years, positive family history, body mass index [BMI] >35).
- Regardless of testosterone use, the recommendations for screening transgender men with intact breasts for breast cancer are the same as for natal females.

CERVICAL CANCER

- Transgender women - Cervical cancer screening is not necessary in transgender women with a neovagina since it is typically lined with keratinized penile skin.
- Transgender men - Patients with an intact cervix should have cervical cancer screening as recommended for the general population. There is no evidence that testosterone increases or reduces the risk of cervical cancer. However, testosterone may affect the yield of Pap smear testing.
- Screening recommendations are identical to those in non-transgender women who are status post-total hysterectomy.

PROSTATE CANCER

- Like with non-transgender men, discuss the risks and benefits of prostate cancer screening with transgender women.
- The prostate is not removed in feminizing genital surgery.
- Feminizing hormone therapy appears to decrease the risk of prostate cancer to an unknown degree.
- If PSA is checked, it may be falsely low in an androgen-deficient setting, even in the presence of prostate cancer.

SEXUALLY TRANSMITTED INFECTIONS

- The recommendations for screening for sexually transmitted infections (STIs) are the same as those for non-transgendered patients.
- Take a good sexual history, as screening should be based on behaviors and number of sexual partners.
- Screening should also take into account the anatomy of the patient.

BLOODBORNE INFECTIONS

- Needle sharing with injectable hormones (or silicone) is a trans-specific potential risk factor for bloodborne infections, patients need to be educated regarding the risks and safe handling practices of needles and syringes.

SEXUAL FUNCTION

- Transgender men, testosterone therapy may increase libido.
- Transgender women, feminizing hormone therapy may reduce libido, reduce erectile function, and decrease ejaculation.
- Sexual function (libido, arousal, pain with sex, and orgasm) varies following sex reassignment surgery.

FERTILITY

- Transgender individuals who take hormone therapy may limit fertility potential unless hormones are stopped.
- Individuals who undergo transgender genital surgery that includes loss of gonads lose their reproductive potential altogether. Therefore, before starting any treatment, patients should be encouraged to consider fertility issues.
- Transgender men may consider cryopreservation of oocytes or embryos.
- Transgender women may consider sperm cryopreservation (ideally before initiating hormone therapy).

MENTAL HEALTH

- Transgender patients seek mental health services for assessments or referrals for medical or surgical interventions, exploration of identity, and assistance in coping with stressors and dealing with stigma, as well as general mental health concerns.
- Transgender patients have more anxiety, depression, and suicidal ideation and there engage in substance use or higher-risk behaviors at a higher rate than non-transgender patients,
- hormone therapy generally based on informed consent, while a mental health assessment is still required for most surgical procedures.
- Many transgender patients are uncomfortable about the role of behavioral health providers in medical care, which may act as a barrier to care.
- Primary care providers are in a position to be able to use the rapport built with transgender patients to support accessing behavioral health care services when needed

GENDER INCONGRUENCE

- Persistent incongruence between gender identity and external sexual anatomy at birth
- The absence of a confounding mental disorder or other abnormality

GENDER INCONGRUENCE IN CHILDREN

- Repeatedly states desire to be, or insists that he or she is, the other gender
- Preference or insistence upon dressing in clothing stereotypical of opposite gender
- Preference for cross-gender roles in make-believe play
- Persistent fantasies of being the opposite gender
- Intense desire to participate in stereotypical games and with toys of the opposite gender
- Strong preference for playmates of the opposite gender

GENDER INCONGRUENCE IN CHILDREN

- Transgender ideation and expression sometimes dissipates after early childhood; however, if it persists into adolescence, it appears to be an established identity.

GENDER DYSPHORIA

- Defined as the discomfort arising in some individuals from the incongruence between their gender identities and their external sexual anatomy at birth.
- Use the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) to make a diagnosis.
- Core components of the DSM-5 diagnosis of gender dysphoria include longstanding discomfort with the incongruence between gender identity and external sexual anatomy at birth along with interference with social, school, or other areas of function

GENDER DYSPHORIA

- Course and epidemiology
  - Prevalence is estimated at 1 in 30,000 men and 1 in 100,000 women
  - Most are biological males desiring reassignment to the female gender.

