MEDICAL MANAGEMENT OF TRANSGENDER HEALTHCARE

Jessica Simmons, MD and Stephanie Hartman, MD

May 2019
No presenter has an actual or potential conflict of interest in relation to this educational activity or presentation.
After this session, attendees should be able to:

1. Describe hormone management for students transitioning from female to male.
2. Describe hormone management for students transitioning from male to female.
3. Discuss use of other medications involved in transition.
4. Discuss individual treatment goals, including those for non-binary students.
5. Identify resources available for reference.
TRANS FRIENDLY HEALTHCARE

• Changes to Student Health environment
  • Required training for all staff, trans friendly signage, gender-neutral bathrooms
• Being upfront about things – we all make mistakes
  • “We are all learning more every day about trans care and occasionally will make mistakes. Let me know if there is anything I could do better.”
INCLUSIVITY AT STUDENT HEALTH

We are committed to our policy to treat all patients and staff with respect regardless of age, disability, gender identity or expression, national origin, race, religion, sex, and sexual orientation.
HELPFUL HINTS ABOUT TRANS CARE

- Don’t ask for “preferred pronouns” – instead ask “What pronouns do you use” or “I use ___ pronouns, what pronouns do you use?”
- Avoid saying “Identifies as trans male” – instead say “Is a trans male”
- “Dead name” means birth name of someone who has changed their name as part of a social transition
- Update pronouns/name if possible in medical records
VANESSA GOES TO THE DOCTOR
3 TYPES OF TRANSITION

- Social
- Medical
- Legal

- Every patient is different and makes individual choices
Welcome to academic year 2018-2019! This summer, clinicians at Student Health worked hard to improve our gender-affirming services. We wanted to share updates with you.

Several members of our transgender healthcare team attended conferences to stay up-to-date with evidence-based care for transgender and non-binary patients. Team members attended talks at the American College Health Association conference in May 2018 and the Philadelphia TransWellness conference in August 2018. Other team members will attend the Mayo Clinic Transgender conference in October 2018.

Early this fall, we plan to meet with student groups, including QSU and QRN and also the LBGTQ Center, to discuss our services. We have developed a “resource sheet” for students with links ranging from specialty referrals to how to implement a name change.

Our clinicians see patients for transgender and non-binary initial visits and, if needed, hormone refills. Please use our **healthyhoos** patient portal to schedule appointments and select specific providers. To learn more about our team, please visit our website: https://studenthealth.virginia.edu/transgender-services.

Notably, in 2018 University of Virginia was named Best College in Virginia for LGBTQ students based on the academic and social supports provided to students. UVA received a score of 4.5 out of 5 on the Pride Index Scale based on the intentional and welcoming programs of LGTBQ and Ally staff throughout Grounds: https://www.bestcolleges.com/features/top-lgbtq-friendly-colleges-by-state/.

We look forward to a year of growth! As always, we welcome your feedback.
Trans Care Treatment and Consultation Team

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TRNS CARE CONSULTATION AND TREATMENT TEAM

Date:

Thank you for reaching out to the Trans Care Consultation and Treatment Team at Student Health. We provide care and support for students navigating the gender transition process. Our team offers coordinated assessment, consultation, and outpatient medical and psychological treatment. We also provide assistance in accessing alternative resources, such as longer term treatment in the community. We are a multi-disciplinary team, and as such, the team includes:

- Gynecological care providers: physicians, nurse practitioners
- Medical care providers: physicians, nurse practitioners
- Mental health care providers: psychologists, professional counselors
- Professionals to assist with academic or other University accommodations as needed
- Care managers to assist with navigating resources and overcoming barriers such as insurance/financial or other concerns
GOALS OF FIRST APPOINTMENT

- Establishing relationship, trust
- Obtaining history of gender dysphoria
- Establishing goals of treatment
  - Non-binary patients may have individual goals
- Obtaining history of medical and mental health problems, supplements, medications
- Obtaining family history: especially clotting disorders, early heart disease/strokes
GOALS OF FIRST APPOINTMENT

• Obtaining social history: smoking (especially MTF) and other substance use, resources/support, housing concerns, insurance
• Screening for eating disorders (we use SCOFF) and intimate partner violence
• Obtaining sexual history – including contraception, risk factors, need for STI screen
• Obtaining immunization history – HPV, Hepatitis A, Hepatitis B
PRIOR TO HORMONE THERAPY

• Discuss realistic expectations about timeline!!
• Future fertility goals
• Recommend requiring a letter of support from a therapist/counselor confirming gender dysphoria and supporting hormone therapy
CONSENT FOR ESTROGEN THERAPY FOR TRANSGENDER HEALTHCARE

Based upon my treatment goals, my health care provider has recommended treating me with estrogen therapy for the purpose of gender transition from male to female.

