

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
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GOALS

- ✓ Assess transgender patients for Gender Dysphoria (GD).
- ✓ Monitor patient's psychological well being and functioning.
- ✓ Maintain sex hormone levels that are safe and appropriate for the desired gender when hormones are prescribed for GD.

ALERTS

- ◆ Co-occurrence of mental health disorders (e.g., borderline personality disorder, psychosis, factitious disorder, malingering)
- ◆ Self-harm behaviors
- ◆ Suicidal ideation, gestures, and attempts (often associated with co-occurring borderline personality disorder or depression)
- ◆ Risk of sexual coercion or assault, threatened or actual
- ◆ Medical conditions exacerbated by GD hormone therapy

DIAGNOSTIC CRITERIA¹ In this care guide we will use: **MTF Transwoman** for male-to-female / **FTM Transman** for female-to-male

Introduction: The term “transgender” is generally used to describe a diverse group of individuals whose gender identity or expression differs from that assigned at birth.² Gender dysphoria refers to discomfort or distress that is caused by a discrepancy between a person's gender identity and that person's sex assigned at birth.³ **Not all transgender individuals will have GD.⁴** **DSM-5 Gender Dysphoria** diagnostic criteria include:

- A marked incongruence between one's experienced/expressed gender and assigned (natal) gender of at least six months duration as manifested by at least two of the following:
 - A marked incongruence between one's experienced/expressed gender and primary and/or secondary sex characteristics
 - A strong desire to be rid of one's 1⁰ and/or 2⁰ sex characteristics b/c of a marked incongruence w/one's experienced/expressed gender
 - A strong desire for the primary and/or secondary sex characteristics of the other gender
 - A strong desire to be of the other gender (or some alternative gender different from one's designated gender)
 - A strong desire to be treated as the other gender (or some alternative gender different from one's designated gender)
 - A strong conviction one has typical feelings/reactions of the other gender (or alternative gender different from one's designated gender)
- The condition is associated with clinically significant distress or impairment in social, occupational, or other important areas of functioning.

EVALUATION

MENTAL HEALTH (MH)

- Assess self-identified transgender patients for GD (Pg. 4); enter the GD diagnosis on the Problem List.
- Rule out co-occurring MH disorders and/or mimics of GD.
- If the patient desires gender affirming hormones, refer to the primary care provider (PCP), if not previously completed.
- Encourage the patient to join a transgender support group, if available.

MEDICAL

- Perform history - focus on past medical history and history of GD hormones/surgery, include review of MH assessment (Pg. 5).
- Perform physical exam (PE)-focus on special considerations (Pg. 6).
- Order baseline labs and manage conditions, if present, before starting hormone therapy (Pg. 6).
- Screen for HIV and HCV; consider risk assessment and screening for asymptomatic sexually transmitted infections (STIs) based on behavioral history/sexual practices.
- Ensure the World Professional Association for Transgender Health (WPATH) criteria is met to be eligible for hormone therapy (Pg. 7).

TREATMENT

PRE-HORMONE THERAPY (for patients who request hormones)

- Discuss realistic goals and expectations of hormone therapy (MTF Pg. 8, FTM Pg. 20).
- Review baseline labs (MTF Pg. 9, FTM Pg. 21).
- Evaluate for contraindications to therapy (MTF Pg. 10, FTM Pg. 21)
- Inform the patient of the risks/benefits of hormone therapy (MTF Pg. 10, FTM Pg. 22) and obtain informed consent using a CDCR 7528 (MTF Transwoman) or CDCR 7528-1 (FTM Transman).

SOCIAL/ENVIRONMENTAL/HOUSING

- Refer to an MH clinician if available and advise the patient to contact a Correctional Counselor for housing and gender appropriate allowable clothing and personal property (MTF Pg. 11, FTM Pg. 22).

HORMONE MEDICATIONS

- **MTF:** Estrogen/Androgen blockers (Pg. 13) **FTM:** Testosterone (Pg. 24).

GENDER AFFIRMING SURGERY

- Referral if the patient requests and referral criteria met per guidelines (Pg. 29).

MONITORING

MENTAL HEALTH

- Assess as clinically indicated for depression and other conditions

MEDICAL

- Monitor Labs as indicated (MTF Pg. 15, FTM Pg. 25)
- Ask patients about hormone effects, sexual activity, mental health, lifestyle, psychosocial issues, etc. (MTF Pg. 16, FTM Pg. 26)
- Ensure routine preventive screening as needed for patient's anatomy (MTF Pg. 17, FTM Pg. 27)
- Treatment for patients with special circumstances (MTF Pg. 18, FTM Pg. 27)

Information contained in the Care Guide is not a substitute for a health care professional's clinical judgment. Evaluation and treatment should be tailored to the individual patient and the clinical circumstances. Furthermore, using this information will not guarantee a specific outcome for each patient. Refer to "Disclaimer Regarding Care Guides" for further clarification.

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SUMMARY

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PATIENT EDUCATION/SELF MANAGEMENT

Initial Presentation of Transgender Patient – Pg. 4

- If the patient newly identifies and wishes to pursue hormone therapy, refer to MH for a GD assessment.
- If the patient arrives at CDCR on hormones, continue hormones at current doses if in line with current National Guidelines and refer to MH for GD assessment.

Initial Evaluation for Hormone Therapy**1 | Pg. 4****MH Assessment**

- Rule out co-occurring MH disorders and/or mimics of GD
- Assess for GD
- Refer the patient to the PCP if the patient has GD and wishes to be on hormones
- Encourage the patient to join a transgender support group, if available

2A | Pg. 5**Medical Provider History**

- Perform History - Focus on past medical history, history of GD hormones/surgery, etc.
- Review MH Assessment - GD diagnosis and psychiatric history

2B | Pg. 6**Medical Provider Physical Exam**

- Unless an immediate medical need, sensitive elements of the exam (breast, pelvic, and rectal) can be delayed until provider-patient rapport has developed
- Perform a routine physical examination - Focus on special considerations, etc.

3 | Pg. 6**Baseline Labs**

- Order labs and manage conditions, if present, before starting hormone therapy
- Screen for HIV, HCV, HBV
- Consider risk assessment and screening for asymptomatic STIs based on behavioral history and sexual practices

4 | Pg. 7**Eligibility For Hormone Therapy**

- Ensure the patient is eligible for hormone therapy using WPATH criteria

Reference Below When Indicated

Treatment and Monitoring**5 | MTF Pg. 8****5 | FTM Pg. 20****Goals & Expectations**

- Review the realistic goals of hormone therapy
- Help the patient understand that changes are individual

6 | MTF Pg. 9**6 | FTM Pg. 21****Baseline Labs**

- Review baseline labs to determine any current health/previous health problems that may pose risk to therapy

7 | MTF Pg. 10**7 | FTM Pg. 21****Contraindications & Risks**

- If any absolute contraindications are present, do not continue with hormone therapy
- Review potential risks with patients that are at very high or moderate to high risk of adverse effects

8 | MTF Pg. 10**8 | FTM Pg. 22****Adverse Effects & Consent**

- Discuss the potential risks and benefits of hormone therapy
- Obtain consent using CDCR 7528 (MTF Transwoman) or CDCR 7528-1 (FTM Transman)

9 | MTF Pg. 11**9 | FTM Pg. 22****Social/Environmental**

- Offer referral to an MH clinician
- Inform the patient to work with a Correctional Counselor to obtain appropriate housing and accommodations

10 | MTF Pg. 12**10 | FTM Pg. 23****Order Medications**

- Review common approaches and titration of hormones
- Use appropriate MTF/FTM Transgender PowerPlan

11 | MTF Pg. 15**11 | FTM Pg. 25****Monitoring and Follow-Up**

- Monitor physical, labs, and hormone levels
- Follow-up on the patient's hormone effects, lifestyle, and psychosocial impacts

12 | MTF Pg. 17**12 | FTM Pg. 27****Preventive Screening**

- Conduct preventive screening, as clinically indicated

MTF Pg. 18**FTM Pg. 27****Special Circumstances**

See recommended treatment for patients with special circumstances

MTF Pg. 19**FTM Pg. 28****Refer to Specialist**

Refer patient to a Transgender Specialist or Endocrinologist, as clinically indicated

Pg. 29**Consideration for Gender Affirming Surgery**

Referral if desired and referral criteria met per guidelines

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DEFINITIONS		
Sex	GLAAD Media Reference Guide: The designation of a person as male, female, or intersex. At birth, infants are often assigned a sex, usually based on the appearance of their external anatomy (this is what is written on the birth certificate). A person's sex, however, is actually a combination of bodily characteristics including: chromosomes, hormones, internal and external reproductive organs, and secondary sex characteristics. ⁵	
Gender Identity	WPATH: A person's intrinsic sense of being male (a boy or a man), female (a girl or woman), or non-binary gender. ³ CDCR DOM: Distinct from sexual orientation and refers to a person's internal, deeply felt sense of being male or female.	
Gender Expression or Role	WPATH: Characteristics in personality, appearance, and behavior that in a given culture and historical period are designated as masculine or feminine (that is, more typical of the male or female social role). While most individuals present socially in clearly male or female gender roles, some people present in a non-binary gender expression. All people tend to incorporate both masculine and feminine characteristics in their gender expression in varying ways and to varying degrees. ³ CDCR DOM: A person's expression of his/her gender identity, including appearance, dress, mannerisms, speech, and social interactions.	
Gender Non-Conforming	GLAAD Media Reference Guide: A term used to describe some people whose gender expression is different from conventional expectations of masculinity and femininity. Please note that not all gender non-conforming people identify as transgender; nor are all transgender people gender non-conforming. Many people have gender expressions that are not entirely conventional – that fact alone does not make them transgender. Many transgender men and women have gender expressions that are conventionally masculine or feminine. Simply being transgender does not make someone gender non-conforming. The term is not a synonym for <i>transgender</i> or <i>transsexual</i> and should only be used if someone self-identifies as gender non-conforming. ⁵ CDCR DOM: Gender characteristics and/or behaviors that do not conform to those typically associated with a person's biological sex.	
Transgender (adj.)	WPATH: Adjective to describe a diverse group of individuals who cross or transcend culturally-defined categories of gender. The gender identity of transgender people differ to varying degrees from the sex they were assigned at birth. ³ CDCR DOM: Means a person whose gender identity is different from the person's assigned sex at birth.	
Transgender man/transman	UpToDate: Person with a masculine gender identity who was assigned a female sex at birth. ^{6,7}	
Transgender woman/transwoman	UpToDate: Person with a feminine gender identity who was assigned a male sex at birth. ^{6,7}	
Transition	GLAAD Media Reference Guide: Altering one's birth sex is not a one-step procedure; it is a complex process that occurs over a long period of time. Transition can include some or all of the following: personal, medical, and legal steps; telling one's family, friends, and co-workers; using a different name and new pronouns; dressing differently; changing one's name and/or sex on legal documents; hormone therapy; and possibly (though not always) one or more types of surgery. The exact steps involved in transition vary from person to person. Avoid the phrase "sex change". ⁵	
Gender Dysphoria	WPATH: Distress that is caused by a discrepancy between a person's gender identity and that person's sex assigned at birth (and the associated gender role and/or primary and secondary sex characteristics). ³	
OTHER TERMS YOU MAY SEE		
Cisgender	GLAAD Media Reference Guide: A term used by some to describe people who are not transgender. "Cis-" is a Latin prefix meaning "on the same side as," and is therefore an antonym of "trans-." A more widely understood way to describe people who are not transgender is simply to say <i>non-transgender people</i> . ⁵ Gender corresponds with birth sex. ⁵	
Non-binary and/or Genderqueer	GLAAD Media Reference Guide: Terms used by some people who experience their gender identity and/or gender expression as falling outside the categories of man and woman. They may define their gender as falling somewhere in between man and woman, or they may define it as wholly different from these terms. The term is not a synonym for transgender or transsexual and should only be used if someone self-identifies as non-binary and/or genderqueer. ⁵	
Intersex	CDCR DOM: An individual born with external genitalia, internal reproductive organs, chromosome patterns, and/or endocrine systems that do not seem to fit typical definitions of male or female. A morphological and physiological anomaly where an individual is born with "congenital conditions in which development of chromosomal, gonadal, or anatomical sex is atypical". In essence, the reproductive organs differ from those typically associated as being male or female (e.g., ambiguous genitalia, etc.) AKA Disorders of Sex Development (DSD). Hermaphrodite is an outdated term.	

SUMMARY

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PATIENT EDUCATION/SELF MANAGEMENT

INITIAL PRESENTATION OF TRANSGENDER

Many transgender people may avoid seeking or continuing care due to prior discrimination or disrespect in a clinic setting.⁸ As such, it is essential to provide a welcoming clinic environment to ensure CCHCS transgender patients are comfortable seeking care when issues arise and also when returning for scheduled follow-up visits. Often, transgender patients will first present to medical for treatment of GD by requesting hormone therapy.

- PCPs should refer to transgender patients by their preferred name and pronouns (MTF Transwoman: She, her, hers; FTM Transman: He, him, his, etc.; Non-binary gender identity: they, them, theirs etc.). Ask the patient, "What pronouns do you use?"^{5,8}
- Not all individuals identifying as transgender have GD. That said, many clinicians report that most transgender individuals experience some degree of dysphoria in the absence of treatment. Without treatment, this population may experience higher rates of depression, anxiety, and suicidality.⁴
- If a patient newly self-identifies as transgender, initial referral to MH is done to evaluate for GD, then referral to the PCP for evaluation for hormone therapy, if desired. The patient's PCP can typically complete the evaluation and order labs and is able to start and manage hormone therapy. Alternatively, the patient can be referred to a contracted provider (typically an endocrinologist) via telemedicine.

