Gender Affirming Care

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Learning Objectives

1. Examine the impact of structural violence on the health and care of gender-diverse persons.
2. Discuss the usual medical management of gender-diverse persons seeking gender-affirming care.
3. Apply knowledge of gender-affirming care to patient cases.
4. Synthesize knowledge to address the complexities of gender-affirming care.

AES Question

Question 1

I am currently providing gender affirming care to adults in my practice.

A. No
B. No, but I plan to soon
C. Yes, I have a few
D. Yes, I do a lot of gender affirming care

Resources for the Clinical Scenarios

UCSF PRIMARY CARE GUIDELINES
https://transcare.ucsf.edu/guidelines

Endocrine Society Guidelines 2017
https://www.endocrine.org/clinical-practice-guidelines/gender-dysphoria-gender-incongruence

Clinical Scenario # 1

-Renee is a 40-year-old non-binary person (AMAB/assigned male at birth, uses she/they pronouns) who presents with the desire to initiate estrogen therapy.

-She has socially transitioned for the past decade, and finally feels financially stable enough to seek gender affirming hormone therapy.

-Renee reports identifying as female since the age of 16, though did not recognize it exactly until she was in her late 20s.

-She was previously married to a cis-female and they have 2 children together who are currently in their late teens.

-She and her partner separated 15 years ago when Renee decided she could not continue to live as a male.

-She is out to her ex-wife and their children, and they are relatively supportive. Her daughter is very supportive while her son avoids being in public with her.

-She has been very happy living as a female and goals of care for HT are breast growth, decreased/thinner body hair and more of an “hourglass figure”

Clinical Scenario # 2

-Nabil is an 18-year-old male (AFAB, he/him).

-He prefers Nabil though has only used this name and he/him pronouns online.

-His parents are not aware of his gender identity, and he knows he will be kicked out of his home when they find out.

-He has been aware of his male identity since the age of 10 and reports suicidal ideation during his female puberty.

-He is desperate to begin Testosterone and live (and be viewed by others) as male.

-He has not figured out what he will do with his housing with the transition though plans to move into the college dorms in 3 months.

-He plans to work full time while studying because he is aware that he will need to support himself completely.

Hormone Therapy

DSM-5 criteria for gender incongruence

A marked incongruence between one's experienced/expressed gender and natal gender of at least 6 months in duration, as manifested by at least two of the following:

A. A marked incongruence between one's experienced/expressed gender and primary and/or secondary sex characteristics (or in young adolescents, the anticipated secondary sex characteristics)
B. A strong desire to be rid of one's primary and/or secondary sex characteristics because of a marked incongruence with one's experienced/expressed gender (or in young adolescents, a desire to prevent the development of the anticipated secondary sex characteristics)
C. A strong desire for the primary and/or secondary sex characteristics of the other gender
D. A strong desire to be of the other gender (or some alternative gender different from one's designated gender)
E. A strong desire to be treated as the other gender (or some alternative gender different from one's designated gender)
F. A strong conviction that one has the typical feelings and reactions of the other gender (or some alternative gender different from one's designated gender)

Contraindications to estradiol-based HT

Contraindications

- Unstable ischemic cardiovascular disease
- Estrogen-dependent cancer
- End stage chronic liver disease
- Psychiatric conditions which limit the ability to provide informed consent
- Hypersensitivity to one of the components of the formulation

Hormone Therapy- Estradiol Based

ESTRADIOL [start 1 mg under 16, 2 mg PO for 16 +]
- PO
- SUB-Q
- Topical- compounded and patches