The treatment will be managed by ________________, a clinician at the University of Virginia Student Health General Medicine Clinic. I understand that estrogens are used by persons who wish to become feminized as part of a gender transitioning process.

**Effects/benefits of estrogen therapy for transgender healthcare**

I understand that estrogens cause feminizing effects which may take several months to become noticeable and many years to complete. Breast tissue development occurs and should be considered permanent once it develops. Other changes are not permanent if therapy is stopped and include a decrease in acne, decreased male-patterned hair loss, softer skin, decreased facial hair and body hair growth, and redistribution of fat in a more female pattern (e.g., around hips). These changes are often desired in persons undergoing gender transition.

**Risks of Estrogen therapy for transgender healthcare**

I understand that the following risks are associated with estrogen therapy:

- Estrogen treatment may increase the risk of breast cancer. Due to breast development, I understand that I will need screening for breast cancer including self-exams, medical exams, and mammograms after age 40.
- Estrogen can increase the risk of blood clot, heart attack, or stroke; risk is increased further if the patient smokes tobacco.
- There is risk of low bone density if the patient stops estrogen therapy and stays on puberty blockers.

Everyone’s body is different. The right dosage may not be the same for me as other people. I understand that I must follow the prescribed regimen of estrogen to continue to receive hormone therapy at this clinic. I agree to tell my provider about any non-clinic hormones, medications, herbs, and/or recreational drugs that I take. I understand that if I have any adverse reactions, I must let my provider know and I must seek medical attention immediately in the case of possible blood clot. I understand that I will have a complete physical examination and lab tests periodically as required to make sure that I am not having an adverse reaction to estrogen.

**Alternatives**

I understand that I can stop taking estrogen at any time.

MY QUESTIONS ABOUT FEMINIZING TREATMENT HAVE BEEN ANSWERED TO MY SATISFACTION. I HAVE READ THROUGH AND UNDERSTAND THIS CONSENT FORM. BY SIGNING THIS CONSENT FORM, I AGREE TO HAVE HORMONES GIVEN TO ME. BY SIGNING BELOW, I CONFIRM THAT I HAVE THE LEGAL ABILITY TO CONSENT TO MEDICAL TREATMENT ON BEHALF OF MYSELF.

Signed: ___________________________  Patient

______________________________  Print Name of Patient

Date and Time: ___________________
CONSENT FOR TESTOSTERONE THERAPY FOR TRANSGENDER HEALTHCARE

Based upon my treatment goals, my health care provider has recommended treating me with testosterone therapy for the purpose of gender transition from female to male.

The treatment will be managed by ______________________, a clinician at the University of Virginia Student Health General Medicine Clinic.

I understand that testosterone is used by persons who wish to become masculinized as part of a gender transitioning process.

Effects/benefits of testosterone therapy for transgender healthcare

I understand that testosterone causes masculinizing effects, which may take several months to become noticeable and more than five years to complete. Some of the changes that will be permanent include facial hair growth, deepening of the voice, and increase in male-patterned body hair growth (arms, legs, chest, back, buttocks, and abdomen, etc.) and enlargement of the clitoris. Although clitoral enlargement will occur, testosterone therapy alone is not enough to change the structure into fully formed penis. Other changes would not be permanent if therapy is stopped, including redistribution of fat to a male pattern (increased abdomen fat with decreased fat in the breasts, buttocks and thighs), increased muscle development, increased sex drive and energy levels, and cessation of menstrual cycles.

Risks of testosterone therapy for transgender healthcare

I understand that the following risks are associated with testosterone therapy:

- This is an “off-label” use of these medications, meaning that it has not been approved by the Food and Drug Administration (FDA) and that some insurance companies may not pay for the medication.
- Testosterone may cause undesirable masculinizing effects, which could include permanent hair loss (at the temples and crown of the head), feelings of aggression or anger, acne, and thinning of the vaginal tissue (which could increase the potential for damage, dryness, or yeast infections).
- Testosterone therapy may also cause male-related lab abnormalities or metabolic side effects including increased red blood cell number, risk of liver inflammation, higher cholesterol, and risk of diabetes.
- Testosterone therapy in a formerly fertile natal female may cause transient infertility due to lack of ovulation or irreversible infertility due to ovarian tissue damage. Banking of either unfertilized ova (eggs) or fertilized embryos is a viable option for preserving reproductive options. The procedures are intensive, invasive, costly, and must be done through a fertility specialist. Patients who want to explore banking ova are urged to speak to a reproductive specialist before starting testosterone therapy.
- Even with cessation of periods and chances of infertility, pregnancy is still possible while on testosterone. A barrier method or progesterone-only method of birth control is advised if engaging in sex where semen could enter the vagina.
- Testosterone will not provide protection from sexually transmitted diseases or HIV. Use of barriers and safe sex practices are recommended to reduce chances of infection.
- Testosterone therapy may slightly increase the risk of cancers in the breast tissue or the lining of the uterus. Continued breast exams, pelvic exams, and cervical cancer screenings are strongly recommended unless there has been a removal of the breasts, ovaries, uterus and cervix.
- Brain structures are affected by testosterone and estrogen. The long-term effects of decreasing estrogen and increasing testosterone in a natal female through the use of testosterone have not been studied and are not possible to predict.
- Mood changes may occur. Patients may need to obtain behavioral health therapy during use of testosterone.