STEP 1: MENTAL HEALTH ASSESSMENT^{6, 7}

The patient should receive an MH assessment for GD before considering starting gender affirming treatment. Typically the following areas are covered:

- ♦ **HISTORY** - The MH clinician rules out co-occurring MH disorders that may complicate GD treatment. In addition, the MH clinician rules out mimics of GD, including factitious disorder, borderline personality, malingering and psychosis, and will assess the patient for the following:
 - ⇒ Patient's history of MH diagnoses (past and present)
 - ⇒ Presence of MH diagnoses that mimic GD or contribute to the patient's dysphoria
 - ⇒ Relevant background information on GD
 - ⇒ Abuse and neglect history
 - ⇒ Substance Use Disorder (past and present)
 - ⇒ Trauma/PTSD
 - ⇒ Psychological conditions which may preclude medical treatment of GD
 - Self-injurious behaviors
 - Suicidal behaviors (including ideation, gestures, or attempts)
 - Potential sexual violence or related violent behaviors
- ♦ **DIAGNOSIS** - According to the American Psychiatric Association (APA), the name change to GD, rather than Gender Identity Disorder "remove(s) the connotation that the patient is 'disordered'." The change... offer(s) a diagnostic name that is more appropriate to the symptoms and behavior..."¹
 - ⇒ **DSM-5 Gender Dysphoria** diagnostic criteria include:¹
 - A marked incongruence between one's experienced/expressed gender and assigned (natal) gender of at least 6 months in duration, as manifested by at least 2 of the following:
 - ♦ A marked incongruence between one's experienced/expressed gender and primary and/or secondary sex characteristics
 - ♦ A strong desire to be rid of one's primary and/or secondary sex characteristics because of a marked incongruence with one's experienced/expressed gender
 - ♦ A strong desire for the primary and/or secondary sex characteristics of the other gender
 - ♦ A strong desire to be the other gender (or some alternative gender different from one's designated gender)
 - ♦ A strong desire to be treated as other gender (or some alternative gender different from assigned gender)
 - ♦ A strong conviction that one has the typical feelings and reactions of the other gender (or some alternative gender different from one's assigned gender)
 - The condition is associated with clinically significant distress or impairment in social, occupational, or other important areas of functioning.
- ♦ Following the MH assessment, if the patient is found to have GD and wishes to pursue treatment, refer the patient to the PCP for evaluation for hormone use.
- ♦ Encourage the patient to join a transgender support group, if available.

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INITIAL EVALUATION FOR HORMONE THERAPY

STEP 2A: MEDICAL PROVIDER - HISTORY⁹

Transgender patients are evaluated much like any other patient. Below are some targeted history elements that should be obtained for these patients. These patients frequently had challenging experiences attempting to obtain health care and may be understandably sensitive when staff do not address them with their preferred name and/or pronouns.

Many patients have experienced trauma in their lives and utilizing the five guiding principles of trauma informed care (safety, choice, collaboration, trustworthiness, and empowerment) can help the patient feel safer in the health care setting and result in a better patient-provider interaction.

History is focused on determining the safety of prescribing (or continuing) gender affirming hormones as well as identifying and treating any existing STIs.

HISTORY– The PCP rules out medical mimics of GD, including adrenalizing syndromes, chromosomal abnormalities, and conditions that preclude hormone therapy. Otherwise, the approach to taking history is similar to that of non-transgender patients, but should specifically include:

- ◆ **Detailed past medical history (PMH)**, assessing for coronary artery disease or cerebrovascular disease, arterial or venous thromboembolism (VTE)/pulmonary embolism, liver disease, hypertension, diabetes (DM), breast or uterine cancer, erythrocytosis (FTM Transman), pituitary adenomas (MTF Transwoman), Human Immunodeficiency Virus (HIV) testing and/or infection with other STIs.
- ◆ **Gender-related hormonal and surgical interventions**
 - ⇒ Past hormone use or body modifications:
 - Medically supervised or unsupervised (from internet or street)
 - Injectable silicone
 - ⇒ Current status. Enter all GD-related surgeries in “Procedures” - EHRS, if not already noted.
 - ⇒ Plans to pursue gender affirming hormone therapy or gender affirming surgery
- ◆ **Reproductive history** (can be a sensitive issue for GD patients)
 - ⇒ GYN and OB histories are important in FTM Transmen (pregnancy is a contraindication to testosterone use)
 - ⇒ Fertility and birth control
 - FTM Transmen who are sexually active with partners w/sperm; review contraceptive options (progesterone -only oral contraceptive or IUD)
 - MTF Transwomen sexually active with partners who may become pregnant; consider barrier methods, etc.
 - ⇒ History of polycystic ovarian syndrome (PCOS) and hyperandrogenism prior to transitioning
- ◆ **Sexual history** (can also be a sensitive issue for patients and should be initiated gradually)
 - ⇒ Sexual history should cover:
 - Sexual function, unprotected receptive, both consensual and nonconsensual, anal intercourse
 - STIs (including HIV, Human Papillomavirus, etc.)/sex work
 - Unintended pregnancy (FTM Transman)
- ◆ **Sexual risk assessment**
 - ⇒ Current or previous male, female, or transgender partners
 - ⇒ Assess current STI status and if possible, future STI risk
- ◆ **Social History**
 - ⇒ Substance abuse (can lead to high-risk sexual behavior resulting in HIV and STIs)
 - ⇒ Refer to MH clinician for:
 - Social isolation, rejection by family or community of origin
 - Harassment or discrimination; ensure the patient works with custody if there are any safety concerns
- ◆ **Family History**
 - ⇒ Any cancer, cardiovascular disease, DM, blood clotting disorders, or liver disease
 - ⇒ FTM Transmen with known or suspected genetic mutations for breast or ovarian cancer should be referred for genetic counseling
- ◆ **CDCR 7385, Authorization for Release of Protected Health Information (ROI)**
 - ⇒ Ensure continuity of care from the community by obtaining applicable health records, when appropriate.

REVIEW MH EVALUATION

- ◆ See MH Evaluation on Page 4.
- ◆ **Diagnosis of GD:** Confirm the patient has a diagnosis of GD (if requesting hormone therapy).

Note: Be sure to enter GD-related diagnoses in the Consolidated Problems section of the EHRS PCP Workflow, if not already done. See page 7 for diagnoses.

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT				
INITIAL EVALUATION FOR HORMONE THERAPY						
STEP 2B: MEDICAL PROVIDER - PHYSICAL EXAM						
<p>PHYSICAL EXAM – Regardless of the gender identity of the patient, PEs should be based on the external and internal sex organs present and the patient’s presenting symptoms. Transgender patients may be uncomfortable with their bodies and find aspects of the PE traumatic.</p> <ul style="list-style-type: none">◆ Unless there is an immediate medical need, sensitive elements of the exam (particularly breast, pelvic, and rectal exams) can be delayed until the provider-patient rapport has developed.◆ A complete PE, breast, and genital exam is not required for the initiation of hormone therapy, but its importance in screening for health problems and a plan for a future examination/evaluation should be discussed. The PE should always follow a patient-centered approach, keeping in mind that some patients may have extreme discomfort with their bodies and find some elements of a PE traumatic.◆ Patients who have undergone gender affirming surgery may have varying PE findings depending on the procedures performed, approaches used, and occurrence of complications.◆ In addition to a routine PE, please note the following:<ul style="list-style-type: none">⇒ MTF Transwoman Special Considerations: Genitourinary:<ul style="list-style-type: none">◇ <u>Tucking of testicles and penis</u> - May lead to hernias/other complications at the external inguinal ring or skin breakdown at the perineum. A thorough history and education is recommended for all MTF Transwomen.◇ <u>Vaginal exams in post-surgical MTF Transwomen</u>⁸ - The anatomy of a neovagina created in a MTF Transwoman 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. As such, using an anoscope may be a more anatomically appropriate approach for a visual examination. The anoscope can be inserted, the trocar removed, and the vaginal walls visualized collapsing around the end of the anoscope as it is withdrawn.⇒ FTM Transman Special Considerations: Genitourinary:<ul style="list-style-type: none">◇ <u>Conducting a pelvic examination with FTM Transmen</u>⁸<ul style="list-style-type: none">• The pelvic exam may be a traumatic and anxiety inducing procedure for FTM Transmen and other trans-masculine persons. FTM Transmen patients are less likely to be up to date on cervical cancer screenings and have a higher rate of inadequate cytologic sampling.• Should the patient express distress or concern about the examination, it may be deferred until a later date once a trusting relationship has been developed.• Various techniques can be used to make a pelvic examination (including bimanual and/or speculum exam) less uncomfortable such as:• Discuss procedures with the patient beforehand including the order in which steps will occur and reminding the patient that the exam can be stopped at any time at their request.◆ When appropriate and indicated, findings suggestive of intersex conditions (e.g., ambiguous genitalia, etc.) should be evaluated by an endocrinologist (e.g., clitoromegaly patient with female phenotype). MTF Page 19, FTM Page 28						
STEP 3: ORDER BASELINE LABS						
<p>Laboratory tests should reveal any existing health problems such as liver dysfunction, high cholesterol, or DM. If present, these conditions should ideally be managed prior to starting hormones. The values will also provide a useful baseline to help with future monitoring for endocrine changes.</p> <ul style="list-style-type: none">• Screen all transgender people at least once for HIV. After initial screening of all patients, a repeat screening is based on HIV risk assessment. Effective risk assessment requires the ability to obtain an accurate sexual history that includes anatomy-specific sexual behavior.¹⁰• Screen for the hepatitis B virus (HBV), gonorrhea, chlamydia, and syphilis.• Screen for the hepatitis C virus (HCV) risk factors and do antibody screen per current guidelines.• Consider risk assessment and screening for asymptomatic STIs based on behavioral history and sexual practices. Screening intervals should be based on risk, with screening every three months in individuals at high risk (multiple partners, condomless sex, transactional sex/sex work, sex while intoxicated).						
BASELINE LABS IN ADDITION TO ABOVE						
<table><tr><th>All Patients</th><th>MTF Transwoman Only</th></tr><tr><td><ul style="list-style-type: none">• CBC, serum creatinine and potassium• Liver function tests (LFTs)• A1C (if diabetic)• Fasting glucose (if family history of DM)</td><td><ul style="list-style-type: none">• Fasting lipid panel• Total testosterone level• Estradiol level• Thyroid Stimulating Hormone (TSH)• Prolactin level</td></tr></table>			All Patients	MTF Transwoman Only	<ul style="list-style-type: none">• CBC, serum creatinine and potassium• Liver function tests (LFTs)• A1C (if diabetic)• Fasting glucose (if family history of DM)	<ul style="list-style-type: none">• Fasting lipid panel• Total testosterone level• Estradiol level• Thyroid Stimulating Hormone (TSH)• Prolactin level
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SUMMARY

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PATIENT EDUCATION/SELF MANAGEMENT

INITIAL EVALUATION FOR HORMONE THERAPY

STEP 4: ELIGIBILITY FOR GENDER AFFIRMING HORMONE THERAPY^{3,4}

Although the decision to implement treatment with hormones for a transgender person is individualized, there are common guidelines. These guidelines are designed to maximize the safety of the patient, fulfill the legal and ethical requirements of the PCP, and reduce the possibility of inappropriate treatment.

WPATH Criteria: Identifies four eligibility criteria for hormone therapy but also emphasizes the need for individualized treatment plans that may include hormone therapy in selected cases that do not meet all four criteria. The WPATH criteria are as follows:

1. Gender Dysphoria that is persistent and documented
2. Medical and/or mental health conditions, if present, are reasonably well-controlled
3. Legal age of majority (18 years in California)
4. Informed consent

The presence of coexisting mental health concerns does not necessarily preclude access to feminizing/masculinizing hormones; rather, these concerns need to be managed prior to, or concurrent with, treatment of GD.

Ensure the absence of absolute contraindications to hormone therapy. MTF Page 10, FTM Page 21

CDCR HOUSING

Transgender patients in CDCR have traditionally been housed in a male or female institution based on their external genitalia. Once a patient has undergone gender affirming genital surgery they may possibly be moved to an institution in line with their gender identity depending on surgical recovery, safety, and security requirements.

Current California legislation may allow patients in the California prison system to be housed based on gender identity without requiring genital surgery to occur. CDCR is currently working on processes to ensure alignment with the law.

As gender identity becomes more fluid and the new law takes effect, PCPs will need to be aware that patients may be housed at an institution different than that of their sex at birth and that these patients may require cancer and other screening different from the majority of the patients at that institution. For example, a transman at a male institution may likely still require mammography screening and would require cervical screening if the cervix is still present.

DIAGNOSES IN EHRS

The following “Diagnoses” are available in the EHRS to help document patient’s condition/status, in addition to GD that would typically be listed.

