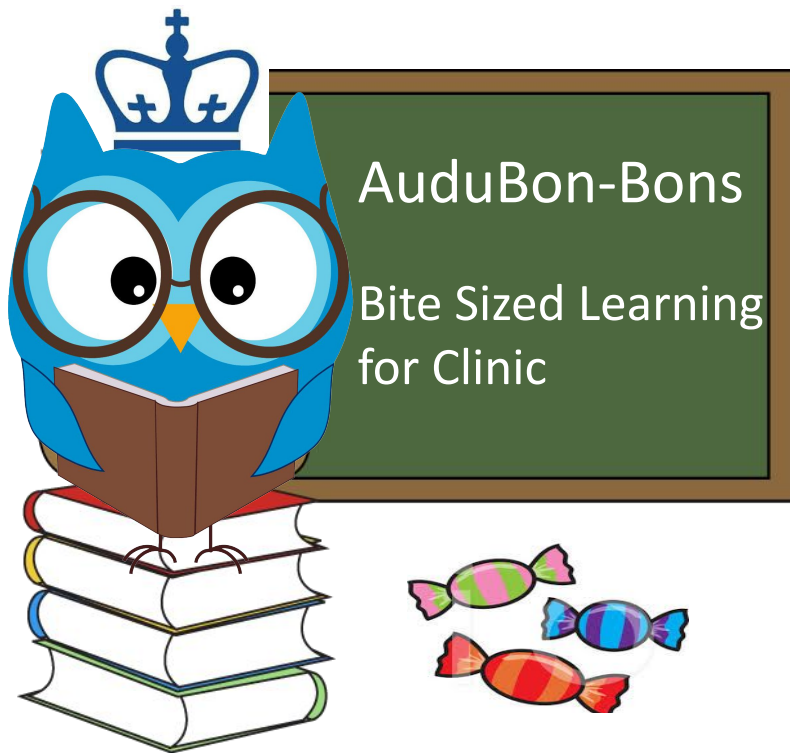


# PCOS – MANAGEMENT OF HIRSUTISM

Week 8

Prepared by: **Hemangi P. Shukla, DO,MS**

Homework Assignment:  
SASGOG Pearls of Excellence: Management of  
Hirsutism in a PCOS Patient  
<https://excellence.org/list-of-pearls/management-of-hirsutism-in-a-pcos-patient/>  
(Available as PDF or Podcast)



# LEARNING OBJECTIVES



- To understand why the evaluation of hirsutism should include a work-up for etiologies other than PCOS
- To understand the pathophysiology of hirsutism in PCOS
- To review the method of evaluating the degree of hirsutism in a patient with PCOS
- To become comfortable with counseling a patient about the management of hirsutism in PCOS



# CASE VIGNETTE

- Ms. D.B. is a 22 y.o. G0 woman who presents to the office because she has noticed coarse hairs on her chin and upper lip. She had some issues with unwanted hair before she was placed on COCs for irregular menses because “they saw cysts on her ovaries”. She recently discontinued the COCs as she is hoping to conceive within the next year.



# FOCUSED HISTORY

## What elements of this patient's history are most relevant?

- POB: G0
- PGYN: **LMP 1 month ago**  
Menarche 14y.o./**Cycle length 28-30d on COCs**/Duration 3-4d  
+Hx ovarian cysts; No Fibroids; No abnormal paps  
Sexual history: sexually active with 1 male partner for last 3 years;  
currently using no contraception
- PMH: **Obesity**
- PSH: Denies
- Meds: Multivitamin, **COCs until self d/c'd 2 months ago**
- All: NKDA
- Soc: Denies toxic habits; lives with her husband, feels safe; works as a teacher
- FHx: **Mother and Father with DM2**



