Informed Consent Model of Integrated Care: Gender Affirming Hormone Therapy

Introduction

Transgender people are estimated to represent 0.6% of the U.S. population; in Wisconsin it estimates to 0.43%. The 2017 Health Care and the LGBT Community in Eastern Wisconsin Report, compiled by Aurora Consumer Insights, demonstrates that transgender people exceed the general population in mental health/stress (4x greater), STI Concerns (32x greater) and HIV Concerns (18x greater). The report also found a range of barriers to accessing primary care. The biggest barrier to appropriate primary care is the lack of clinicians with knowledge in transgender care.

Purpose

The Informed Consent Model of Integrated Care: Gender Affirming Hormone Therapy guide aims to address disparities and barriers within the transgender patient population by equipping primary care clinicians with the tools and knowledge to meet their health care needs.

This guide adopts best practices found on the original UCSF Primary Care Protocol for Transgender Care, the World Professional Association for Transgender Health (WPATH) Standards of Care, the Endocrine Society Guidelines and aligns with Aurora Medical Group care practices.

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Clinical Model Overview

Informed Consent

Gender affirming treatment for transgender adults at Aurora Health Care is managed through primary care teams under an informed consent model of care. Clinicians who feel comfortable making an assessment and diagnosis of gender dysphoria, as well as assessing for capacity to provide informed consent (able to understand risks, benefits, alternatives, unknowns, limitations, risks of no treatment) are able to initiate gender affirming hormones without a prior assessment or referral from a Behavioral Health clinician . If the clinician is uncomfortable with assessing gender dysphoria and informed consent to initiate HT, Behavioral Health referral options are available. (See Behavioral Health.)

Patients will work together with their clinician to develop the best program of care and timeline based on the patients' health care needs, understanding of treatment, and transition goals. The informed consent model is accessible to the following patients:

- Capacity to give informed consent
- 18 years of age and older

Evaluation by an endocrinologist is not necessary to begin hormone therapy, but referral to specific specialists may be considered when history and physical along with clinician judgment and comfort dictate.

Care Model

FIRST APPOINTMENT (INITIAL INTAKE)

The initial intake appointment is an opportunity for patient and clinician to discuss specific needs and goals in accessing hormones. Medical history, physical examination and comprehensive blood work is completed in order to consider the best prescription/plan.

SECOND APPOINTMENT

The second appointment is an opportunity for the patient and clinician to review blood work including contraindications and comorbid condition, any additional tests and assessments. A discussion of risks and benefits of treatment as well as signing informed consent for treatment. If appropriate, the patient may be able to initiate hormone therapy at this visit.

THIRD (OR MORE) APPOINTMENT(S)

Follow-up to previous visits includes: any additional tests or assessments, gender affirming examinations, a review of comorbid conditions and management of side effects. Patients should understand that laboratory tests will continue to be monitored through the course of therapy and that they will be expected to maintain regular follow up visits, especially during the first year of hormone therapy.

Clinical Model Overview, Continued

Behavioral Health

If significant comorbid mental conditions are present it is strongly advised to involve Behavioral Health for further assessment and treatment. Stabilizing co-morbid mental conditions prior to initiation of hormones is recommended. In some cases, the medical treatment of gender dysphoria is best done simultaneously with treatment of mental illness - a letter of clearance from the Behavioral Health provider, to proceed with HT, would be needed.

Transgender patients also present to behavioral health for any combination of the following health care services:

- Psychotherapy to explore gender identity and expression or to facilitate a coming out process;
- Assessment for medical interventions; feminizing/masculinizing hormones
- Psychological support for family members (partners, children, extended family).
- Psychotherapy unrelated to gender concerns

We are working with Behavioral health on cultural competency training as well as access and capacity.

Harm Reduction Approach

Some transgender patients have obtained hormones by other means, such as the internet or street sources, without initial or ongoing medical assessment or supervision. The harm reduction approach is recommended when assuming medical care of self-medicating, self-prescribing transgender patients. The harm reduction principle embraces respect, trust and a nonjudgmental stance.

Harm Reduction Principles

- Individual's decision to use is accepted
- Individual is treated with dignity
- Individuals have a voice
- Reducing harm, not consumption
- No pre-defined outcomes

Trauma Informed Approach

Often and for many different reasons, transgender and gender nonconforming may have complex trauma histories with interpersonal, social, and medical systems-based trauma experiences.

This approach is grounded in providing a sense of control to the patient and includes: greeting patients while they are dressed; explaining what you plan to do and why; providing information, choices, and decision-making ability.
(See Trauma Informed Approach).

Continued on next page

Gender Affirming Examinations

When conducting a physical exam, providers should use a gender affirming approach. Affirming individuals in their gender identity through social interactions including correct name and pronouns, general terminology for body parts, and discussion with patient regarding their preferences. As with other patients, examination should be performed as pertaining to a reason for the office visit. (See Gender Affirming Examinations)

- General exam as well as addressing any questions at the first visit (once comfortable then we can exam other areas)
- Based on anatomy that's present during the exam
- Organ Inventory: Clinical person to complete / Gender identity

IMPROVING PATIENT EXPERIENCE VIA PAP SMEAR

Strategies to promote a more supportive and sensitive setting include using culturally sensitive language, interviewing the patient prior to disrobing, and asking the patient to change from the waist down only. A painful pap smear experience is correlated with non-adherence to future screening and colposcopy. (See Pain Reduction Techniques)

CANCER SCREENINGS

Primary care clinicians should conduct an organ based routine cancer screening for all transgender patients in accordance with current guidelines as a component of comprehensive primary care. As a rule, 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.

Appendix A: Initial Assessments, Labs and Discussions

Introduction

Initial consult typically consists of 1-hour clinical interview session with a new patient. The goals of the initial evaluation are to discuss goals and expectations, review medical history and order comprehensive blood work.

- Initial labs for a patient based on their legal sex in the chart.
- In general, no required lab work is needed prior to HT but the physician should use USPSTF guidelines and clinical judgement on current patient risk factors.

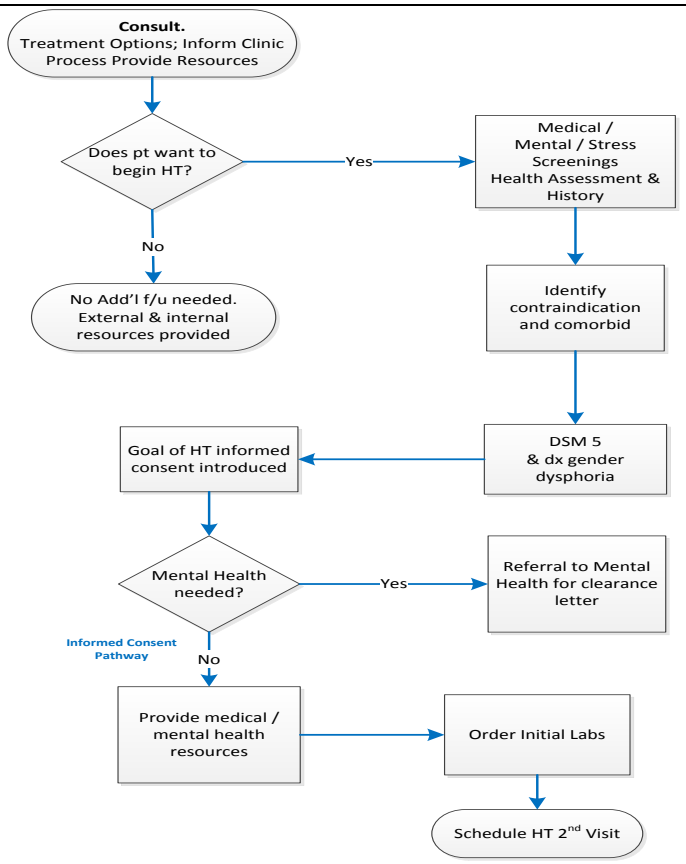
Intake of Care

Every initial intake for care should include a Behavioral Health history and an assessment for active Behavioral Health concerns. Recommended screening should include primary Behavioral Health problems, environmental and social stressors, and gender-related needs.

PHYSICAL EXAMINATION

Initial physical exam should be performed as necessary (not required) based on history. More sensitive portions of the exam are not required prior to starting HT unless indicated. Refer to Gender Affirming Examinations for approach.

Initial Visit Diagram



Initial Visit Assessments

Behavioral Health Assessment

At minimum a screening of Behavioral Health issues should be performed by the prescribing clinician. If patient is not referred to Behavioral Health for further evaluation/clearance then the prescribing clinician should perform the following.

