



TRANSGENDER HEALTH

for children and adolescents

PUBERTY BLOCKERS AND CROSS HORMONES

GUIDELINES AND PROTOCOLS

- PROTOCOL GENDERTEAM VRIJE UNIVERSITEIT AMSTERDAM
- PROTOCOL CENTER FOR EXCELLENT TRANSGENDER HEALTH SAN FRANCISCO
- GUIDELINES ENDOCRINE SOCIETY, USA
- GUIDELINES VANCOUVER COASTAL HEALTH, BRITISH COLUMBIA
- WPATH STANDARDS OF CARE 7

DEFINITIONS

SEX; how we are born, biological

GENDER; what's in our brain, what we feel we are

GENDER IDENTITY; the feeling a person develops regarding his or her gender

SEXUAL ORIENTATION; sexual preference of to what sex somebody is attracted to

GENDERDYSPHORIA; unhappiness when biological sex and gender identity do not mix

TRANS SEXUALITY; desire to have a surgery or hormonal treatment and live full time as members of the sex category opposite to their birth-assigned sex

DSM V Gender Dysphoria

- A new category for gender dysphoria emphasizes “gender incongruence” rather than cross-gender identification.
- Gender dysphoria is separate from the chapters on sexual dysfunctions and paraphillia disorders
- Separate developmentally appropriate criteria sets for children, adolescents and adults
- Specifier for individuals whose condition is related to an intersex condition (not included in DSM IV)
- For children:” a strong desire to be of the other gender or an insistence that he or she IS the other gender” is now necessary but not sufficient to meet the diagnosis.

DSM V Taskforce

The critical element of Gender Dysphoria is the presence of clinically significant **distress** associated with the condition

there must be a difference between the individual's expressed/experienced gender and the gender others would assign him or her and it must continue for at least 6 months. For children, the desire to be of the other gender must be present and verbalized AND the condition causes clinically significant distress or impairment in social or other areas of functioning

Trans Youth Family Allies

According to the American Academy of Pediatrics, "A child's awareness of being a boy or girl begins in the first year of life...and by age 4...they know they will always be a boy or girl"

Trust yourself and your child. You are the experts regarding what your child feels and needs