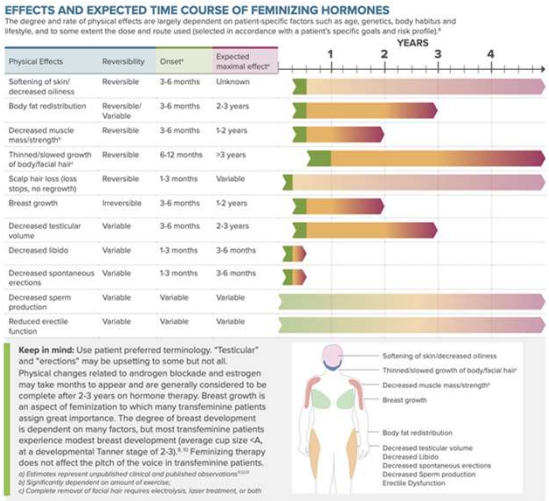
SPIRONOLACTONE [start 50 mg under 16, 100 mg 16+]
- PO

Baseline labs- LFT's, Ha1c, chem, vitamin D, lipids, E/T

Q 3 months with pre-visit Chem 7, estradiol and testo levels

After first year Q6 or Q12 months with all safety labs

Hormone Therapy- Estradiol Based



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DSM-5 criteria for gender incongruence

A marked incongruence between one's experienced/expressed gender and natal gender of at least 6 months in duration, as manifested by at least two of the following:

A. A marked incongruence between one's experienced/expressed gender and primary and/or secondary sex characteristics (or in young adolescents, the anticipated secondary sex characteristics)
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F. A strong conviction that one has the typical feelings and reactions of the other gender (or some alternative gender different from one's designated gender)

Contraindications to testosterone-based HT

Contraindications

- Pregnancy or breast feeding
- Active known sex-hormone-sensitive cancer (e.g., breast, endometrial)
- Unstable ischemic cardiovascular disease
- Poorly controlled psychosis or acute homicidality
- Psychiatric conditions which limit the ability to provide informed consent
- Hypersensitivity to one of the components of the formulation

Hormone Therapy- Testosterone Based

TESTOSTERONE [start with 30 mg injectable or 25 mg topical]

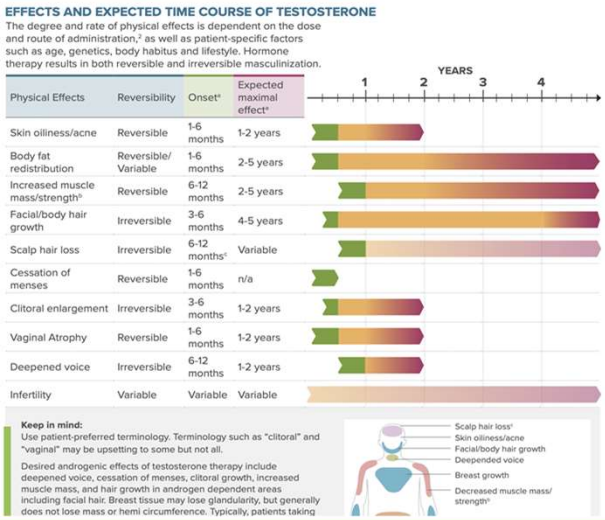
- Sub-Q
- Topical- packets, pumps or compounded
- Oral??
- Pellets??