GENDER DYSPHORIA IN CHILDREN

Gender dysphoria is not diagnosed unless symptoms of distress emerge.

- Distress with gender identity, depression related to desire to be opposite gender, disgust with one's own genitals, or fear and anxiety related to others learning about their gender identity.

INTERVENTIONS: GENDER DYSPHORIA IN CHILDREN

- Intervention aimed at enhancing culturally appropriate same-gender behaviors, but not necessarily to extinguish all coexisting opposite-gender behaviors
- Emphasis is also given to improvement in social interactions and enhancement of positive self-esteem

TREATMENT OF GENDER DYSPHORIA IN CHILDREN

- Treatment should include evaluation and management of concurrent mental health problems, social support systems, and in later childhood, non-judgmental exploration of the individual's desires with regard to sexual reassignment.
- Behavior modification to assist the child in accepting a culturally appropriate self-image without mental health concerns from discomfort associated with the assigned gender.

GENDER DYSPHORIA IN ADOLESCENTS OR ADULTS

- Individual has self-perception of being of opposite gender
- Does not feel comfortable wearing the clothing of assigned gender and often engage in cross-dressing
- May find his or her own genitals repugnant
- May repeatedly submit requests to health-care system for hormonal and surgical gender reassignment
- Depression and anxiety are common.

TREATMENT OF GENDER DYSPHORIA IN ADOLESCENTS OR ADULTS

- There is evidence that the longer people live with gender dysphoria before seeking treatment, the greater likelihood of suicide attempts and completions.
- Some seek therapy to learn how to cope with altered sexual identity.
- Some desire hormonal therapy and surgical gender reassignment.

HORMONAL THERAPY

- Transgender men (female-to-male, FTM), Transgender women (male-to-female, MTF)
- The goal of transgender hormone therapy is to induce physical changes to match gender identity
- Criteria for starting hormone therapy include:
  - Persistent, well-documented gender dysphoria/gender incongruence
  - Capacity to make a well-informed decision
  - Relevant medical or mental health issues are well controlled
- Transgender treatment that includes hormonal therapy results in significant improvement in quality-of-life and psychosocial outcomes.
- Clinical monitoring of transgender women on hormone therapy should occur approximately every three months during the first year with each hormone regimen adjustment

TESTOSTERONE THERAPY

- Transgender men (female-to-male, FTM) **-** There are many available testosterone preparations and routes of administration including injectables, gels, and buccal tablets.
- Higher testosterone levels are more easily achieved with parenteral therapy

ANDROGEN SUPPRESSION THERAPY

- Transgender women (male-to-female, MTF)
- Antiandrogens — Spironolactone, a mineralocorticoid receptor antagonist, is the most widely used drug in the United States for transgender women.
- Progestins — While progestins such as medroxyprogesterone acetate (MPA) are sometimes used as a strategy to suppress gonadotropins and, therefore, testosterone secretion
- GnRH agonists — Long-acting gonadotropin-releasing hormone (GnRH) agonists, used parenterally, inhibit gonadotropin secretion and, as a result, suppress testicular testosterone production with few adverse

ESTROGEN THERAPY

- Transgender women (male-to-female, MTF) - The usual approach includes estrogen therapy to help suppress endogenous androgen secretion and to replace it with estrogen.
- 17-beta-estradiol is the most commonly prescribed.
- Transdermal estrogen has been associated with a lower risk of VTE and stroke than oral estrogens in postmenopausal women.
- Oral formulations, which are considerably less expensive than transdermals, are typically used in transgender women as they tend to be at low risk for VTE.
- Transgender women with testis intact will require relatively high doses of estrogens to suppress testosterone into the female range, even with an adjunct antiandrogen agent.

CLINICAL OUTCOMES: TRANSGENDER MEN

- Masculinizing effects
- Hair – The development of sexual hair follows the pattern observed in pubertal boys: first the upper lip, then chin, then cheeks. The degree of hair growth might be predicted from the pattern in male members of the same family. The same applies to the occurrence of androgenetic alopecia, "male-pattern baldness."
- Voice – Deepening of the voice may occur due to oropharyngeal growth and may be irreversible.
- Body composition – Androgen administration leads to a reduction in subcutaneous fat but increases in abdominal fat. The increase in lean body mass is on average 4 kg, and the increase in body weight may be greater.