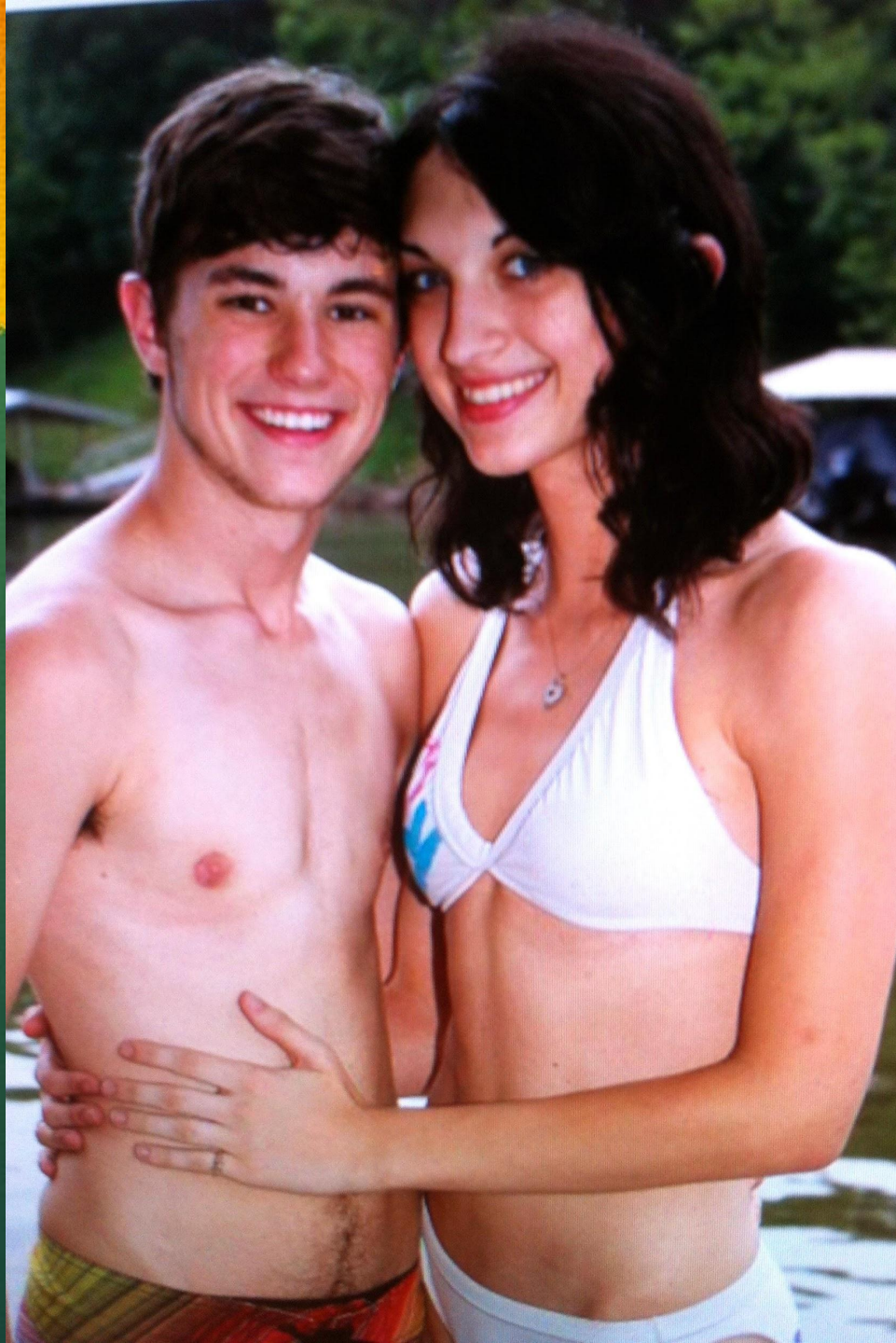
Knowledge builds confidence. Learn all you can

Affirming your child's gender identity builds healthy self-esteem

.Forced gender conformity leads to anxiety, depression, even suicide, and it is not likely to change your child's gender identity

When telling family and friends of your child's gender variance, set the tone by being matter of fact and upbeat

Gender variance is not caused by poor parenting. Seek support/therapy if you are struggling



Arin/Katie

Transgender teenage couple

Katie and Arin from Oklahoma met at a trans support group after each had begun transitioning. They started hormone therapy and had Top surgery and GRS. They both were bullied at school and depressed. Their families were supportive.

Puberty

- Breast development, genital development and pubic hair development
- Key hormones that influence growth; growth hormone, thyroid hormone, insulin, corticosteroids, leptin and parathyroid hormone, vitamin D and calcitonin.
- Growth hormone is increased by growth hormone-releasing hormone (GHRH) and is decreased by somatostatin
- Growth hormone and somatomedin C (IGF-1) levels rise during puberty; correlates to pubertal stage, bone age and time from peak height velocity.
- Maturation of bone is influenced by thyroid hormones, adrenal androgens and gonadal sex steroids (estrogen).
- Sex steroids and growth hormone contribute to pubertal growth spurt which ends by epiphyseal closure due to sex steroids.