Baseline labs- LFT's, Ha1c, chem, vitamin D, lipids, E/T

Q 3 months with pre-visit H/H, estradiol and testo levels

After first year Q6 or Q12 months with all safety labs

Hormone Therapy- Testosterone Based



EFFECTS AND EXPECTED TIME COURSE OF TESTOSTERONE

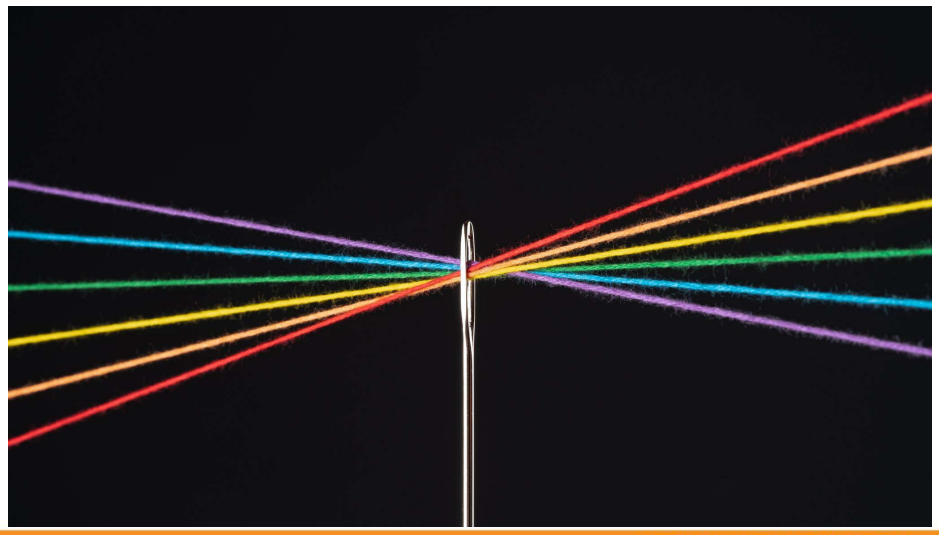
The degree and rate of physical effects is dependent on the dose and route of administration,[2] as well as patient-specific factors such as age, genetics, body habitus and lifestyle. Hormone therapy results in both reversible and irreversible masculinization.

Physical Effects	Reversibility	Onset[a]	Expected maximal effect[a]
Skin oiliness/acne	Reversible	1-6 months	1-2 years
Body fat redistribution	Reversible/ Variable	1-6 months	2-5 years
Increased muscle mass/strength[b]	Reversible	6-12 months	2-5 years
Facial/body hair growth	Irreversible	3-6 months	4-5 years
Scalp hair loss	Irreversible	6-12 months[c]	Variable
Cessation of menses	Reversible	1-6 months	n/a
Clitoral enlargement	Irreversible	3-6 months	1-2 years
Vaginal Atrophy	Reversible	1-6 months	1-2 years
Deepened voice	Irreversible	6-12 months	1-2 years
Infertility	Variable	Variable	Variable

Keep in mind:
Use patient-preferred terminology. Terminology such as "clitoral" and "vaginal" may be upsetting to some but not all.

Desired androgenic effects of testosterone therapy include deepened voice, cessation of menses, clitoral growth, increased muscle mass, and hair growth in androgen dependent areas including facial hair. Breast tissue may lose glandularity, but generally does not lose mass or hemi circumference. Typically, patients taking

Structural determinants of health



AES Question

Question 2

Structural determinants of health refers to

A. The buildings/spaces in which health care is provided
B. Systematic societal inclusion or exclusion of specific populations
C. The paperwork and other internal infrastructure of health care settings
D. Systematic healthcare inclusion or exclusion of specific populations

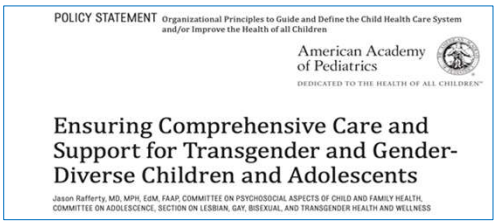
Structural Violence = Health Disparities

- 10% reported that a family member was violent
- 54% in K–12 were verbally harassed
- 24% in K-12 were physically attacked
- 13% were sexually assaulted in K–12 because of being transgender
- The unemployment rate was three times higher than the unemployment rate in the U.S. population (15% compared to 5%)
- 33% reported having at least one negative experience related to being transgender in healthcare, with higher rates for people of color and people with disabilities.
- Some were refused treatment, verbally harassed, or physically or sexually assaulted

Structural Violence = *Health Disparities*

- 39% experienced serious psychological distress in the past month compared with only 5% of the U.S. population.
- HIV rates were higher among transgender women - 3.4% (0.3%)
- 19% of Black transgender women were living with HIV
- American Indian (4.6%) and Latina (4.4%) women also reported higher rates.
- 40% have attempted suicide in their lifetime, nearly nine times the rate in the U.S. population (4.6%).