A comprehensive, clinical evaluation that indicates strong and persistent gender dysphoria which also includes:

- Comprehensive psychosocial history with as much detail as possible of medical, psychological, social/family, education, occupational history
- Brief timeline of individual's gender identity formation, body image concerns and degree of social transition and a desire by the patient to receive medical (Hormone Replacement Therapy) intervention
- Overall psychological functioning with current diagnosis aside from gender dysphoria, if given, any significant Behavioral Health issues, history of treatment, planned treatment, contraindications to HT (no evidence of severe, untreated psychiatric conditions)
- If the individual has agreed to remain in an ongoing Behavioral Health relationship, a description of the duration and frequency of the therapeutic relationship
- The level of support within the social support system
- The individual's ability to understand the risks/benefits of medical intervention (HT) and provide independent assent to begin treatment

Overall, the BH report is one of:

1. Information gathering
2. Determining the individual exhibits the history and identity consistent with gender dysphoria
3. Looking at exclusionary criteria related to ability to consent, having no significant Behavioral Health diagnoses, and
4. Having the information regarding the process to recommend to the clinician to proceed with the process.

SOC recommends stabilizing co-occurring mental illness prior to initiation of hormones, but in some cases the medical treatment of gender dysphoria is best done simultaneously with treatment of mental illness and substance use disorders.

Primary care clinicians should be equipped to handle basic Behavioral Health needs of transgender patients (e.g., depression and anxiety) just as any other patient.

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Initial Visit Assessments, Continued

Behavioral Health Assessment (continued)

Any primary Behavioral Health concerns beyond the scope of the clinician's routine practice should be referred to transgender-affirming Behavioral Health clinicians.

Referrals should be made when appropriate to substance abuse treatment programs, including dual diagnosis programs for those with co-occurring mental conditions.

DSM-5 Assessment & Diagnosis

In adolescents and adults gender dysphoria diagnosis involves a difference between one's experienced/expressed gender and assigned gender, and significant distress or problems functioning. It lasts at least six months and is shown by at least two of the following:

1. A marked incongruence between one's experienced/expressed gender and primary and/or secondary sex characteristics
2. A strong desire to be rid of one's primary and/or secondary sex characteristics
3. A strong desire for the primary and/or secondary sex characteristics of the other gender
4. A strong desire to be of the other gender
5. A strong desire to be treated as the other gender
6. A strong conviction that one has the typical feelings and reactions of the other gender

Sex Risk Assessment

Fenway transgender guide provides suggested sexual risk assessment questions.

- Are you having sex? How many sex partners have you had in the past year?
- Who are you having sex with? (including anatomy and gender of partners) What types of sex are you having? What parts of your anatomy do you use for sex?
- How do you protect yourself from STIs? (How often do you use condoms/barriers? Any use of PrEP?)
- What STIs have you had in the past, if any? When were you last tested for STIs?
- Has your partner(s) ever been diagnosed with any STIs?
- Do you use alcohol or any drugs when you have sex?
- Do you exchange sex for money, drugs, or a place to stay?

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Initial Visit Assessments, Continued

Stress Assessment

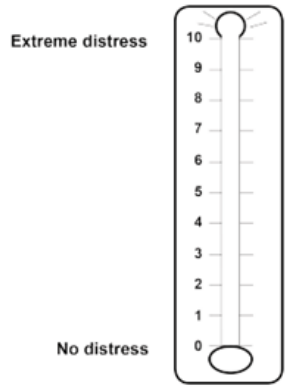
Screening to include social, environmental, and Behavioral Health aspects should be during the initial visit. Again Behavioral Health issues should not be assumed to be related gender identity. Transgender people continue to experience other issues similar to general population.

Sample included below:

Aurora Health Care

Instructions

First: please circle the number (0-10) that best describes how much distress you have been experiencing in the past week including today.



Yes	No	Physical Problems
❑	❑	Appearance/Body Image
❑	❑	Breathing Problems
❑	❑	Changes in Urination
❑	❑	Constipation/Diarrhea
❑	❑	Stomach Problems
❑	❑	Eating Changes/Dieting
❑	❑	Nausea/Throwing Up
❑	❑	Feeling Tired
❑	❑	Sleeping Too Much/Too Little
❑	❑	Feeling Swollen
❑	❑	Pain _____
❑	❑	Sexual Problems or Concerns
❑	❑	Memory/Concentration
❑	❑	Smoking
❑	❑	Using Alcohol/Drugs

Yes	No	Stress Relate To
❑	❑	Feeling Discriminated Against
❑	❑	Being Out/Concealment
❑	❑	Treatment Decisions for Trans
❑	❑	Work/School Discrimination
❑	❑	Violence/Fear of Violence
❑	❑	Fear of HIV/AIDS
❑	❑	Conflict/Ambivalence of Own Sexual Identity/Gender Identity

Yes	No	Practical Problems
❑	❑	Insurance/Financial
❑	❑	Transportation
❑	❑	Housing
❑	❑	Other Family Problems
❑	❑	Dealing with Partner
❑	❑	Dealing with Violence
❑	❑	Ability to Have Children
❑	❑	Dealing with Children
❑	❑	Childcare
❑	❑	Other _____

Yes	No	Emotional Problems
❑	❑	Depression/Sadness
❑	❑	Fears/Worry
❑	❑	Nervousness
❑	❑	Loss of Interest in Usual
❑	❑	Spiritual/Religious Concerns
❑	❑	Thinking about Dying
❑	❑	Suicidal Thoughts
❑	❑	Wanting To Cut Self
❑	❑	Other _____

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Initial Visit Assessments, Continued

STI Screening

Note:
Not required to be done but recommended as part of taking a history.

HEPATITIS B
Periodic screening may be useful in patients with ongoing risk for HBV transmission (for example, active injection drug users, men who have sex with men, and patients receiving hemodialysis) who do not receive vaccination. Clinical judgment should determine screening frequency, because the USPSTF found inadequate evidence to determine specific screening intervals.

HIV
The evidence is insufficient to determine optimum time intervals for HIV screening. Recommendation for repeated screening of those who are known to be at risk for HIV infection, those who are actively engaged in risky behaviors, and those who live or receive medical care in a high-prevalence setting. According to the CDC, a high-prevalence setting is a geographic location or community with an HIV seroprevalence of at least 1%. These settings include sexually transmitted disease (STD) clinics, correctional facilities, homeless shelters, tuberculosis clinics, clinics serving men who have sex with men, and adolescent health clinics with a high prevalence of STDs.

Given the paucity of available evidence for specific screening intervals, a reasonable approach may be to rescreen groups at very high risk for new HIV infection at least annually and individuals at increased risk at somewhat longer intervals (for example, 3 to 5 years). Routine rescreening may not be necessary for individuals who have not been at increased risk since they were found to be HIV-negative.

SYPHILIS
The optimal screening frequency for persons who are at increased risk for syphilis infection is not well established. Men who have sex with men or persons living with HIV may benefit from more frequent screening. Initial studies suggest that detection of syphilis infection in MSM or persons living with HIV improves when screening is performed every 3 months compared with annually.

HEP C
Persons in the baby boomer cohort (1945-1965) and those who are at risk because of potential exposure before universal blood screening and are not otherwise at increased risk need only be screened once. Persons with continued risk for HCV infection (injection drug users) should be screened periodically. The USPSTF found no evidence about how often screening should occur in persons who continue to be at risk for new HCV infection.

Initial Labs

Transgender Males (FtM):	• Lipid, CMP, A1C per USPSTF guidelines. You would not do a lipid panel on a normal BMI 18 year old presenting to clinic (no clinical significance). • Consider fasting blood glucose and/or glycated hemoglobin and liver function tests, if patient's exam or history suggest polycystic ovarian syndrome, diabetes, or prediabetes; • Urine HCG if patient is at any risk for pregnancy • Consider serum testosterone if history and exam suggest androgenizing condition. • Total Female Testosterone (per ACL names) and DHEAS are 2 labs to rule out virilizing syndrome from ovarian or adrenal sources/tumor, 17 OHP is used to rule out congenital adrenal hyperplasia- a condition which causes virilization.
Transgender Females (MtF):	• Basic metabolic profile (electrolytes, glucose, BUN/creatinine) • Consider liver function tests, if patient will be taking oral estrogen • Baseline testosterone level is generally not necessary and will not impact hormone treatment; consider in MtF, if history and exam suggests hypogonadism. • Lipid panel and/or A1c, glucose as per USPSTF guidelines • Baseline prolactin levels are only necessary for patients with a history of hyperprolactinemia or pituitary adenomas or who have been taking medications that might increase prolactin levels, e.g. anti-psychotics
Endocrinology Involvement	Evaluation by an endocrinologist is not necessary to begin cross-sex hormone treatment, but referral to specific specialists may be considered when history and physical along with clinician judgment and comfort dictate. Patients should understand that laboratory tests will continue to be monitored through the course of therapy and that they will be expected to maintain regular follow up visits, especially during the first year of hormone treatment.

