

## Hormonal Therapy in Pediatric and Adolescent Gender Medicine

Tandy Aye, MD  
Pediatric Endocrinologist



## Objectives

- To familiarize yourself with the hormone options available in pediatric and adolescent gender care
- To understand the process used in pediatric and adolescent gender clinics for hormonal therapy
- To be aware of the role of the mental health provider in the process to initiate hormonal therapy for pediatric and adolescent gender care



## Introduction

- Pubertal development begins between ages 8.5-14 years in designated female individuals.
- Pubertal development begins between ages 10.5-16 years in designated male individuals.
- Puberty includes not only physical development but also brain and psychosocial development.



## Background

- Transgender youth may identify at any age and seek hormonal care.
- However, hormonal intervention does not begin until puberty actually starts.



## Background

- There are three typical presentations
  - Presents before or at early stages of puberty
  - Presents at early to mid stages of puberty
  - Presents after puberty



## Presentation before or at early stages of Puberty

- Estrogen programmed puberty starts with breast buds
- Testosterone programmed puberty starts with testicular enlargement
- EVERYONE gets
  - Axillary and Pubic hair
  - Acne
  - Oily hair/skin
  - Body Odor
  - This does not come from the ovaries or testes.
  - These alone do not mean that puberty has started.



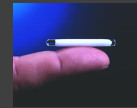
## Pubertal Blockers

- Pubertal blocker pause puberty or "puberty pausers"
- Synthetic form of the message from the brain to the ovaries or testes
- Turns off the internal production of estrogen or testosterone



## Forms of pubertal blockers

- Two options:



- Experience with early pubertal development or precocious puberty
- Adult breast and prostate cancers



## Considerations in the use of blockers

- Bone health
- Sex hormones are needed for bone development
- Pausing the production of sex hormones may decrease the bone density while on therapy
- To minimize long term effects, we recommend maximizing calcium, vitamin D and weight bearing exercises
- Advantage: pausing physical development while exploring gender identity and exploration



## Next steps available after blockers

- After gender identity and exploration is completed with a mental health provider and the youth is...
- Around 14 years of age, we may start with gender affirming hormones.
- Testosterone or Estrogen
- Both will be titrated to induce pubertal development over about 2 years



## Scenario 2: presentation up to mid-puberty

- Up to mid-puberty to offer blockers
- If we were to stop the programmed hormone production at puberty after mid-puberty, the body may experience a sense of "withdrawal" from lack of estrogen or testosterone
- Side effects may be greater than benefits



## Scenario 3: Presents after full pubertal development

- Cannot offer pubertal blocker
- Will need to start with estrogen or testosterone
- Can offer supportive care



## The other hormones

- Spironolactone: blocks the acne and body hair development and growth
- Menstrual regulation
  - Oral contraceptive pills or "the pill"
  - Many combinations
  - IUDs
  - Depot-Provera



## Testosterone

- Injection
  - Weekly all the way to monthly
- Patch, gel, foam, etc
- Effects can be seen sooner compared to estrogen
- Monitor
  - Hematocrit
  - Lipid panel, liver enzymes
  - Hormone levels



## Estrogen

- Pill
- Patch
- Injection
- Monitor
  - Hematocrit
  - Lipid panel, liver enzymes
  - Hormone levels



## Progesterone

- Some variation in practice
- May further enhance chest development



## When do we require letters?

- Under 18 years
- Assess
  - Understanding of the implications of hormonal therapy
  - Readiness for therapy
  - Goals for hormones
  - For each step (blockers and testosterone/estrogen)



## Benefits of a letter

- Informed model
- Way for youth and parents to think about hormones, *together*
- Opportunity for parents to express their worries
- Opportunity for youth to explore their gender identity and goals



## What happens after a letter?

- Letter is reviewed by our team (medical and mental health provider)
- If hormone therapy is agreed upon as next steps, medical treatment consent is reviewed w family and patient
- Side effects, long term effects, permanent effects etc
- Ask for time for contemplation
- Sign
- Baseline labs



## Summary of three critical steps

- Letter discussing gender evaluation and readiness for specific hormone therapy
- Consent for hormone therapy
- Baseline labs



## Other roles of the mental health provider

- Each dose adjustment ask about mood and changes in mood
- Continued therapy discussing
  - Further exploration
  - Goals
  - Ups and downs
  - If there are underlying diagnoses: anxiety, depression, disordered eating, etc.
- Two way open communication with provider (Release of Information is needed)