Structural Belonging = Improved Health

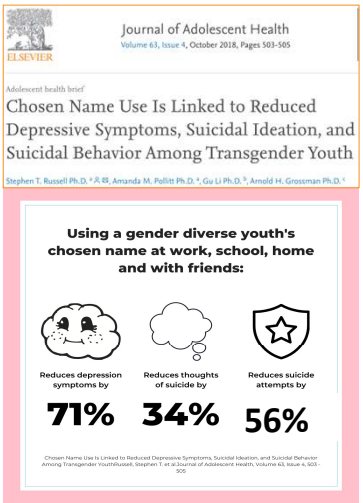


the impact of family affirmation

impact of pronouns

impact of access to medications

Structural Belonging = Improved Health

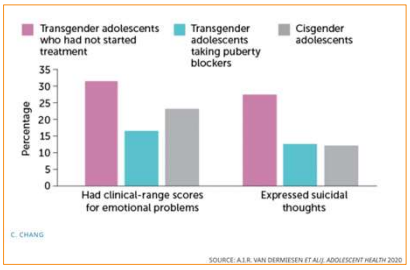


Impact of family affirmation

impact of pronouns

impact of access to medications

Structural Belonging = Improved Health



Pubertal Suppression for Transgender Youth and Risk of Suicidal Ideation

Access to gender-affirming hormones during adolescence and mental health outcomes among transgender adults

Jack L. Turban[1]*, Dana King[2], Julia Kobe[2], Sari L. Reisner[2,3,4,5], Alex S. Keuroghlian[2,6]

impact of family affirmation

impact of pronouns

impact of access to medications

Preventive health concepts

- informed consent
- if organ is present, follow same guidelines as cis-folks
- patient-centered language
- hormones are not really medication

Gender ECHO

-2nd and 4th Thursdays of each month from 12-1 MST
-on zoom
-anyone welcome
-sign up using QR code

Resources

UCSF PRIMARY CARE GUIDELINES
https://transcare.ucsf.edu/guidelines

Endocrine Society Guidelines 2017
https://www.endocrine.org/clinical-practice-guidelines/gender-dysphoria-gender-incongruence

References

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- https://academic.oup.com/jcem/article/102/11/3869/4157558
- https://www.rainbowhealthontario.ca/wp-content/uploads/2020/10/QRG_full_rev2023.pdf

AES Answers

1. No correct answer
2. B

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STRONG MEDICINE FOR AMERICA

Gender Affirming Care for Family Medicine

Case 1

Renee is a 40-year-old female (AMAB/assigned male at birth, she/they pronouns) who presents with the desire to initiate estrogen therapy. She has socially transitioned and has had a gender expression of female for the past decade. She finally feels financially stable enough to seek gender affirming care. Renee reports identifying as female since the age of 16, though did not recognize it exactly until she was in her late 20s. She was previously married to a cis-female, and they have 2 children together who are currently in their late teens. They separated 15 years ago when Renee decided she could not continue to live as a male. She is out to her ex-wife and their children, and they are relatively supportive. Her daughter is very supportive while her son avoids being in public with her. She has been very happy living as a female and has goals of care related to HT including breast development, more of an "hourglass" figure, and decreased/thinner body hair.

1. Does Renee qualify for gender affirming therapy? Why or why not?
2. What other information would you like before initiating gender affirming medications?
3. What medications would you suggest to Renee?
4. What permanent changes can Renee expect from her estrogen treatment? What changes are reversible?

You and Renee decide to initiate both spironolactone and estradiol at this time. You plan to prescribe spironolactone 50 mg daily and oral estradiol 2 mg daily.

5. What labs do you need before beginning Renee's treatment?
6. When would you like to see Renee again? When would you like to assess her estradiol level? What other labs would you like to obtain at that time?

At 3 months, Renee's estradiol level is 30 pg/mL and her testosterone is 350 ng/dL. She feels fine but has noted minimal to no physical changes on the medication. She wonders when she will see breast development.

