

Why College Health Services Should Be Providing Medical Care for Transgendered Students

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NECHA/NYSCHA Combined Annual Meeting
2013

Full Disclosure

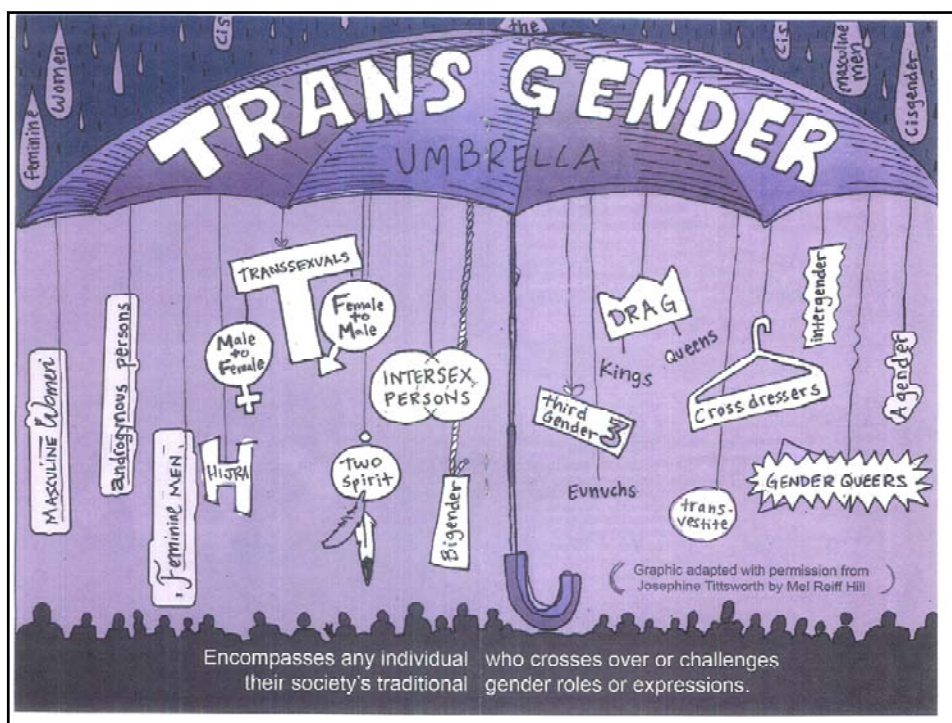
After >25 years as an endocrinologist caring for patients who are transitioning to their preferred gender it is my strong belief that the understanding of the biological development of gender identity is still poorly understood but is predominantly “hard wired”. Usually the trans individual becomes increasingly uncomfortable with her/his gender identity given at birth (natal gender). This increasing discomfort leads to desires and then actions to transition to her/his preferred gender identity.

I **strongly** believe that college health services should take an active role in supporting the medical needs of transgendered students.

“Dr. Turco, I did **choose** to start hormones to transition , BUT I did **not choose** to be transgendered.”

“ I want my outside (my body) to match how I feel inside.”

“I am not dysphoric, society is dysphoric towards me.”



Definitions

Sex: Biological and physiological characteristics that define "men" and "women" without regard to one's own identity.

Gender identity: Inherent sense of being male or female regardless of sex.

Sexual orientation: The sex that a person is physically attracted to; also known as *sexual preference*.

Gender nonconformity: The extent to which a person's gender identity, role, or expression differs from the cultural norms prescribed for people of a particular sex.

Transgenderism: Individuals who identify with the opposite sex rather than their natal sex, who have not achieved reassignment to the desired sex or want only partial adaptation.

Transsexualism: Individuals who desire to achieve reassignment and have committed to transitioning to their desired sex.

Transvestitism: Individuals who have a preference for cross-dressing but have no desire to change their biologic sex.

Gender dysphoria: Discomfort or distress that is caused by a discrepancy between a person's gender identity and that person's natal sex. Current formal diagnosis found in the *Diagnostic and Statistical Manual of Mental Disorders* (5th edition).

Gender identity disorder: Previous formal diagnosis found in the *Diagnostic and Statistical Manual of Mental Disorders* (4th edition) for individuals who experience gender dysphoria; these individuals can be transgender or transsexual.