Everyone’s body is different. The right dosage may not be the same for me. I understand that I must follow the prescribed regimen of testosterone to continue to receive hormone therapy at this clinic. I agree to tell my provider about any non-clinic hormones, medications, herbs, and/or recreational drugs that I take. I understand that if I have any adverse reactions, I must let my provider know. I understand that I will have a complete physical examination and lab tests periodically as required to make sure that I am not having an adverse reaction to testosterone.

Alternatives

I understand that I can stop taking testosterone at any time.

MY QUESTIONS ABOUT MASCULINIZING TREATMENT HAVE BEEN ANSWERED TO MY SATISFACTION. I HAVE READ THROUGH AND UNDERSTAND THIS CONSENT FORM. BY SIGNING THIS CONSENT FORM, I AGREE TO HAVE HORMONES GIVEN TO ME. BY SIGNING BELOW, I CONFIRM THAT I HAVE THE LEGAL ABILITY TO CONSENT TO MEDICAL TREATMENT ON BEHALF OF MYSELF.

Signed: ____________________________
Patient

Print Name of Patient

Date and Time: ____________________________
• Goal is masculinization and minimizing feminine secondary sex characteristics
• All testosterone hormone preparations available in US are “bioidentical”
TRANSGENDER MALES (FTM)

• Initial labs (fasting):
  – Hematocrit
  – Lipids
  – Total testosterone
  – Estradiol
  – Comprehensive metabolic panel (CMP)

We have decided on these initial labs after reviewing both UCSF guidelines and Endocrine Society guidelines.
## TESTOSTERONE OPTIONS & DOSING

<table>
<thead>
<tr>
<th>Route</th>
<th>Formulation</th>
<th>Starting dose</th>
<th>Dosing range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parental (Subcutaneous, intramuscular)</td>
<td>Testosterone enanthate, Testosterone cypionate</td>
<td>25 mg/week</td>
<td>50 -100 mg/week Or can dose every 2 weeks (just double dose)</td>
</tr>
<tr>
<td>Transdermal</td>
<td>Testosterone gel (1%), Testosterone patch</td>
<td>2.5-10 g/day, 2.5-7.5 mg/day</td>
<td></td>
</tr>
</tbody>
</table>

- **We prefer subcutaneous testosterone preparations, start at 25 mg weekly and increase dose every 8-12 weeks**
• Study evaluating SQ vs IM dosing of testosterone:
  – 63 trans males
  – SQ preferred by patients
  – Effective at achieving physiologic levels
MONITORING LABS

- Estradiol: as needed (could consider checking if continued uterine bleeding beyond 6 months)
- Total testosterone (mid-cycle): 3 months, 6 months, 12 months, yearly, and PRN
- Hematocrit: 3 months, 6 months, 12 months, yearly, and PRN
- Fasting lipids: 6 months, 12 months, yearly
- Fasting CMP: 6 months, 12 months, yearly
- Sex hormone binding globulin and albumin: used to calculate bioavailable testosterone, only needed for complex cases
- STI screening, per CDC recommendations

We have decided on these monitoring labs after reviewing both UCSF Guidelines and Endocrine Society guidelines.
TRANSGENDER MALES (FTM)

- Once patient is within the normal male physiologic range, there is no evidence that higher testosterone doses result in a greater degree of virilization.
- If on the lower end of the range and having symptoms of low energy/libido/mood, can try to slowly increase the dose to approximately midpoint of reference range.
  - Reference range (350-1100 ng/dl)
• Cessation of menses typically expected within 6 months of physiologic levels of testosterone
• Micronized progesterone 100 mg/day PO x 3 months can help with stopping menses
• Can consider referral to gynecologist to help with evaluation of abnormal uterine bleeding
TIMELINE OF MASCLINIZING EFFECTS

Voice Deepening:
Onset: 3-12 months
Max: 1-2 years

Redistribution of fat:
Onset: 1-6 months
Max: 2-5 years

Increased muscle mass:
Onset: 6-12 months
Max: 2-5 years

Cessation of menses
2-6 months

Facial and Body Hair Growth:
Onset: 6-12 months
Max: 4-5 years

Increased oiliness of skin/Acne
Onset: 1-6 months
Max: 1-2 years

Increased libido:
1-9 months

Clitoral enlargement:
Onset: 1-6 months
Max: 1-2 years
EXPECTED SIDE EFFECTS

• Elevated Hgb/Hct
  • Compare to normal male values, rather than female values
  • Recheck testosterone levels and consider decreasing dose, administering lower dose testosterone injections more frequently
  • Consider OSA, tobacco use as cause for polycythemia
  • Consider referral to hematology to r/o pathologic causes
EXPECTED SIDE EFFECTS