7. What changes would you like to make to Renee's regimen today?

8. What can you tell Renee about the expected timeline of her desired physical changes?

In another 3 months, Renee's estradiol level is 40 pg/mL and her testosterone is 400 ng/dL. She is frustrated at the lack of changes she has seen with her medication. She wonders if she should switch to an estrogen patch or injection because she has heard that they are better than oral. She also requests STI testing. With further discussion, you learn that Renee has been working as an escort for the past 10 years. She was fired from her CPA position of 15 years when she presented to work as a female and has had difficulty finding stable employment since that time. She has been working as an accountant again for the past 14 months. Renee is nervous that she could be let go from her job at any time given her gender identity and therefore continues to work as an escort.

9. What changes would you like to make to Renee's regimen today?

10. What STI screening should be performed?

Gender Affirming Care for Family Medicine

Case 2

Nabil is an 18-year-old male (AFAB, he/him). He prefers Nabil though has only used this name and he/him pronouns online. His parents are not aware of his gender identity, and he knows he will be kicked out of his home when they find out. He has been aware of his male identity since the age of 10 and reports suicidal ideation during his female puberty. He is desperate to begin Testosterone and live as male. He has not figured out what he will do with his housing with the transition though plans to move into the college dorms in 3 months. He plans to work full time while studying because he is aware that he will need to support himself completely.

1. Does Nabil qualify for gender affirming therapy? Why or why not?
2. What other information would you like before initiating gender affirming medications?
3. What medication would you suggest for Nabil?
4. What permanent changes can Nabil expect from his testosterone treatment? What changes are reversible? What won't change?

You and Nabil decide to initiate 50 mg SQ testosterone weekly.

5. What labs do you need before beginning Nabil's treatment?
6. When would you like to see Nabil again?
7. When would you like to assess his testosterone level? What other labs would you like to obtain at that time?

Nabil's total testosterone level, drawn the day prior to his next shot due (he does his shots on Tuesday, so went to the lab on Monday to get his blood drawn), is 550ng/dL. He feels happier than he can ever remember and plans to move into the dorms next week. He will be living on a male floor. He has noticed a change in his skin texture and is having more acne. He also notes that his body shape seems more masculine and is super happy that he hasn't had a period for the past 2 months. He wonders when his voice will change and when he will start growing a beard. His parents noticed his change in mood, and he decided to come out to them and tell them about his transition. He was surprised they did not immediately kick him out of the house and seem accepting.

8. What can you tell Nabil about the expected timeline for his desired physical changes?

9. What changes do you make to Nabil's regimen today?

10. When do you plan to see Nabil again?

Gender Affirming Care for Family Medicine

Case 1

Renee is a 40-year-old female (AMAB/assigned male at birth, she/they pronouns) who presents with the desire to initiate estrogen therapy. She has socially transitioned and has had a gender expression of female for the past decade. She finally feels financially stable enough to seek gender affirming care. Renee reports identifying as female since the age of 16, though did not recognize it exactly until she was in her late 20s. She was previously married to a cis-female, and they have 2 children together who are currently in their late teens. They separated 15 years ago when Renee decided she could not continue to live as a male. She is out to her ex-wife and their children, and they are relatively supportive. Her daughter is very supportive while her son avoids being in public with her. She has been very happy living as a female and has goals of care related to HT including breast development, more of an "hourglass" figure, and decreased/thinner body hair.

1. Does Renee qualify for gender affirming therapy? Why or why not?
   Renee meets the DSM-5 criteria for gender dysphoria with a persistent desire to be of the other gender and a strong desire for the secondary sexual characteristics of the other gender.

2. What other information would you like before initiating gender affirming medications?
   You should acquire Renee's past medical history. Unstable ischemic heart disease and End stage liver failure would be contraindications to treatment.