# PERTINENT PHYSICAL EXAM FINDINGS

**What elements of this patient's physical exam are most relevant?**

• P: 80 BP: 120/70 Wgt: **92kg** Hgt: **160cm** BMI: **35.9**

• HEENT: **Thyroid – no masses/enlargement**

• Skin **No acanthosis nigricans**

**Small cluster of coarse hairs on either side of chin**

**Upper lip and side of face with dark course hairs**

• Abd: soft, NT/ND

• Pelvic: Vulva: Normal external female genitalia

**Hair distribution significant for dark course hairs extending 2 fingerbreadths above mons and on medial aspect of thighs**

**No clitoromegaly; No lesions**

Vagina: Healthy-appearing mucosa, No discharge

Cervix: Nulliparous os; L/C/P

Uterus: NT, ~8wk size, anteverted

Adnexae: **No mass/tenderness b/l**

• Ext: NT b/l



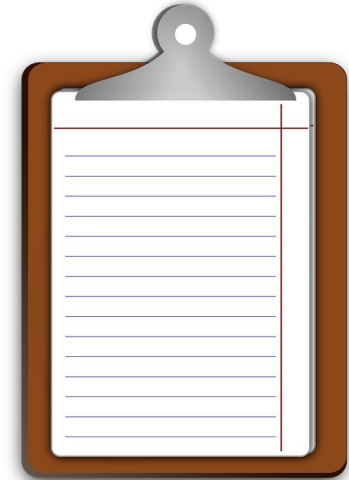
# DEFINITION

- **What is the definition of hirsutism?**
  - **Excessive male pattern hair growth**
    - May be the only sign of an underlying androgen disorder