• Balding
  • If genetically predisposed, use OTC Minoxidil, 5-alpha reductase inhibitors (finasteride -1 mg daily dose should have minimal side effects though effects on virilization are unknown)

• Weight gain
  • Discuss typical weight management strategies
EXPECTED SIDE EFFECTS

• Acne
  • Typical acne treatments – acne peaks in first year and then declines
  • Can give lower dose injections more frequently to minimize high peaks
• Worsening lipid profile – specifically, lower HDL
EXPECTED SIDE EFFECTS

• Studies are conflicting about increase in systolic blood pressure, diabetes, LDL

• Studies do not show an increased risk of the following:
  – Breast, cervical, ovarian, uterine cancer – should get screened as cis females would, depending on patient anatomy
  – VTE, cardiovascular disease, stroke, OSA


CASE 1

• 18 yr old, assigned female at birth, desiring transition to male
• Has been feeling out of place, “in the wrong body” since age 13 and starting puberty. Very frustrated with the difference in assigned gender and expressed gender.
  – Started to socially transition at age 16-17 with binding, male clothing
  – Uses “he/him” pronouns
• Has also been experiencing depression related to this dysphoria and is hoping to also start counseling/therapy
• He is ready to start hormones – what is the next step?
CASE 1

• Sent to our Counseling and Psychological Services where diagnosed with Gender Dysphoria
  – After several counseling sessions, provided letter of support
  – Remained in counseling during initial part of transition
• Initial labs:
  – Hemoglobin: 13.5
  – Testosterone: 46
  – Estradiol: 140
  – Lipids: normal
  – CMP: normal
CASE 1

- Started on testosterone cypionate 25 mg weekly injection subcutaneously
- After 4th injection, developed hives throughout body – switched to testosterone enanthate, same dose – no additional problems with this formulation
- Increased dose to 50 mg weekly after 8 weeks
- Repeat labs:

<table>
<thead>
<tr>
<th></th>
<th>Initial labs</th>
<th>3 month labs</th>
<th>Normal value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin</td>
<td>13.5</td>
<td>14.6</td>
<td>12.0-16.0 g/dL</td>
</tr>
<tr>
<td>Testosterone</td>
<td>46</td>
<td>321</td>
<td>350-1100 ng/dL</td>
</tr>
</tbody>
</table>
CASE 1

- Increased to 80 mg weekly after another 6 weeks
- Labs rechecked 6 weeks later

<table>
<thead>
<tr>
<th></th>
<th>Initial labs</th>
<th>3 month labs</th>
<th>6 months</th>
<th>Normal value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin</td>
<td>13.5</td>
<td>14.6</td>
<td>15.1</td>
<td>12.0-16.0 g/dL</td>
</tr>
<tr>
<td>Testosterone</td>
<td>46</td>
<td>321</td>
<td>724</td>
<td>350-1100 ng/dL</td>
</tr>
</tbody>
</table>
CASE 1

• Has had adequate masculinization response from testosterone therapy
  – No adverse events after 2 years
  – Has remained at 80 mg weekly with mid-cycle levels ranging from
    456-724 (goal range 350-1100)
• Had top surgery after 1.5 years of hormone therapy and he is happy with
  outcome
• Not considering bottom surgery at this point
CASE 2

- 18 year old, assigned female at birth here for initial visit
  - Does not “feel female or male,” but somewhere in the middle – on the more masculine side of things
  - They/them/their pronouns
- Goals of therapy - menstrual suppression and top surgery
- Started on continuous OCPs for menstrual suppression
- Referral to surgery to discuss top surgery
- Discussion about potential low dose testosterone in the future if desired
TRANSGENDER FEMALES

MTF
• Goal is feminization and suppression of secondary masculine sex characteristics
• Estrogen class used is 17-beta-estradiol – “bioidentical” to hormone released from ovaries
• Medications used are generally a 2-pronged approach: estrogen and anti-androgen
  – Sometimes progesterone
TRANSGENDER FEMALES (MTF)

- Initial labs (fasting):
  - Comprehensive metabolic panel
  - Prolactin
  - Lipids
  - Hematocrit
  - Total testosterone
  - Estradiol

We have decided on these initial labs after reviewing both UCSF guidelines and Endocrine Society guidelines.
### FEMINIZING HORMONES (MTF)