Initial Discussions

Goals of HT

FEMINIZING

The goal of feminizing hormone therapy is the development of female secondary sex characteristics, and suppression/minimization of male secondary sex characteristics. General effects include breast development (usually to Tanner stage 2 or 3), a 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, and arrest and possible reversal of scalp hair loss.

- See MtF Goals of Hormone Therapy section for detailed treatment options.

MASCULINIZING

The goal of masculinizing hormone therapy is the development of male secondary sex characteristics, and suppression/minimization of female secondary sex characteristics. General effects include the development of facial hair, virilizing changes in voice, a redistribution of facial and body subcutaneous fat, increased muscle mass, increased body hair, change in sweat and odor patterns, frontal and temporal hairline recession, and possibly male pattern baldness. Sexual and gonadal effects include an increase in libido, clitoral growth, vaginal dryness, and cessation of menses.

- See FtM Goals of Hormone Therapy section for detailed treatment options.

Fertility

Typically reproduction of those on HT involves discontinuation of hormones. Despite this, ovulation and spermatogenesis may continue even on HT and contraception is important.

Possibly 3-6 months for fertility to return after discontinuation of HT. It is also possible that HT may cause permanent or partial infertility. Extremely important that patient aware of this possibility before starting HT and as part of the informed consent process. Testosterone is a teratogen and contraindicated in pregnancy. No recommended and unknown what time frame to stop prior to conception. No data on outcomes of those with history of HT and assisted reproductive technologies.

Reproductive preservation options include:

- **MtF:** Sperm cryopreservation
- **FtM**: Egg cryopreservation, Embryo cryopreservation, Gestational surrogacy

Preconception counseling is important. There is an increased risk for increased gender dysphoria during and after pregnancy. Recommend referral to reproductive endocrinology.

Appendix B: Comorbid Conditions, Contraindications and Prescribing of Medication

Introduction

This section outlines the detail recommendations of the second appointment.

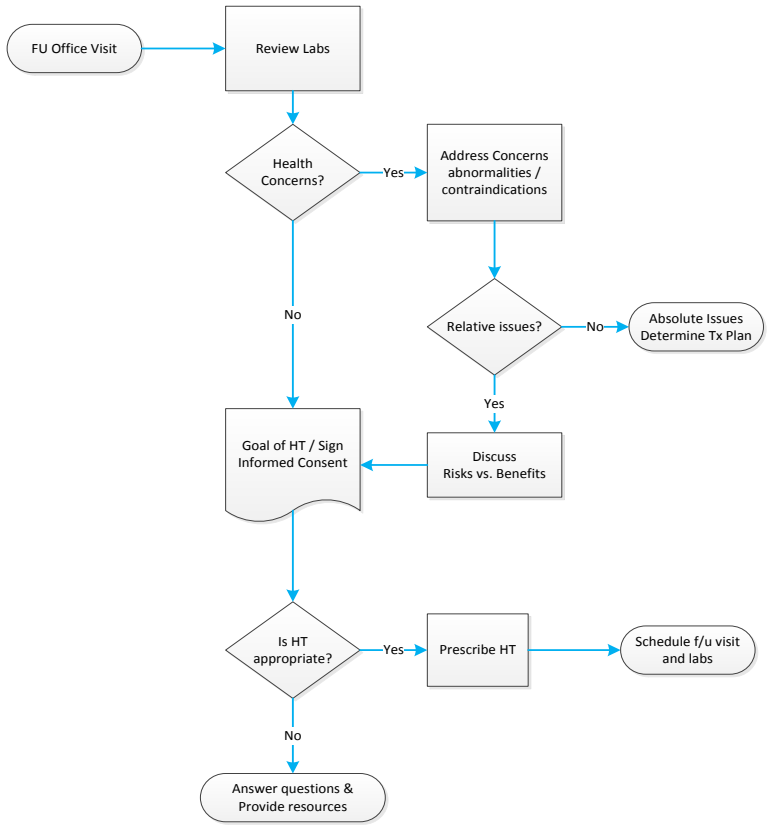
The second appointment is an opportunity for the patient and clinician to review lab results including contraindications and comorbid condition, any additional tests and assessments. The goal of this visit is to determine the patients' risks and benefits with HT and outline a treatment plan with the appropriate resources.

Informed Consent Forms

Adopted from Fenway Health, two consent forms are available and approved by the Aurora legal department: feminizing therapy and masculinizing therapy. Both forms include a general overview of hormone therapy and explanation of side effects. Document to be signed by the patient before proceeding with HT.

- http://fenwayhealth.org/documents/medical/transgender-resources/Fenway_Health_Consent_Form_for_Masculinizing_Therapy.pdf
- http://fenwayhealth.org/documents/medical/transgender-resources/Fenway_Health_Consent_Form_for_Feminizing_Therapy.pdf

Diagram



MtF - Comorbid Conditions and Contraindications

Introduction

This document details comorbid conditions and contraindications to consider when prescribing MtF hormone therapy.

Cardiovascular

Mixed evidence regarding morbidity and mortality in transgender women. Some low quality studies with increased risk. No current guidance to use risk calculators on natal sex or affirmed gender. Depending on the age at which hormones are begun and total length of exposure, clinicians may choose to use the risk calculator for the natal sex, affirmed gender, or an average of the two.

For transgender women with cardiovascular risk factors or established CVD, using the transdermal route of estrogen may be preferred due to lower rates of venous thromboembolism, and lack of associated changes in lipid profile or markers of coagulation

Diabetes

Recommendations for diabetes screening in transgender patients (regardless of hormone status) do not differ from current national guidelines. Effect of HT on diabetes risk is unclear. Mixed data of the effect on insulin resistance and PCOS.

Caution should be used to avoid making gender affirming care contingent on tight control of these other conditions. Numerous anecdotes exist of poorly controlled diabetic transgender patients who had improvements in self-care and resultant decline in hemoglobin A1c after initiation of gender affirming hormones.

While the WPATH Standards of Care recommend that conditions such as diabetes be "reasonably well controlled" prior to initiating hormone therapy, no absolute criteria have been proposed, and the potential adverse effects on blood sugar should be weighed in consideration of the benefits of hormone therapy.

Testosterone package inserts recommend monitoring as serum glucose may be lowered in patients with diabetes receiving testosterone. It is reasonable to maintain heightened monitoring of indicators such as fasting glucose and hemoglobin A1c when initiating or adjusting hormone therapy.
Patients with diabetes seeking gender-affirming surgeries represent a special group for whom aggressive treatment to normalize glucose control is desirable, due to healing, infection and outcomes. Careful coordination between the surgeon and the clinician managing the diabetes is recommended.

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MtF - Comorbid Conditions and Contraindications, Continued

Osteoporosis	Some evidence of transgender women had factors which may contribute to an increased risk of osteoporosis, independent of and existing prior to hormone use. Studies in relation to BMD in transwomen on HT have been mixed. Risk factors for osteoporosis include underutilization of hormones after gonadectomy or use of androgen blockers without or with insufficient estrogen. GnRH analogues also may result in short term decrease in bone mineral density. Begin bone density screening at age 65 with DEXA, 50-64 with those at higher risk. One plan with severe osteopenia every year, moderate osteopenia every 5 years, normal or mild osteopenia every 15 years. Transgender people (regardless of birth assigned sex) who have undergone gonadectomy and have a history of at least 5 years without hormone therapy should also be considered for bone density testing, regardless of age. Advice should be given to modify risk factors for osteoporosis, including tobacco cessation, Correct low vitamin D levels, maintain calcium intake in line with current guidelines for non-transgender people, weight bearing activity, and moderation of alcohol consumption.
Autoimmune disease	Patients with autoimmune conditions should be informed that their condition could potentially worsen (or improve) once feminizing therapy has begun. Hormone dosing should begin low and advance slowly, monitoring for worsening symptoms, and in collaboration with any specialists who may be managing the autoimmune condition.
Tobacco use	As per current guidelines this should not represent an absolute contraindication to estrogen therapy. Important to counsel on tobacco cessation. It is reasonable to prescribe estrogen using a harm reduction approach, with a preferred route of transdermal estrogen. 81mg/day can be considered as an additional preventive measure in smokers, though no evidence exists to allow and informed assessment of the risk/benefit ratio between VTE prevention and gastrointestinal hemorrhage. Transdermal estrogens are preferred to minimize risk. We do consider tobacco use a relative contraindication prior to age 35 and at age 35 and after an absolute contraindication and would not recommend HT if continuing with tobacco use.