Transgender Individuals as a Stigmatized Population of Patients

2011 survey of >6,000 transgender Americans

- 19% report being refused health care due to their transgender or gender-nonconforming status
- 28% had postponed necessary health care when sick or injured based on their experiences of discrimination based on their transgender status
- 33% had delayed or had not sought preventive care due to discrimination

2010 large LGBT health survey

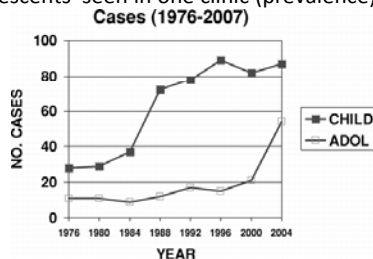
- 70% trans population report outright denial of health care
 - Health care providers refused to touch them or used excessive precautions
 - Providers used harsh or abusive language
 - Providers being physically rough or abusive
 - Providers blaming them for their health status
- When seen by medical provider
 - Being made fun of, mocked, negative comments
 - Violations of confidentiality
 - Use of improper names
 - Inappropriate questions and/or exams including needless viewing of genitals
 - Prohibitions of bathroom use
 - Inappropriate room assignments
 - Failure to follow SOC

Possible Excuses Why College Health Services Would Not Want To Care for Trans Students

- “Not enough trans students on campus to worry about them.”
- “Not understanding biological basis for transitioning some of college health staff will be opposed to seeing these students.”
- “Caring for trans students will consume too many resources”
- “These students require “special” resources that we do not have on our campus.”
- “These students have too many psychological issues and therefore can’t be safely cared for on campus.”
- “Adjusting medications used in transitioning and medically monitoring these students is too complicated and dangerous for a college health service to deal with.”
- What are additional reasons you would suggest?

“Not Enough Trans Students On Campus”

- Data concerning numbers of trans population are hard to come
 - Most data have come from patients treated at specialized transgender centers which greatly underestimate numbers
- Adults (prevalence)
 - MtF 1:29,000 to 1: 100,000
 - FtM 1:30,000 to 1:150,000
 - Estimates vary considerably around the world
 - From Thailand one study 1:180 to 1:3,000
- Trans adolescents seen in one clinic (prevalence)



Note. From Zucker, Bradley, Owen-Anderson, Kibblewhite, and Cantor (2008)

How Big is the Transgendered Student Population?

- Trans college students
 - Difficult to find published numbers
 - Observations from my general endocrine practice (~250 plus patients)
 - Seeing patients transitioning younger and younger
 - “Significant” % of college-age patients are in college
 - Dartmouth College estimates
 - ~4-5 enrolled students each year are transitioning or have transitioned and are on hormones (undergrads and graduates) This would mean a prevalence of 4-5/5,848 (1:1,170-1,1462)
 - Not including “gender queer” students not on hormones
 - Surely there are students who are or have transitioned that I do not know about
- What are your experiences at your colleges?

“Not Enough Trans Students On Campus”

- More and more adolescents are starting their transitions earlier than in past
- Freedom of college appears to be a good environment for many to initiate transitioning
- There are undoubtedly more trans students on your campus than you expect
- Considering the decreasing age of transitioning we will all be seeing more students who are in need of medical services to support their transitioning

Be Ready; Trans students are here and
more are coming!

“Don’t understand what causes transgendered condition; health service staff will feel uncomfortable caring for transgendered students.”

- Let’s face it WE don’t know the causes of a lot of disorders commonly seen and treated in college health clinics including ED, depression and most other mental health disorders, binge drinking, sexual assault...
- Most students merely want health services to provide and monitor hormones to help them live in their preferred gender. (This doesn’t seem to me to be that different than diabetics asking for our help prescribing and monitoring their doses of insulin to help normalize blood glucose levels.)
- Most college health services claim to provide “primary care” for students. Hormone therapy is as “primary care” as you get for trans students.

How Does One's Gender Identity Develop?

Nurture

Nature

- Over the last 50+ years the pendulum has swung between nurture (John Money) and back towards nature (Cloacal Exstrophy article).
- Many believe there is a combination of factors (i.e. both nurture and nature).
- Are there more options for gender identity than merely *male* and *female*?
- Maybe you can't be "a little bit pregnant", but maybe you CAN be "a little bit male , and a little bit female".