<table>
<thead>
<tr>
<th>Route</th>
<th>Formulation</th>
<th>Starting dose</th>
<th>Dosing range</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral/Sublingual</td>
<td>Estradiol</td>
<td>1-2 mg/day</td>
<td>2-8 mg/day</td>
<td>If dose &gt;2 mg, divide dose to BID</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subcutaneous</td>
<td>Estradiol valerate</td>
<td>2 mg/week</td>
<td>2-7 mg/week</td>
<td>4 mg generally good dose</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transdermal</td>
<td>Estradiol</td>
<td>50 mcg applied 1-2x per week (depends on formulation)</td>
<td>100-400 mcg applied 1-2x per week (depends on formulation)</td>
<td>(=0.1-0.4 mg)</td>
</tr>
</tbody>
</table>

UCSF Guidelines and MayoClinic Transgender Conference October 2018, PowerPoint on Masculinizing Hormonal Therapy

Goodman, MP. Are all estrogens created equal? *J Women’s Health.* 2012
Feminizing Hormones (MTF)

- Progestagens – not well studied
- Some patients note improved mood/libido and enhanced breast development
  - Some patients note worsened mood
  - Breast development may be related to weight gain
- Timing not clearly established
## PROGESTAGENS

<table>
<thead>
<tr>
<th>Route</th>
<th>Formulation</th>
<th>Starting dose</th>
<th>Max Dose</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>Medroxyprogesterone acetate (Provera)</td>
<td>2.5 mg nightly</td>
<td>5-10 mg nightly</td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Micronized progesterone</td>
<td>100-200 mg nightly</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intramuscular</td>
<td>Depo-provera</td>
<td>150 mg IM every 120 days</td>
<td></td>
<td>Less commonly used</td>
</tr>
</tbody>
</table>

- Can consider cyclic dosing of oral progestogens (10 days/month) to limit doses, though patients can have “PMS-like” symptoms
MONITORING LABS

• Estradiol: 3 months, 6 months, yearly, and then PRN
• Check estradiol levels 4-6 weeks after dosage change to ensure not going too high
• Subcutaneous
  – Check trough levels (day prior to, or day of injection)
  – Mid-cycle levels
  – If side effects, can check peak levels 2 days after injection

We have decided on these Monitoring labs after reviewing both UCSF guidelines and Endocrine Society guidelines.
MONITOR

• Monitoring labs:
  – Total testosterone: 3 months, 6 months, 12 months, and PRN
  – BMP: 3 months, 6 months, 12 months, yearly, and PRN
  – Prolactin, fasting lipids, hematocrit, and LFTs: if normal initially, no need to recheck
  – STI screening, per CDC recommendations

We have decided on these Monitoring labs after reviewing both UCSF guidelines and Endocrine Society guidelines.
ANTI-ANDROGEN MEDICATION

- **Spironolactone**
  - Mechanism: potassium-sparing diuretic but at higher doses, is an androgen receptor blocker and helps suppress testosterone synthesis.
  - Side effects: polyuria, polydipsia, orthostasis/dizziness, hyperkalemia.
  - Starting dose: 50 mg BID.
  - Maximum dose: 200 mg BID (though this is higher than we usually go – typically 100 mg BID is enough, especially once testosterone levels are suppressed.)
TIMELINE OF FEMINIZING EFFECTS

Breast development:
Onset: 3-6 months
Max: 2-3 years

Redistribution of fat:
Onset: 3-6 months
Max: 2-3 years

Decreased muscle mass:
Onset: 3-6 months
Max: 2-3 years

Softer body hair:
6-12 months

Decreased oiliness of skin
3-6 months

Decreased libido and spontaneous erections:
Onset: 1-3 months
Max: 3-6 months

Testicular atrophy:
Onset: 3-6 months
Max: 2-3 years
ADVERSE EFFECTS – AND WHAT TO DO

- Nausea – consider reducing dose or changing formulation
- Worsening migraines/headaches
  - Consider evaluation for pituitary adenoma
  - Consider subcutaneous or transdermal to maintain more consistent levels
  - Migraine with aura – “While migraine with aura is associated with increased risk of stroke in women using oral contraceptives, it is not clear if this risk translates to the use of bioidentical estradiol.” – UCSF Guidelines
ADVERSE EFFECTS – AND WHAT TO DO

• Venous thromboembolism
  – Smoking
  – Switch formulation
  – Refer to endocrinology and hematology
CASE 3

- Patient is an 18 yo transgender female here to discuss hormone therapy
- Gender dysphoria since puberty
- Concurrent mental health issues (depression, suicidal ideation) delayed counselor’s letter of support for hormone therapy
- Started hormone therapy three months before starting at UVA
CASE 3

- Sent welcome email and gave Transgender Care Team letter
- Filled out consent form for hormone therapy
  - Reviewed fertility concerns
- Immunizations reviewed
- Screened for tobacco use
- Discussed STI risks
- Screened for mental health concerns
  - Referred for counseling and medication management
CASE 3