Term	Code
Endocrine disorder in female-to-male transgender person	61491908
Endocrine disorder in male-to-female transgender person	61491873
Female-to-male transgender person	61491874
Hormonal imbalance in transgender patient	1525569
Male-to-female transgender person	61491875
Transgender	10067958
Transgender with history of sex reassignment surgery	68837711
Transgender, S/P sex reassignment surgery	68837718
Transgender, status post sex reassignment surgery	68837739

Note:

Thus far the evaluation of patients has been the same for MTF Transwomen and FTM Transmen. In the following pages, the steps for the treatment and monitoring of transgender patients are divided into two sections: MTF Transwoman (Pages 8-19) and FTM Transman (Pages 20-28).

SUMMARY

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TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)

STEP 5: MTF TRANSWOMAN THE GOALS AND EXPECTATIONS OF HORMONE THERAPY

The PCP should cover the following topics when discussing gender affirming hormone therapy with patients.

♦ **What are the goals of hormone therapy?**

Patients need to have realistic goals of what may be accomplished with hormone therapy. In the past, some patients have had the mistaken belief that changes will occur quickly and have had unrealistic expectations of what changes will occur. When disappointed with the timing or degree of changes, some patients have wanted to increase the dose of their hormone beyond what is considered to be a safe dose range.

Expected Effects of Feminizing Hormones (Estrogen and Androgen Blockers)

General effects include:

- Suppress endogenous birth-gender hormone production
- Induce secondary sex characteristics of new gender
 - Breast development (usually to Tanner stage 2 or 3)
 - Redistribution of facial and body subcutaneous fat
 - Reduction of muscle mass
 - Reduction of body hair (and to a lesser extent, facial hair)
 - Change in sweat and odor patterns
 - Arrest and possible reversal of scalp hair loss
 - Changes in emotional and social functioning
- Feminizing hormones do not affect the pitch of the voice in MTF Transwomen

Sexual and gonadal effects include:

- Reduction in erectile function
- Changes in libido
- Reduced or absent sperm count and ejaculatory fluid
- Reduced testicular size

♦ **What is the expected timing of the response?**

Help the patient understand that changes are individual and will take place over months to years, with most changes being complete by 3 years of treatment.

Increased doses beyond max recommended dose is not indicated and will not result in additional changes.

**Time Needed To See Feminizing Effects Of Medication
(Estrogen & Androgen Blockers)¹¹**

Effect	Onset	Maximum
Redistribution of body fat	3-6 months	2-3 years
Decrease in muscle mass and strength	3-6 months	1-2 years
Softening of skin/decreased oiliness	3-6 months	Unknown
Decreased sexual desire	1-3 months	3-6 months
Decrease 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	Variable	-----
Voice changes	None	-----

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TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)		
STEP 6: MTF TRANSWOMAN REVIEW BASELINE LABS ¹²		
Obtain the following baseline labs to determine the patient's current health and identify any health problems that may pose immediate or future risk to estrogen therapy.		
CBC, Serum Creatinine, and Potassium	<ul style="list-style-type: none"> Estrogens inhibit erythropoiesis; hemoglobin and hematocrit (H&H) may drop after initiating estrogen therapy. For patients using spironolactone, serum potassium and renal function should be monitored for development of hyperkalemia. 	
Liver Function Tests (LFTs)	<ul style="list-style-type: none"> Estrogen use may be associated with transient liver enzyme elevations and rarely clinical hepatotoxicity. Seek consultation if increase LFTs $\geq 3x$ baseline. Estrogen use increases the risk of cholelithiasis and subsequent cholecystectomy. 	
A1C (If diabetic) Fasting Glucose (If family history of DM)	<ul style="list-style-type: none"> The effect of hormone therapy on DM risk/disease course is unclear. A study of the effects of gender affirming hormones on insulin resistance found that MTF Transwomen may experience some increase in markers of insulin resistance. WPATH Standards of Care recommend that conditions such as DM be "reasonably well controlled" prior to initiating hormone therapy. 	
Fasting Lipid Panel (Based on USPTF Guidelines)	<ul style="list-style-type: none"> Oral estrogen use may markedly increase triglycerides in patients, increasing the risk of pancreatitis and cardiovascular events. Different routes of administration will have different metabolic effects on levels of HDL cholesterol, LDL cholesterol. 	
Thyroid Stimulating Hormone	<ul style="list-style-type: none"> Estrogen is known to increase serum thyroid-binding globulin concentration which may cause reduction in free thyroxine available for hormone activity. This will lead to an increase in serum TSH. 	
Testosterone Level (Total)	<ul style="list-style-type: none"> The normal range of total testosterone levels is 250-1000 ng/dL in sex at birth males age 18-69. The goal for MTF Transwoman is to suppress testosterone level to less than 50-55 ng/dL. 	
Estradiol Level	<ul style="list-style-type: none"> For adult sex at birth male, estradiol level is between 25-50 pg/ml. The goal for MTF Transwoman is 100-200 pg/ml. 	
Prolactin Level	<ul style="list-style-type: none"> Normal sex at birth male level is 2-25 ng/mL. Estrogen therapy can increase the growth of pituitary lactotroph cells. If increased, consult with an Endocrinologist whether to continue estrogen or not. If persistently elevated, consider possible pituitary adenoma; obtain an MRI. Note: Psychotropic meds can increase prolactin. 	

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TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)		
STEP 7: MTF TRANSWOMAN CONTRAINDICATIONS AND POTENTIAL RISKS OF HORMONE THERAPY ¹²		
<p>Absolute contraindications: Psychiatric conditions which limit the ability to provide informed consent.</p> <p>The following patients are at a very high risk of adverse effects: Consider referral to a contracted provider (typically an endocrinologist) via telemedicine.</p> <ul style="list-style-type: none"> • Unstable ischemic cardiovascular disease • Estrogen-dependent cancer • End stage chronic liver disease • Hypersensitivity to one of the components of the hormone formulation • History of thromboembolic disease • History of or current hormone-sensitive cancer, such as prostate cancer <p>The following patients are at a moderate to high risk of adverse effects: Proceed with caution considering risks versus benefits and utilizing shared decision-making.</p> <ul style="list-style-type: none"> • History of prolactinoma • History of breast cancer (non-estrogen dependent) • Significant liver disease (transaminases increase > 3 X) • History of cerebrovascular disease • History of coronary artery disease • History of severe migraine headaches 		
STEP 8: MTF TRANSWOMAN POTENTIAL ADVERSE EFFECTS ¹² & INFORMED CONSENT		
<p>Estrogen has a more serious risk profile as compared to other medications used in transgender individuals. Although each hormone will have its own specific considerations and precautions, it is worthwhile to address general considerations and precautions with hormone use.</p> <p>Estrogen should be used with CAUTION, after risks/benefits discussion with the patient if:</p> <ul style="list-style-type: none"> • Obese • Smokes cigarettes, tobacco, other nicotine • Migraines or seizures • High cholesterol • High blood pressure (BP) • Has a strong family history of breast cancer or other estrogen sensitive cancers • Heart disease, heart valve problems, or tendency to have blood clots, kidney or liver disease <p>Estrogen can:</p> <ul style="list-style-type: none"> • Increase risk of blood clots that can cause heart attacks, strokes, lung/leg blood clots • Increase fat around internal organs which can increase risk for DM and heart disease • Increase BP • Increase risk of getting gallstones or cause nausea and vomiting • Cause damage to liver • Cause headaches or migraines • Increase the risk of prolactinomas <p>PCPs should use the CDCR 7528, Feminizing Hormone Therapy Consent form and ensure the patient understands the risks associated with use of estrogen and androgen blockers and all questions are answered.</p> <p>Hormone therapy is expected to be life changing and may result in some irreversible effects. The process of sharing in the decision-making involves developing a partnership, exchanging information about the available options, deliberating while considering the potential consequences of each one, and making a decision by consensus. The informed consent for hormone therapy is a decision aid that includes the before mentioned information to help patients make a well-informed decision that reflects their values and goals with their PCP.</p>		

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TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)

STEP 9: MTF TRANSWOMAN POSSIBLE SOCIAL/ENVIRONMENTAL CHALLENGES

- ♦ Offer referral to an MH clinician if GD continues or patient reports social or other challenges due to transitioning
- ♦ Advise the patient to work with a Correctional Counselor to obtain appropriate housing and gender appropriate accommodations per the DOM

In designated male institutions, MTF Transwomen are typically allowed the following personal items, which may vary with custody level and security status or may vary somewhat between institutions.

Sample List of Allowable Clothing (Varies by institution and other security factors)

General Population Levels I, II, III, IV	SHU / PSU	ASU
Brassieres	Brassieres	Brassieres
Panties	Panties	Panties
Sandals		
T-Shirts	T-Shirts	
Walking Shoes		

Sample List of Allowable Hygiene Items (Varies by institution and other security factors)

General Population Levels I, II, III, IV		SHU / PSU
Body Splash	Foundation	Facial
Blush	Hair Gel, Spray, Gel Curl, Braid Spray and Lock Gel	Facial Cleanser
Cotton Balls	Hair Rollers	Feminine Hygiene Wash
Emery Board	Lip Gloss/Lipstick/Lip Liner	Hair Gel, Spray, and Gel Curl, Braid Spray and Lock Gel
Eyebrow Pencil/Eyeline	Mascara	
Eye Shadow Kit	Pumice Bar/Sponge	
Fabric Softener	Scrunchies	
Face Powder	Shower Bag	
Facial	Shower Cap	
Facial Cleanser	Shower Puffs/Loofahs	
Feminine Hygiene Wash	Tweezers	

ASU
N/A

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TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)		
STEP 10: MTF TRANSWOMAN ORDER MEDICATIONS ¹²		
<p>Prescriber: Prescribing gender affirming hormones is well within the scope of a range of PCPs including medical doctors, nurse practitioners, physician assistants, obstetricians-gynecologists, and endocrinologists. Most medications used in gender affirming hormone therapy are commonly used substances with which most prescribers are already familiar due to their use in the management of menopause, hirsutism, prostatism, or abnormal uterine bleeding.</p> <p>Estrogen</p> <ul style="list-style-type: none"> The primary class of estrogen used for feminizing therapy is 17-beta estradiol (estradiol), which is a “bioidentical” hormone in that it is chemically identical to that from a human ovary. The general approach is similar to estrogen replacement in agonadal (i.e., Turner syndrome) or menopausal states, with some dosing modifications. Estradiol is most commonly delivered to MTF Transwomen via a transdermal patch, oral or sublingual tablet, or injection of a conjugated ester (estradiol valerate or estradiol cypionate). In CCHCS, injectable estradiol valerate is the preferred agent. <p>Androgen Blockers – Common Approaches</p> <ul style="list-style-type: none"> Suppression of testosterone production and blocking of its effects contributes to the suppression/minimization of male secondary sexual characteristics. Unfortunately, many of these characteristics are permanent upon completion of natal puberty and are irreversible. Androgen blockers allow the use of lower estradiol dosing. Spironolactone is the most commonly used androgen blocker in the U.S. Spironolactone is a K⁺ sparing diuretic, which in higher doses also has direct anti-androgen receptor activity as well as a suppressive effect on testosterone synthesis. <ul style="list-style-type: none"> Doses of 200-400 mg daily have been reported without negative effect. Hyperkalemia is the most serious risk but is very uncommon when precaution is taken to avoid use in individuals with renal insufficiency, and used with caution/frequent monitoring in those on ACE inhibitor or ARBs. Due to its diuretic effect, patients may experience self-limited polyuria, polydipsia, or orthostasis. Finasteride blocks 5-alpha reductase type 2/3 mediated conversion of testosterone to potent androgen dihydrotestosterone. <ul style="list-style-type: none"> Finasteride 1 mg daily is FDA-approved for male pattern baldness, while the 5 mg dose is approved for management of prostatic hypertrophy. Since these medications block neither the production nor action of testosterone, their antiandrogen effect is less than that encountered with full blockade. 5-alpha reductase inhibitors may be a good choice for those unable to tolerate, or with contraindications to the use of spironolactone. <p>Titration</p> <ul style="list-style-type: none"> Titration upwards of dose should be driven by patient goals, clinical response, hormone level monitoring, and safety monitoring (e.g., presence of risk factors such as smoking, renal function and K⁺ in patients using spironolactone), A general approach for titration would include increasing of both estrogen and antiandrogen dosing until the estrogen level is in the female physiologic range. <ul style="list-style-type: none"> Once this has been achieved, titration efforts can focus on increasing androgen blockade. Starting dose of estrogen can be maintained for 1-2 months after which a dose increase can be considered barring any concerning effects. Physical changes related to androgen blockade and estrogen may take months to appear and are generally considered to be complete after 2-3 years on hormone therapy. Many patients eager to begin maximal feminizing hormone therapy are opposed to the idea of slow upward titration. <ul style="list-style-type: none"> Weak evidence suggests that initiation of estrogen therapy at lower doses and titrating up over time may result in enhanced breast development in MTF Transwomen. The estrogen receptor agonist activity of spironolactone may play a role in reduced breast development due to premature breast bud fusion. As such, an escalating regimen beginning with low dose estrogen only, and titrating up over several months, and then adding spironolactone may be an alternative approach. Upward titration of spironolactone can also help minimize side effects such as orthostasis or polyuria. It is recommended that PCPs discuss these considerations with patients before initiation of hormones in order to make an informed decision. 		