Changes Brought About By DSM-V

- "Depathologizes" Transgender condition
- DSM-IV: Gender Identity Disorder
- DSM-V: Gender Dysphoria
 - "Gender dysphoria refers to the distress that may accompany the incongruence between one's experienced or expressed gender and one's assigned gender. Although not all individuals will experience distress as a result of such incongruence, many are distressed if the desired physical interventions by means of hormones and/or surgery are not available. " (from **psychiatryonline**; Lifelong Learning in Psychiatry)

“Caring for trans patients consumes too many resources”

- Medical services for trans students in my experience are not very time consuming (appointments every few months or less, routine blood tests several times per year)
- Resources used to care for eating disordered students, athletes with concussions, seriously depressed students, students with other chronic illnesses far exceed the resources expended to care for trans students
- Potentially biggest strain on resources could be counseling trans patients but like other chronic counseling issues these services could be referred out to private practice
- NOT providing psychological support for trans students may lead to more severe psychological issues
- In my experience many trans students use counseling services at a minimum

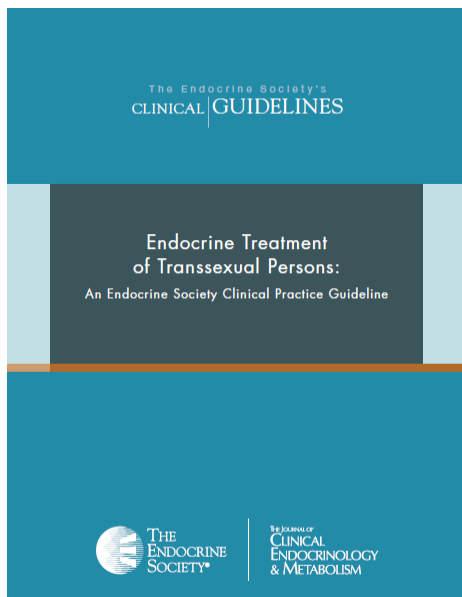
Excessive use of resources does NOT seem to me to be a legitimate reason for college health services to exclude seeing students for medical issues concerning their transitioning.

“Medications Used For Transitioning Too Complicated and Dangerous”

- **Estrogens**
 - Primary medication used for MtF
 - Can be given oral, patch, or injection
- **Androgens (testosterone)**
 - Primary medication used for FtM
 - Can be given as depot injection usually q 2 weeks, patch, or gel
- **Androgen blockers**
 - Usually spironolactone as a competitive T blocker
- **Progesterone**
 - Occasionally added to “enhance breast growth”, and suppress FSH/LH

Tabletop Exercise (10 minutes)

1. Pair off
2. One role is as a patient and the other the medical provider in a college health service
3. The patient says to the provider: "I have a letter from my counselor supporting my initiating hormones to transition to my preferred gender which doesn't coincide with my assigned gender at birth and I would request your help."
4. The provider then asks the patient "What results are you hoping to attain by starting hormones?" (The person taking the patient role should assume that he/she is transitioning to the opposite of his/her current "preferred (natal) gender".)
5. Discuss and come up with the four most important "outcomes" that the patient is looking to attain.
6. If you have time the provider should suggest to patient hormonal options and possible adverse effects from these hormones.



JCEM September 2009

- Sponsoring Associations: Endocrine Societies in US and Europe and World Professional Association for Transgender Health (WPATH)
- Endocrine Society appointed task force of experts to formulate "practice guidelines"
- Contains 157 references from medical literature
- Guidelines focus on the perspective seen from the eyes of an endocrinologist
- WPATH's SOC (Standards of Care) contain a broader view from the eyes of psychologists, surgeons, and other specialists

WPATH SOC Table of Contents(7th edition):

- I. Introductory Concepts (p. 1)**
- II. Epidemiological Considerations (p. 2)**
- III. Diagnostic Nomenclature (p. 3)**
- IV. The Mental Health Professional (p. 6)**
- V. Assessment and Treatment of Children and Adolescents (p. 8)**
- VI. Psychotherapy with Adults (p. 11)**
- VII. Requirements for Hormone Therapy for Adults (p. 13)**
- VIII. Effects of Hormone Therapy in Adults (p. 14)**
- IX. The Real-life Experience (p. 17)**
- X. Surgery (p. 18)**
- XI. Breast Surgery (p. 19)**
- XII. Genital Surgery (p. 20)**
- XIII. Post-Transition Follow-up (p. 22)**