• 3 months prior to first visit with you, started on oral estrogen and spironolactone at outside facility
  – Estrogen tablets- started at 1 mg twice/day and increased after 2 months to 2 mg twice/day
  – Spironolactone – started at 100 mg once/day and increased after 2 months to 100 mg twice/day

• Initial labs prior to having been started on hormones were all WNL

<table>
<thead>
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<th>3 month labs</th>
<th>Normal Values</th>
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<tbody>
<tr>
<td>Testosterone</td>
<td>360</td>
<td>501</td>
<td>&lt;55</td>
</tr>
<tr>
<td>Estradiol</td>
<td>9.0</td>
<td>45.7</td>
<td>100-200</td>
</tr>
</tbody>
</table>
CASE 3

- 4 months after hormone initiation, increase to 6 mg estrogen/day (4 mg in am and 2 mg in pm)

<table>
<thead>
<tr>
<th>Lab</th>
<th>Initial levels</th>
<th>3 month labs</th>
<th>6 month labs</th>
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<tr>
<td>Testosterone</td>
<td>360</td>
<td>501</td>
<td>340</td>
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</tr>
<tr>
<td>Estradiol</td>
<td>9.0</td>
<td>45.7</td>
<td>62</td>
<td>100-200</td>
</tr>
<tr>
<td>K+</td>
<td>3.8</td>
<td>4.2</td>
<td>4.0</td>
<td>3.4-4.8</td>
</tr>
</tbody>
</table>
SCOFF SCREEN

1. Do you make yourself sick because you feel uncomfortably full?

2. Do you worry that you have lost control over how much you eat?

3. Have you recently lost more than one stone (14 lb) in a 3 month period?

4. Do you believe yourself to be fat when others say you are too thin?

5. Would you say that food dominates your life?

Morgan JF, Reid F, Lacey JH. The SCOFF questionnaire: assessment of a new screening tool for eating disorders. BMJ 1999
Levels moving in desired direction, after 6-month labs increased to 4 mg estradiol twice/day (total 8 mg, max dose)

- Continued spironolactone at 100 mg twice/day

<table>
<thead>
<tr>
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<th>9 month labs</th>
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<td>&lt;55</td>
</tr>
<tr>
<td>Estradiol</td>
<td>9</td>
<td>45.7</td>
<td>62</td>
<td>104</td>
<td>100-200</td>
</tr>
<tr>
<td>K+</td>
<td>3.8</td>
<td>4.2</td>
<td>4.0</td>
<td>4.3</td>
<td>3.4-4.8</td>
</tr>
</tbody>
</table>
CASE 3

- Hospitalized for depression and suicidal ideation
- Parents concerned that estrogen affecting mood and levels too high so rechecked

<table>
<thead>
<tr>
<th>Lab</th>
<th>Initial labs</th>
<th>3 mo labs</th>
<th>6 mo labs</th>
<th>9 mo labs</th>
<th>Extra labs</th>
<th>Normal values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testosterone</td>
<td>360</td>
<td>501</td>
<td>340</td>
<td>77</td>
<td>50</td>
<td>&lt;55</td>
</tr>
<tr>
<td>Estradiol</td>
<td>9</td>
<td>45.7</td>
<td>62</td>
<td>104</td>
<td>89</td>
<td>100-200</td>
</tr>
</tbody>
</table>
CASE 3

- Student’s mental health issues worsened throughout first two years of school
  - Took mental health withdrawal
  - Gave 3 months of hormones, advised follow up with healthcare team at home
- Of note, student felt good about transition but felt isolated at school
MENTAL HEALTH CHANGES WITH HORMONE TREATMENT

• Meta-analysis with 28 eligible studies:
  – total of 1833 individuals with gender dysphoria that underwent transition
  – 1093 MTF and 801 FTM
• 80% of individuals reported significant improvement in gender dysphoria
• 78% reported significant improvement in psychological symptoms
• 80% reported significant improvement in quality of life
• 72% reported significant improvement in sexual function

CASE 4

- Patient is 23 yo assigned male at birth with female gender identity here to see you for an initial transgender visit
- Has had gender dysphoria since age 15
- History of depression and anxiety, managed on Cymbalta – feels that a large part of this is due to gender dysphoria
- History of disordered eating and alcoholism in the past
CASE 4

- Smokes – but has quit for past 2 weeks in anticipation of starting hormones
- Obtained letter confirming diagnosis of gender dysphoria from qualified mental health provider
- Would like to start feminizing hormone therapy
- Uses they/them/their pronouns
CASE 4

• Initial labs:
  – CBC: normal
  – CMP: normal
  – Lipid panel: normal
  – Estradiol level: 12
  – Total testosterone: 852
  – Prolactin: normal
CASE 4

- Started on 2 mg sublingual estradiol daily and 50 mg spironolactone BID
- Labs rechecked