SUMMARY		DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)			
STEP 10: MTF TRANSWOMAN ORDER MEDICATIONS ¹² (CONT)			
<ul style="list-style-type: none"> To order medication(s), use the Male-to-Female Transgender PowerPlan. In order to achieve adequate suppression of androgens, estrogen alone would need to be administered in higher doses, with associated increased risks. Thus, the combination of an androgen blocker and estrogen is the preferred approach. Note that parenteral (IM) administration, typically with estradiol valerate, is preferred. For patients over 50 years old who have been on estrogen for several years, doses may be reduced to those administered to post-menopausal non-transgender women (i.e., 0.025-0.05 mg patch). For MTF Transwomen starting transition over 50 years old, an 'active period' of treatment with suggested doses used for younger MTF Transwomen may be considered following a thorough assessment and discussion of relative risks and benefits. See Page 18 - Special Circumstances. 			
MEDICATION CLASS	MEDICATION*	EFFECTS / ADVERSE EFFECTS / DRUG INTERACTIONS*	COMMENTS*
ESTROGEN			
Parenteral Estradiol valerate (Delestrogen®) 20 mg/mL, 40 mg/mL \$\$-\$\$\$\$	Estradiol valerate 5-20 mg IM every two weeks Initial Dose: 10 mg IM Q14 days Standard Dose: 20 mg IM Q14 days Max Dose: 40 mg IM Q14 days	Estrogens are partially metabolized by CYP3A4 and interactions may occur with agents that inhibit or induce CYP3A4. <ul style="list-style-type: none"> Estrogens may reduce levels/effects of: <i>warfarin, hypoglycemic agents, fosamprenavir, levothyroxine</i> Estrogen levels/effects may be ↑ by: <i>Erythromycin, clarithromycin, azole antifungals, calcium channel blockers (verapamil, diltiazem), Isoniazid, vitamin C, fluoxetine, fluvoxamine, paroxetine, nefazodone, sertraline, some HIV medications (efavirenz, indinavir, saquinavir, atazanavir, etravirine)</i> Estrogen levels/effects may be ↓ by: <i>Anticonvulsants (carbamazepine, oxcarbazepine, phenytoin, phenobarbital, topiramate), rifampin, rifapentine, cimetidine, dexamethasone, some HIV medications (lopinavir/ritonavir, ritonavir, tipranavir, darunavir, nelfinavir, nevirapine)</i> 	➤ Parenteral (IM) administration is preferred in CCHCS <ul style="list-style-type: none"> Consider adding aspirin 81 mg for patients at high risk for VTE who do not have contraindications to ASA therapy, especially if cigarette smoker, obese, > 40 years old, cardiac risk factors Consider stopping, reducing estrogen dose or changing to transdermal estradiol two weeks prior to major surgery/immobilizing event, resume regular dose when normal mobility restored Response to therapy is highly variable Test hormone level midway between injections Titrate estrogen dose to result in a physiologic range for young healthy females, not to exceed 200 pg/ml Contraindications: Hepatic disease, hepatocellular cancer, history of angioedema, protein C deficiency, protein S deficiency, active or past history of MI, stroke, thromboembolism, thromboembolic disease, thrombophlebitis, hypersensitivity to estradiol or any component of the product Caution in the following: asthma, cardiac disease, renal disease, obesity, coronary artery disease, cerebrovascular disease, migraine, hypertension, seizure disorder, hyperlipidemia
Depo-Estradiol® (estradiol cypionate) 5 mg/mL in oil for injection \$\$-\$\$\$	Estradiol cypionate 2-10 mg IM (only) every two weeks Initial Dose: 2 mg IM Q14 days Max Dose: 10 mg IM Q14 days		
Oral Estradiol (Estrace®) Tablet: 0.5 mg, 1 mg, 2 mg \$-\$\$	2-6 mg PO daily Initial Dose: 2-4 mg PO daily Initial Dose (low): 1 mg PO daily Max Dose: 8 mg PO daily		
Transdermal Estradiol Weekly Patch: (Climara®) 0.025 mg/24h, 0.0375 mg/24h, 0.05 mg/24h, 0.06 mg/24hr, 0.075 mg/24h, 0.1 mg/24h Biweekly Patch: (Alora®, Vivelle dot®, Minivelle®) 0.025 mg/24h, 0.0375 mg/24h, 0.05 mg/24h, 0.075 mg/24h, 0.1 mg/24h \$\$\$\$	Initial Dose: 0.1 mg/24h Initial Dose (low): 0.05 mg/24h Maximum Dose: 0.4 mg/24h Replace patch/patches once or twice weekly. Frequency of patch replacement is brand/product dependent.	Adverse Effects: Abdominal pain, back pain, headache, n/v, diarrhea, fluid retention, pruritus, skin irritation, weight gain, breast pain/tenderness, URI, DVT, VTE, PE, rash, urticaria.	

Bold = CCHCS Formulary *See prescribing information for complete description of contraindications/precautions, adverse effects and drug interactions.

The cost scale \$-\$\$\$\$ represents the relative cost of acquisition of medication only. Frequency and complexity of medication administration (institution workload, effect on adherence) should be considered when determining overall cost-effectiveness of treatment.

SUMMARY		DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)			
STEP 10: MTF TRANSWOMAN ORDER MEDICATIONS ¹² (CONT)			
MEDICATION CLASS	MEDICATION*	EFFECTS / ADVERSE EFFECTS / DRUG INTERACTIONS	COMMENTS
ANDROGEN BLOCKERS			
Spironolactone (Aldactone®) Tablet: 25 mg, 50 mg, 100 mg \$\$-\$\$\$	Dose: 100-200 mg PO twice daily Initial Dose: 100 mg PO daily Standard Dose: 200 mg PO daily Renal impairment: CrCl 39-49 ml/min: extend dosing interval to every 12-24 hours CrCl <30 ml/min: avoid use Hepatic impairment: Per mfg. labeling initiate in the hospital	<ul style="list-style-type: none"> • Adverse reactions: gynecomastia, breast pain, diarrhea, fever, nausea, vomiting, GI bleeding, gastritis, gastric ulcer, somnolence, hyperkalemia—may be severe, hyponatremia, hyperuricemia, electrolyte imbalance, metabolic acidosis, gout, lethargy, muscle cramps, headache, abdominal cramps, confusion, dizziness, rash, blood dyscrasias/agranulocytosis, gastritis, hypersensitivity reactions, anaphylaxis, vasculitis, renal failure, hepatotoxicity, Stevens-Johnson syndrome, SLE, severe dermatologic conditions, dehydration • Drug interactions: concomitant triamterene, eplerenone and/or amiloride (contraindicated), ACEIs, ARBs, heparin, lithium, NSAIDs, corticosteroids, digoxin, trimethoprim, MAOIs, amikacin, lofexidine, warfarin, chlofarabine 	<ul style="list-style-type: none"> • Black Box Warning: Shown to be a tumorigen in chronic toxicity animal studies. Avoid unnecessary use • Contraindications: renal insufficiency and/or potassium > 5.5 mEq/dl, anuria, Addison's disease, concomitant eplerenone, amiloride, and/or triamterene use, hypersensitivity to spironolactone or any component of the product • Avoid use in patients who are receiving digoxin, ACE inhibitors, potassium sparing diuretics • Use caution: in patients with cirrhosis, heart failure, renal impairment, adrenal vein catheterization, volume depletion, diabetes, hepatic impairment, gout
Finasteride (Proscar®/Propecia®) Tablet: 5 mg, 1 mg \$\$-\$\$\$	Dose: 5-10 mg PO daily Hepatic Dosing: Initiate with caution. Renal Dosing: Specific guidelines for dosage adjustments are not available. Appears no dosage adjustments are needed.	<ul style="list-style-type: none"> • Adverse reactions: gynecomastia, breast pain, neoplasm of male breast, prostate cancer (high-grade), hypotension, orthostatic hypotension, peripheral edema, pruritus, urticaria, rash, constipation, diarrhea, asthenia, dizziness, headache, testicular pain, somnolence, depression • Drug interactions: Terazosin, Saw palmetto, St. John's wort 	<ul style="list-style-type: none"> • Contraindications: Hypersensitivity to finasteride or any component of the product • Use caution: with hepatic impairment, increased risk of high-grade prostate cancer has been reported, serum PSA levels may be decreased, monitoring recommended

Bold = CCHCS Formulary *See prescribing information for complete description of contraindications/precautions, adverse effects and drug interactions.

The cost scale \$-\$\$\$\$\$ represents the relative cost of acquisition of medication only. Frequency and complexity of medication administration (institution workload, effect on adherence) should be considered when determining overall cost-effectiveness of treatment.

SUMMARY

DECISION SUPPORT

PATIENT EDUCATION/SELF MANAGEMENT

TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)

STEP 11: MTF TRANSWOMAN MONITORING AND FOLLOW-UP¹²

Monitoring: Standard monitoring of estrogen administration should be done at baseline, 3 months, 6 months, 12 months, and then yearly. This should include an assessment of the patient’s adjustment to therapy, targeted PE, bloodwork, and health promotion/disease prevention counselling as indicated. The suggested tasks for each of these follow-up visits are summarized and expanded upon below.

- While laboratory monitoring of hormone levels may seem complex, it is of similar difficulty to the monitoring of other complex lab-monitored conditions managed by PCPs, such as thyroid disorders, anticoagulation, or DM.
- Once hormone levels have reached the target range for a specific patient, it is reasonable to monitor levels yearly, or only as needed or clinically indicated (see below).

The interpretation of hormone levels for transgender individuals is not yet evidence based; physiologic hormone levels in non-transgender people are used as reference ranges.

- However, estrogen levels in non-transgender women may not be associated with specific secondary sex characteristics (i.e., higher estrogen levels in non-transgender women are not necessarily associated with larger breasts), and specific phenotypical end points are likely multifactorial and particularly dependent on genetics and the age at which gender affirming hormone therapy is begun.

Target Hormone Levels

Serum Estradiol: Should not exceed the peak physiologic range 100-200 pg/mL (exogenous)

Serum Testosterone: Should be < 50 ng/dL (endogenous)

Prolactin: Should be monitored at least yearly, and more frequently if elevation is noted

	3 MONTHS*	6 MONTHS*	12 MONTHS*	YEARLY
Assess At Each Visit †	<ul style="list-style-type: none"> BP Weight, Waist and Abdominal Circumference Hormone Effects Mental Health Social/Environmental Education/Lifestyle 			
BLOODWORK				
BUN/Creatinine/Potassium ‡	✓	✓	✓	✓
HbA1C§ or glucose				✓
Lipids				✓
Testosterone	✓	✓	✓	✓
Estradiol	✓	✓	✓	✓
Prolactin				✓

* In first year of therapy only

† See Page 16 for details

‡ Only if on spironolactone

§ Only if diabetic

|| Only if family history DM

MTF TRANSWOMAN

* In first year of therapy only

† See Page 16 for details

‡ Only if on spironolactone

§ Only if diabetic

|| Only if family history DM

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)		
STEP 11: MTF TRANSWOMAN MONITORING AND FOLLOW-UP ¹² (CONT)		
Blood Pressure	<p>Estrogen may increase BP, but the effect on incidence of overt hypertension is unknown. Estrogen increases the risk of cardiovascular events in patients over age 50 with underlying cardiovascular risk factors. Spironolactone reduces BP and is recommended for at-risk or hypertensive patients desiring feminization.</p>	
Weight, Waist and Abdominal Circumference	<p>Estrogen causes the body to redistribute fat. Fat will begin to collect around the hips and thighs. The muscles in arms and legs will become less defined and have a smoother appearance as the fat just below skin becomes thicker. Estrogen does not have a significant effect on abdominal fat.</p>	
Hormone Effects	<p>The goal of therapy is to reduce the hormonally induced male secondary sex characteristics, complete elimination is not possible. The initial changes (over the first three to six months) include a possible decrease in sexual desire along with decreased rates of growth of facial and body hair. There will also be some initial growth of breast tissue, a decrease in oiliness of the skin, and early redistribution of fat mass.</p> <p>Monitor the following hormone effects:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Hair – Adult male beard growth is very resistant to inhibition by combined hormonal intervention, especially in individuals with European ancestry. <input type="checkbox"/> Breast development – Breast formation starts almost immediately after initiation of estrogen administration and decreased androgen levels; breast development is typically maximal at two - three years. Some MTF Transwomen may report nipple tenderness and discomfort during the period of breast growth. <input type="checkbox"/> Skin – Androgen deprivation leads to a decrease activity of the sebaceous glands and may result in dry skin. <input type="checkbox"/> Body composition – Following androgen deprivation, there is an increase in subcutaneous fat and a decrease in lean body mass. Body weight usually increases. <input type="checkbox"/> Testes – Atrophy of the testes occurs over many years. Lacking gonadotropic stimulation, the testes become atrophic and may occasionally enter the inguinal canal, which may cause discomfort. <input type="checkbox"/> Prostate – Atrophy of the prostate also occurs over many years. <input type="checkbox"/> Voice – Antiandrogens and estrogens have no effect on the properties of the voice. <input type="checkbox"/> Sexual function – Feminizing hormone therapy may reduce sexual desire, reduce erectile function, and decrease ejaculation among MTF Transwomen. Some MTF Transwomen choose to reduce hormone doses to balance the degree of feminization with the level of sexual function, while others report no need for dose adjustments. 	
Mental Health	<ul style="list-style-type: none"> <input type="checkbox"/> Screen for depressive symptoms (including suicidality) and anxiety disorders. <input type="checkbox"/> Inquire regarding symptoms of hypomania, mania, or psychotic symptoms. <input type="checkbox"/> Inquire regarding current level of GD and body image. <input type="checkbox"/> Screen for disordered eating. 	
Social/ Environmental	<ul style="list-style-type: none"> <input type="checkbox"/> Assess the impact of transition/trans identity on housing, relationships, and safety concerns. <input type="checkbox"/> Social Supports – specific attention should be given to assessing the extent of a patient's social supports, creating an opportunity to suggest additional resources if needed. 	
Education/ Lifestyle Counselling	<ul style="list-style-type: none"> <input type="checkbox"/> Adequate calcium: recommended a minimum of 1200 mg of calcium daily (total: diet plus supplements). <input type="checkbox"/> Adequate Vitamin D: recommended 1000 IU of vitamin D daily. <input type="checkbox"/> Hormone adherence: missed doses of estrogen impacts bone health if post-orchietomy, while extra doses may lead to risks associated with supraphysiologic levels of estrogen. <input type="checkbox"/> Review the signs and symptoms of Deep Vein Thrombosis (DVT) and Pulmonary Embolism and advise immediate medical attention should these occur. <input type="checkbox"/> Adherence with screening recommendations (See Page 17). 	