**IV. The Mental Health Professional
The Ten Tasks of the Mental Health Professional.**

Mental health professionals (MHPs) who work with individuals with gender identity disorders may be regularly called upon to carry out many of these responsibilities:

1. To accurately diagnose the individual's gender disorder;
2. To accurately diagnose any co-morbid psychiatric conditions and see to their appropriate treatment;
3. To counsel the individual about the range of treatment options and their implications;
4. To engage in psychotherapy;
5. To ascertain eligibility and readiness for hormone and surgical therapy;
6. To make formal recommendations to medical and surgical colleagues;
7. To document their patient's relevant history in a letter of recommendation;
8. To be a colleague on a team of professionals with an interest in the gender identity disorders;
9. To educate family members, employers, and institutions about gender identity disorders;
10. To be available for follow-up of previously seen gender patients.

TABLE 4. Hormone therapy for adults

Adults are *eligible* for cross-sex hormone treatment if they (28):

1. Fulfill DSM IV-TR or ICD-10 criteria for GID or transsexualism (See Tables 2 and 3);
2. Do not suffer from psychiatric comorbidity that interferes with the diagnostic work-up or treatment;
3. Demonstrate knowledge and understanding of the expected outcomes of hormone treatment, as well as the medical and social risks and benefits; and
4. Have experienced a documented RLE of at least 3 months duration OR had a period of psychotherapy (duration specified by the MHP after the initial evaluation, usually a minimum of 3 months).

Adults should fulfill the following *readiness criteria* before the cross-sex hormone treatment. The applicant:

1. Has had further consolidation of gender identity during a RLE or psychotherapy;
2. Has made some progress in mastering other identified problems leading to improvement or continuing stable mental health; and
3. Is likely to take hormones in a responsible manner.

Guidelines emphasize both patient's **eligibility** and also **readiness** for proceeding with transitioning.

TABLE 12. Hormone regimens in the transsexual persons

	Dosage
MTF TRANSSEXUAL PERSONS^a	
Estrogen	
Oral: estradiol	2.0–6.0 mg/d
Transdermal: estradiol patch	0.1–0.4 mg twice weekly
Parenteral: estradiol	5–20 mg im every 2 wk
valerate or cypionate	2–10 mg im every week
Antiandrogens	
Spironolactone	100–200 mg/d
Cyproterone acetate ^b	50–100 mg/d
GnRH agonist	3.75 mg sc monthly
FTM TRANSSEXUAL PERSONS	
Testosterone	
Oral: testosterone undecanoate ^b	160–240 mg/d
Parenteral	
Testosterone enanthate	100–200 mg im every 2 wk or 50% weekly
or cypionate	1000 mg every 12 wk
Testosterone undecanoate ^{b,c}	
Transdermal	
Testosterone gel 1%	2.5–10 g/d
Testosterone patch	2.5–7.5 mg/d

^a Estrogens used with or without antiandrogens or GnRH agonist.

^b Not available in the United States.

^c 1000 mg initially, followed by an injection at 6 wk, then at 12-wk intervals

Male-to-Female

Estrogen therapy options

Estradiol 2.0–6.0 mg PO daily
 Estradiol patch 0.1–0.4 mg TD twice weekly
 Estradiol valerate 5–30 mg IM every 2 weeks

Antiandrogen therapy options

Progesterone 20–60 mg PO daily
 Medroxyprogesterone acetate 150 mg IM every 3 months
 Cyproterone acetate 50–100 mg PO daily^a
 GnRH agonist (leuprolide) 3.75–7.5 mg IM monthly
 Histrelin Implant 50mg implanted every 12 months
 Spironolactone 100–200 mg PO daily
 Finasteride 1 mg PO daily

Female-to-Male

Testosterone therapy options

Testosterone enanthate or cypionate 100–200 mg IM every 2 weeks
 Testosterone undecanoate 1000 mg IM every 12 weeks or 160–240 mg PO daily^a
 Testosterone gel 1% 2.5–10 gm TD daily
 Testosterone patch 2.5–7.5 mg TD daily

