Why is this so important? Some background
Definitions and review of terms
How to ready your office
Review of endocrine system
How to treat
Follow up care
Resources

Why Should We Provide This Care?

Treating your Transgender Patients with Hormones
Allison Fox
Nurse Practitioners of Oregon
October 8th, 2015
Injustice at Every Turn, 2011

- Survey of 6,450 transgender and gender non-conforming participants. All 50 states and more, online and paper surveys.
- 41% of respondents reported attempting suicide, compared to 1.6% of the general population
- 4x more likely to have a household income <$10,000
- 61% were victims of physical assault
- 64% were victims of sexual assault
Injustice at Every Turn, 2011

• 90% of those surveyed were harassed at work, or hid who they were to avoid it. 47% had adverse job outcome (denied promotion, were fired)
• 16% said they felt compelled to do sex work or sell drugs to survive
• 32% reported owning a home compared to 67% of general population
• 19% had been homeless at some point

Injustice at Every Turn, 2011

• Higher rates of HIV infection (4x ntl avg), smoking, drug and alcohol use
• 19% were refused medical care, even higher among people of color
• 50% had to teach their providers
• They postpone care due to discrimination (28%) or inability to afford it (48%)

"I have been refused emergency room treatment even when delivered to the hospital by ambulance with numerous broken bones and wounds."

"I really told doctors of my gender identity. It just seems so hard to explain what "genderqueer" means in a short doctor's appointment. I also am reluctant to take the risk of discrimination; I need to be healthy more than I need to be out to my doctors. I have made this compromise, but I'm not quite that brave yet."

"Denial of health care by doctors is the most pressing problem for me. Feeling doctors that will read, will prescribe, and will even look at you like a human being rather than a thing has been problematic. Have been denied care by doctors and major hospitals so much that I now can only urgent care physician assistants, and I never need my gender history."
Review of Terms

• Gender: “Refers to the attitudes, feelings, and behaviors that a given culture associates with a person's biological sex. Behavior that is compatible with cultural expectations is referred to as gender-normative; behaviors that are viewed as incompatible with these expectations constitute gender non-conformity.”
  - American Psychological Association, 2011

Review of Terms

• Gender Expression: ‘Feminine’ v ‘Masculine’
• Gender Identity: inner sense of oneself, can include refusing to label oneself with a gender
• Sexual Orientation: describes one’s attraction to, sexual desire for, romantic attachments to others.
  • Heterosexual, homosexual, bisexual, asexual, pansexual
Definition of Transgender

- An umbrella term for people whose gender identity and/or gender expression differs from what is typically associated with the sex they were assigned at birth. -GLAAD

- Transsexual: an older term, still seen in literature referring to people who seek to change their bodies through medical interventions (hormones/surgery).
  - Keep in mind- not everyone wants to take hormones or have surgery

Terminology

- Transman FTM/Transwoman MTF
- Cross-dresser: replaces “transvestite”
- Transition: process of moving towards person’s intended gender
- Gender Reassignment Surgery (GRS): also known as SRS (Sex Reassignment Surgery), Gender Confirmation Surgery or “bottom surgery”
- Gender Dysphoria: DSM-V, updated “Gender Identity Disorder”
Terminology

- Ability to “pass” & if desired by patient
- Cisgender- “Cis” is latin for on the same side as.
- Gender Non Conforming- on spectrum (don't assume they identify as trans)
- Gender Variant: someone expressing gender behavior/appearance outside of the perceived norm
  - Gender queer, Gender Fluid, Gender Bender

How to be an Ally for your Patients

- Respect all gender identities
- Don't make assumptions about anyone's gender or sexual preference
- Make bathrooms gender neutral
- Train your staff
- Post nondiscrimination policy
- Make sure all staff uses preferred name & pronouns
- Look at your intake form
Prescribing Hormones

- Set realistic goals: ASK and share
- Discuss preventative care you will want. How often you will want to see them, etc
- Keep cost in mind when prescribing
- Consent, consent, consent! No need for letter from a mental health specialist anymore.
- Remember you are a caregiver, not a gate keeper
Resources