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)		
STEP 12: MTF TRANSWOMAN PREVENTIVE SCREENING ¹²		
General approach to screening	The appropriate screening of transgender patients should generally follow the recommendations for their assigned sex at birth. If an individual has a particular body part or organ and otherwise meets criteria for screening based on risk factors or symptoms, screening should proceed regardless of hormone use.	
Breast Cancer Screening	<ul style="list-style-type: none"> It is recommended that screening not commence in MTF Transwomen until after a minimum of 5 years of feminizing hormone use, regardless of age. Note that MTF Transwomen over age 50 do not meet screening criteria until they have at least 5-10 years of feminizing hormone use. 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. Breast Cancer: Discuss screening in pts > 50 years old with additional risk factors (Estrogen therapy > 5 years, FH, BMI >35). 	
Prostate cancer	<ul style="list-style-type: none"> PCPs should remain aware of the possibility of prostate cancer in MTF Transwomen, even those who have undergone gonadectomy. Perform routine screening for prostate cancer as for sex at birth males. If a prostate exam is indicated, both rectal and neovaginal approaches may be considered. MTF Transwomen who have undergone vaginoplasty have a prostate anterior to the vaginal wall, and a digital neovaginal exam may be more effective. It should be noted that when prostate specific antigen testing is performed in MTF Transwomen with low testosterone levels, it may be appropriate to reduce the upper limit of normal to 1.0 ng/ml. 	
Testicular cancer	<ul style="list-style-type: none"> There is no evidence to perform screening in MTF Transwomen. MTF Transwomen adherent to therapeutic doses of estrogen plus an androgen blocker, and with <u>persistent testosterone elevations</u>, should be evaluated for testicular tumors by PE, as well as human chorionic gonadotropin (hCG), alpha-fetoprotein (AFP) and lactic dehydrogenase (LDH) levels, and possibly a scrotal ultrasound. 	
Cardiovascular Disease	<ul style="list-style-type: none"> Estrogen use increases the risk of cardiovascular events in patients over age 50 with underlying cardiovascular risk factors. The risk of DM type II is possibly increased, particularly with the presence of additional risk factors. While there is minimal impact on LDL and HDL, there is likely a significantly increased risk of hypertriglyceridemia with oral estrogen, so if hypertriglyceridemia is an issue do not use oral estrogen. It is recommended to aggressively manage vascular risk factors prior to and during estrogen administration. (UCSF Center for Excellence in Transgender Health) recommends to maintain systolic BP ≤130 mmHg and diastolic BP ≤90 mmHg and cholesterol should also be aggressively managed. Spironolactone should be used preferentially for androgen blockade in clients whose BP is of concern. Individuals at high risk for developing cardiovascular disease should be offered aspirin as primary prevention. Cardiovascular Disease: Screen for risk factors DM: On estrogen: increased risk Hyperlipidemia: On estrogen: annual lipid screening 	
Osteoporosis	<ul style="list-style-type: none"> Testes intact: Routine screening as for sex at birth males Post orchiectomy: Screen all patients > 65 years old Screen patients age 50-65 years old if off hormones for > 5 years 	

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)		
STEP 13: MTF TRANSWOMAN SPECIAL CIRCUMSTANCES ¹²		
MTF Transwomen ≥ 50 years old	<ul style="list-style-type: none"> • Older MTF Transwomen initiating therapy may have less rapid/degree of changes. • Due to higher levels of co-occurring conditions in older individuals, there may also be higher risk of adverse effects. • There is no evidence to support continuation or cessation of hormones for older MTF Transwomen. • Since the mean age of menopause in the U.S. is 49, it is reasonable in MTF Transwomen who have undergone gonadectomy to consider stopping hormone therapy around age 50. <ul style="list-style-type: none"> - Expected effects of this may be similar to non-transgender women experiencing menopause. • MTF Transwomen who retain their gonads but withdraw hormone therapy may experience return of virilization. A discussion of the pros and cons of this approach, with individualized and shared decision-making is recommended. 	MTF TRANSWOMAN
Pituitary adenoma	<ul style="list-style-type: none"> • Prolactin increase and growth of pituitary prolactinomas are theoretical risks associated with estrogen therapy. • With the administration of physiologic doses of estrogen, there is no clear basis for an increased risk of prolactinomas in comparison to the population background rate in non-transgender women. • Additionally, Endocrine Society guidelines for the management of incidental prolactinomas are expectant management only, in the absence of suggestive visual or other symptoms (headache/galactorrhea). • Routine screening with serum prolactin levels (more than annually) in asymptomatic MTF Transwomen would not have an impact on management, and could result in costs or harm if further workup is pursued. As such, it is recommended that prolactin be checked only in cases of visual disturbances, excessive galactorrhea, and be considered in cases of new onset headaches. • It is noted that some MTF Transwomen experience a minimal amount of galactorrhea early in their hormone therapy course. The presence of non-bloody minimal galactorrhea from more than one duct and/or bilateral is almost certainly physiologic and would not warrant further evaluation. 	
Chronic HCV and hormone therapy	<ul style="list-style-type: none"> • Chronic HCV is not a contraindication to hormone therapy. • Both estrogen and testosterone undergo hepatic metabolism, and routine monitoring of hepatic function has been recommended. • Monitoring of liver function in patients with chronic HCV infection should proceed as routinely recommended by disease stage and risk factors for progression dictate. • Non-oral forms of hormone therapy avoid first pass through liver metabolism and may be preferred for patients with liver disease, though there is no specific evidence to support this recommendation. 	

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)		
STEP 13: MTF TRANSWOMAN SPECIAL CIRCUMSTANCES ¹² (CONT)		
Perioperative use of feminizing hormones	<ul style="list-style-type: none">Many surgeons insist that MTF Transwomen discontinue estrogen for several weeks before and after any gender affirming procedure. These recommendations may appear as benign to the surgeon; however, to the transgender woman undergoing a life and body altering procedure simultaneous with gonadectomy, sudden and prolonged complete withdrawal of estrogens can have a profound impact.Postoperative depression is a nontrivial concern and may have some basis in the drastic hormone shifts, including cessation of estrogens, experienced in the perioperative period.There is no evidence to suggest that MTF Transwomen who lack specific risk factors (smoking, personal or family history, excessive doses or use of synthetic estrogens) must cease estrogen therapy before and after surgical procedures, in particular with appropriate use of prophylaxis and an informed consent discussion of the pros and cons of discontinuing hormone therapy during this time.Possible alternatives include using a lower dose of estrogen, and/or changing to a transdermal route if not already in use.	MTF TRANSWOMAN
Venous thromboembolism	<ul style="list-style-type: none">Several studies have demonstrated an increased risk of VTE in transgender individuals receiving hormone therapy, particularly MTF Transwomen on estrogen.Risk factors for venous thrombosis in those who had a VTE included immobilization after surgery, smoking, or a hypercoagulable disorder.Routine VTE prophylaxis with aspirin in unselected transgender populations is not recommended.Routine screening for prothrombotic mutations is not recommended in the absence of risk factors.Regardless of the circumstances, estrogen therapy is very risky in patients with significant risk factors for, or history of ,VTE who continue to smoke tobacco.The incidence of thrombophilias appears to be the same in the transgender population as the general population. Therefore, routine pretreatment screening for thrombophilias is not suggested.When thrombophilias are detected, it has been suggested that treatment with anticoagulants be administered if estrogen therapy is to be continued.	
STEP 14: MTF TRANSWOMAN WHEN TO REFER TO A SPECIALIST		
<p>Care for the transgender patient can be accomplished by a PCP. Consider referring patients to a contracted provider (typically an endocrinologist) via telemedicine in the following cases:</p> <ol style="list-style-type: none">Patients that are at a very high risk for adverse effects from Estrogen treatment:<ul style="list-style-type: none">Unstable ischemic cardiovascular disease/cerebrovascular diseaseEstrogen-dependent cancerEnd stage chronic liver diseaseHypersensitivity to one of the components of the formulationHave a history of thromboembolic diseaseHad or have a hormone-sensitive cancer, such as prostate cancerFindings suggestive of intersex conditions (e.g., ambiguous genitalia, etc.)Patients that did not achieve expected clinical response despite treatment with maximum estrogen dose.		

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TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)

STEP 5: FTM TRANSMAN GOALS AND EXPECTATIONS

The PCP should cover the following topics when discussing gender affirming hormone therapy with patients.

- What are the goals of hormone therapy?**

Patients need to have realistic goals of what may be accomplished with hormone therapy. In the past, some patients have had the mistaken belief that changes will occur quickly and have had unrealistic expectations of what changes will occur. When disappointed with the timing or degree of changes, some patients have wanted to increase the dose of their hormone beyond what is considered to be a safe dose range.

Expected Effects of Masculinizing Hormones (Testosterone)

General effects include:

- Suppress endogenous birth-gender hormone production
- Induce secondary sex characteristics of new gender
 - Development of facial hair
 - Virilizing changes in voice
 - Redistribution of facial and body subcutaneous fat
 - Increased muscle mass
 - Increased body hair
 - Change in sweat and odor patterns
 - Frontal and temporal hairline recession
 - Possibly male pattern baldness

Sexual and gonadal effects include:

- Increase in libido
- Clitoral growth
- Vaginal dryness
- Cessation of menses/ovulation (anovulatory state)
 - It is common, though not absolute that ovulation stops. Long-term fertility may be affected, though some FTM Transmen are able to discontinue testosterone and achieve a successful pregnancy
 - The effects of prenatal testosterone on fetal or childhood development has not been studied

- What is the expected timing of the response?**

Help the patient understand that changes are individual and will take place over months to years, with most changes being complete by 3 years of treatment.

Increased doses beyond max recommended dose is not indicated and will not result in additional changes.

Time Needed To See Masculinizing Effects Of Medication (Testosterone)¹¹

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	1-6 months	-----
Clitoral enlargement	1-6 months	1-2 years
Vaginal atrophy	1-6 months	1-2 years
Deepening of voice	6-12 months	1-2 years

FTM TRANSMAN

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TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)					
STEP 6: FTM TRANSMAN: BASELINE LABS ¹²					
Obtain the following baseline labs to determine the patient's current health and identify any health problems that may pose immediate or future risk to testosterone therapy.					
CBC		<ul style="list-style-type: none">• An expected potential side effect of testosterone treatment is polycythemia, an increased level of red blood cells, which manifests as increases levels of H&H.• Because it is theoretically plausible that high hematocrit levels may increase risk for cardiovascular events, stroke and blood clots, regular monitoring of hematocrit during testosterone therapy is important.• Goal is to keep hematocrit less than 50 mg/dl.			
Liver Function Tests (LFTs)		<ul style="list-style-type: none">• Testosterone is metabolized by the liver.• Transient elevations in liver enzymes may occur with testosterone therapy.• Regular blood tests for liver function are recommended.			
A1C (If diabetic) Fasting Glucose (If family history of DM)		<ul style="list-style-type: none">• The effect of hormone therapy on DM risk or disease course is unclear.• WPATH Standards of Care recommends that conditions such as DM be "reasonably well controlled" prior to initiating hormone therapy.			
Fasting Lipid Panel (Based on USPTF Guidelines)		<ul style="list-style-type: none">• Testosterone may increase triglycerides in patients, increasing the risk of pancreatitis and cardiovascular events (typically treat if triglycerides > 500)• Testosterone may also lower HDL.			
Testosterone Level (Total)		<ul style="list-style-type: none">• Sex at birth women age 19 and up, normal testosterone level range from 8-60 ng/dL.• Sex at birth men age 18-60, normal range of total testosterone levels is 250-1000 ng/dL.• The goal "total testosterone" level for FTM Transmen is 400-700 ng/dL.			
Estradiol Level		<ul style="list-style-type: none">• Serum estradiol is monitored during the first six months of testosterone treatment or until there has been no uterine bleeding for six months.• Levels of estradiol for menstruating women range 15-350 pg/mL and for postmenopausal women, normal levels should be lower than 10 pg/mL.• The goal for FTM Transmen is <50 pg/mL.			
STEP 7: FTM TRANSMAN CONTRAINDICATIONS AND POTENTIAL RISKS OF HORMONE THERAPY ¹²					
Absolute contraindications: <ul style="list-style-type: none">• Pregnancy or breastfeeding• Poorly controlled psychosis or acute homicidality• Psychiatric conditions which limit the ability to provide informed consent The following patients are at a very high risk of adverse effects: Consider referral to a contacted provider (typically an endocrinologist) via telemedicine. <ul style="list-style-type: none">• Androgen-sensitive cancer• Unstable ischemic cardiovascular disease• Endometrial cancer• Hypersensitivity to one of the components of the formulation• Polycythemia/Erythrocytosis (Hct > 50%)• History of breast or uterine cancer The following patients are at a moderate to high risk of adverse effects: Proceed with caution considering risks versus benefits and utilizing shared decision-making. <ul style="list-style-type: none">• Significant liver disease (transaminases > 3 upper limit of normal)• History of coronary artery disease or history of cerebrovascular disease					