AmJObGyn: 2013

TABLE 13. Masculinizing effects in FTM transsexual persons

EFFECT	ONSET ^a (months)	MAXIMUM ^a (years)
Skin oiliness/acne	1 – 6	1 – 2
Facial/body hair growth	6 – 12	4 – 5
Scalp hair loss	6 – 12	b
Increased muscle mass/strength	6 – 12	2 – 5
Fat redistribution	1 – 6	2 – 5
Cessation of menses	2 – 6	c
Clitoral enlargement	3 – 6	1 – 2
Vaginal atrophy	3 – 6	1 – 2
Deepening of voice	6 – 12	1 – 2

^a Estimates represent clinical observations. See Refs 81, 92, 93.
^b Prevention and treatment as recommended for biological men.
^c Menorrhagia requires diagnosis and treatment by a gynecologist.

TABLE 14. Feminizing effects in MTF transsexual persons

EFFECT	ONSET ^a	MAXIMUM ^a
Redistribution of body fat	3 – 6 months	2 – 3 years
Decrease in muscle mass and strength	3 – 6 months	1 – 2 years
Softening of skin/decreased oiliness	3 – 6 months	Unknown
Decreased libido	1 – 3 months	3 – 6 months
Decreased spontaneous erections	1 – 3 months	3 – 6 months
Male sexual dysfunction	Variable	Variable
Breast growth	3 – 6 months	2 – 3 years
Decreased testicular volume	3 – 6 months	2 – 3 years
Decreased sperm production	Unknown	> 3 years
Decreased terminal hair growth	6 – 12 months	> 3 years ^b
Scalp hair	No regrowth	c
Voice changes	None	d

^a Estimates represent clinical observations. See Refs 81, 92, 93.
^b Complete regrowth of male sexual hair requires abstinence or laser treatment or both.
^c Partial scalp hair loss may occur if estrogen use stopped.
^d Treatment by speech pathologists for voice training is most effective.

Very helpful information for patients initiating hormonal transitioning. It emphasizes that changes will start to occur relatively soon, but that maximum changes may take years.

TABLE 11. Medical conditions that can be exacerbated by cross-sex hormone therapy**TRANSSEXUAL FEMALE (MTF) – ESTROGEN**

Very high risk of serious adverse outcomes

- thromboembolic disease

Moderate to high risk of adverse outcomes

- macroprolactinoma
- severe liver dysfunction (transaminases > 3x upper limit of normal)
- breast cancer
- coronary artery disease
- cerebrovascular disease
- severe migraine headaches

TRANSSEXUAL MALE (FTM) – TESTOSTERONE

Very high risk of serious adverse outcomes

- breast or uterine cancer
- erythrocytosis (hematocrit >50%)

Moderate to high risk of adverse outcomes

- severe liver dysfunction (transaminases > 3x upper limit of normal)

Summary of Medications Used for Transitioning

- Hormones and other medications with which we are all familiar are used for transitioning
- Well defined “outcomes” which can be discussed with patient BEFORE starting hormones
- Endocrine Society (and others) provide clinicians with specific and precise guidelines for initiating hormones for transitioning
- These guidelines also provide list of possible AEs and recommendations for following patients so as to avoid or identify early possible complications...”Medications have relatively low risk of AEs”
- As prescribing clinicians we do NOT have to be “flying by the seat of their pants” when prescribing hormones
- These guidelines also can help clinicians set limits with patients to balance off what patients may have read on internet and discussed with colleagues

Trans students require “special” resources that we do not have on our campus.

These students have too many psychological issues to be understood and safely cared for on campus.

DSM-V , WPATH guidelines, Endocrine Society guidelines suggest medical providers should consider trans patients with having a medical condition that also may have led to some psychological problems (*gender dysphoria*). *Not very different from many other* student conditions we commonly see in our health services.

In my experience generally the trans students I have dealt with usually have relatively mild psychological co-morbidities . There are exceptions; however, this is true for most other conditions I see as an endocrinologist and college health provider.

Left unattended gender dyphoria can escalate.

“Adjusting medications used in transitioning is too complicated and dangerous for a college health service to dealing with.”