<table>
<thead>
<tr>
<th>Lab</th>
<th>Initial levels</th>
<th>3 month labs</th>
<th>Normal values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estradiol</td>
<td>12</td>
<td>48</td>
<td>(100-200)</td>
</tr>
<tr>
<td>Total Testosterone</td>
<td>852</td>
<td>315</td>
<td>(&lt;55)</td>
</tr>
<tr>
<td>BMP</td>
<td>WNL</td>
<td>WNL</td>
<td></td>
</tr>
</tbody>
</table>
CASE 4

- Dose increased to 2 mg estradiol BID (total daily dose 4 mg)
- Spironolactone increased to 150 mg total daily (100 mg in AM, 50 mg in PM)
- Labs rechecked 2 months later

<table>
<thead>
<tr>
<th>Lab</th>
<th>Initial levels</th>
<th>3 month labs</th>
<th>5 month labs</th>
<th>Normal values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estradiol</td>
<td>12</td>
<td>48</td>
<td>201</td>
<td>(100-200)</td>
</tr>
<tr>
<td>Total Testosterone</td>
<td>852</td>
<td>315</td>
<td>266</td>
<td>(&lt;55)</td>
</tr>
<tr>
<td>BMP</td>
<td>WNL</td>
<td>WNL</td>
<td>K+ 5.4</td>
<td>(3.4-4.8)</td>
</tr>
</tbody>
</table>
Due to increased potassium, spironolactone dose decreased back to 50 mg BID
  - Repeat K+ 3 days later on reduced dose back to normal
Also recently smoking again and having nausea after AM dose
Unsatisfied with testosterone suppression
After discussion, decided to switch to injectable estradiol to help with nausea, and also theoretically lower clotting risk, decided this was safer for them since they are occasionally still smoking
CASE 4

- Started on 2 mg estradiol subcutaneous/week. After 6 weeks, repeat levels:

<table>
<thead>
<tr>
<th>Lab</th>
<th>Initial levels</th>
<th>5 month labs</th>
<th>8 month labs</th>
<th>Normal values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estradiol</td>
<td>12</td>
<td>201</td>
<td>90</td>
<td>100-200</td>
</tr>
<tr>
<td>Total Testosterone</td>
<td>852</td>
<td>266</td>
<td>58</td>
<td>&lt;55</td>
</tr>
<tr>
<td>BMP</td>
<td>WNL</td>
<td>K+ 5.4</td>
<td>WNL</td>
<td>3.4-4.8</td>
</tr>
</tbody>
</table>
CASE 4

- Increased dose to 4 mg estradiol SQ/week. After 8 weeks, repeat levels:

<table>
<thead>
<tr>
<th>Lab</th>
<th>Initial levels</th>
<th>5 month labs</th>
<th>8 month labs</th>
<th>10 month labs</th>
<th>Normal values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estradiol</td>
<td>12</td>
<td>201</td>
<td>90</td>
<td>154</td>
<td>100-200</td>
</tr>
<tr>
<td>Total Testosterone</td>
<td>852</td>
<td>266</td>
<td>58</td>
<td>15</td>
<td>&lt;55</td>
</tr>
<tr>
<td>BMP</td>
<td>WNL</td>
<td>K+ 5.4</td>
<td>WNL</td>
<td>WNL</td>
<td>3.4-4.8</td>
</tr>
</tbody>
</table>
• Have discussed trial of progesterone therapy but decided to hold off until has been on estradiol therapy for 1.5 years
CASE 5

• Patient is a 21 yo transgender female requesting hormones as part of transition
• Started on sublingual estrogen
  – Took sublingual estrogen for 6 months – final dose of 4 mg per day
  – Patient expressed concerns about not being able to talk while tablet dissolved

<table>
<thead>
<tr>
<th></th>
<th>6 months</th>
<th>Normal values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testosterone</td>
<td>21</td>
<td>&lt;55</td>
</tr>
<tr>
<td>Estradiol</td>
<td>104</td>
<td>100-200</td>
</tr>
</tbody>
</table>
CASE 5

• Transitioned to SQ estrogen
  • Estrogen valerate 200 mg/5 ml (generic) = 40 mg/1 ml
    • 4 mg per week - administer 0.10 ml per week

• Pitfalls
  • Vial contamination
  • Injection technique
  • Concurrent use of oral estrogen

<table>
<thead>
<tr>
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<th>6 months</th>
<th>8 months (trough)</th>
<th>Normal values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Testosterone</td>
<td>21</td>
<td>19</td>
<td>&lt;55</td>
</tr>
<tr>
<td>Estradiol</td>
<td>104</td>
<td>120</td>
<td>100-200</td>
</tr>
</tbody>
</table>
REFERRALS

- Voice therapy
- Nutrition
- Psychology
- Fertility
- Surgery
- Dermatology (for laser hair removal)
- Social work (finances, insurance)
RESOURCES

Professional Associations
• World Professional Association for Transgender Health: www.wpath.org
• Gay & Lesbian Medical Association: www.glma.com

Clinical
• Transline: https://transline.zendesk.com (FAQ for health professionals)
• HIV PrEP Locator: https://preplocator.org

Legal
• Transgender Law Center : www.transgenderlawcenter.org
• National Center for Transgender Equality: www.transequality.org

Crisis Management, Suicide Prevention
• Trans Lifeline Phone: (877) 565-8860, www.translifeline.org
RESOURCES

Parents
• Parents of Transgender Kids - www.parentsoftransgenderkids.org

Training and Education
• Association of Medical Colleges - Medical Curriculum, www.aamc.org/lgbtdsd

Hospital Practices

Glossary of LGBT Terms for Health Care Teams
Questions?