FTM TRANSMAN

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT															
TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)																	
STEP 8: FTM TRANSMAN POTENTIAL ADVERSE EFFECTS ¹² & INFORMED CONSENT																	
<p>The medical effects and safety of testosterone are not completely known and there may be long-term risks that are not yet established. As with most medical interventions, a number of health risks have been postulated to be related to testosterone therapy. Several pre-existing medical conditions and risk factors may increase the risks associated with testosterone administration. When these are present, a careful evaluation of risks and benefits should be completed and fully discussed with the patient.</p> <p>Testosterone can:</p> <ul style="list-style-type: none"> • Increase risk of heart disease, which includes: <ul style="list-style-type: none"> • Less good cholesterol (HDL) • More bad cholesterol (LDL) • Higher BP • Increased deposits of fat around internal organs • Increase risk of liver disease and increased LFTs • Increase risk of DM • Increase aggression or depression • Increase red blood cell count and hemoglobin to the level that is normal for a man and would have no health risks; however, higher increases can cause problems that can be life-threatening, including stroke and heart attack • Can turn into estrogen, and it is not known if this could increase the risks of cancers of the breasts, ovaries, or uterus • Cause thinning to the tissue of the cervix and the walls of the vagina which can lead to tears or abrasions during vaginal intercourse, which can raise the risk of getting a sexually transmitted infection, including HIV • Cause headaches or migraines <p>PCPs should use the CDCR 7258-1, Masculinizing Hormone Therapy Consent form and ensure the patient understands the risks associated with use of testosterone and all questions are answered.</p> <p>Hormone therapy is expected to be life changing and may result in some irreversible effects. The process of sharing in the decision-making involves developing a partnership, exchanging information about the available options, deliberating while considering the potential consequences of each one, and making a decision by consensus. The informed consent for hormone therapy is a decision aid that includes the before mentioned information to help patients make a well-informed decision that reflects their values and goals with their PCP.</p>																	
STEP 9: FTM TRANSMAN POSSIBLE SOCIAL/ENVIRONMENTAL CHALLENGES																	
<ul style="list-style-type: none"> ♦ Offer referral to an MH clinician if GD continues or patient reports social or other challenges due to transitioning. ♦ Advise the patient to work with a Correctional Counselor to obtain appropriate housing and gender appropriate accommodations per the DOM. <p>FTM Transmen are typically allowed the following personal items, which may vary with custody level and security status or may vary somewhat between institutions.</p> <p>Sample List of Allowable Clothing/Hygiene Items (Varies by institution and other security factors)</p> <table> <tr> <th>General Population Levels I, II, III, IV</th><th>SHU / PSU</th><th>ASU</th></tr> <tr> <td>Athletic Supporter</td><td>Athletic Supporter</td><td>Binders/Compression Tops</td></tr> <tr> <td>Binders/Compression Tops</td><td>Binders/Compression Tops</td><td></td></tr> <tr> <td>Briefs/Boxers</td><td>Briefs/Boxers</td><td></td></tr> <tr> <td>After Shave</td><td>After Shave</td><td></td></tr> </table>			General Population Levels I, II, III, IV	SHU / PSU	ASU	Athletic Supporter	Athletic Supporter	Binders/Compression Tops	Binders/Compression Tops	Binders/Compression Tops		Briefs/Boxers	Briefs/Boxers		After Shave	After Shave	
General Population Levels I, II, III, IV	SHU / PSU	ASU															
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SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)		
STEP 10: FTM TRANSMAN ORDER MEDICATIONS ¹²		
<p>Prescriber: Prescribing gender affirming hormones is well within the scope of a range of PCPs, including medical doctors, nurse practitioners, physician assistants, obstetricians-gynecologists, and endocrinologists. Medication used in FTM gender affirming hormone therapy (testosterone) is commonly used in treating low testosterone levels in older sex at birth males and most prescribers are already familiar with its use.</p> <p>Testosterone</p> <ul style="list-style-type: none"> • All testosterone preparations currently used in the U.S. are "bioidentical" meaning they are chemically equivalent to the testosterone secreted from the human testicle. • Prior use of oral methyltestosterone and other synthetics commonly encountered in bodybuilding communities has resulted in unsubstantiated concerns about negative hepatic effects of testosterone use in FTM Transmen. • Testosterone is available in a number of injected and topical preparations, which have been designed for use in non-transgender men with low androgen levels. In CCHCS, Parenteral (IM) administration of Testosterone cypionate is preferred. <p>Titration</p> <ul style="list-style-type: none"> • Titration upwards of dose should be driven by patient goals, clinical response, hormone level monitoring, and safety monitoring (i.e., H&H). • Clinical response can be measured objectively by the presence of amenorrhea by 6 months. • Once total testosterone is greater than the midpoint value in the lab reported reference range, it is unclear if an increase in dose will have any positive effect on degree of virilization or perceived slow progress, or on mood symptoms or other side effects. <ul style="list-style-type: none"> • Titrate dose upwards based on testosterone levels measured at 3 and 6 months. • Once hormone levels have reached the target range for a specific patient, it is reasonable to monitor levels yearly. • As with testosterone replacement in non-transgender men, annual visits and lab monitoring are sufficient for FTM Transmen on a stable hormone regimen. <p>Ordering Medication</p> <ul style="list-style-type: none"> • To order medication use the Female-to-Male Transgender PowerPlan. • Route of injection (intramuscular vs. subcutaneous): While testosterone for injection is labeled for the intramuscular route, many PCPs 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. <p>See the medication table on the following page.</p>		

SUMMARY		DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)			
STEP 10: FTM TRANSMAN ORDER MEDICATIONS ¹² (CONT.)			
MEDICATION CLASS	MEDICATION*	EFFECTS/ADVERSE EFFECTS/ DRUG INTERACTIONS	COMMENTS
TESTOSTERONE			
Parenteral Testosterone cypionate in oil for injection (Depo-Testosterone®) 100 mg/mL; 200 mg/mL \$\$\$	Testosterone cypionate 50-200 mg IM (only) every two weeks Initial Dose: 50-100 mg IM Q14 days Standard Dose: 150-200 mg IM Q14 days Hepatic Dosing: Severe dysfunction: Contraindicated Mild to Moderate dysfunction: Initiate with caution Renal Dosing: Specific guidelines for dosage adjustments are not available. Appears no dosage adjustments are needed.	<ul style="list-style-type: none"> • Adverse reactions: Injection site reaction, headache, hypertension, edema, DVT, PE, erythrocytosis, CVA, cholestatic hepatitis, n/v, neoplasm of liver, increased LFTs, MI, depression, suicidal thoughts, unstable angina, acne, alopecia, erythrocytosis, increased hemoglobin/hematocrit, paresthesia, dyslipidemia, increased glucose levels, aggressive behavior/hostility • Drug interactions: warfarin, paclitaxel, bupropion, insulin, cyclosporine, corticosteroids, blood glucose lowering agents, edoxaban, carvedilol, dabigatran, dapagliflozin, dronedarone, posaconazole, rivaroxaban, ritonavir, rifaximin 	<ul style="list-style-type: none"> ➤ Parenteral (IM) administration is preferred in CCHCS • During the first 3 to 9 months of testosterone treatments total testosterone levels may be high although free testosterone levels are normal due to high sex hormone binding globulin levels in some biological women • 15% of patients on testosterone will experience transient elevations in liver enzymes (if increase > 3X stop and seek expert consultation, e.g. Endocrinologist) • Do not use cypionate and enanthate interchangeably due to differences in duration of action • Test hormone level (total testosterone) midway between injections • Titrate the testosterone dose to result in a serum testosterone level between 400-700 ng/dl • Contraindications: Hypersensitivity to testosterone or any component of the product, pregnancy, cypionate—serious cardiac, hepatic or renal disease, enanthate—sesame oil hypersensitivity (potential cross-sensitivity with nut allergy) • Use caution in the following: cardiac disease, CAD, hepatic disease, renal disease, hypertension
Testosterone enanthate in oil for injection (Delatestryl®) 200 mg/mL \$\$\$	Testosterone enanthate 50-200 mg IM (only) every two weeks Hepatic Dosing: Severe dysfunction: Contraindicated Mild to Moderate dysfunction: Initiate with caution. Renal Dosing: Specific guidelines for dosage adjustments are not available. Appears no dosage adjustments are needed.		

FTM TRANSMAN

Bold = CCHCS Formulary *See prescribing information for complete description of contraindications/precautions, adverse effects and drug interactions.

The cost scale \$-\$\$\$\$\$ represents the relative cost of acquisition of medication only. Frequency and complexity of medication administration (institution workload, effect on adherence) should be considered when determining overall cost-effectiveness of treatment.

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT		
TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)				
STEP 11: FTM TRANSMAN MONITORING AND FOLLOW-UP ¹²				
<p>Monitoring: Standard monitoring of testosterone administration should be done at baseline, 1 month, 3 months, 6 months, 12 months, and then yearly. This should include an assessment of the patient’s adjustment to therapy, targeted PE, bloodwork, and health promotion/disease prevention counseling as indicated. The suggested tasks for each of these follow-up visits are summarized and expanded below.</p> <ul style="list-style-type: none">While laboratory monitoring of hormone levels may seem complex, it is of similar difficulty to the monitoring of other complex lab-monitored conditions managed by PCPs, such as thyroid disorders, anticoagulation, or DM.Once hormone levels have reached the target range for a specific patient, it is reasonable to monitor levels yearly, or only as needed or clinically indicated (see below). <p>The interpretation of hormone levels for transgender individuals is not yet evidence based; physiologic hormone levels in non-transgender people are used as reference ranges..</p> <ul style="list-style-type: none">Testosterone levels can be difficult to measure in non-transgender men due to rapid fluctuations in levels, relating to pulsatile release of gonadotropins.Free testosterone represents the portion of testosterone unbound to serum proteins and depends on levels of Sex Hormone Binding Globulin (SHBG).Consensus is lacking on the role of free vs. total testosterone levels; total testosterone levels are reliable and readily available, however they do not describe the actual bioavailable testosterone level.For transgender care, the Endocrine Society recommends monitoring of the total testosterone level.				
<p>Target Hormone Levels:</p> <ul style="list-style-type: none">Total Testosterone: Target level is 400-700 ng/dL (exogenous)Estradiol: Should be < 50 pg/mL (endogenous)				
	3 MONTHS*	6 MONTHS*	12 MONTHS*	YEARLY
Assess At Each Visit †	<ul style="list-style-type: none">BPWeight, Waist and Abdominal CircumferenceCessation of Menses		<ul style="list-style-type: none">Hormone EffectsMental HealthSocial/EnvironmentalEducation/Lifestyle	
BLOODWORK				
Lipids				✓
HbA1C [‡] or fasting glucose [§]				✓
Hemoglobin & Hematocrit	✓	✓	✓	✓
Total Testosterone	✓	✓	✓	✓
Estradiol				✓
<p>* In first year of therapy only</p> <p>† See Page 26 for details</p> <p>‡ Only if diabetic</p> <p>§ Only if family history of DM</p>				

FTM TRANSMAN

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TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)		
STEP 11: FTM TRANSMAN MONITORING AND FOLLOW-UP ¹² (CONT)		
Blood Pressure	Testosterone therapy at normal physiologic doses may increase BP but does not appear to increase the risk of significant hypertension. Patients with risk factors for hypertension, such as obesity, family history, or PCOS, may be at increased risk, and BP should be monitored while on testosterone therapy.	
Weight, Waist and Abdominal Circumference	Testosterone therapy 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.	
Cessation of menses	Menses usually stop within a few months of starting testosterone. However, in some individuals, bleeding may continue. The recommended approach is to increase the testosterone dose modestly. Another approach is to add an oral progestin such as medroxyprogesterone acetate (MPA; 5 to 10 mg daily continuously) or treatment with a gonadotropin-releasing hormone (GnRH) agonist to stop the menstrual bleeding. (Patients requiring these additional therapies are typically referred for expert consultation, e.g., Endocrinologist).	
Hormone Effects	<p>Testosterone causes male-pattern hair growth and an increase in lean body mass, muscle mass, and fat mass. It also causes growth in midline structures like the larynx and clitoris.</p> <p>Monitor the following hormone effects:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Hair – The development of hair follows the pattern observed in pubertal boys: first the upper lip, then chin, then cheeks, etc. 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." <input type="checkbox"/> Voice – Deepening of the voice may occur due to oropharyngeal growth and may be irreversible. <input type="checkbox"/> Acne – Acne occurs in approximately 40 percent, similar to that observed in hypogonadal men starting androgen treatment past the age of normal puberty. <input type="checkbox"/> Clitoral enlargement – Clitoral enlargement occurs in all, but the degree varies. <input type="checkbox"/> Sexual desire – Most subjects will note an increase in sexual desire. <input type="checkbox"/> Breasts – Androgen administration may cause a decrease in glandular tissue. <p>The relatively lower height and the broader hip configuration of FTM Transmen compared with non-transgender men does not change with testosterone treatment.</p>	
Mental Health	<ul style="list-style-type: none"> <input type="checkbox"/> Screen for depressive symptoms (including suicidality) and anxiety disorders. <input type="checkbox"/> Inquire regarding symptoms of hypomania, mania, or psychotic symptoms. <input type="checkbox"/> Inquire regarding current level of GD and body image. <input type="checkbox"/> Screen for disordered eating. <input type="checkbox"/> Inquire regarding libido/changes in libido. 	
Social/ Environmental	<ul style="list-style-type: none"> <input type="checkbox"/> Assess the impact of transition/trans identity on housing, relationships and safety concerns. <input type="checkbox"/> Social Supports – specific attention should be given to assessing the extent of a patient's social supports, creating an opportunity to suggest additional resources if needed. 	
Education/ Lifestyle Counselling	<ul style="list-style-type: none"> <input type="checkbox"/> Hormone adherence: missed doses of testosterone. <input type="checkbox"/> Adherence with screening recommendations (See Page 27). 	