TABLE 15. Monitoring of MTF transsexual persons on cross-hormone therapy

1. Evaluate patient every 2–3 months in the first year and then 1–2 times per year to monitor for appropriate signs of feminization and for development of adverse reactions.
2. Measure serum testosterone and estradiol every 3 months.
 - a. Serum testosterone levels should be <55 ng/dl.
 - b. Serum estradiol should not exceed the peak physiologic range for young healthy females, with ideal levels, 200 pg/ml.
 - c. Doses of estrogen should be adjusted according to the serum levels of estradiol.
3. For individuals on spironolactone, serum electrolytes particularly potassium should be monitored every 2–3 months initially in the first year.
4. Routine cancer screening recommended in non-transsexual individuals (breasts, colon, prostate).
5. Consider BMD testing at baseline if risk factors for osteoporotic fracture are present (e.g., previous fracture, family history, glucocorticoid use, prolonged hypogonadism). In individuals at low risk, screening for osteoporosis should be conducted at age 60 or in those who are not compliant with hormone therapy.

TABLE 16. Monitoring of FTM transsexual persons on cross-hormone therapy

1. Evaluate patient every 2–3 months in the first year and then 1–2 times per year to monitor for appropriate signs of virilization and for development of adverse reactions.
2. Measure serum testosterone every 2–3 months until levels are in the normal physiologic male range:
 - a. For testosterone enanthate/cypionate injections, the testosterone level should be measured mid-way between injections. If the level is >700 ng/dl or <350 ng/dl, adjust dose accordingly.
 - b. For parenteral testosterone undecanoate, testosterone should be measured just before the following injection.
 - c. For transdermal testosterone, the testosterone level can be measured at any time after 1 week.
 - d. For oral testosterone undecanoate, the testosterone level should be measured 3–5 hours after ingestion.
 - e. Note: During the first 3–9 months of testosterone treatment, total testosterone levels may be high although free testosterone levels are normal due to high sex hormone binding globulin levels in some biological women.
3. Measure estradiol levels during the first 6 months of testosterone treatment or until there has been no uterine bleeding for 6 months. Estradiol levels should be <50 pg/ml.
4. Measure CBC and liver function tests at baseline and every 3 months for the first year and then 1–2 times a year. Monitor weight, blood pressure, lipids, fasting blood sugar (if family history of diabetes) and hemoglobin A1c (if diabetic) at regular visits.
5. Consider BMD testing at baseline if risk factors for osteoporotic fracture are present (e.g., previous fracture, family history, glucocorticoid use, prolonged hypogonadism). In individuals at low risk, screening for osteoporosis should be conducted at age 60 or in those who are not compliant with hormone therapy.
6. If cervical tissue is present, an annual pap smear is recommended by the American College of Obstetricians and Gynecologists.
7. If mastectomy is not performed, then consider mammograms as recommended by the American Cancer Society.

* Adapted from Refs. 83, 85

“Is long-term hormonal therapy safe”

**Long-Term Treatment of Transsexuals with Cross-Sex Hormones: Extensive
Personal Experience (Amsterdam Clinic)
(JCEM 93:2008)**

- Followed 2236 MTF and 876 FTM transsexuals from 1975 to 2006
- Interventions:
 - MTF: cyterone acetate plus estrogens
 - FTM: parenteral testosterone q 2 weeks IM
 - After 18-36 weeks surgical sex reassignment surgery including gonadectomy
- Outcomes measures included morbidity and mortality, endocrine tumors, osteoporosis, and CV disease
- Treatment group compared to general Dutch population (age and gender adjusted)

**Long-Term Treatment of Transsexuals with Cross-Sex Hormones: Extensive
Personal Experience (Amsterdam Clinic)
(JCEM 93:2008)**

- CV outcomes
 - No elevated CV morbidity or mortality as compared to control group
 - Cardiovascular risks factors are mixed in both groups compared to control group
 - MTF appeared to have a more deleterious effect on CV risk factors than seen in FTM
- Miscellaneous outcomes
 - Venous thrombophlebitis initially high while using ethinyl estradiol; much lower on newer estrogens
 - Despite apparent improvement in well-being of MTF and FTM there is still reported to be an increased incidence of suicide
 - Regrets for transitioning 0.5-3.0%

Long-Term Treatment of Transsexuals with Cross-Sex Hormones: Extensive Personal Experience (Amsterdam Clinic)

(JCEM 93:2008)

