



Skin through the Lifespan: Common Concerns and Practical Pointers

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MAFP Spring Refresher

April 10, 2025

Disclosures:



I HAVE NO FINANCIAL DISCLOSURES
IN REGARD TO THIS PRESENTATION



PHOTOS FROM VISUAL DX OR LINKED
IN REFERENCES SECTION

NOTE: I WILL BE DISCUSSING MANY OFF-LABEL OR NON-FDA APPROVED
USES OF PRODUCTS, INCLUDING OTC & PRESCRIPTION MEDICATIONS*

Historical Perspectives: ^[1-2]

- Dermatologic conditions are some of the oldest documented medical pathologies.
- Benign skin concerns are often neglected or minimized by providers.
- Skin complaints account for **12.4%** of visits in Family Medicine.

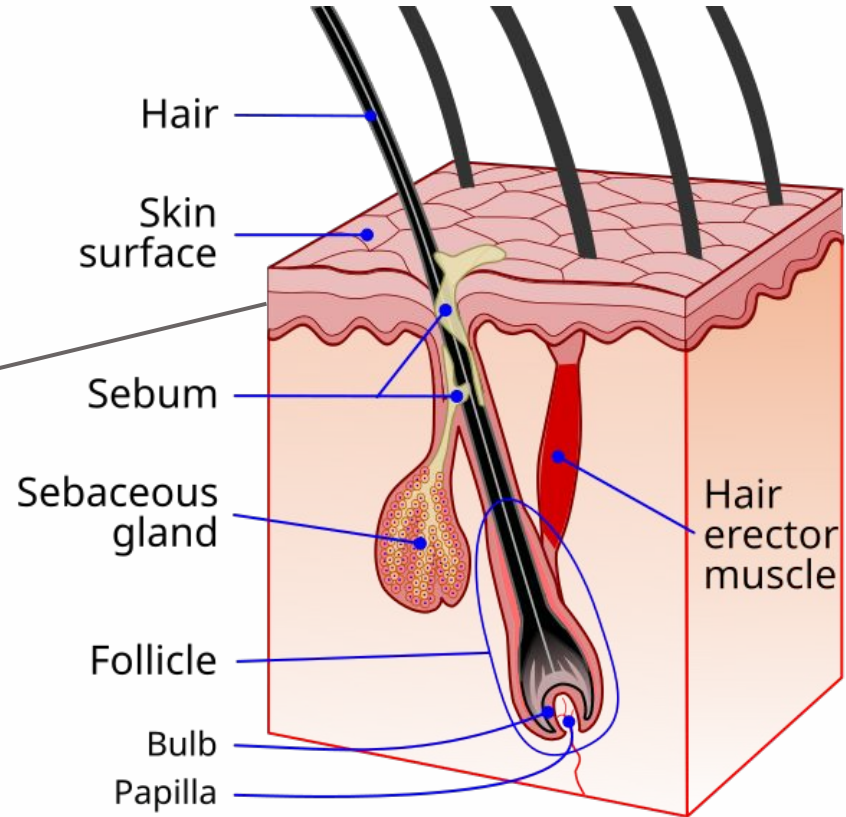
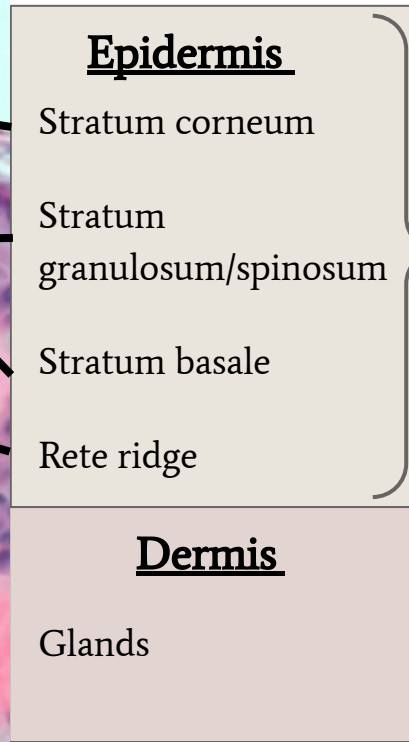
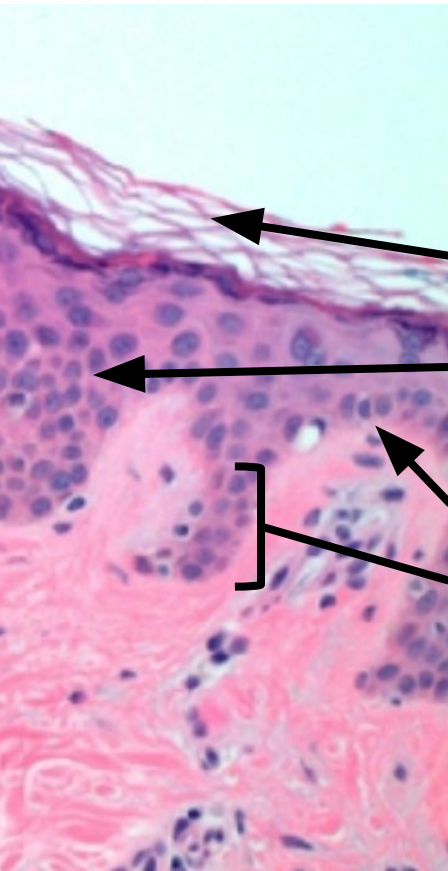