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)		
STEP 12: FTM TRANSMAN PREVENTIVE SCREENING ¹²		
General approach to screening	The appropriate screening of transgender patients should generally follow the recommendations for their assigned sex at birth. If an individual has a particular body part or organ and otherwise meets criteria for screening based on risk factors or symptoms, screening should proceed regardless of hormone use.	
Breast Cancer Screening	<ul style="list-style-type: none">FTM Transmen who have not undergone bilateral mastectomy, or who have only undergone breast reduction, should undergo screening according to current guidelines for non-transgender women.	
Cervical Cancer	<ul style="list-style-type: none">Cervical cancer screening for FTM Transmen including interval of screening and age to begin and end screening follows recommendations for non-transgender women.	
Pelvic pain and persistent menses	<ul style="list-style-type: none">Pelvic Pain: Pain less than 6 months of duration is considered acute. Chronic pelvic pain, which is continuous or episodic pain in the lower abdomen or pelvis lasting more than 6 months, has a large differential. History is a critical component to assessment/diagnosis. Key to history is a detailed description of pain including onset, precipitating/palliating features, quality, radiation, severity and timing.The general approach to the workup of pelvic pain in FTM Transmen is similar to that for non-transgender women. An anatomic approach to history gathering that considers urological, gynecologic, GI, musculoskeletal, and psychological components is critical. Specific etiologies may be multifactorial, such as post-op adhesions +/- GI surgery, or endometriosis and/or pelvic floor muscle dysfunction.Persistent Menses: FTM Transmen with a history of abnormal cycles prior to initiating testosterone (e.g., frequent cycles, heavy irregular bleeding) may have underlying pathology, which could result in a prolonged or complicated path to cessation of menses once on testosterone. Therefore, in patients with risk factors for endometrial hyperplasia and a degree of clinical suspicion, evaluation for and elimination of known causes of irregular bleeding should be considered concurrent with testosterone administration; those with pre-existing amenorrhea or oligomenorrhea may require evaluation for endometrial abnormalities prior to initiating testosterone.	
Osteoporosis	<ul style="list-style-type: none">Screen all patients > 65 years oldScreen patients age 50-65 years old if off hormones for > 5 years	
Diabetes Mellitus	<ul style="list-style-type: none">Routine screening (FTM with PCOS should be screened for DM)	
Hyperlipidemia	<ul style="list-style-type: none">On testosterone: Annual lipid screening	
STEP 13: FTM TRANSMAN SPECIAL CIRCUMSTANCES ¹²		
Older FTM Transmen	<ul style="list-style-type: none">No upper age limit exists for testosterone replacement in non-transgender men. As such, there is no age recommendation for the termination of testosterone therapy in FTM Transmen.It is reasonable to consider discontinuing hormone therapy at or around age 50, the age at which non-transgender women undergo menopause. Regardless of the presence of gonads at this age, withdrawal of testosterone will result in reduced muscle mass, body hair, and libido.	
Erythrocytosis/polycythemia	<ul style="list-style-type: none">H&H values in FTM Transmen should be interpreted in the context of the dose of testosterone used and menstruation status.FTM Transmen with physiologic male testosterone levels and who are amenorrheic would be expected to have H&H values in the male normal range.Patients with persistent menses or on lower doses of testosterone should have their H&H interpreted accordingly. FTM Transmen with true polycythemia should first have their testosterone levels checked, including a peak level, and have dose adjusted accordingly.Changing to a more frequent injection schedule (maintaining the same total amount of testosterone over time) or transdermal preparations may limit the risk of polycythemia.Phlebotomy or blood donation may be an appropriate short term solution depending on the level of elevation; in all cases other pathologic causes of polycythemia should be excluded. In addition to neoplasms and cardiopulmonary disease, specific conditions of concern in FTM Transmen include obesity-related obstructive sleep apnea (OSA), and tobacco use.	

FTM TRANSMAN

SUMMARY		DECISION SUPPORT		PATIENT EDUCATION/SELF MANAGEMENT	
TREATMENT AND MONITORING (INDIVIDUALIZED PATIENT APPROACH)					
STEP 13: FTM TRANSMAN SPECIAL CIRCUMSTANCES ¹² (CONT)					
Chronic HCV and hormone therapy		<ul style="list-style-type: none">Chronic HCV is not a contraindication to hormone therapy.Both estrogen and testosterone undergo hepatic metabolism, and routine monitoring of hepatic function has been recommended.Monitoring of liver function in patients with chronic HCV infection should proceed as routinely recommended by disease stage and risk factors for progression dictate.Non-oral forms of hormone therapy avoid first pass through liver metabolism and may be preferred for patients with liver disease, though there is no specific evidence to support this recommendation.			
Metabolic syndrome and related conditions (obesity, hyperlipidemia, impaired glucose tolerance, PCOS)		<ul style="list-style-type: none">Cardiovascular and DM considerations are covered elsewhere in these guidelines.PCOS can manifest with any combination of impaired fasting glucose, dyslipidemias, hirsutism, obesity, and oligo- or amenorrhea with anovulation.Some of these features (hirsutism, oligo- or amenorrhea) may be welcomed by FTM Transmen and present prior to testosterone administration.Testosterone administration is not contraindicated in the presence of PCOS, but patients should be monitored for hyperlipidemia and DM.FTM Transmen with amenorrhea in the presence of testosterone are not believed to be at elevated risk of endometrial hyperplasia, due to the atrophic effects of testosterone on the endometrium. It may be prudent to pursue endometrial evaluation prior to initiation of testosterone in FTM Transmen with a current history amenorrhea/oligomenorrhea.Testosterone replacement in non-transgender men is associated with an increased risk of OSA. It is unknown whether OSA is increased in FTM Transmen after the initiation of testosterone. However, the behavioral health improvements seen with testosterone therapy may result in positive lifestyle changes that reduce obesity, disorders of glucose metabolism, or hyperlipidemia.In all but the most severe cases (DM out of control, active unstable coronary artery disease), FTM Transmen should be informed of risks, and if testosterone therapy continues to be desired, it should be continued with concurrent conventional management of metabolic disorders and their sequelae.			
STEP 14: FTM TRANSMAN WHEN TO REFER TO A SPECIALIST					
<p>Care for the transgender patient can be accomplished by a PCP. Consider referring patients to a contracted provider (typically an endocrinologist) via telemedicine in the following cases:</p> <ol style="list-style-type: none">Patients that are at a very high risk for adverse effects from testosterone treatment:<ul style="list-style-type: none">Unstable ischemic cardiovascular disease/cerebrovascular diseaseAndrogen-sensitive cancerEndometrial cancerPolycythemia / Erythrocytosis (Hct > 50%)History of breast or uterine cancerSignificant liver disease (transaminases > 3 times upper limit of normal)Findings suggestive of intersex conditions (e.g., ambiguous genitalia, etc.)Patients that did not achieve expected clinical response despite treatment with maximum testosterone dose.					

FTM TRANSMAN

SUMMARY

DECISION SUPPORT

PATIENT EDUCATION/SELF MANAGEMENT

CCHCS GENDER AFFIRMING SURGERY

GENERAL CRITERIA FOR INITIATING GENDER AFFIRMING SURGERY

♦ **Background:**⁴

- Individuals may live successfully as transgender persons without surgery. Gender affirming surgery may be considered for those individuals who are diagnosed with Gender Dysphoria and demonstrate significant distress not attributable to conditions of confinement, mental illness or other factors, but are due to lack of reasonable response to available nonsurgical treatments and there are no available, additional treatments other than surgery that are likely to improve or alleviate their symptoms.
- Each referral is considered on a case-by-case basis.
- Surgery is not required for legal changes in California (e.g., gender change, birth certificate, name change, etc.). Other states and countries may have different requirements.

♦ **Criteria:**⁴

- In addition to the eligibility and readiness criteria for hormone therapy, general criteria for consideration of surgery include at least 12 months of successful use of hormone therapy, participation in psychotherapy as clinically indicated, full-time real life experience in their preferred gender, and consolidation of gender identity.
- The patient must request consideration for and demonstrate a practical understanding of gender affirming surgery including, but not limited to, permanence, potential complications, and short- and long-term treatment plans.

CRITERIA FOR GENDER AFFIRMING SURGERY^{3,6,9}

- | |
|---|
| 1. Persistent, well-documented Gender Dysphoria |
| 2. Legal age of majority (in California, 18 years old) |
| 3. Having continuously and responsibly used gender affirming hormones for 12 months (if there is no medical contraindication to receiving such therapy) |
| 4. Successful, continuous full-time living in the new gender role for 12 months |
| 5. If significant medical or mental health concerns are present, they must be well controlled |

♦ **Procedures Which May Be Authorized for CCHCS/DHCS Patients Requesting Gender Affirming Surgery**

MTF Transwoman

Vaginoplasty: Create a vagina

Clitoroplasty: Create a clitoris

Labiaplasty: Construct labia

Vulvoplasty: Construct vulva

Orchiectomy: Remove testicles

Penectomy: Remove penis

FTM Transman

Vaginectomy: Remove vagina

Hysterectomy: Remove uterus

Salpingo-oophorectomy: Remove tubes/ovaries

Metoidioplasty: Create a penis from clitoris, enlarged from testosterone use

Phalloplasty: Create a penis using tissue from elsewhere on the body

Urethroplasty: Create/repair urethra

Scrotoplasty: Create a scrotum

Placement of testicular prostheses

Mastectomy and reduction mammoplasty

♦ **Referral Process Overview**

See Supplement CCHCS/DHCS: GUIDELINES FOR REVIEW OF REQUESTS FOR GENDER AFFIRMING SURGERY

SUMMARY	DECISION SUPPORT	PATIENT EDUCATION/SELF MANAGEMENT
REFERENCES		
<ol style="list-style-type: none"> 1. Association AP. Gender Dysphoria. Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. Arlington, VA: American Psychiatric Association; 2013. 2. Primary care of transgender individuals [Internet]. UpToDate. 2018 [cited Mar 01, 2019]. Available from: https://www.uptodate.com/contents/primary-care-of-transgender-individuals#! 3. WPATH Standards of Care v7 [Internet]. The World Professional Association for Transgender Health. 2011 [cited Mar 01, 2019]. Available from: https://www.wpath.org/media/cms/Documents/Web%20Transfer/SOC/Standards%20of%20Care%20V7%20-%202011%20WPATH.pdf. 4. Medical Management of Transgender Inmates [Internet]. 2016 [cited Feb 21, 2019]. Available from: https://www.bop.gov/resources/pdfs/trans_guide_dec_2016.pdf. 5. Media Reference Guide - 10th Edition [Internet]. [cited Mar 18, 2019]. Available from: https://www.glaad.org/reference#guide. 6. Transgender women: Evaluation and management [Internet]. UpToDate. 2018 [cited Mar 01, 2019]. Available from: https://www.uptodate.com/contents/transgender-women-evaluation-and-management 7. Transgender men: Evaluation and management [Internet]. UpToDate. 2018 [cited Mar 01, 2019]. Available from: https://www.uptodate.com/contents/transgender-men-evaluation-and-management 8. Guidelines for the Primary and Gender-Affirming Care of Transgender and Gender Nonbinary People [Internet]. Center of Excellence for Transgender Health (CoE) at the University of California – San Francisco. 2016 [cited Mar 01, 2019]. Available from: http://transhealth.ucsf.edu/pdf/Transgender-PGACG-6-17-16.pdf. 9. The Medical Care of Transgender Persons [Internet]. 2015 [cited Mar 06, 2019]. Available from: http://www.lgbthealtheducation.org/wp-content/uploads/COM-2245-The-Medical-Care-of-Transgender-Persons.pdf. 10. Preexposure prophylaxis for the prevention of HIV in the United States - A clinical practice guideline. Centers for Disease Control and Prevention, U.S. Public Health Service; 2014. 11. Hembree WC, Cohen-Kettenis PT, Gooren L, Hannema SE, Meyer WJ, Murad MH, et al. Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society* Clinical Practice Guideline. The Journal of Clinical Endocrinology & Metabolism. 2017;102(11):3869-903. 12. Center of Excellence for Transgender Health. Available from http://transhealth.ucsf.edu/trans?page=guidelines-home. 		