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MtF - Comorbid Conditions and Contraindications, Continued

Pituitary adenoma (prolactinomas) and galactorrhea-	Prolactin elevations and growth of pituitary prolactinomas are theoretical risks with estrogen. 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. Endocrine Society guidelines for the management of incidental prolactinomas are expectant management only, in the absence of suggestive visual or other symptoms (significant galactorrhea, headaches).
Cancer	An active estrogen-sensitive cancer is an absolute contraindication to estrogen therapy. For patients with a prior history of estrogen sensitive cancer (breast, pituitary), consultation with an oncologist is recommended. It is unclear if estrogen therapy may confer an independent protection or increased risk of prostate cancer. PSA should be considered unreliable in those using antiandrogen or estrogen therapy due to the high risk of false negative tests.
Venous thrombo-embolism	Insufficient evidence exists to definitively guide estrogen therapy in transgender women with risk factors or with a personal history of prior VTE, either on or off estrogen. The decision to initiate episodic (i.e. before long airplane flights) or long term anticoagulation or antiplatelet therapy should be considered in the context of risks associated with major gastrointestinal or intracranial hemorrhage. *Routine* VTE prophylaxis with aspirin in unselected transgender populations is not recommended. *Routine*s screening for prothrombotic mutations is not recommended in the absence of risk factors. Regardless of the circumstances, estrogen therapy should not be administered in patients with significant risk factors for or history of VTE who continue to smoke tobacco. Venous thromboembolism and hypercoagulable state considerations • Diagrams 1-5 are available on pages 17 and 18

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MtF - Comorbid Conditions and Contraindications, Continued

Diagram 1

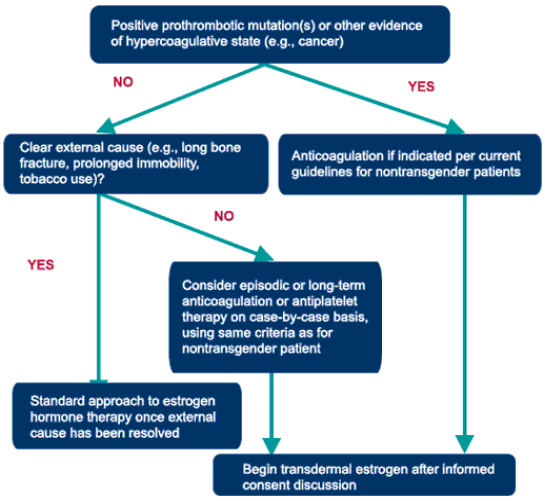


Diagram 2

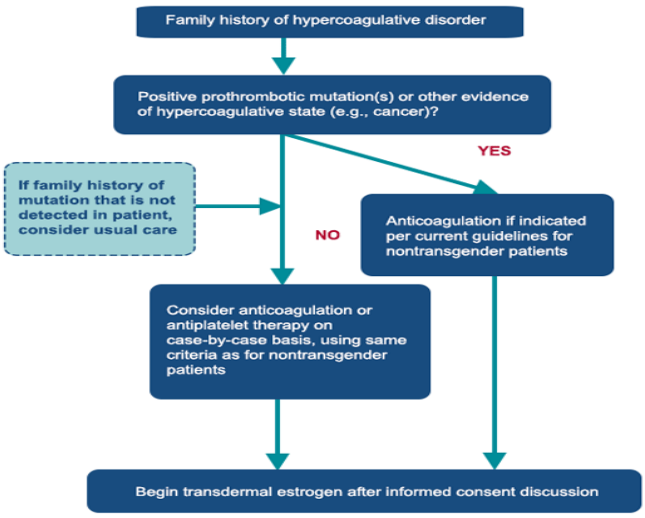
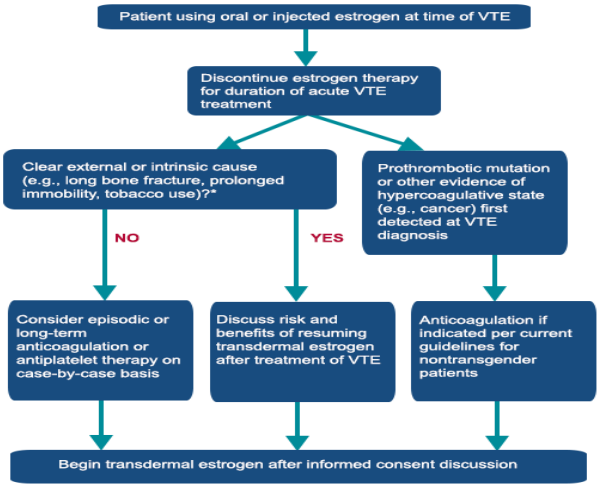


Diagram 2

Diagram 3



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MtF - Comorbid Conditions and Contraindications, Continued

Diagram 3

Diagram 4

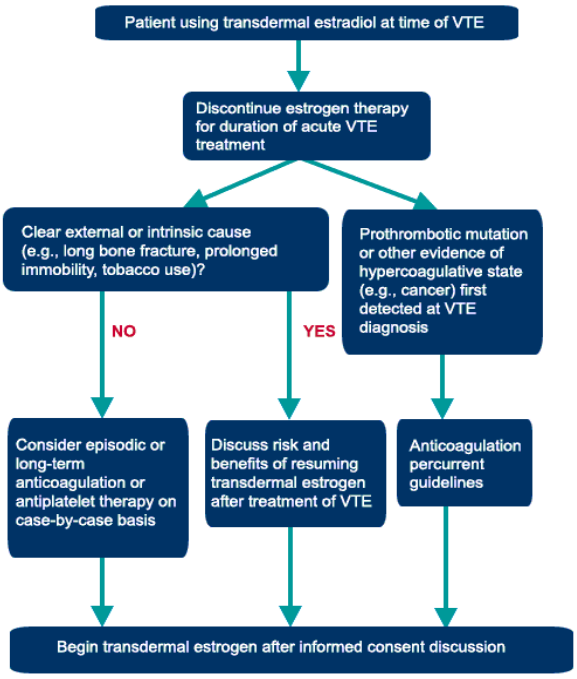
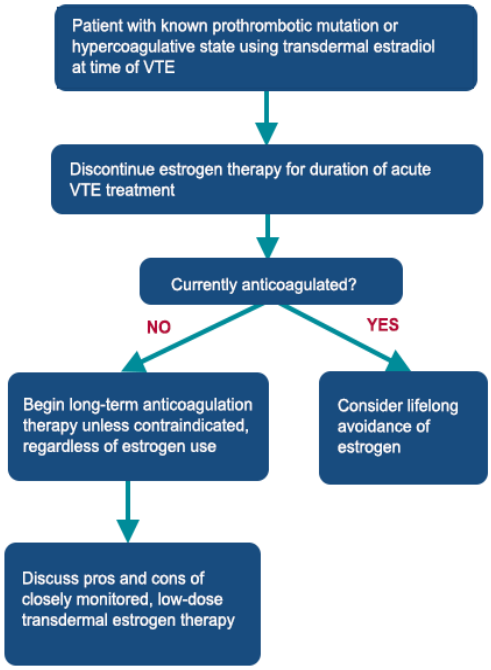


Diagram 4

Diagram 5



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MtF - Goals of Hormone Therapy

Introduction	This document details the hormone therapy options for patients seeking MtF gender affirmation.
Estrogens	Primary hormone is 17-beta estradiol, is a "bioidentical" hormone in that it is chemically identical to that from a human ovary. Delivered to transgender women via a transdermal patch, oral or sublingual tablet, or injection of a conjugated ester (estradiol valerate or estradiol cypionate). -Conjugated equine estrogens (Premarin®) are not recommended due to difficulty measuring and increased thrombogenicity and cardiovascular risk. -Ethinyl estradiol is a synthetic estrogen used in contraceptive preparations and is associated with an increased thrombotic risk.
Anti-Androgens	Goal is to suppress testosterone and suppress/minimize male secondary sexual characteristics. Androgen blockers allow the use of lower estradiol dosing. Options include spironolactone and 5-alpha reductase inhibitor, which are described below.
Spironolactone	The most commonly used androgen blocker in the U.S. Spironolactone is a potassium sparing diuretic; doses of 200mg daily in non-transgender women being treated for hair loss have been described as safe. Hyperkalemia is the most serious risk but is very uncommon when precaution is taken to avoid use in individuals with renal insufficiency, and use with caution and frequent monitoring in those on ACE inhibitor or ARB type medications. Due to its diuretic effect, patients may experience self-limited polyuria, polydipsia, or orthostasis.
5-alpha Reductase Inhibitors	Include finasteride and dutasteride. Finasteride blocks 5-alpha reductase type 2 and 3 mediated conversion of testosterone to the potent androgen dihydrotestosterone. 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. They may also be an option for use as a single agent in patients seeking partial feminization, or for those who continue to exhibit virilized features or hair loss after complete androgen blockade or orchiectomy.

