

# **TRANSGENDER MEDICINE – AN EVIDENCE-BASE APPROACH**

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## OUTLINE:

**A biological underpinning to gender identity** – the evidence that has contributed to the shift in approach among mainstream physicians and scientists

**Hormonal & surgical treatment strategy**  
– what's actually happening in 2018

# Background

Potential factors

determining gender identity:

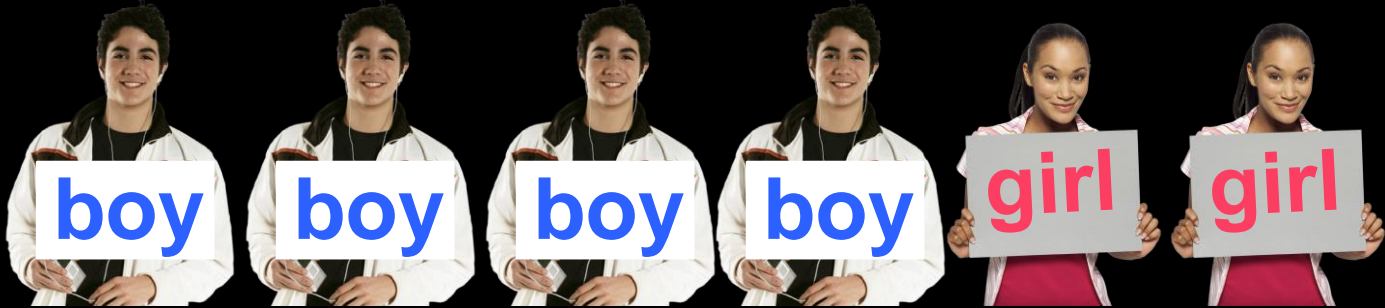
1. Environment
2. Societal construct
3. Passive response to anatomy
4. Biological

Paradigm shift

# Evidence for the biological nature of gender identity

- Historical attempts to manipulate gender identity
- Twin studies
- *In utero* androgen exposure data
- Attempts to find brain anatomy associations with gender identity