Goals and Objectives:

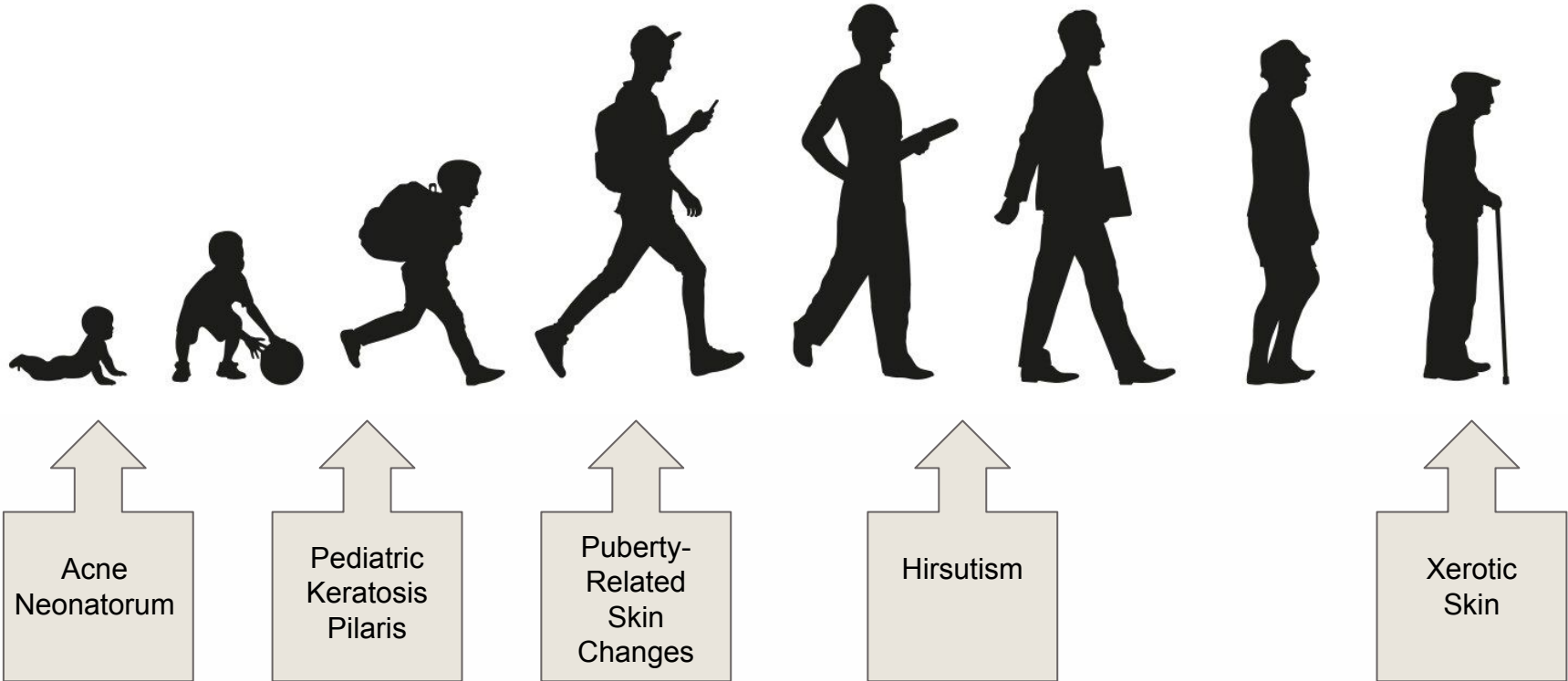
Gain	Gain a basic understanding of the skin and its aging process
Identify	Identify common skin concerns ranging from infancy to older adulthood
Implement	Implement practical, practice-changing treatment approaches for the skin concerns identified



60-Second Skin Review: [3-4]