Puberty

- Beginning of increase in growth around age 11 in boys, age 9 in girls (but varies)
- Peak height velocity around age 13.5 for boys and 11.5 for girls
- Pubertal growth accounts for 20% final adult height
- Average growth spurt lasts 24-36 months
- Males are on average 12 cm taller than females due to 2 year delay in bone closure
- Most individuals have an adult height within 2.5 inches of midparental height (father+mother height +/-12 divided by 2)

Puberty

- Male sexual development begins around 11.6 years. First physical sign; testicular enlargement. Puberty lasts 2-5 years
- Adrenarche, beginning growth spurt, testicular development, beginning of pubic hair, peak height velocity
- US females sexual development starts with breast development age 9-10, pubic hair age 9-11. Puberty lasts from 1.5-8 years
- Breast development, pubic hair, peak height velocity, menarche

Puberty

- Male; Lutinizing hormone and follicle stimulating hormone (pituitary gland) cause increase in testicular size which causes increase in testosterone production which increases pubic hair and phallus size, causes acne, armpit and facial hair and a growth spurt, voice changing
- Female: estrogen causes breast development, then curves and fat deposits. Menses start 2 years later. The adrenal gland produces hormones leading to pubic hair, armpit hair and acne.

Puberty Blockers

- GNRH analogues block/suppress the release of LH and FSH from the pituitary gland. This stops testosterone and estrogen from being released and suppresses Puberty. GNRH analogues do not work without sex hormones so don't start too early.
- Leuprolide or Elegard; injectable either monthly or 3 monthly (700-1500 \$ a month)
- Suprellin or Histrelin implant yearly under skin upper arm (15.000\$)
- Also used to treat precocious puberty (too early), prostate cancer, fibroids and endometriosis
- Also used together with cross-hormones to make the cross hormone therapy (transition) more effective
- Pretreatment fsh, lh, estradiol and testosterone and post treatment levels are measured
- Completely reversible and no negative impact at total bone density.

Youth

- Pre-pubertal children; focus on parental support and education, create safe environment and educate about treatment options once puberty starts
- Medical history, baseline lab work
- Mental healthcare professional experience in transgender issues if available
- Most research is done by Peggy Cohen-Kettenis and colleagues in The Netherlands. They started first outpatient clinic in Europe for children and adolescents with gender problems/intersex conditions in 1987.

Adolescents-puberty blockers

- Early hormone treatment can reduce the amount of invasive surgery that may be required with later sex reassignment. Mastectomy, thyroid chondroplasty and voice modification therapy.
- Easier “pass” into the opposite gender role, better quality of life
- GnRH administered prior to puberty completely prevents puberty, if initiated after start of puberty it will halt the progression.
- Other medications as progestins, antiandrogens (males) and LHRH agonists may be used.
- Cessation of the GnRH analog will result in the adolescent resuming puberty in their birth-assigned gender
- Clinics in Amsterdam, Boston, Gent, Oslo, Toronto have treated patients effectively for years
- age 12 to 16 at least Tanner stage 2

Adolescent puberty blockers

- Prior to initiation; gonadotropins, sex hormones and fasting glucose, insulin, cholesterol, lipoprotein levels, renal and hepatic studies as well as height, weight, and Tanner pubertal stage are recorded and reevaluated periodically to ensure normal growth and development. Follow up with psychiatrist or psychologist every three months and lab measurements are done also. Age 12-16, Tanner 2.
- Cross-hormone therapy between 16-18 years initiated if no contra indications
- Sperm storage and cryopreservation of eggs is offered

Adolescent puberty blockers

- Effect on growth; inhibition of growth spurt and delayed fusion growth plates; consider growth stimulating medications to FTM patients (cost)
- Bone mineral density increase to normal during cross-sex hormone treatment
- Estrogen and GnrHa treatment increases body fat and decreases insulin sensitivity, lipid levels increase. Studies have not shown overall cardiovascular morbidity/mortality; healthy lifestyle advised to prevent cvd and metabolic syndrome

Clinical management of gender dysphoria in adolescents

- Discuss sexuality, contraception, std prevention
- Treat co-existing psychopathology that is unrelated to gender dysphoria
- Find resources at the time of transitioning in adulthood
- Real-life-experience; living full-time in the role the adolescent is transitioning to- is important while no longer required in adulthood (WPATH 7)
- No SRS surgery prior to age 18, 2 years of RLE