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# Fraternal twins

Same sex

Trans individuals

n = 21

Opp. sex

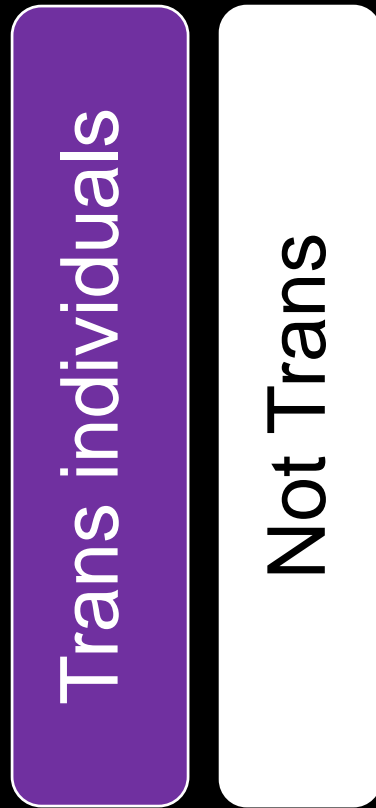
Trans

n = 7



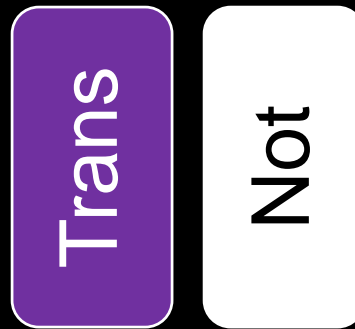
# Fraternal twins

Same sex



**n = 21**

Opp. sex

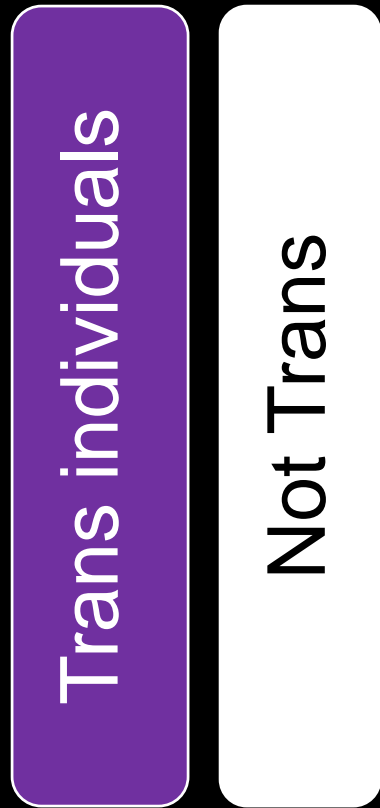


**n = 7**

# Fraternal twins

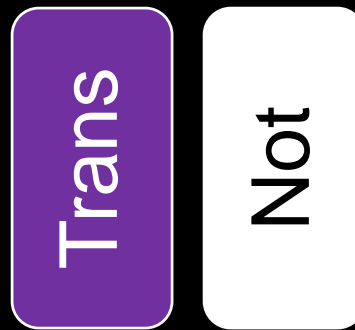
# Identical twins

Same sex



n = 21

Opp. sex

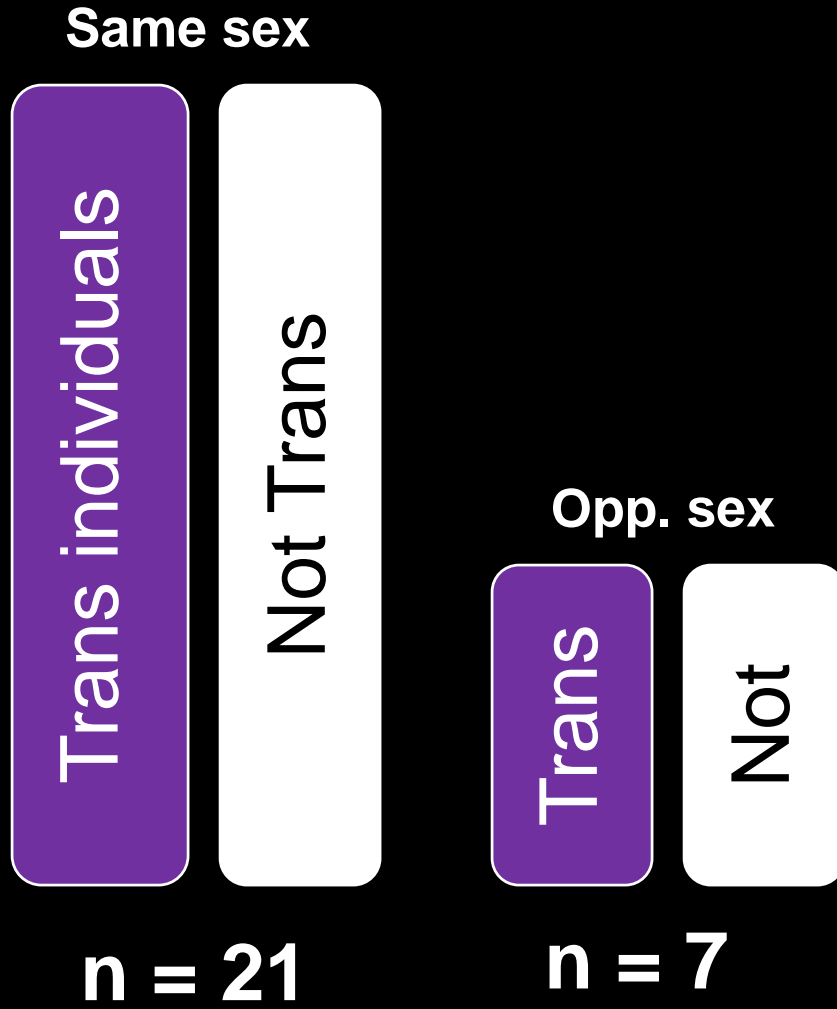


n = 7

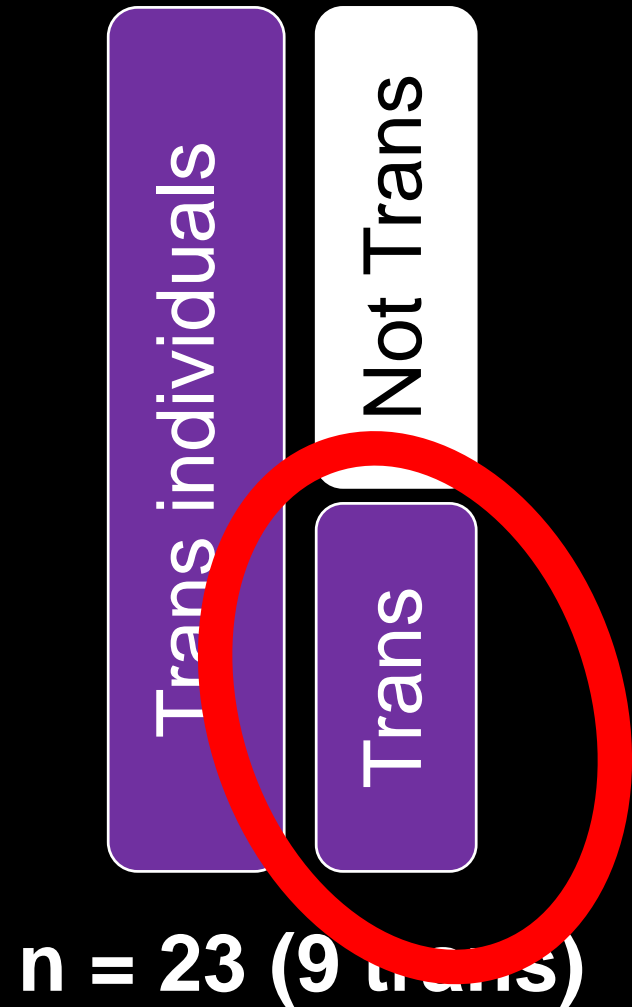


n = 23 (9 trans)

# Fraternal twins



# Identical twins



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**If this biology... what do we need to know?**

Strategy:

# The Boston Globe

December 11, 2011



# Strategies - Pediatrics/Adolescents:

Avoid permanent characteristics

“Social transition” is **reversible**

Recognize that a some **young children** presenting as transgender are **not so as adults**

**The solution:**

Use the existing GnRH agonists paradigm to delay puberty



# Current Approach to Therapy

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Adolescents: GnRH agonists at Tanner 2



Endocrine Treatment of Gender Dysphoric/Gender Incongruent Persons:  
Endocrine Society Practice Guidelines 2017.

## Male hormones

Testosterone

Estradiol

## Female hormones

Testosterone

Estradiol

# Current Approach to Therapy

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Adult Transmen: androgen supplementation – can be **lifelong**.



# Current Approach to Therapy

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Adult Transwomen: blockade to some degree of androgen production or action along with some degree of estrogen supplementation – **thrombosis** concerns.