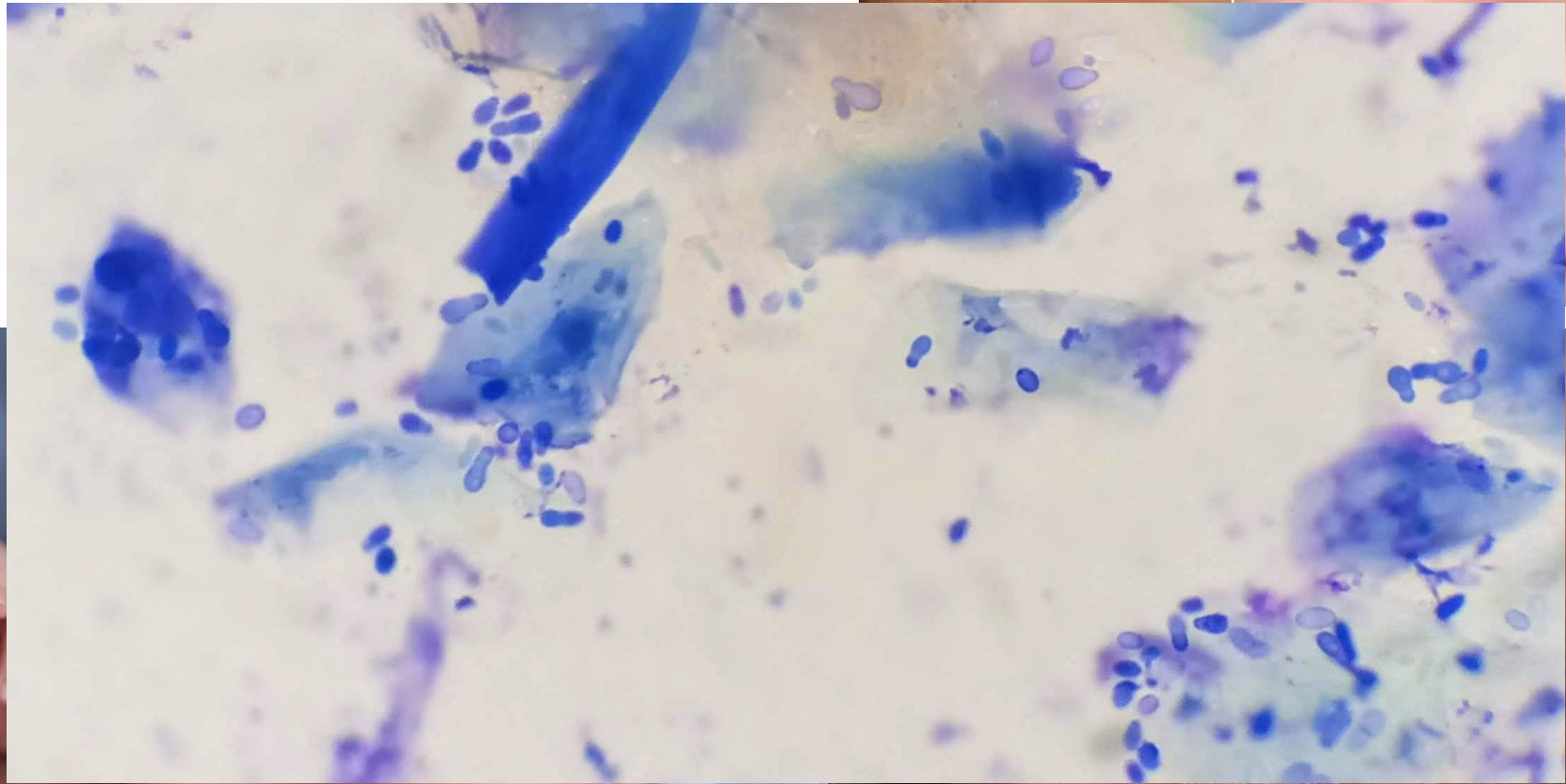


Roadmap:





Acne Neonatorum



Acne Neonatorum Considerations: [5-7]

- Differential diagnosis:
 - Seborrheic dermatitis
 - Erythema toxicum
 - Neonatal pustular melanosis
 - Bacterial folliculitis
- Parental concerns (scarring, allergies, etc.)
- **Pro-Tip:** *If persists >12-16 weeks, more severe than anticipated, OR starts after 8 weeks of age, consider endocrinopathy*



Diagnosis and Treatment of Acne Neonatorum: [5-7]