3. What medications would you suggest to Renee?
   You discuss both androgen-blockers and estradiol with Renee. Spironolactone is typically used as an androgen blocker. It can be initiated alone, a few months prior to, or together with, estradiol. Breast development when spironolactone is initiated a few months prior to estradiol is thought to be minimally enhanced. Estradiol is available in oral, transdermal and subcutaneous preparations.

4. What permanent changes can Renee expect from her estrogen treatment? What changes are reversible?
   Permanent changes with feminizing therapy are primarily limited to breast growth. Reversible changes including softening of the skin, decreased muscle mass, slowing of terminal hair growth and cessation of further scalp hair loss. Changes that are variably reversibly with cessation of therapy include body fat redistribution, decreased testicular volume, decreased libido, erectile function and spontaneous erections, and decreased sperm production/fertility. Estrogen therapy will not change the pitch of Renee's voice, decrease the size of an Adam's apple, completely stop her facial hair growth, regrow previously lost scalp hair or affect pelvic shape or shoulder width.

You and Renee decide to initiate both spironolactone and estradiol at this time. You plan to prescribe spironolactone 50 mg daily and oral estradiol 2 mg daily.

5. What labs do you need before beginning Renee's treatment?
   In Renee's case, you should evaluate renal function and potassium with initiation of spironolactone. It is also reasonable to evaluate liver function at baseline given estradiol's hepatic metabolism, especially in oral preparations. You can consider a CBC, lipid panel, Hemoglobin A1C, estradiol and total testosterone level though results will not impact therapy. In some states, these labs are required for insurance to cover certain medications.

6. When would you like to see Renee again? When would you like to assess her estradiol level? What other labs would you like to obtain at that time?
   Per the Endocrine Society Guidelines, it is optimal to see patients with pre-visit labs every three months during their first year of treatment. Labs include total testosterone, estradiol levels and a chemistry panel given the spironolactone. It's helpful for patients to get this before the visit so that any confusing lab results can be discussed and any indicated medication changes can be made at the visit. The goal for maximum feminization is a serum estradiol level of 100-200 pg/mL; for fully suppressed testosterone the goal is serum testosterone of less than 50 ng/dL.

   [MM] I get labs every three months in the first year, and for estradiol-based therapy it's always a chemistry panel, estradiol and testosterone levels. I like to increase the dose of the two meds incrementally with goal of settling on medication doses and meeting optimal estradiol and testosterone levels by the end of the first year of treatment.

At 3 months, Renee's estradiol level is 30 pg/mL and her testosterone is 350 ng/dL. She feels fine but has noted minimal to no physical changes on the medication. She wonders when she will see breast development.

7. What changes would you like to make to Renee's regimen today?
   You should adjust Renee's estradiol and consider adjusting her spironolactone as well. It is reasonable to increase her estradiol to 2 mg BID and her spironolactone to 50 mg BID.

   [KV] I often initiate treatment of these doses of spironolactone 50 mg BID or 100 mg daily and estradiol 2 mg BID in adult patients.

8. What can you tell Renee about the expected timeline of her desired physical changes?
   It is not surprising that Renee has not seen many physical changes given her continued elevated level of testosterone and low estrogen level. Once appropriate estrogen and testosterone levels are achieved with the medications, Renee should see some initial breast growth within 3-6 months.

In another 3 months, Renee's estradiol level is 40 pg/mL and her testosterone is 400 ng/dL. She is frustrated at the lack of changes she has seen with her medication. She wonders if she should switch to an estrogen patch or injection because she has heard that they are better than oral. She also requests STI testing. With further discussion, you learn that Renee has been working as an escort for the past 10 years. She was fired from her CPA position of 15 years when she presented to work as a female and has had difficulty finding stable employment since that time. She has been working as an accountant again for the past 14 months. Renee is nervous that she could be let go from her job at any time given her gender identity and therefore continues to work as an escort.

9. What changes would you like to make to Renee's regimen today?
   Renee's estradiol should again be adjusted. There is no "upper limit" for the dose of the estradiol, the goal is really the serum level. It is also not unreasonable to transition to an estradiol patch or estrogen injection. In some individuals, non-oral preparations are more efficacious in suppressing testosterone and increasing estrogen. These formulations can be more expensive, however. Orchiectomy is also an option for testosterone suppression. Typically, estradiol doses can be decreased following orchiectomy.