- WPATH - The World Professional Association for Transgender Health
- UCSF Transgender Guidelines
- Endocrine Treatment of Transsexual Guidelines
- Project Health: Transline
Transline: Consultation Service

TransGender Care
**Endocrine System**

- **Chromosomes:** XY vs XX
  - Male-------Intersex--------Female

- **Gonads:** Testes vs Ovaries

- **Hormones:** Androgens (testosterone) vs estrogen, progesterone

- **Genitals:** Penis, scrotum vs clitoris, vagina/uterus

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- **Hormones:** Your body's chemical messengers
- **Endocrine glands:** Special groups of cells that make hormones. Pituitary, pineal, thymus, thyroid, adrenal glands, pancreas, testicles and ovaries

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- **Gonads:** Primary reproductive organs: testes and ovaries. Produce sperm and ova and also secrete hormones.
- **Male sex hormones:** Called androgens, the primary one is testosterone. It's regulated by a negative feedback system involving the hypothalamus and gonadotropins.
- **Ovaries:** Produce estrogens and progesterones.
• Adrenals produce: 1. mineralocorticoids (adrenal cortex): aldosterone—conserves sodium 2. glucocorticoids (adrenal cortex): cortisol—increases glucose. 3. gonadocorticoids or sex hormones. Effects usually masked by hormones from testes and ovaries

Before hormones...

• As part of your consenting process make sure to discuss fertility
• Testosterone does not serve as birth control
Feminizing Hormones

- Effects:
  - Breast growth
  - Softening of skin
  - Decreased muscle, increased fat stores
  - Suppresses androgen (ie no erection)

Endocrine Society, 2009

| EFFECT | CHART | ORAL/INJECT
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Increased fluid</td>
<td>2-3 months</td>
<td>1-2 years</td>
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<tr>
<td>Decreased muscle and strength</td>
<td>2-3 months</td>
<td>1-2 years</td>
</tr>
<tr>
<td>Softening of androgen influence</td>
<td>2-3 months</td>
<td>Unknown</td>
</tr>
<tr>
<td>Decreased voice</td>
<td>1-2 months</td>
<td>1-2 months</td>
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<tr>
<td>Male sexual desire</td>
<td>Variable</td>
<td>Variable</td>
</tr>
<tr>
<td>Skin growth</td>
<td>2-3 months</td>
<td>2-3 years</td>
</tr>
<tr>
<td>Decreased libido values</td>
<td>2-3 months</td>
<td>2-3 years</td>
</tr>
<tr>
<td>Decreased sperm production</td>
<td>Unknown</td>
<td>&lt; 5 years</td>
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<tr>
<td>Decreased normal hair growth</td>
<td>4-12 months</td>
<td>&gt; 3 years</td>
</tr>
<tr>
<td>Scalp hair</td>
<td>No change</td>
<td>1</td>
</tr>
<tr>
<td>Voice change</td>
<td>None</td>
<td>1</td>
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Feminizing Hormones

- 2 parts: Anti-androgen (s) and Estrogen
- 1. Anti-androgen(s): Spironolactone most common / Orchiectomy.
  - Start with 50 mg bid, move to 100 mg bid
  - Some people need up to 200 mg bid
  - Check potassium after starting or changing dose
- Finasteride may be added if people have significant hair loss.
  - Dose at 1-5 mg day
- Gonadotropin-releasing hormone agonist (GnRH): very expensive but will block hormones completely. Used in adolescents (common one: Lupron)
Feminizing Hormones

2. Estrogen at 3-5x normal replacement doses to feminize and to suppress testosterone
   - Estradiol 1-6 mg/day (usually 4 mg) $ can be qd or bid
   - IM- Delestrogen 10-40 mg q4d (usual 20 mg) $$$
   - Transdermal- Estradiol patch $0.1-0.3 mg/day (1-3 patches at a time). Safest for transwomen with risk factors (smokers, FH, hx event)
   - Evamist
     - After gonadectomy: Lower doses are recommended, check UCSF for dosing