- Hormone-dependent tumors
 - Lactotroph adenomas
 - several cases of prolactinomas have been reported in patients on high dose estrogen (1 case reported in MTF group in this Dutch study)
- Breast cancer
 - in literature 2 previously reported cases of breast cancer in MTF (1 case reported in Dutch group)
 - breast cancer has been reported in a FTM patient after mastectomy (none yet in Dutch group)
- Ovarian cancer
 - 2 cases of ovarian cancer observed after the start of testosterone
- Prostate cancer
 - 3 cases of prostate cancer have been reported in MTF patients on estrogen (none in Dutch group)

TABLE 17. Sex reassignment surgery eligibility and readiness criteria

Individuals treated with cross-sex hormones are considered eligible for sex reassignment surgery if they:

1. Are of the legal age of majority in their nation.
2. Have used cross-sex hormones continuously and responsibly during 12 months (if they have no medical contraindication).
3. Had a successful continuous full-time RLE during 12 months.
4. Have (if required by the MHP) regularly participated in psychotherapy throughout the RLE at a frequency determined jointly by the patient and the MHP.
5. Have shown demonstrable knowledge of all practical aspects of surgery (e.g., cost, required lengths of hospitalizations, likely complications, postsurgical rehabilitation, etc.).

Individuals, treated with cross-sex hormones, should fulfill the following readiness criteria prior to sex reassignment surgery:

1. Demonstrable progress in consolidating one's gender identity.
2. Demonstrable progress in dealing with work, family, and interpersonal issues resulting in a significantly better state of mental health.

Barriers to SRS Surgery 2013

- Financial; but insurance coverage getting better; SHIP leading the way!
- Availability of surgical expertise
- Lack of “good” operation; especially genital reconstruction in FtM
- Most common surgery seen in college-aged patients is “top surgery” (breast reduction) in FtM individuals

Seeing this population of students at the health service may alienate other students who will avoid health service.

GLBT students don't come to our health service.

- College health services all need to try to make themselves GLBT "friendly"
 - Educate staff
 - Do outreach
 - Signage matters!
- Identify local resources
 - Counseling
 - SRS surgery
 - Invite influential/important groups to health service to meet with staff
- Provide GLBT students with "timely, good and appropriate service"
- When appropriate be involved with issues on campus that involve GLBT community

What is different about this generation of young adults/college students who are transitioning?

- Usually come in well educated about issues due to information on the internet.
- Often have had the support of their parents/families (not always) which makes the transitioning "easier".
- May have taken medication to prevent puberty and are now ready for hormonal transitioning.
- May have already undergone surgery (especially FTM who have had top surgery).
- May arrive on campus ready to initiate transitioning for the first time.
- Usually can find a group of other students on campus who are supportive of their transitioning (GLBT organization).
- Transitioning may be complicated by distance from original support team (psychologist/endocrinologist, etc).
- May be looking for college health service support to help them with trans barriers they may face such as name, gender change on official records, rooming issues, bathroom issues, etc.
- May ask the college health service to function as surrogate medical provider while on campus.
- Often seem to have "less psychological baggage" due to the above factors that allows their transitioning to go more smoothly when compared to individuals who initiate transitioning when older.

TABLE 1- PARTICIPANT CHARACTERISTICS		F to M (n=30)	M to F (n=37)	Total N=67	P-value
Age - mean (SD)		35 (12)	47 (12)	43 (13)	<0.001
Race	Caucasian	25 (83%)	34 (92%)	59(88%)	0.17
	Black	0	0	0	
	Latino	2 (7%)	0	2 (3%)	
	Asian	1 (3%)	1 (3%)	2 (3%)	
	Native American	2 (7%)	2 (5%)	4 (6%)	
Education	Grammar School	0	1 (3%)	1 (2%)	0.789
	High School	14 (47%)	15 (41%)	29 (43%)	
	2-Year College	4 (13%)	5(13%)	9 (13%)	
	4-College	11 (37%)	12(32%)	23 (34%)	
	Graduate Degree	1 (3%)	4 (11%)	5 (8%)	
Engaged in Relationship		24 (80%)	8(22%)	32 (48%)	<0.001
Still with original partner from prior to transitioning		11 (37%)	5(14%)	16 (43%)	0.021
Work Status	Full Time	13 (43%)	18 (49%)	31(46%)	0.664
	Part Time	8 (27%)	5 (13.5%)	13(19%)	
	Disabled	6 (20%)	10 (27%)	16 (24%)	
	Student	3 (10%)	3 (8%)	6 (9%)	
Current Hormone Use		30 (100%)	36 (97%)	66 (99%)	0.552
Age at first transgender thoughts (years)	Before age 5	14 (47%)	12 (32%)	26 (39%)	0.234
	Ages 5-10	9 (30%)	20 (54%)	29 (43%)	
	Ages 11-15	6 (20%)	4 (11%)	10 (15%)	
	Ages 16-20	1 (3%)	0	1 (1.5%)	
	After age 20	0	1 (3%)	1 (1.5%)	
Age at which started hormones- mean (SD)		30 (11)	40 (14)	35 (13)	0.002
Interval since start of hormones in years- mean (SD)		5 (4)	7 (6)	6.5 (6.6)	0.108