    - Often the primary complaint in patients later diagnosed with PCOS



# DIFFERENTIAL DIAGNOSIS

- **What is the most common cause of hirsutism?**
  - PCOS
- **What are some less common causes?**
  - Nonclassic 21-hydroxylase deficiency
  - Classic 21-hydroxylase deficiency
  - Androgen-secreting tumor
  - Cushing's disease



# EVALUATION

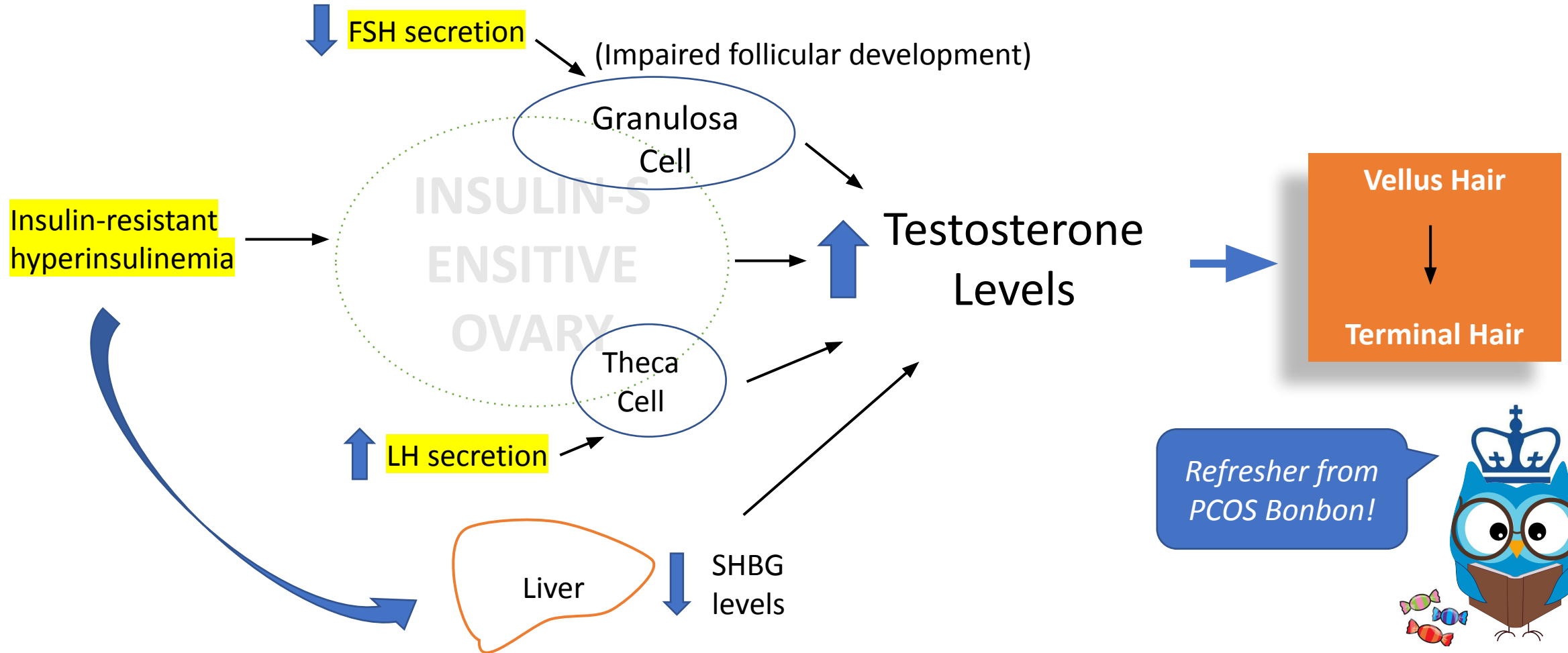
- For patients with hirsutism due to PCOS, what is the typical history regarding hair growth?
  - Peripubertal age of onset
  - Variable patterns of growth over longer durations
- If our patient didn't have a known history of PCOS, what testing may help differentiate it from other causes of hirsutism?
  - FSH, LH, TSH, Prolactin
  - **Total testosterone**
    - Normal to elevated (below 150 ng/dL) - **PCOS**
    - >200 ng/dL - consider **ovarian tumor**
  - **DHEAS**
    - >700 mcg/dL - Consider **adrenal tumor**
  - **17OHP** (first thing in the morning)
    - >200 ng/dL - consider **nonclassical CAH**