Feminizing Hormones

- Do not increase pitch
- Do not reduce facial hair in most people. More likely to do this if recent puberty (or <10 years)
- Decrease size of testicles
- Shrinks prostate, however prostate ca still possible
- Can increase prolactin (check q1-2 yrs after starting estrogen)

Monitoring: Endocrine Society

<table>
<thead>
<tr>
<th>Monitoring of MT transgender persons on cross-hormone therapy</th>
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</thead>
<tbody>
<tr>
<td>1. Evaluate patient every 3-6 months in the first year and then 1-2 times per year to monitor for appropriate signs of feminization and for development of adverse responses.</td>
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<tr>
<td>2. Measure serum testosterone and estradiol every 3 months.</td>
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<td>3. Serum estradiol should not exceed the peak physiologic range for young healthy females, with ideal levels 200 ng/mL.</td>
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<td>4. Serum estradiol should be adjusted according to the serum levels of androgens.</td>
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<td>5. For individuals on gonadotropins, serum estradiol particularly in those with severe suppression below baseline levels, should be monitored every 3-6 months initially in the first year.</td>
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<tr>
<td>6. Routine serum screening recommended in non-transsexual individuals (breast, colon, prostate).</td>
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<td>7. Consider BMD testing at baseline if risk factors for osteoporotic fractures are present (e.g., previous fracture, history of fracture, glucocorticoids, or prolonged hypogonadism).</td>
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<tr>
<td>8. In individuals at risk, screening for osteoporosis should be conducted at age 50 or in those who are not compliant with hormone therapy.</td>
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</tbody>
</table>
Masculizing Hormones

• Only one step: testosterone
• Until menses is stopped, and desired effects achieved
• Testosterone doesn’t prevent pregnancy
• Depo-testosterone 50-200 mg IM every 2 weeks. Usually dose is 200 mg q4 days, but can do q7-10 days if desired (100 mg weekly, etc). Comes 200 mg per 1 mL
• Testosterone cypionate is suspended in cottonseed, testosterone enanthate is suspended in sesame oil
• Testosterone pellets (testopel) 6-12 pellets q3mo

Masculizing Hormones

• Use of transdermals (Androgel) can be used if slower progress is desired or for ongoing maintenance
• Check T level in between shots q3 months, along with a CBC
• Aveed (previously nebido), a long acting T which lasts 8-10 weeks. Approved in 2014 in United States. Your clinic and prescriber have to undergo training: www.AveedREMS.com due to complications because of large volume injected/pulmonary-oil microembolism and anaphylaxis

Masculizing: Endocrine Society

<table>
<thead>
<tr>
<th>TABLE 13. Masculizing effects in FTM transsexual person</th>
<th>MIN (per c)</th>
<th>MAX (per c)</th>
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<tbody>
<tr>
<td>Beard advancement</td>
<td>1-4</td>
<td>4-6</td>
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<tr>
<td>Axillary/hyphen axillary hair growth</td>
<td>4-12</td>
<td>4-12</td>
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<tr>
<td>Body fat loss</td>
<td>6-12</td>
<td>1</td>
</tr>
<tr>
<td>Increased muscle mass/strength</td>
<td>4-12</td>
<td>2-3</td>
</tr>
<tr>
<td>Testis/breast development</td>
<td>1-4</td>
<td>1</td>
</tr>
<tr>
<td>Genital development</td>
<td>2-6</td>
<td>3-6</td>
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<tr>
<td>Clitoral enlargement</td>
<td>2-6</td>
<td>3-6</td>
</tr>
<tr>
<td>Vaginal atrophy</td>
<td>3-4</td>
<td>1-2</td>
</tr>
<tr>
<td>Decreasing of voice</td>
<td>4-12</td>
<td>1-2</td>
</tr>
</tbody>
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* Female transsexual clinical features, see NAP 37, 15, 11
* A range of normal development for transgender women
* Manhood features defined for biological men
* Amenorrhea reported diagnosis and treatment by a gynecologist
### Case Studies:

- **Table 1.** Monitoring of FNH: transitional pressure on autoimmune therapy.
  - Monitoring of FNH: transitional pressure on autoimmune therapy.
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