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MtF - Goals of Hormone Therapy, Continued

5-alpha Reductase Inhibitors (continued)

Antiandrogens can also be used alone to bring reduced masculinization and minimal breast development, or in those patients who wish to first explore reduced testosterone levels alone, or in those with contraindications to estrogen therapy. In the absence of estrogen therapy, some patients may have unpleasant symptoms of hot flashes and low mood or energy.
Long term full androgen blockade without hormone therapy in men who have undergone treatment for prostate cancer results in bone loss, and this effect would also be expected to occur in transgender individuals.

GnRH agonists

GnRH agonists can be used for the first year of initiation to better result in lowering endogenous hormones and allowing transition hormones a chance for appropriate action rather than competition. Utilize on MD discretion with appropriate review of side effects, risks and benefits.

Progestagens

There have been no well-designed studies of the role of progestagens in feminizing hormone regimens. Many transgender women and clinicians alike report an anecdotal improved breast and/or areolar development, mood, or libido with the use of progestogens. There is no evidence to suggest that using progestagens in the setting of transgender care are harmful. Some patients may respond favorably to progestagens while others may find negative effects on mood. While progestagens have some anti-androgen effect through central blockade of gonadotropins, there is also a theoretical risk of a direct androgenizing effect of progestagens.

While concerns exist from the Women's Health Initiative (WHI) regarding risks of cardiovascular disease and breast cancer in the setting of medroxyprogesterone use, these concerns likely do not apply in the context of transgender care for several reasons. Considering differences in demographics and goals of therapy, extremely modest increase in overall risk, and lack of difference in mortality, as well as more recent reassuring data with other forms of estrogen, the risks of using progestagens in transgender women are likely minimal or even absent.

Includes micronized bioidentical progesterone (Prometrium) as well as a number of synthetic progestins. Most commonly used synthetic progestin in the context of transgender care is the oral medroxyprogesterone acetate (Provera). Injected depo-medroxyprogesterone acetate (Depo-Provera®) is less commonly used in transgender women.
Some evidence suggests that norpregnane derived progestins (norethindrone, norgestrel) may have an increased risk of venous thromboembolism.

MtF - HT Choosing, Prescribing of Medication/Options

Hormones	Initial-low[b]	Initial	Maximum[c]	Comments
Estrogen				
Estradiol oral/sublingual	1mg/day	2-4mg/day	8mg/day	if >2mg recommend divided bid dosing
Estradiol transdermal	50mcg	100mcg	100-400 mcg	Max single patch dose available is 100mcg. Frequency of change is brand/product dependent. More than 2 patches at a time may be cumbersome for patients
Estradiol valerate IM[a]	<20mg IM q 2 wk	20mg IM q 2 wk	40mg IM q 2wk	May divide dose into weekly injections for cyclical symptoms
Estradiol cypionate IM	<2mg q 2wk	2mg IM q 2 wk	5mg IM q 2 wk	May divide dose into weekly injections for cyclical symptoms
Progestagen				
Medroxyprogesterone acetate (Provera)	2.5mg qhs		5-10mg qhs	
Micronized progesterone			100-200mg qhs	
Androgen blocker				
Spironolactone	25mg qd	50mg bid	200mg bid	
Finasteride	1mg qd		5mg qd	
Dutasteride			0.5mg qd	

a. Available as standard U.S. Pharmacopia (USP) as well as compounded products

b. Initial-low dosing for those who desire (or require due to medical history) a low dose or slow upward titration.

c. Maximal effect does not necessarily require maximal dosing; as such maximal doses do not necessarily represent a target or ideal dose. Dose increases should be based on patient response and monitored hormone levels.

FtM - Comorbid Conditions and Contraindications

Introduction

This document details comorbid conditions and contraindications to consider when prescribing FtM hormone therapy.

Cardiovascular

Evidence from several studies suggests that cardiovascular risk is unchanged among transgender men using testosterone compared with non-transgender women. Depending on the age at which hormones are begun and total length of exposure, clinicians may choose to use the risk calculator for the natal sex, affirmed gender, or an average of the two.

- ASCBD calculator – leave it up to the clinician to decide

Metabolic syndrome

In all but the most severe cases (diabetes out of control, active unstable coronary artery disease), transgender men 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.

Diabetes

Recommendations for diabetes screening in transgender patients (regardless of hormone status) do not differ from current national guidelines.

Effect of HT on diabetes risk is unclear. Mixed data of the effect on insulin resistance and PCOS. Transgender men with PCOS should be monitored more closely, but unknown risk.

Caution should be used to avoid making gender affirming care contingent on tight control of these other conditions. Numerous anecdotes exist of poorly controlled diabetic transgender patients who had improvements in self-care and resultant decline in hemoglobin A1c after initiation of gender affirming hormones.

While the WPATH Standards of care recommend that conditions such as diabetes be "reasonably well controlled" prior to initiating hormone therapy, no absolute criteria have been proposed, and the potential adverse effects on blood sugar should be weighed in consideration of the benefits of hormone therapy.

Continued on next page

FtM - Comorbid Conditions and Contraindications, Continued

Migraines	Migraines have a clear hormonal component and relationship to estrogen. Given the persistence and possible fluctuation of estrogen levels in many transgender men taking testosterone, migraines may be precipitated or exacerbated in the context of testosterone therapy. Patients with a history of migraines should consider starting with a low dose and titrating upward as tolerated. Transdermal testosterone may be preferred to avoid any potential cyclic effect associated with injected testosterone.
Cancer	**An active sex hormone-sensitive cancer is an absolute contraindication to testosterone therapy.** For patients with a prior history of hormone sensitive cancer (i.e. breast), consultation with an oncologist is recommended.
Prior Amenorrhea	Transgender men 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. **Endometrial evaluation is necessary prior to initiation of testosterone in transgender men with a current history of amenorrhea/oligomenorrhea.**
PCOS	Polycystic ovarian syndrome 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 transgender men and present prior to testosterone administration. **Testosterone administration is not contraindicated in the presence of PCOS, but patients should be monitored for hyperlipidemia and diabetes.**

FtM - Goals of Hormone Therapy

Introduction

This document outlines the hormone therapy options for those seeking FtM gender affirmation.

Testosterone

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 methyl-testosterone and other synthetics commonly encountered in bodybuilding communities has resulted in unsubstantiated concerns about negative hepatic effects of testosterone use in transgender men.

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 (see table). Since the label dosing (not included in table) for these medications are based on the treatment of men with low, but not no, testosterone, higher dosing may be needed in transgender men (see table) than are commonly used in non-transgender men.

Gel/Creams

Apply in the morning to upper arms or shoulders and keep dry for 2 hours. Avoid contact with others, especially women and children as it can be readily absorbed. Wash if skin to skin contact

Injections

Can be given more frequently to avoid peaks and troughs. This decision should be individualized.

FtM - HT Choosing, Prescribing of Medication/Options

Androgen	Initial - low dose[b]	Initial - typical	Maximum - typical[c]	Comment
Testosterone Cypionate[a]	20 mg/week IM/SQ	50mg/week IM/SQ	100mg/week IM/SQ	For q 2 wk dosing, double each dose
Testosterone Enthanate[a]	20mg/week IM/SQ	50mg/week IM/SQ	100mg/week IM/SQ	
Testosterone topical gel 1%	12.5-25 mg Q AM	50mg Q AM	100mg Q AM	May come in pump or packet form
Testosterone topical gel 1.62%[d]	20.25mg Q AM	40.5 - 60.75mg Q AM	103.25mg Q AM	"
Testosterone patch	1-2mg Q PM	4mg Q PM	8mg Q PM	Patches come in 2mg and 4mg size. For lower doses, may cut patch
Testosterone cream[e]	10mg	50mg	100mg	
Testosterone axillary gel 2%	30mg Q AM	60mg Q AM	90-120mg Q AM	Comes in pump only, one pump = 30mg

- Available as standard U.S. Pharmacopeia (USP) as well as compounded products.
- Initial - low dose recommended for genderqueer and nonbinary dosing.
- Maximum dosing does not mean maximal effect. Furthermore, these dosage ranges do not necessarily represent a target or ideal dose. Dose increases should be based on patient response and/or monitored hormone levels. Some patients may require less than this amount, and some may require more.
- Doses of less than 20.25mg with 1.62% gel or less than 30mg with 2% axillary gel may be difficult, since measuring one-half of a pump or packet can present a challenge. Patients requiring doses lower than 20.25mg and whose insurance does not cover 1% gel may require prior authorization or an appeal.
- Testosterone creams are prepared by individual compounding pharmacies. Specific absorption and activity varies and consultation with the individual compounding pharmacist is recommended.

