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Health & Healing Arts

Trans Care 101

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On the Cutting Edge of Medicine

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- Gender identity is a self "diagnosis"
- There is a whole galaxy of gender identity and expression
- Fluidity is okay + maybe even "normal"
- Informed consent

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Increasing Testosterone

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- Initial labs:
  - CBC, CMP, estradiol, testosterone
- Treating:
  - Testosterone cypionate 200mg/mL
  - 0.5mL IM q 2 weeks
  - 3mL syringes with 18g 1in. needle to draw up
  - 20g or 22g 1 ½ in. needle to inject

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Increasing Testosterone cont...

- Patches
  - Androderm (need twice dose recommended for cis-gender males)
- Gels
  - Have to experimenet with dosing

Increasing Testosterone cont...

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- Goal
  - Androderm (need twice dose recommended for cis-gender males)
- Periods should stop in the first 3 months
  - You may have to divide dose and do weekly ddosing if periods haven't stopped
- Follow up in 3 months (trough) CBC, CMP, estradiol, testosterone, 6 months, 1 year
  - If stable only annual after that

Increasing Testosterone cont...

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- Hemoglobin will increase.
  - If hematocrit is consistently >50, encourage regular blood donations
  - Can order therapeutic phlebotomy (very difficult for us locally)

- Creatinine MAY increase.
  - If it goes over 1, ask about supplements (protein powder for building muscle) and other reasons for increase and treat as needed

- Treat acne as needed

Increasing Testosterone cont...

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- Reminder that T is not birth control
  - If your patient is having pregnancy producing sex—suggest CONDOMS!!
  - Consider paraguard
  - If your patient is on T, order 2mg of estradiol for 2 days prior and also misoprostol 200mg po the night before and morning after insertion.

- Hormonal birth control
  - The data is limited, intuitively, high dose progesterone (depot shot) or ethynyl estradiol containing products--pills, nuva ring, patches—would be ineffective? Counter productive?
  - Possible mood swings and depression.

- Cervical screening would be the same as cisgender women

Increasing Testosterone cont...

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- If patient is still bleeding with normal T levels
  - Switch to weekly dosing
  - If already on weekly dosing, consider an antiestrogen: tamoxifen, raloxifene, anastrozole, letrozole
- Vaginal dryness, continuous UTIs, pain with penetrative sex
  - Can consider topical estradiol cream at a low dose
    -- this should not interfere with testosterone much
- Topical T for clitoris prior to bottom surgery
  - Commercially available androgel is 1-2%
  - WP uses compounded 15%

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- Recommends 80-120mg IM weekly, minoxidil 5% once vellus hairs are present

- Checking DHT?
  - Cisgender male DHT 14 – 77ng/dL
  - Higher: Bad acne, lower voice, consider adding finasteride after voice reaches desired development
    -- Finasteride can cause "post finasteride syndrome" consider using 200mg progesterone at bedtime instead)
  - Lower: DHT not available in the US, consider zinc, DHEA, creatinine supplements

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Increasing Estrogen

- Initial labs:
  - CBC, CMP, estradiol, testosterone
- Initiation:
  - Not necessary to do any androgen blockers but changes usually will be slow
    - Spironalactone 50mg po BID or bicalutamide 50mg po daily
    - Estradiol 2mg po BID
  - At this dose, spiro will increase urination but is not likely to give hyperkalemia with cramping.
    - If patients develop hand cramping or leg cramping, back off.
  - There is some evidence that spiro increases cortisol levels so it could add to stress and/or depression.

Increasing Estrogen Cont...

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Oral estradiol is the cheapest and easiest way to get estrogen in the body. There is mixed anecdotal information about swallowing the pills versus sublingual dissolving.

- In bypassing the "first pass" through the liver by dissolving under the tongue, there is more estradiol available immediately that has not been conjugated.
- The liver changes some of the estradiol E3 to estriol E2 and estrone E1. E2 and E1 are inactive, or more weakly active at the estrogen receptors. The E1 and E2 circulate in the blood and then some of the each of them are converted to the active E3 with every pass through the liver.
- For some, this delayed activation of estrogen makes for a smoother, less peaked, action and they like that. Some transwomen swear by oral, some by sublingual.

--Seems patient specific.

Increasing Estrogen Cont...

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- There has been some association of E1 with blood clot formation but not studied on its own as a risk factor.

- The E1 and E2 levels that are achieved with oral estradiol administration are usually higher than in cisgender women so there is some concern about this and also about the ratio of the two, but not data yet.

- Goal of treatment is estradiol levels of about 200-300pg/mL.
    - At this level, receptors should be full of estrogen and the body down regulates T receptors and thus T production and can take away androgen blockers.

Increasing Estrogen Cont...

Recheck at 3 months.

- If no breast development by 3 months—double the dose of oral estradiol but keep in mind that they are more likely to need injectables (in my experience).
- Start progesterone 100mg po q hs if there has been breast development but hold off if not.

  -- There is some thought that if we start progesterone too soon, breast development will be atypical (odd shape, smaller).

Increasing Estrogen Cont...

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- Progesterone
  - 100mg po daily after breast growth begun (Tanner stage 2 and on)
  - Recheck at 6 months, then one year, then annually after that

    -- CBC, CMP, estradiol and testosterone
- Start doing mammograms over 50 and after full breast development
  - Usually at least 2 years on HRT
- Painful erections/skin on penis sore:
  - Topical testosterone low dose weekly

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Slow start:

- 2mg po daily, up 2mg every 3 months when breast development stalls, at 6mg po daily, adds bica
- At 200ng/dL check Estrone : Estradiol ratios (looking for 1:3)
  - -- Switch to injectables if not at target
  - -- Dosing regular intervals through the day

Quick start:

- 6-10mg po estradiol and check Estrone to Estradiol ratio
  - -- If worse than 3:1 (estradiol to estrone) then switch to injectables.
- Desired lab values
  - -- FSH/LH 0, estradiol ~300pg/mL, estrone 5-15 pg/mL, SHBG < 125
- Progesterone:
  - -- Rectal dosing (longer availability).

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Non-binary Folx

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- They run the show: balancing hormones to match their identity
- "Microdosing of testosterone"
    - No standards, start low and go slow
    - Testosterone cypionate 200mg/mL 0.25 mL q 2-4 weeks
    - One patch a day

Non-binary Folx

- Danazol
  - Estrogen antagonist
  - Oral 200mg po BID, mild androgenizing effects, will stop cycles in most people
  - I have used this for trans teens as is stoppable; not injection and not controlled and can be ordered across state lines
  - Possible adverse effects
    -- Elevated liver enzymes, weight gain
  - Monitor IFTS (I do q 6 months)

Non-binary Folx

- Selective Estrogen Receptor Modulators
  - Raloxifene, tamoxifen
  - Tamoxifen: 20 mg po daily
    -- Black box warning: For possibility of thromboembolism and stroke, endometrial CA (not an issue in people without uteri), monitor CBC, IFTS, lipids
  - Raloxifene: 60 mg daily
    -- Black box warning: For possibility of thromboembolism and stroke. No monitoring labs.