# PATHOPHYSIOLOGY

- How does PCOS impact hair growth?



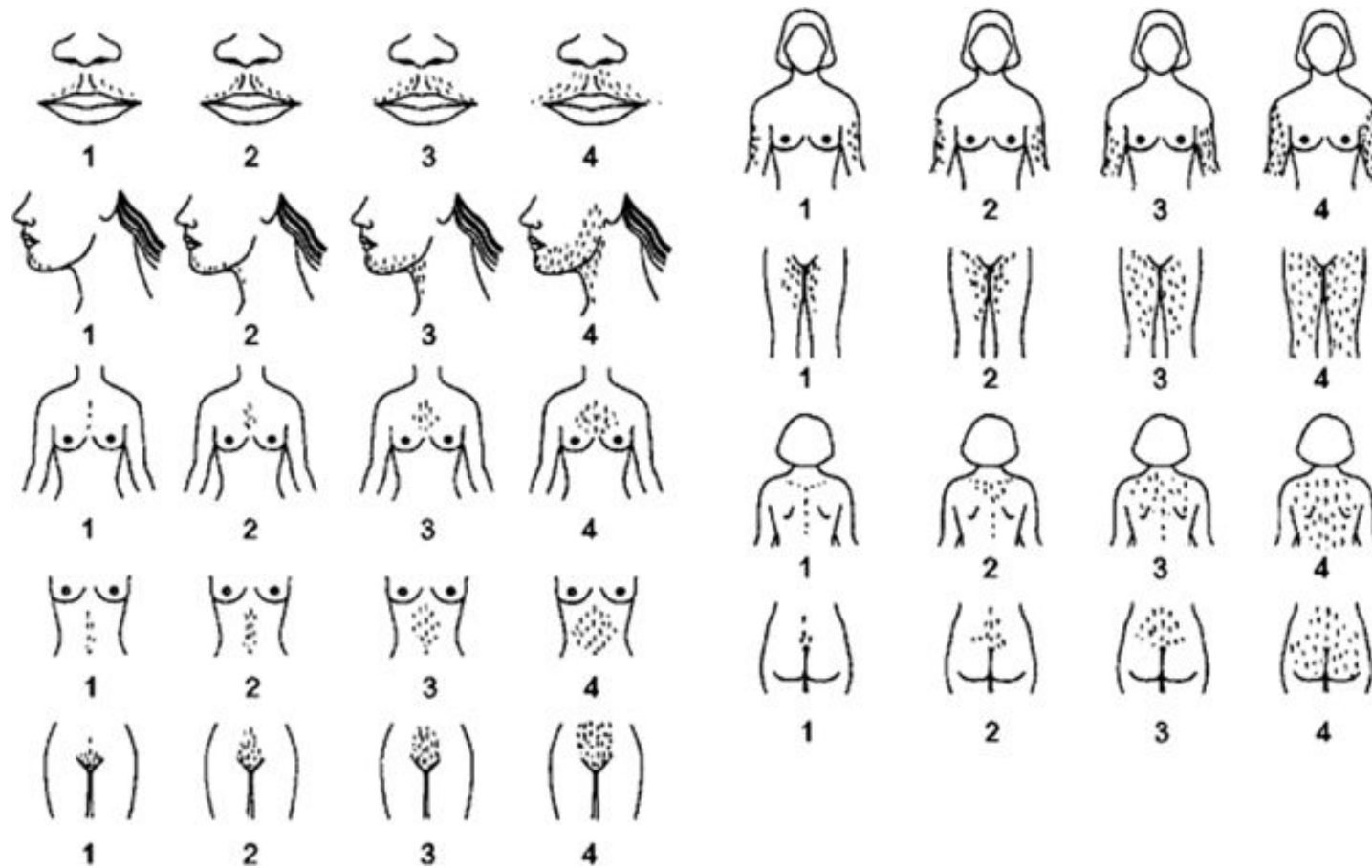
# DIAGNOSIS

- **How do you calculate a modified Ferriman-Gallwey score for this patient?**
- Evaluate 9 body areas
- Score 0-4 based on extent of hair growth & location
  - 0 = absence of terminal hair
  - 4 = equivalent to male pattern hair
- Diagnostic score varies by patient's background
  - White or black  $\square \geq 8$
  - Mediterranean/Hispanic/Middle Eastern  $\square \geq 9$
  - Asian  $\square \geq 2$



# DIAGNOSIS

## Modified Ferriman–Gallwey scoring chart



<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2792145/figure/DMP024F2/?report=objectonly>