   [KV]Transitioning from spironolactone to cyproterone can also be considered. Cyproterone has historically been avoided in gender affirming care due to concerns about its side effect profile though it appears safe at the low doses used in this setting. To date, I have not been using cyproterone, but there are definitely more individuals using it in gender affirming care.

   [MM] I have used leuprolide in place of spironolactone, but that has the additional hassles of being an injection that is administered in clinic or an infusion center every three to 6 months, and can be hard to get approved by insurance, especially in adults.

10. What STI screening should be performed?
    It is best practice to ask the following of all patients-"Do you have sex with people with penises, vaginas or both?" and "What kind of sex do you have?" "Do you feel safe in your sexual and other relationships?" "Do you feel satisfied with your sexual and other relationships?" Creating space for people to feel safe talking about sex with medical practitioners is helpful and while we do have to be concerned with safety, we can also support well-being by supporting patients in talking about quality of life as well. In this case- gonorrhea and chlamydia swabs should be obtained from the pharynx, rectum and urethra as indicated. HIV, syphilis and hepatitis B and C are also indicated. It would also be reasonable to discuss pre-exposure prophylaxis with Renee at this visit.

Gender Affirming Care for Family Medicine

Case 2

Nabil is an 18-year-old male (AFAB, he/him). He prefers Nabil though has only used this name and he/him pronouns online. His parents are not aware of his gender identity, and he knows he will be kicked out of his home when they find out. He has been aware of his male identity since the age of 10 and reports suicidal ideation during his female puberty. He is desperate to begin Testosterone and live as male. He has not figured out what he will do with his housing with the transition though plans to move into the college dorms in 3 months. He plans to work full time while studying because he is aware that he will need to support himself completely.

1. Does Nabil qualify for gender affirming therapy? Why or why not?
   Nabil meets the criteria for diagnosis of gender dysphoria by the DSM-5 criteria. He has a marked incongruence between his experienced gender and his secondary sex characteristics and a strong desire to be of the other gender. This is causing significant distress in his social and family life. Nabil's absence of previous social transitioning does not preclude him from receiving gender affirming care, though planning for housing and financial stability will be important early in the transition. Determining Nabil's insurance status separate from his parents is also important.

2. What other information would you like before initiating gender affirming medications?
   It is reasonable to assess Nabil's mental health, including the stability of his depression and whether he is obtaining treatment in the form of therapy or medication. Therapy should not be a requirement for otherwise stable adults seeking gender affirmation. You should also explore Nabil's desire for fertility and counsel him appropriately on egg banking, if desired.

3. What medication would you suggest for Nabil?
   Most commonly, persons desiring masculinizing therapy are started on testosterone cypionate. It is available as both a subcutaneous/intramuscular injection and a topical gel. They are equally efficacious though cost and insurance coverage varies.

4. What permanent changes can Nabil expect from his testosterone treatment? What changes are reversible? What won't change?
   Permanent changes with testosterone therapy include deepening voice (including formation of Adam's apple), facial hair and other terminal body hair growth, clitoral enlargement and any resulting loss of scalp hair. Reversible changes include oily skin and acne, increased muscle mass, and vaginal atrophy. It is variable whether changes in body fat distribution and fertility reverse with cessation of treatment. Assuming Nabil's growth plates are closed, his height, pelvic contour and shoulder girth will not change. His breast tissue will also remain.

You and Nabil decide to initiate 50 mg SQ testosterone weekly.

5. What labs do you need before beginning Nabil's treatment?
   [KV] None! Some physicians will obtain a baseline total testosterone and estradiol level, though results do not typically aid in management. It can be helpful to identify an endocrine issue and some insurance companies require these at baseline. Some physicians will also obtain a CMP to evaluate liver function in the setting of a hepatically metabolized medication. A CBC is reasonable to assess baseline hemoglobin/hematocrit due to the risk of polycythemia with testosterone.