~~TESTOSTERONE~~



# Surgical Options

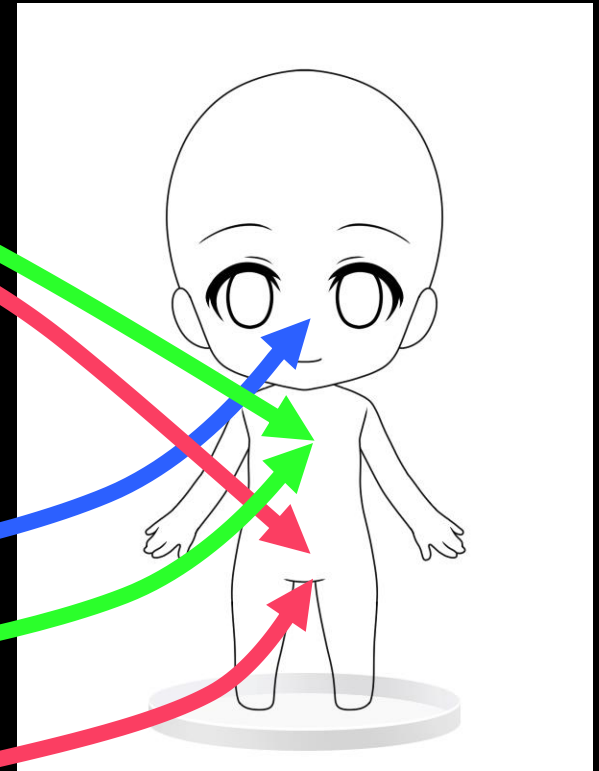
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## Female to male:

- **Chest Reconstruction\***
- Hysterectomy oophorectomy
- Genital Surgery (Phalloplasty)

## Male to female:

- **Facial Feminization**
- **Breast Augmentation**
- **Genital Surgery (Vaginoplasty)\***



 no age

 Clinician + MHP, age 18

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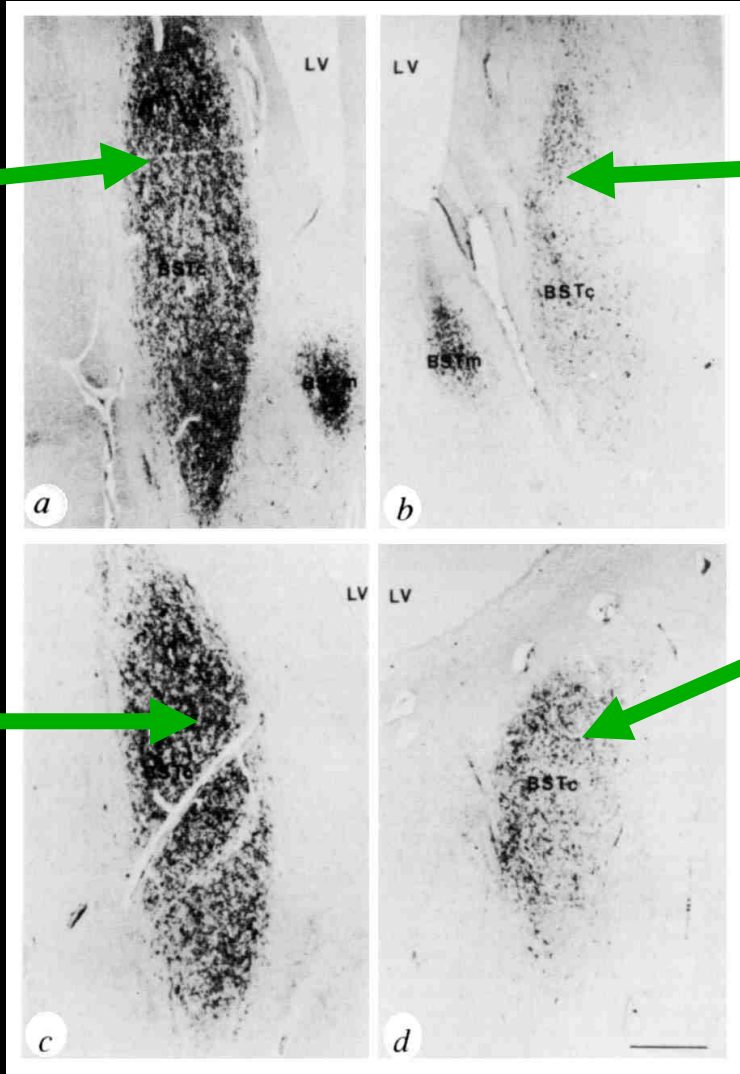


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# Bed nucleus of Stria Terminalis smaller in woman and male to female transwomen

heterosexual male  
homosexual male



genetic female

male to female

Zhou 1995 *Nature* 378(6552):68-70.