Appendix C: Side Effects & Physical Changes

Additional Appointments

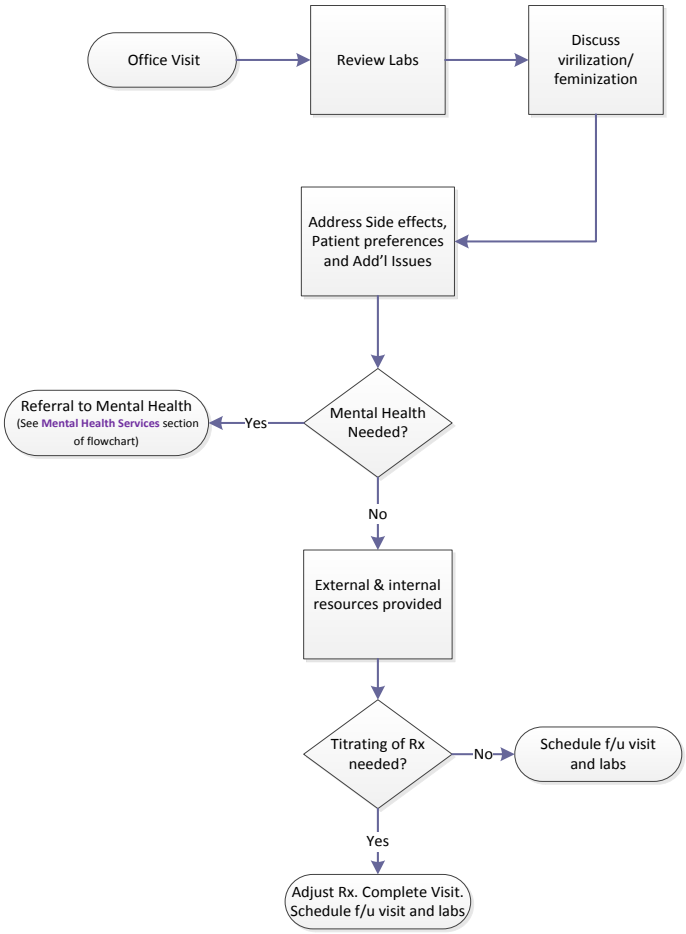
The follow-up to previous visits will include: any additional tests or assessments, gender affirming examinations, a review of comorbid conditions and management of side effects. Patients should understand that laboratory tests will continue to be monitored through the course of therapy and that they will be expected to maintain regular follow up visits, especially during the first year of hormone treatment.

Subsequent appointments will have a heavy focus in desired effects, adjustments to medications, and management of medication side effects.

Physical Changes

Counsel patient on physical changes expected at the 1month, 3 month and 6 month mark so patient may know what to look out for during hormonal therapy.

Diagram



MtF - Side Effects of Hormone Therapy

Erectile dysfunction	Can be from estrogen, but mostly from androgen blockers. Sildenafil (Viagra) and tadalafil (Cialis) can be used for preservation of erectile function at any stage or with any feminizing hormone regimen, in consideration of the typical contraindications and precautions when using this class of medication. Individual results may vary. It is reasonable check both total and bioavailable testosterones levels, and consider reduction of androgen blockade to allow an increase in testosterone, depending on patient goals.
Low libido	Studies have found that sexual desire in transgender women found is commonly lower and an increased risk of Hypoactive Sexual Desire Disorder (HSDD). Studies also show a decrease in sexual desire after genital surgery. There is a likely link with the amount of testosterone but not high quality studies. Unknown if related to androgen blockage or post-gonadectomy changes or due to anatomical, functional and psychological changes associated with hormone therapy or genital surgery.
Venous thromboembolism	Data from studies of menopausal women suggest no increased risk of venous thromboembolism with the use of transdermal estradiol. Some studies that show increased thrombogenicity with conjugated equine estrogens**.** Strongly recommend against the use of ethinyl estradiol. Data on the risk associated with oral 17-beta estradiol are mixed, with some suggesting no increased risk and others suggesting a 2.5 - 4 fold increased risk. Also increased risk from estradiol valerate. There is weak evidence that sublingual administration of oral estradiol tablets might reduce thromboembolic risk due to a bypass of hepatic first pass. The increased pulsatile nature of this route may more closely mimics natural ovarian estrogen secretion. Sublingual administration requires insuring that the estradiol tablets are micronized; while most commonly available estradiol tablets are micronized, specifying as such on the written prescription (or consulting with the dispensing pharmacist) is recommended. As part of informed consent, it is important to have discussion regarding risks.

MtF - Side Effects of Hormone Therapy, Continued

Increased risk of autoimmune disease	There is a certain but incompletely defined linkage between sex hormones and autoimmune conditions. Testosterone has been associated with overall immune suppression, Testosterone deprivation results in an increased Th1:Th2 ratio. In transgender women who have undergone orchiectomy or have full androgen blockade, some evidence suggests that supplementation with dihydroepiandrosterone (DHEA) may counteract some of the shift toward autoimmunity.
Galactorrhea-	It is noted that some transgender women 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.
Migraine	Clear hormonal component and may be exacerbated by estrogen therapy. Patients with a history of migraines should consider starting with a low dose and titrating upward as tolerated. Oral or transdermal estrogen may be preferred to the potentially cyclic levels associated with injected estrogen. While migraine with aura is associated with an increased risk of stroke in women using oral contraceptives, it is not clear if this risk translates to the use of bioidentical estradiol.

MtF - Hormone Therapy Additional Considerations

Older Transgender Women

May have less rapid and degree of feminization. May also have a higher risk of side effects due to general trend of more comorbid conditions. Many people of older age have had no side effects and acceptable changes. There is no evidence to support continuation or cessation of hormones for older transgender women. It is reasonable in transgender women who have undergone gonadectomy to consider stopping hormone therapy around age 50. Expected effects of this may be similar to non-transgender women experiencing menopause. Transgender women 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.

- Aurora Health Care recommends having a discussion regarding individual goals with general recommendation to stop and taper at HT 50-55 years but basing on individual patient's health and goals.

Perioperative use of feminizing hormones

No direct study of the risk of perioperative venous thromboembolism in users of bioidentical estrogens has been conducted. There is no evidence to suggest that transgender women 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.

Post-gonadectomy

Since estrogen dosing should be based on physiologic female levels, no reduction in estrogen dosing is required after gonadectomy. Adequacy of dosing in those on low estrogen therapy post gonadectomy may be assessed by following LH and FSH levels.

MtF - Surveillance Visit Labs

Intro

Surveillance consists of monitoring labs along with office visits. Recommended frequency of 3, 6, 12 months for the first year and then every 6-12 months and PRN.

Reproductive Endocrinology recommends the following:

- HCT and total testosterone (peak levels)
- For FtM, use Male testosterone assays from ACL
- There is no need to do SHBG, albumin for free androgen index. The doses will be high enough to show value in the range given by ACL.

Test	Comments	3 months*	6 months*	12 months*	Yearly	PRN
BUN/Cr/K+	Only if spiro used	X	X	X	X	X
Lipids	No evidence to support monitoring at any time; use clinician discretion					X
A1c or glucose	No evidence to support monitoring at any time; use clinician discretion					
Estradiol		X	X			X
Total Testosterone		X	X	X		X
Sex Hormone Binding Globulin (SHBG)**		X	X	X		X
Albumin**		X	X	X		X
Prolactin	Only if symptoms of prolactinoma					X

* In first year of therapy only
** Used to calculate bioavailable testosterone; monitoring bioavailable testosterone is optional and may be helpful in complex cases

Continued on next page

MtF - Surveillance Visit Labs, Continued

Estrogen	Goal is to get at physiological levels cis-sex levels. Peak 2-4 days post injection. More frequent reduce peak-trough effect. Recommend a mid-cycle level.
Testosterone	Testosterone-For transgender care, The Endocrine Society recommends monitoring of the total testosterone level, with a target range of <55ng/dl. Cyclical symptoms may need to switch to oral or transdermal or increase frequency of injections. Creatinine, HgB/HCT, alkaline phosphatase need to be interpreted using male values. Patient wants individualized mix and therapy can be tailored as long as reasonable expectations are discussed. Other reasons for measuring hormone levels in the maintenance phase include significant metabolic shifts such as the onset of diabetes or a thyroid disorder, substantial weight changes, subjective or objective evidence of virilization, or new symptoms potentially precipitated or exacerbated by hormone imbalances such as hot flashes or migraines.
SHBG	May be useful to calculate free testosterone in cases where feminization is not to the expected level given estrogen therapy and cis-sex physiological levels or persistent male characteristics.