Jessica Simmons, MD
jsn2k@virginia.edu

Stephanie Hartman, MD
slm8nh@virginia.edu
REFERENCES

- Fenway Health Guidelines, https://fenwayhealth.org/
- Sherbourne Health, Toronto, https://sherbourne.on.ca/
- Center of Excellence for Transgender Health (UCSF): www.transhealth.ucsf.edu
- MayoClinic PowerPoint from October 2018
REFERENCES

REFERENCES

Specialty Clinics
UVA Teen and Young Adult Transgender Clinic
For patients ages 12-26
Call 434.982.0090 and select option 1.

UVA Adult Transgender Clinic
For patients age 18 and older
Call 434.924.6900.

UVA Student Health Center
For UVA students
Call 434.982.5363 and select general medicine, counseling or gynecology.

Helpful Information
MyChart®: MyChart is an online resource patients can use to view health information, communicate with providers and pay bills. Sign up at mychartuva.com. Parents of minor children and caregivers designated by adult patients can use MyChart Proxy to view health information. Ask your care provider for more information.

MyVue®: MyVue allows you to view your radiology images online. Sign up at uvahealth.com/myvue.

Insurance:
We accept most major insurance plans, including Medicare and Medicaid. Please pay all copays and fees at the time of your visit.

Billing Questions:
If you have questions about your bill, visit uvahealth.com/billing or call 844.577.0946.

Financial Assistance:
Learn about assistance available through UVA and government programs at uvahealth.com/financeassistance.

UVA Transgender Services

Welcome:
At UVA, our goal is to provide affirming, comprehensive healthcare for transgender patients of all ages. We are committed to making your healthcare experience as positive as possible, listening to and responding to your needs and removing barriers to your care.

Our Team:
Our multidisciplinary team includes healthcare professionals who specialize in family medicine, endocrinology, psychiatry and behavioral health. Every member of our team is experienced in and has a special interest in working with transgender patients. Your well-being is our top priority and we will always treat you with dignity and respect. If you ever need care from a specialist outside of our clinics, we can refer you to trusted trans-affirming providers.

Services:
Behavioral Health:
- Brief psychotherapy:
  - Help with anxiety, depression, grief or stress
  - Make lifestyle changes like quitting smoking or losing weight
  - Reduce and cope with symptoms of medical conditions
  - Referrals for longer-term therapy

Endocrinology:
- Hormone prescribing and management, including puberty suppression therapy (for adolescents), gender-affirming therapy and menstrual suppression therapy
- Treatment for diabetes, thyroid disease and other glandular conditions

Primary Care/Family Medicine:
- Care for chronic health conditions
- Care for minor illness and injury
- Cancer screenings
- Physicals
- Vaccinations
- Hormone therapy management and refills by primary care providers (UVA Teen and Young Adult Transgender Clinic and UVA Student Health Center)

Psychiatry:
- Treatment for:
  - Anxiety
  - Attention deficit hyperactivity disorder
  - Bipolar disorder
  - Depression
  - Other mental health issues

Team and Young Adult Medicine:
- Evaluation and treatment for teen mental health issues
- Low-cost physicals and sports physicals
- LGBTQ support groups for ages 10-14 and 14-20
- Reproductive healthcare: birth control (including free emergency birth control), period management, counseling and testing for sexually transmitted diseases and pregnancy testing
- Treatment for acne and skin problems

Transgender Support:
- Discussion of possible medical and surgical treatments for gender dysphoria
- Family education and support
- Assistance with name and gender marker changes on legal documents
- Financial advice about uncovered medical treatment
- Letters of recommendation for hormone therapy (UVA Teen and Young Adult Transgender Clinic and UVA Student Health Center)
- Information about gender expression
gay, bi, trans
- Surgical referrals
Retrospective chart review on 80 transmales started on testosterone therapy

- Increased:
  - Triglycerides
  - Total cholesterol
  - LDL

- Decreased:
  - HDL

CHANGES IN LIPID PROFILE

- Retrospective chart review of 89 trans females started on estrogen
- Significant increases
  - TG (P < 0.001)
  - Total cholesterol (P = 0.021)
  - HDL (P = 0.001)