SUMMARY

DECISION SUPPORT

PATIENT EDUCATION/SELF MANAGEMENT

HORMONE THERAPY: MTF TRANSWOMAN

- ♦ Changing your gender is a serious and possibly dangerous process.
- ♦ There are many things you can do to get the safest and best results for your body and mind like:
 - Not smoking
 - Not drinking alcohol or taking illegal drugs
 - Keep a healthy weight
 - Exercise regularly
- ♦ You should only trust information you get from your medical and mental health clinicians.

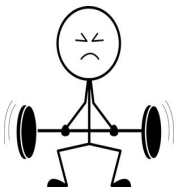
WHAT YOU NEED TO KNOW ABOUT ESTROGEN THERAPY



- The feminizing effects of estrogen can take months to be noticed and years to be complete.

TIME NEEDED TO SEE EFFECTS OF ESTROGEN & ANDROGEN BLOCKERS¹¹

Effect On Your Body	Starting	Maximum Change
Less stomach fat/More fat on butt, hips, thighs	3-6 months	2-3 years
Less muscle and strength	3-6 months	1-2 years
Softer skin/Less oily skin	3-6 months	Unknown
Less sexual desire	1-3 months	3-6 months
Less spontaneous erections	1-3 months	3-6 months
Male sexual dysfunction	Variable	Variable
Breast growth	3-6 months	2-3 years
Smaller testicles	3-6 months	2-3 years
Make less sperm	Unknown	>3 years
Less hair growth	6-12 months	>3 years
Head hair	Variable	-----



- Some changes to your body will be permanent, even if you stop taking estrogen, including:
 - **Breast development:** You will need to do monthly breast self-examinations, have an annual medical exam, and you will need to have mammograms after age 50.
 - **Less sperm production:** Even if you stop estrogen, the ability to make healthy sperm may or may not come back.
- Taking estrogen will not protect you from sexually transmitted infections (like HIV).
- Dangerous side effects of taking Estrogen can include:
 - Blood clots
 - Breast cancer
 - Heart Attacks
 - Feeling depressed
 - Stroke
 - Liver disease
- Estrogen may raise your risk of heart disease, just like smoking cigarettes. If you choose to smoke, your doctor may not prescribe estrogen or may prescribe lower doses. It is important to reduce other risk factors for heart disease, like high cholesterol and being overweight.
- You can choose to stop taking estrogen at any time. Your doctor can also stop your treatment for medical reasons. If you stop taking estrogen, you must follow a plan to reduce the dose gradually to avoid harmful side effects.

WHAT YOU NEED TO DO

- Tell your doctor if you are taking any dietary supplements, herbs, *drugs (legal or illegal) obtained in prison, other than those prescribed for you* or other medications.
- If you are in the mental health services delivery system, continue care with your mental health clinician. If you feel you need mental health services submit a CDCR 7362 or notify a staff member.
- You will be asked to sign an informed consent form before starting estrogen therapy.

☞ If you have any questions, talk to your health care or mental health provider ☞

SUMMARY

DECISION SUPPORT

PATIENT EDUCATION/SELF MANAGEMENT

HORMONE THERAPY: FTM TRANSMAN

- ♦ Changing your gender is a serious and possibly dangerous process.
- ♦ There are many things you can do to get the safest and best results for your body and mind like:
 - Not smoking
 - Not drinking alcohol or taking illegal drugs
 - Keep a healthy weight
 - Exercise regularly
- ♦ You should only trust information you get from your medical and mental health providers.



WHAT YOU NEED TO KNOW ABOUT TESTOSTERONE THERAPY

- The masculinizing effects of testosterone can take months to be noticed and years to be complete.

TIME NEEDED TO SEE EFFECTS OF TESTOSTERONE⁸

Effect On Your Body	Starting	Maximum Change
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	-----
More muscle and strength	6-12 months	2-5 years
Less fat on butt, hips, thighs	1-6 months	2-5 years
No menstrual periods	1-6 months	-----
Bigger Clitoris	1-6 months	1-2 years
Vaginal dryness	1-6 months	1-2 years
Deeper voice	6-12 months	1-2 years



- Some changes to your body will be permanent, even if you stop taking testosterone including:
 - Scalp hair loss
 - Facial hair growth and more body hair
 - Deepening of your voice
- Testosterone will not protect you from sexually transmitted infections or from becoming pregnant.
- If you take testosterone for a long time, you may not be able to get pregnant in the future, even if you stop taking testosterone.
- Dangerous side effects of taking Testosterone can include:
 - Blood clots
 - High blood pressure
 - Liver disease
 - Heart Attacks
 - Feeling depressed
 - Breast and/or uterine cancer
 - Aggressive behavior/hostility
 - Stroke
- Testosterone may raise your risk of heart disease, just like smoking cigarettes. If you choose to smoke, your doctor may not prescribe testosterone or may prescribe lower doses. It is important to reduce other risk factors for heart disease, like high cholesterol and being overweight.
- You can choose to stop taking testosterone at any time. Your doctor can also stop your treatment for medical reasons. If you stop taking testosterone, you must follow a plan to reduce the dose slowly to avoid harmful side effects.

WHAT YOU NEED TO DO

- Tell your doctor if you are taking any dietary supplements, herbs, *drugs (legal or illegal) obtained in prison, other than those prescribed for you* or other medications.
- If you are in the mental health services delivery system, continue care with your mental health clinician. If you feel you need mental health services submit a CDCR 7362 or notify a staff member.
- You will be asked to sign an informed consent form before starting testosterone therapy.

☞ If you have any questions, talk to your health care or mental health provider ☞

RESUMEN

APOYO PARA LA TOMA DE DECISIONES

EDUCACIÓN PARA EL PACIENTE/CONTROL PERSONAL DEL CASO

TERAPIA HORMONAL: DE HOMBRE A MUJER

- ♦ Cambiar de género es un proceso serio y posiblemente peligroso.
- ♦ Existen muchas cosas que puede hacer para obtener resultados más seguros y mejores para mente y cuerpo:
 - No fumar • No ingerir alcohol ni tomar drogas ilegales • Mantener un peso sano • Ejercitarse regularmente
- ♦ Debe confiar únicamente en la información que le suministren su médico y proveedores de salud mental.

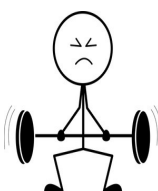
Lo que necesita saber sobre la terapia de estrógenos



- Los efectos de la feminización por estrógenos pueden tomar muchos meses antes de comenzar a notarse y varios años para completarse.

TIEMPO NECESARIO PARA VER EFECTOS DE ESTROGENO Y BLOQUEADORES DE ANDROGENO¹¹

Efecto sobre tu cuerpo	Comenzando	Cambio maximo
Menos grasa estomacal/Más grasa en las nalgas, caderas, muslos	3-6 meses	2-3 años
Menos músculo y fuerza.	3-6 meses	1-2 años
Piel más suave/Piel menos grasa	3-6 meses	Desconocido
Menos deseo sexual	1-3 meses	3-6 meses
Menos erecciones espontáneas	1-3 meses	3-6 meses
Disfunción sexual masculina	Variable	Variable
Crecimiento de los senos	3-6 meses	2-3 años
Testículos más pequeños	3-6 meses	2-3 años
Hacer menos esperma	Desconocido	>3 años
Menos crecimiento del vello	6-12 meses	>3 años
Vello de cabello	Variable	-----



- Algunos cambios en su cuerpo serán permanentes, aun si deja de tomar estrógenos, tales como:
 - **Desarrollo de senos:** Debe aprender a autoexaminarse los senos de forma mensual, hacerse un control médico anual y debe hacerse mamografías a partir de los 50 años de edad.
 - **Hacer menos esperma:** Incluso si se deja de tomar estrógenos, la habilidad de producir esperma sana podría volver o no volver.
- Tomar estrógenos no le protegerá de contraer infecciones de transmisión sexual (como el VIH).
- Algunos efectos secundarios peligrosos son:
 - Coágulos de sangre
 - Cáncer de seno
 - Ataques cardíacos
 - Depresión clínica
 - Derrame cerebral
 - Enfermedad hepática
- Los estrógenos pueden elevar su riesgo de sufrir enfermedades cardíacas, tal como lo hace el fumar cigarrillos. Si decide fumar, su proveedor de cuidados de salud podría no recetar estrógenos o podría recetar una dosis más baja. Es importante reducir otros factores de riesgo de enfermedad cardíaca, como colesterol y sobrepeso.
- Puede decidir dejar de tomar estrógenos en cualquier momento. Su proveedor de salud también podría detener el tratamiento por razones médicas. Si deja de tomar estrógenos, debe seguir un plan de reducción progresiva de la dosis para evitar así efectos secundarios dañinos.

Lo que necesita hacer

- Avise a su proveedor de salud si usted está tomando algún suplemento dietético, hierbas, drogas (legales o ilegales) obtenidos en la cárcel aparte de los que le han sido recetados u otros medicamentos.
- Si está participando en el programa de servicios de salud mental, debe continuar viéndose con un proveedor de salud mental. Si piensa que necesita servicios de salud mental debe llenar y enviar un Formulario 7362 o indíqueselo a cualquier empleado del CDCR.
- Se le pedirá que firme un formulario de consentimiento informado antes de iniciar su terapia de estrógenos.

☞ Si tiene alguna pregunta, converse con su médico o proveedor de salud mental ☞

RESUMEN

APOYO PARA LA TOMA DE DECISIONES

EDUCACIÓN PARA EL PACIENTE/CONTROL PERSONAL DEL CASO

TERAPIA HORMONAL: DE MUJER A HOMBRE

- ♦ Cambiar de género es un proceso serio y posiblemente peligroso.
- ♦ Existen muchas cosas que puede hacer para obtener resultados más seguros y mejores para mente y cuerpo:
 - No fumar • No ingerir alcohol ni tomar drogas ilegales • Mantener un peso sano • Ejercitarse regularmente
- ♦ Debe confiar únicamente en la información que le suministren su médico y proveedores de salud mental.

Lo que necesita saber sobre la terapia de testosterona



- Los efectos de la masculinización por testosterona pueden tomar muchos meses antes de comenzar a notarse y varios años para completarse.

TIEMPO NECESARIO PARA VER EFECTOS DE TESTOSTERONA¹¹

Efecto sobre tu cuerpo	Comenzando	Cambio maximo
Piel aceitosa/acné	1-6 meses	1-2 años
Crecimiento de vello facial/ corporal	6-12 meses	4-5 años
La pérdida del cabello del cuero cabelludo	6-12 meses	-----
Más músculo y fuerza.	6-12 meses	2-5 años
Menos grasa en las nalgas, caderas, muslos	1-6 meses	2-5 años
Falta de periodos menstruales	1-6 meses	-----
Clitoris mas grande	1-6 meses	1-2 años
Sequedad vaginal	1-6 meses	1-2 años
Voz más profunda	6-12 meses	1-2 años



- Algunos cambios en su cuerpo serán permanentes, aun si deja de tomar testosterona, tales como:
 - Pérdida de cabello • Crecimiento de vello facial y aumento de vello corporal • Intensificación de la voz
- Tomar testosterona no le protegerá de contraer infecciones de transmisión sexual ni de quedar embarazada.
- Si toma testosterona por un largo período de tiempo, podría quedar infértil a futuro, incluso si deja de tomar testosterona.
- Algunos efectos secundarios peligrosos son:
 - Coágulos de sangre • Presión arterial alta • Enfermedad hepática
 - Depresión clínica • Cáncer de seno/o uterino • Comportamiento agresivo/hostilidad
 - Derrame cerebral • Ataques cardíacos
- La testosterona puede elevar su riesgo de sufrir enfermedades cardíacas, tal como lo hace el fumar cigarillos. Si decide fumar, su proveedor de cuidados de salud podría no recetar testosterona o podría recetar una dosis más baja. Es importante reducir otros factores de riesgo de enfermedad cardíaca, como colesterol y sobrepeso.
- Puede decidir dejar de tomar testosterona en cualquier momento. Su proveedor de salud también podría detener el tratamiento por razones médicas. Si deja de tomar testosterona, debe seguir un plan de reducción progresiva de la dosis para evitar así efectos secundarios dañinos.

Lo que necesita hacer

- Avise a su proveedor de salud si usted está tomando algún suplemento dietético, hierbas, drogas (legales o ilegales) obtenidos en la cárcel aparte de los que le han sido recetados u otros medicamentos.
- Si está participando en el programa de servicios de salud mental, debe continuar viéndose con un proveedor de salud mental. Si piensa que necesita servicios de salud mental debe llenar y enviar un Formulario 7362 o indíquesele a cualquier empleado del CDCR.
- Se le pedirá que firme un formulario de consentimiento informado antes de iniciar su terapia de testosterona.

☞ Si tiene alguna pregunta, converse con su médico o proveedor de salud mental ☞