   [MM] Unless there is a compelling reason, I tend to get the same baseline labs for all patients. I get CBC, Chemistry panel, LFT's, Vitamin D (no longer appropriate in general primary care setting, but still good for folks who are expected to be sub-physiologic with both sex hormones), and estradiol and testosterone levels. It's helpful to see if they have any pre-existing concerns and in New Mexico our insurance companies require testosterone levels to cover the medication.

6. When would you like to see Nabil again?
   Given his relatively young age and precarious social situation, it is reasonable to see Nabil in clinic again in about one month, rather than the typical 3-month follow-up.

7. When would you like to assess his testosterone level? What other labs would you like to obtain at that time?
   Laboratory evaluation should be considered approximately 3 months after the initiation of therapy. A total testosterone and CBC are sufficient. Some physicians will obtain an estradiol level, though this can also be clinically assessed. You can consider a lipid panel as well. Regular monitoring of lipids is recommended based on guidelines for cis patients. It is recommended that a CBC and total testosterone continue to be monitored annually throughout treatment.

   [MM] I tend to order testosterone and estradiol levels in addition to CBC every three months in the first year. I have found that a lot of people continue to have spotting even when their serum testosterone has reached physiologic levels, and this can sometimes be due to persistently elevated estradiol. Usually testosterone suppresses estradiol, but when testosterone levels are appropriate yet estradiol remains elevated (above 75 pg/mL) and the patient is symptomatic (pelvic pain, spotting) you can consider adding 1 mg anastrazole to the patient's regimen. Anastrazole is an aromatase inhibitor and blocks the conversion of androgens to estrogens.

Nabil's total testosterone level, drawn the day prior to his next shot due (he does his shots on Tuesday, so went to the lab on Monday to get his blood drawn), is 550ng/dL. He feels happier than he can ever remember and plans to move into the dorms next week. He will be living on a male floor. He has noticed a change in his skin texture and is having more acne. He also notes that his body shape seems more masculine and is super happy that he hasn't had a period for the past 2 months. He wonders when his voice will change and when he will start growing a beard. His parents noticed his change in mood, and

he decided to come out to them and tell them about his transition. He was surprised they did not immediately kick him out of the house and seem accepting.

8. What can you tell Nabil about the expected timeline for his desired physical changes?
   You expect that Nabil will notice early changes in his voice and facial hair within the next 3-6 months, though the full extent of his voice change will not be known for 1-2 years. It will take approximately 5 years to realize the full extent of his facial hair growth. It's helpful for patients to realize that "time zero," or the time point from which to expect changes, isn't when they start testosterone-based or estradiol-based hormone therapy, but rather when they first reach physiologic levels.

9. What changes do you make to Nabil's regimen today?
   None. His testosterone is in the desired range at this time. Goal levels of total testosterone are between 400-1000. Lower than 400 consistently raises concern about bone health and will potentially lead to people having spotting (or return of menses). Higher levels can contribute to polycythemia, but all testosterone doses are epogenic and will increase H/H. In addition, the physiologic changes of higher muscle to fat ratio will lead to an increase in H/H (and can lead to anemia in people on estradiol-based hormone therapy).

   [MM] I tend to start testosterone at 12.5 mg (injectable and topical) for people under 16 and at 30 mg injectable or 25 mg topical for people 16 and above. For injectable testosterone, I typically recommend increasing the dose by 10 mg until therapeutic levels are reached. For topical formulations, titration can be harder as it comes in packets or actuation pumps. Titration may require more of a conversation in these patients as they may need to double their dose given the packaging of the topical testosterone.

10. When do you plan to see Nabil again?
    You ask Nabil to come to the office in 3 months for reevaluation. Per the Endocrine Society, either after the first year on hormone therapy or once someone is at a dose that works for them, they can be seen every 6 -12 months with pre-visit labs.