- Clinical diagnosis
- *Self-limited* condition
- **Mild** disease:
 - Do NOTHING
- **Moderate to severe** disease:
 - Erythromycin solution 2%* (*if inflammatory-appearing*)
 - Azelaic acid cream 20%
 - Benzoyl peroxide solution 2.5% (*if inflammatory-appearing*)
 - Tretinoin cream 0.025%
- Does topical ketoconazole* have a role in treatment?
- **Pro-Tip:** *Test topicals in antecubital fossa prior to facial application*
- **OTC Options:** *Some data suggesting maternal low glycemic diet, avoiding ointments and oils to the face, and topical micellar water* application*



OTC Treatment of Acne Neonatorum: [5-7]

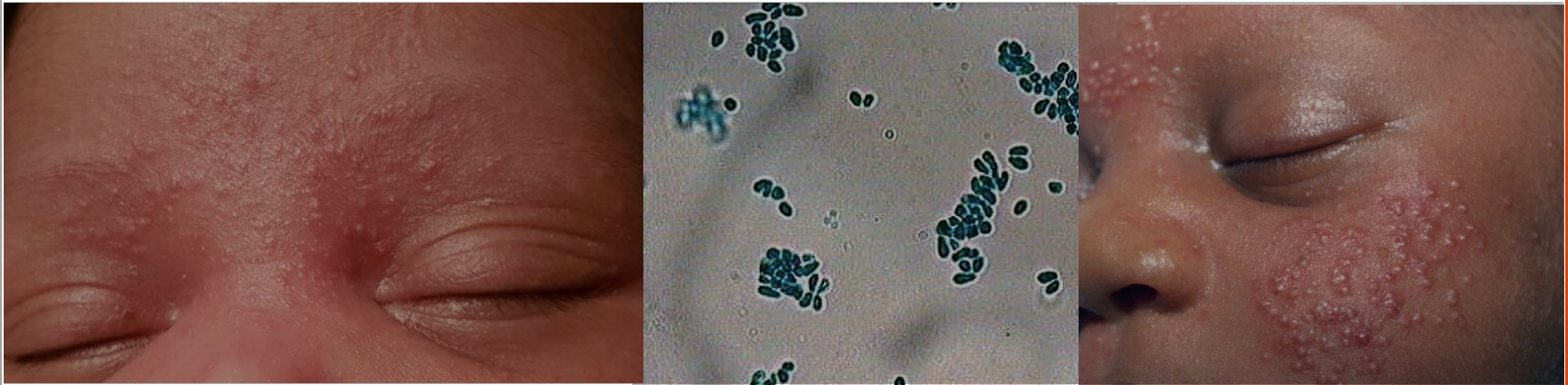


OTC Micellar Water*:

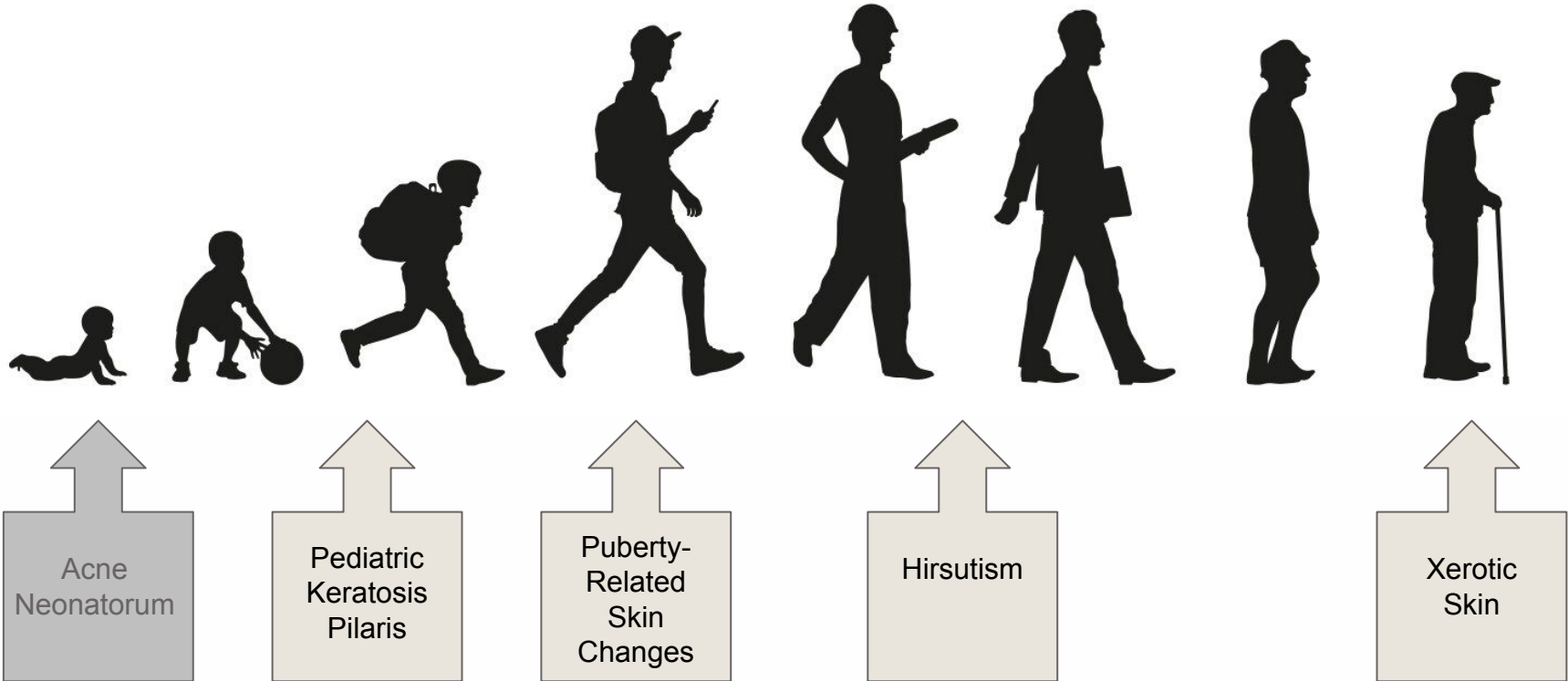
- Mustela
- CeraVe
- Garnier
- Neutrogena
- Bioderma
- Simple
- *Average cost: \$12*