TABLE 2 - QUALITY OF LIFE		F to M (n=30)	M to F (n=37)	Total N=67	P-value
Reported experiencing discrimination		13 (43%)	28 (76%)	41 (61%)	0.005
Support of parents	Not at all supportive	3 (10%)	4 (11%)	7 (10%)	1
	Slightly supportive	7 (23%)	6 (16%)	13 (19%)	
	Neutral	4 (13%)	2 (5%)	6 (9%)	
	Supportive	3 (10%)	9 (24%)	12 (18%)	
	Very supportive	11 (37%)	3 (8%)	14 (21%)	
NA		2 (7%)	13 (43%)	15 (22%)	
Support of friends	Not at all supportive	1 (3%)	4 (11%)	5 (8%)	0.003
	Slightly supportive	0	2 (5%)	2 (3%)	
	Neutral	1 (3%)	8 (22%)	9 (13%)	
	Supportive	5 (17%)	9 (24%)	14 (21%)	
	Very supportive	21 (70%)	12 (32%)	33 (49%)	
NA		2 (7%)	2 (5%)	4 (6%)	
Number of subjects with children prior to transitioning		2 (7%)	17 (46%)	19 (28%)	
Support of children if applicable	None are supportive	1 (50%)	2 (12%)	3 (16%)	
	Some are supportive	/	5 (29%)	5 (26%)	
	All are supportive	/	8 (47%)	8 (42%)	
	Children not aware	1 (50%)	2(12%)	3 (16%)	
Satisfied with career		13/24 (54%)	18/26 (69%)		0.273
Satisfied overall with life		27 (90%)	28 (75%)	55 (82%)	0.084
Rate themselves as currently "very happy"		30 (100%)	37 (100%)	67 (100%)	1
Satisfaction with ability to pass for desired gender		27 (90%)	25 (68%)	52 (78%)	0.022
Satisfaction with cessation of menses		26 (87%)	/		
Satisfaction with "male" appearance		24 (80%)	/		
Satisfaction with loss of breast tissue		18 (60%)	/		
Satisfaction with increased muscle mass		22 (73%)	/		
Satisfaction with voice		9 (30%)	/		
Satisfied with breast size		/	8 (21%)		
Satisfied with decrease in hair growth		/	8 (21%)		
Satisfied with feminine appearance		/	15 (41%)		
Satisfied with female body shape		/	14 (38%)		
Psychologically feel "feminine"		/	29 (78%)		

TABLE 3-PSYCHIATRIC OUTCOMES		F to M (n=30)	M to F (n=37)	Total N=67	P-value
Psychiatric history	Depression	10 (50%)	10 (48%)	20 (49%)	0.418
	Bipolar	2 (10%)	3 (14%)	5 (12%)	
	Anxiety	1 (5%)	2 (10%)	3 (7%)	
	Anxiety and Depression	4 (20%)	3 (14%)	7 (17%)	
	Depression and PTSD	1 (5%)	0	1 (2%)	
	Aspergers	1 (5%)	0	1 (2%)	
	Attention deficit	1 (5%)	2 (10%)	3 (7%)	
Suicidality prior to transitioning		22 (73%)	25 (68%)	47 (70%)	0.608
Attempted to commit suicide		9 (30%)	6 (16%)	15 (22%)	0.178
Resolution of suicidality with transitioning		21 (95%)	20 (80%)	41 (87%)	0.18

The Care of Transgendered Patients by Primary Care Providers

One day course at Dartmouth Hitchcock Medical Center,
Lebanon, NH
Friday, April 25, 2014

Who will ask the first question?