FtM - Side Effects of Hormone Therapy

Hair Loss:

Hair loss may begin soon after beginning hormone therapy, and is dependent on genetic factors. There are two patterns of hair loss seen in transgender men; Frontal and temporal recession, and male-pattern baldness (receding at the forehead and thinning at the crown). Both forms may cause alarm for patients, and in some cases result in a desire to discontinue therapy. Patients should be counseled prior to initiation of therapy on the risk, unpredictable nature, and extent and time course of this condition. Management is similar to that in non-transgender men.

Over the counter minoxidil, 5-alpha reductase inhibitors, and surgical approaches may be used. The 5-alpha reductase inhibitor finasteride blocks conversion of testosterone to the potent androgen dihydrotestosterone. Finasteride 1mg daily (Propecia) is approved for male pattern baldness, while the 5mg daily dose (Proscar) is approved for management of prostatic hypertrophy. Side effects may include reduced libido or sexual dysfunction or decreased virilization. Communicate this side effect early on in the discussion.

Acne

Approach to symptom management is consistent with established practices in non-transgender people. Acne tends to peak in the first year of testosterone therapy, and then declines. Maintaining physiologic testosterone levels, and avoiding excessive peaks associated with prolonged injection dosing intervals may help minimize acne. No barrier to date.

Cyclic symptoms relating to testosterone dosing

Transgender men on testosterone may complain of pain that is associated with cyclical testosterone dosing, pelvic, and/or vaginal pain with penetration, or orgasmic pain. The etiology of post-testosterone administration cramping is unclear. Informed care can be effective, as are other treatments used for chronic pelvic pain such as pelvic floor therapy, vaginal lubrication with unscented products, or the use of tricyclic antidepressants.

The initial approach to management should include NSAIDS, with other pain management medications used as indicated and appropriate. Changing to a more even testosterone transdermal testosterone regimen, or adding a progestogen such as the levonorgesterel IUD may address underlying hormonal causes.

Continued on next page

FtM - Side Effects of Hormone Therapy, Continued

Pelvic Pain

The general approach to the workup of pelvic pain in transgender men is similar to that for non-transgender women. An anatomic approach to history gathering that considers urological, gynecologic, gastrointestinal, musculoskeletal, and psychological components is critical.

Specific medical etiologies to consider in transgender men include: atrophic or infectious vaginitis, cervicitis, cystitis, STIs, adhesions, post-surgical sequelae, musculoskeletal disorders, and neurogenic. Specific behavioral etiologies to consider include: depression, history of emotional trauma (including sexual assault or abuse, adverse childhood events), and post-traumatic stress disorder which may be exacerbated by exams, etc. Testosterone increases the risk of vaginitis and cervicitis due to hypoestrogenic state. Can still ovulate and can still be fertile.

Hysterectomy should not be viewed as a cure-all, and in some cases is not effective in improving pain. For this reason, transgender men with pelvic pain must be evaluated on a case-by-case basis due to the lack of evidence-based guidance at this time. Decision to perform oophorectomy should be based on the etiology of pelvic pain, presence of comorbidities, future fertility desires, and any future plans to stop taking testosterone.

Pelvic Pain

Hemoglobin and hematocrit (H&H) values in transgender men should be interpreted in the context of the dose of testosterone used and menstruation status. Transgender men 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. Transgender men 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 transgender men include obesity-related obstructive sleep apnea, and tobacco use.

FtM - Hormone Therapy Additional Considerations

Older transgender men:

No upper age limit exists for testosterone therapy in non-transgender men. As such, there is no age recommendation for the termination of testosterone therapy in transgender men. 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.

- If ovaries are still present it's recommended to treat the decision on a case-by-case basis.

Post-gonadectomy

No reduction in testosterone dosing is required after gonadectomy. Adequacy of dosing in those on low testosterone therapy post gonadectomy may be assessed by following LH and FSH levels and titration of dosing to maintain these in the premenopausal range.

Post-gonadectomy

In addition to non-surgical approaches, in some cases hysterectomy may have a role in the management of pelvic pain. Depending on the preferences and reproductive goals of an individual patient, gynecologists may revise their therapeutic approach to consider hysterectomy earlier than they might in non-transgender women.

For transgender men using physiologic doses of testosterone, cessation of menses is expected, typically within 6 months affected by dose, route frequency, body habitus, and genetics. Prior menstrual abnormalities should be diagnosed and evaluated.

Consideration of hysterectomy for the purpose of eliminating the need for cervical cancer screening may be discussed on a case-by-case basis, in recognition of the role of hysterectomy in reducing gender dysphoria, and in consideration of surgical risks and irreversible infertility.

Issues regarding insurance coverage persist. Recommend referral to OB/GYN to discuss options.

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FtM - Hormone Therapy Additional Considerations, Continued

Abnormal Uterine Bleeding

Abnormal uterine bleeding (AUB) may be considered present in those who have continued bleeding after 6-12 months of male-range testosterone levels and suppressed LH and FSH. Increased adipose tissue may cause more aromatization of testosterone to estradiol.

Consultation with gynecology recommended.

The addition of an oral, injected, implanted, or intrauterine (IUD) progestagen may serve as an adjunct to induction of amenorrhea. Endometrial ablation can be considered for those transgender men who do not desire future fertility and who also either decline hysterectomy or have surgical complications. The levonorgesterel intrauterine system (IUS/IUD), which in non-transgender women can either significantly decrease menstrual flow or fully induce amenorrhea, has the added contraceptive benefit for those at risk since some may still ovulate despite male physiologic testosterone levels.

FtM - Surveillance Visit Labs

Intro

Surveillance consists of monitoring labs along with office visits. Recommended frequency of 3, 6, 12 months for the first year and then every 6-12 months and PRN.

Therapy	Comments	3 months*	6 months*	12 months*	Yearly	PRN
Lipids	No evidence to support lipid monitoring at any time; use clinician discretion					X
A1c or fasting glucose	No evidence to support lipid monitoring at any time; use clinician discretion					X
Estradiol						X
Total Testosterone		X	X	X		X
Sex Hormone Binding Globulin (SHBG)**		X	X	X		X
Albumin**		X	X	X		X
Hemoglobin & Hematocrit		X	X	X	X	X

* In first year of therapy only;
** is optional and may be helpful in complex cases (see text) Used to calculate bioavailable testosterone; monitoring bioavailable testosterone

Testosterone

Aiming for physiologic range 350ng-1000ng/dl. Higher levels are without a direct correlation to virilization. Expect amenorrhea in 6 months. More frequent injections reduce peak-trough effect. Recommend a mid-cycle level to be drawn.

Appendix D: Gender Affirming Examinations

Overview

Affirming individuals in their gender identity through social interactions. Including correct name and pronouns, general terminology for body parts, and discussion with patient regarding their preferences. As with other patients, examination should be performed as pertaining to a reason for the office visit.

- General exam as well as addressing any questions at the first visit (once comfortable then we can exam other areas)
- Based on anatomy that's present during the exam
- Organ Inventory: Clinical person to complete / Gender identity

Physical Examinations

Physical exam should be based on the anatomy present not based on presenting gender or HT. Good, gender affirming history taking should be performed prior to. Transgender and gender nonconforming patients may have had bad experiences with prior healthcare and/or a history of abuse. Range of feminization or virilization may be present with patients on HT. History of surgeries may also be present and should be kept in mind. Recommended to use an organ inventory to guide management and screening.

Strategies to Reduce Anxiety/Stress

If distress or concerns regarding the examination then it can be deferred if able to a later date.

Strategies that may be useful to reduce anxiety/stress.

- Explain procedure prior to exam and communicate throughout exam to let patient know what the next step is
- Use terms describing anatomy consistent with patient's wishes
- Can use a mirror for patient to visualize exam
- Patient may have a support person in the room
- Distracting methods if patient preferences, such as headphones, music.
- Consider a benzodiazepine

MtF
Neovagina is a blind cuff without cervix, can consider using an anoscope.

FtM
Can be traumatic, possibly perform part of exam first, bi-manual and then speculum at a later date or consider self-collection as needed.