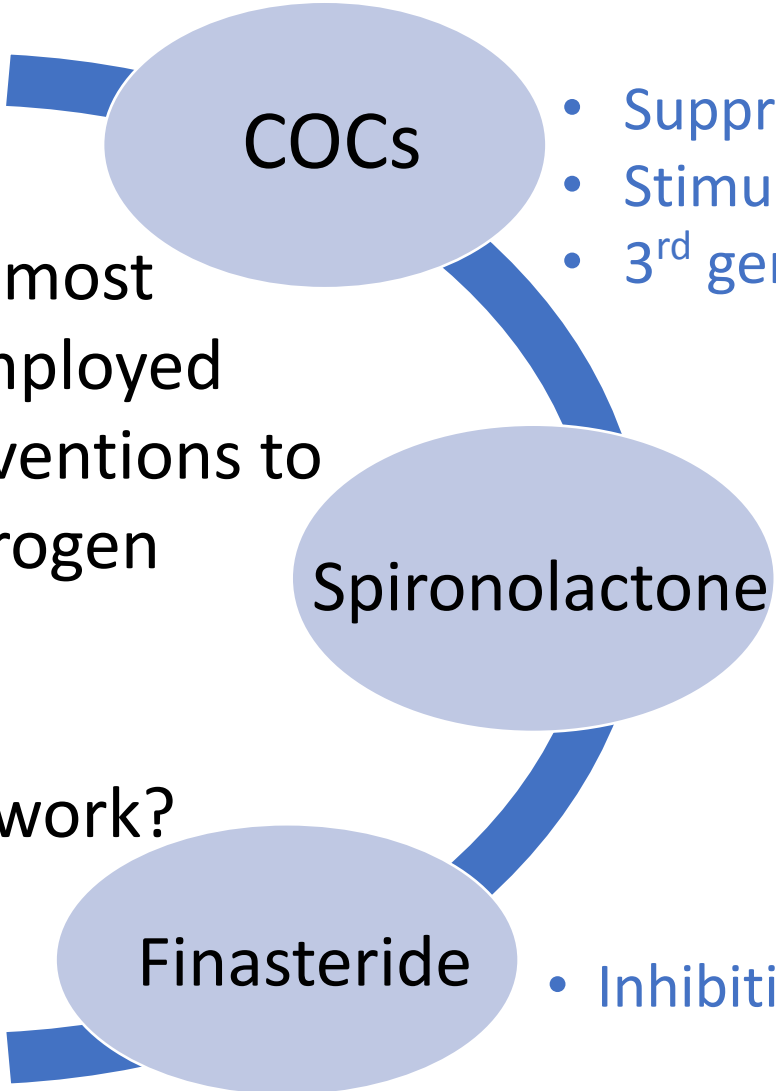


# MEDICAL MANAGEMENT



What are the most commonly employed medical interventions to suppress androgen excess?

How do they work?



- Suppress circulating LH
- Stimulate SHBG → ↓ Free testosterone
- 3<sup>rd</sup> generation progestins (less androgenic)

- Binds to androgen receptor & inhibits enzymes involved in androgen production
- Competitively inhibits dihydrotestosterone (DHT)
- *Be cautious of K+ levels*

- Inhibition conversion of testosterone to DHT



# MEDICAL MANAGEMENT

- **What are other medications used for the treatment of hirsutism?**

- **Flutamide**

- Androgen receptor antagonist
- Not recommended 2° risk of hepatotoxicity
- Risk of teratogenicity if not used with COCs

- **Eflornithine (Topical)**

- Inhibition of ornithine decarboxylase to treat existing hair
- 60% of patients with improvement after 6 months of use
- Adding to laser treatment >> laser alone



# COUNSELING

• How will you counsel this patient about managing her symptoms?

• Long-term multimodal approach

- Reduce androgen-receptor activity
- Removal of existing hairs



- Weight loss
- Medications
- Hair removal

• Shaving, plucking, waxing, depilatories, electrolysis, laser

• Electrolysis

- Permanent removal via destruction of hair follicle
- **Best for small areas** 2° pain and technical difficulty

• Laser/IPL

- More effective than electrolysis in limited studies
- Patients **with dark hair/light** skin are better candidates

**With adolescents, elicit if the patient is troubled by symptoms and address psychosocial issues**



# SOCIAL DETERMINANTS OF HEALTH

**Hispanic women with PCOS have the most severe phenotype, both in terms of hyperandrogenism and metabolic criteria.**

- Given the great deal of variability in mFG scores among ethnicities, be mindful of the impact of symptoms on each individual patient when counseling patients and work with them to devise a management plan.
- When managing PCOS patients with a primary complaint of hirsutism, we can maximize the yield of the visit by reviewing their risk for metabolic syndrome and counseling patients on steps they can take to reduce the risk of metabolic sequelae.



# EPIC .PHRASE

## **.BBonPCOSHirsutism**

### Description: Counseling for hirsutism in a patient with PCOS

The patient was counseled about her diagnosis of hirsutism in the setting of PCOS. We reviewed that management would be guided by a multi-modal approach that will include lifestyle modifications, anti-androgenic medications to address new hair growth, and removal of unwanted hair via various methods.

We discussed that while hormonal therapy may slow growth, it does not remove hair and that evidence of effectiveness may take 6 months.





# CODING/BILLING

Diagnosis	ICD-10
Hirsutism	L68.0
Polycystic ovarian syndrome	E28.2



# EVIDENCE

## References

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