CLINICAL OUTCOMES: TRANSGENDER MEN

- Acne – Acne occurs in approximately 40 percent, similar to that observed in hypogonadal men starting androgen treatment past the age of normal puberty.
- Clitoral enlargement – Clitoral enlargement occurs in all, but the degree varies.
- Sexual desire – Most subjects will note an increase in sexual desire
- Breasts – Androgen administration may cause a decrease in glandular tissue

CLINICAL OUTCOMES: TRANSGENDER WOMEN

- Feminizing effects
- Sexual hair – Adult male beard growth is very resistant to inhibition by combined hormonal intervention and, especially in individuals with European ancestry, additional measures such as laser hair removal or electrolysis to eliminate facial hair are usually necessary.
- Breast development – Breast formation starts almost immediately after initiation of estrogen administration and decreased androgen levels; breast development is typically maximal at two years. Some transgender women may report nipple tenderness and discomfort during the period of breast growth. Androgens have an inhibitory effect on breast formation, and therefore, estrogens will be most effective in a milieu devoid of androgen action.
- Skin – Androgen deprivation leads to a decreased activity of the sebaceous glands and may result in dry skin or brittle nails.

CLINICAL OUTCOMES: TRANSGENDER WOMEN

- Body composition – Following androgen deprivation, there is an increase in subcutaneous fat and a decrease in lean body mass. Body weight usually increases.
- Testes – Atrophy of the testes (if not surgically removed) occurs over many years. Lacking gonadotropic stimulation, the testes become atrophic and may occasionally enter the inguinal canal, which may cause discomfort.
- Prostate – Atrophy of the prostate also occurs over many years.
- Voice – Antiandrogens and estrogens have no effect on the properties of the voice, so transgender women may choose to consult a specialized phoniatric center for speech therapy. Speech therapy may lead to more feminine speech Laryngeal surgery is reported by some to change the pitch of the voice but reduces its range.
- Sexual function – Feminizing hormone therapy may reduce sexual desire, reduce erectile function, and decrease ejaculation among transgender women.

GENDER CONFIRMATION SURGERY

- Gender confirmation surgery (also referred to as gender-affirming surgery) is often the last and most considered step in the treatment process.
- Individuals can and do live successfully in their preferred gender role without genital surgery.
- Same criteria for hormone therapy plus one year of continuous hormone therapy and living in the desired gender role is expected, unless it has been determined the hormone therapy is not medically indicated.
- This criterion is not required for surgeries like chest reconstruction or other nongenital surgeries.

GENDER CONFIRMATION SURGERY: TRANSGENDER WOMEN

- There are three categories of gender confirmation surgery for transgender women:
  - Facial feminization surgeries are sometimes performed to create more feminine features.
  - Some individuals choose to have breast augmentation, but there is no consensus on the optimal timing of the procedure.
  - Finally, for some transgender women, genital reconstruction surgery may be desired. Aspects of genital surgery include a bilateral orchiectomy performed to remove the main source of endogenous testosterone. In addition to gonadectomy, other procedures can include penectomy and vaginoplasty.
- After gender-affirming genital surgery that includes orchiectomy, antiandrogen therapy may be discontinued.

GENDER CONFIRMATION SURGERY: TRANSGENDER MEN

- As expected for those transgender men with a neophallus, there is a correlation between sexual function and the quality of the neophallus.
- While not all transgender persons are orgasmic after a neophallus is created, many report sexual satisfaction.
- Transgender men receiving androgens generally report an increase in sexual interest.

GENDER CONFIRMATION SURGERY

- Regrets sometimes occur after gender confirmation surgery
- Although regrets are rare, they do occur. Regrets are seen more often in those with difficulty in transitioning their appearance or limited social skills.

CASE STUDY #1

- PENDING

CASE STUDY #2

- PENDING

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