Trauma Informed Approach

Founded in Substance Abuse

According to SAMHSA's concept of a trauma-informed approach, "A program, organization, or system that is trauma-informed:

- Realizes the widespread impact of trauma and understands potential paths for recovery;
- Recognizes the signs and symptoms of trauma in clients, families, staff, and others involved with the system;
- Responds by fully integrating knowledge about trauma into policies, procedures, and practices; and
- Seeks to actively resist re-traumatization

6-Key Principles

A trauma-informed approach reflects adherence to six key principles rather than a prescribed set of practices or procedures. These principles may be generalizable across multiple types of settings, although terminology and application may be setting- or sector-specific:

1. Safety
2. Trustworthiness and Transparency
3. Peer support
4. Collaboration and mutuality
5. Empowerment, voice and choice
6. Cultural, Historical, and Gender Issues

Programs

Trauma-specific intervention programs generally recognize the following:

- The survivor's need to be respected, informed, connected, and hopeful regarding their own recovery
- The interrelation between trauma and symptoms of trauma such as substance abuse, eating disorders, depression, and anxiety
- The need to work in a collaborative way with survivors, family and friends of the survivor, and other human services agencies in a manner that will empower survivors and consumers

Pain Reduction Techniques

Introduction

Strategies to promote a more supportive and sensitive setting include using culturally sensitive language, interviewing the patient prior to disrobing, and asking the patient to change from the waist down only. A painful pap smear experience is correlated with non-adherence to future screening and colposcopy.

Pain Reduction Techniques

Several anecdotal techniques may reduce pain associated with speculum exams.

- A pediatric speculum may allow visualization of the cervix and can reduce discomfort with the exam; however it is important to avoid using a speculum so short that it requires excessive external pressure to visualize the cervix.
- Moving the buttocks past the end of the exam table and encouraging pelvic relaxation may also increase comfort and improve visualization of the cervix.
- If the examiner notes tension or anxiety, taking time to go through a verbal relaxation exercise can be helpful.
- Warm water may be used to lubricate a narrow speculum prior to insertion to minimize a patient's discomfort and dysphoria without compromising pap results.
- Water-based lubricant can reduce discomfort; using a minimal amount of lubricant on the outer portion of a speculum may reduce patient discomfort while minimally increasing the risk of an unsatisfactory sample.
- Excessive lubricant should be avoided; studies have conflicting results on the effect of excessive lubricant on pap results.
- Some clinicians find inserting a speculum less uncomfortable for patients by first placing a finger or two in the vagina and performing posterior pressure while asking the patient to flex and relax their pelvic floor muscles.
- A digital (not bimanual) exam may also help identify the location of the cervix and minimize manipulation during the speculum exam. A formal bimanual exam on an otherwise asymptomatic patient may not add clinical value and may add to the patient's discomfort.
- Other approaches to reduce discomfort might include allowing the patient to insert the speculum themselves or watch the procedure using a mirror, administration of oral benzodiazepines prior to the exam, or the use of vaginal estrogens for 1 week.

MtF - Cancer Screenings

Breast Cancer	Begin Mammogram at age 45 or 5-10 years after feminizing hormone initiation, and then annual until age 55 and then every 2 years. Can perform periodic breast exams but not a strong recommendation to. Self-breast exams not recommended. Can make individualized recommendations based on personal, family history, hormone exposure. If family history of BRCA then recommend genetic testing. Not enough evidence and no recommendations regarding estrogen therapy.
Prostate Cancer	Primary care clinicians should remain aware of the possibility of prostate cancer in transgender women, even those who have undergone gonadectomy. The decision to perform screening for prostate cancer in transgender women should be made based on guidelines for non-transgender men. If a prostate exam is indicated, both rectal and neovaginal approaches may be considered. Transgender women who have undergone vaginoplasty have a prostate anterior to the vaginal wall, and a digital neovaginal exam examination may be more effective. It should be noted that when PSA testing is performed in transgender women with low testosterone levels, it may be appropriate to reduce the upper limit of normal to 1.0 ng/ml.
Testicular cancer screening	Routine testicular cancer screening is not recommended in non-transgender men, and there is no evidence to perform screening in transgender women. Transgender women adherent to therapeutic doses of estrogen plus an androgen blocker, and with persistent testosterone elevations, should be evaluated for testicular tumors by physical exam, as well as human chorionic gonadotropin (HCG), alpha-fetoprotein (AFP) and lactic dehydrogenase (LDH) levels, and possibly a scrotal ultrasound.

FtM - Cancer Screenings

Breast Cancer

Transgender men who have not undergone bilateral mastectomy, or who have only undergone breast reduction, should undergo screening according to current guidelines for non-transgender women.

No reliable evidence exists to guide the screening of transgender men who have undergone mastectomy. The risk of breast cancer in residual breast tissues after mastectomy is unknown. Clinicians should engage in dialogue with transgender men who have undergone bilateral mastectomy about the unknown risks associated with residual breast tissue, as well as the possible technical limitations of mammography and need for ultrasound or MRI.

Cervical Cancer

Transgender men are at risk for cervical cancer. Transgender men are less likely to be current on cervical cancer screening than non-transgender women. Cervical cancer screening should never be a requirement for testosterone therapy.

Cervical cancer screening for transgender men, including interval of screening and age to begin and end screening follows recommendations for non-transgender women as endorsed by the American Cancer Society, American Society of Colposcopy and Cervical Pathology (ASCCP), American Society of Clinical Pathologists, U.S. Preventive Services Task Force (USPSTF) and the World Health Organization. As with non-transgender women, transgender men under the age of 21 should not have pap smears regardless of their age of sexual debut.

If erythema of vaginal and/or cervical tissue is noted, evaluation for usual causes of inflammation is warranted prior to reaching a diagnosis of exclusion of testosterone-mediated atrophic cervicovaginitis.

Inflammation may obscure cervical cytological evaluation and result in an unsatisfactory result. Indicate any testosterone use as well as the presence of amenorrhea, to allow the pathologist can accurately interpret cell morphology.

Endometrial cancer

The administration of exogenous testosterone, which then undergoes aromatization to estrogen, as well as the possible anovulatory state induced, by testosterone, may create a hormonal milieu of "unopposed" estrogen.

Testosterone can be aromatized to estrogen and also can cause an anovulatory state which can create unopposed estrogen with a theoretical risk of endometrial hyperplasia or cancer. Despite this theoretical risk, only one case report of an endometrioid adenocarcinoma exists in the literature.

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FtM - Cancer Screenings, Continued

Endometrial cancer (continued)	Routine screening for endometrial cancer in transgender men using testosterone is not recommended. Unexplained vaginal bleeding (in the absence of missed or changed dosing of testosterone) in a patient previously with testosterone-induced amenorrhea should be evaluated. Transgender men should be educated on the need to inform their clinician in the event of unexplained vaginal bleeding. Hysterectomy for primary prevention of endometrial cancer is not currently recommended.
Ovarian Cancer	No evidence to suggest that trans men on testosterone are at increased risk for ovarian cancer. Several studies have suggested an increased prevalence of PCOS in transgender men prior to testosterone therapy. Transgender men should receive the same recommended counseling and screenings for anyone with ovaries based on history and presentation. While a unilateral or bilateral oophorectomy may be performed in transgender men as part of the management of gender dysphoria or for a pathologic process, routine oophorectomy in for primary prevention of ovarian cancer is not recommended. Transgender men who undergo vaginectomy but retain one or both ovaries/gonads, and who require pelvic imaging, may be evaluated by transrectal or transabdominal sonogram.
Self-Collected	Preliminary research on self-collected vaginal samples for HPV compared to clinician obtained samples shows promise, this approach may also be more acceptable to transgender men.
Non-vaginal sourced specimens	Future initial HPV screening for transgender men may also utilize non-vaginal sourced specimens; studies supporting concordance of HPV in the urine with HPV in the cervix represent a potential method for a non-vaginal triage algorithm.

References

Introduction

This section includes information on the references used in the clinical model.

Sources

- University of California San Francisco. Guidelines for the Primary and Gender-Affirming Care of Transgender and Gender Nonbinary People; 2nd edition. Deutsch MB, ed. June 2016. Available at www.transhealth.ucsf.edu/
- The World Professional Association for Transgender Health (WPATH) Standards of Care - https://www.wpath.org/publications/soc
- Endocrine Society - https://www.endocrine.org/guidelines-and-clinical-practice/clinical-practice-guidelines
- Published Recommendations. U.S. Preventive Services Task Force. https://www.uspreventiveservicestaskforce.org/
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