Acne Neonatorum Summary:

- Suspect when patient has a facial papular rash at 2-6 weeks of age
- Diagnosis is clinical
- Treatment depends on severity
 - Consider OTC micellar water* for concerned/eager parents
- If persisting >12 weeks, consider endocrinopathy evaluation



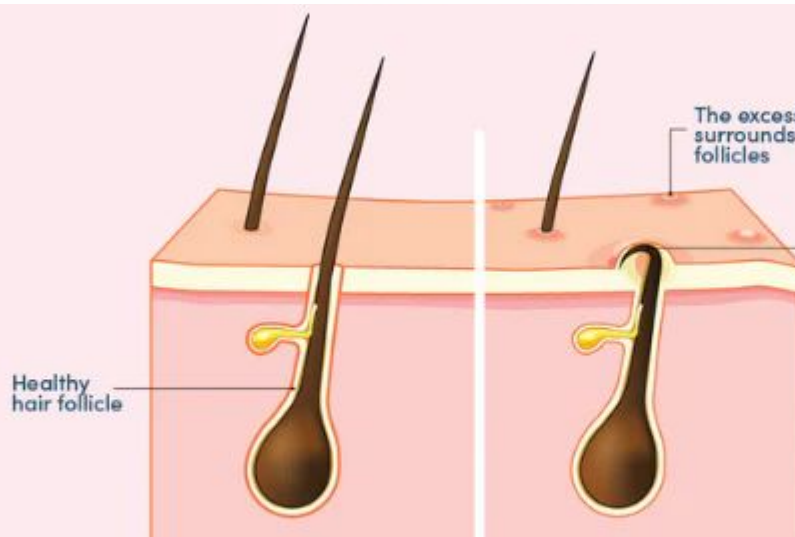
Roadmap:





Pediatric Keratosis Pilaris

Keratosis Pilaris:



[8-10]



- Prevalence of ~ 40% with 4:1 female predominance
- AD inheritance, though no gene isolated
- Worse in winter months
- Cheeks, posterior arms, thighs, buttocks
- Relationship to atopic dermatitis?

Keratosis Pilaris Considerations: [8-10]

- Differential diagnosis:
 - Atopic dermatitis
 - Folliculitis
 - Phrynoderma
- Variants:
 - Rubra
 - Atrophicans
- Parental concerns (cosmetic, bullying, itching, etc.)
- **Pro-Tip:** In adolescence, this can *OFTEN* be mistaken as acne vulgaris



Diagnosis and Treatment of Keratosis Pilaris: [8-10]

- Clinical diagnosis
- *Self-limited* condition

- **Mild** disease:
 - Do NOTHING
- **Moderate to severe** disease:
 - Low potency steroid* in 2 week bursts
 - Topical tretinoin*, if age appropriate (12 week course)
 - Topical tacrolimus* (12 week course)

- **Pro-Tip:** Exhaust OTC options first before proceeding w/ prescriptions



OTC Treatment (and what NOT to do) for Keratosis Pilaris: [8-10]

Avoid Damage to Skin Barrier:

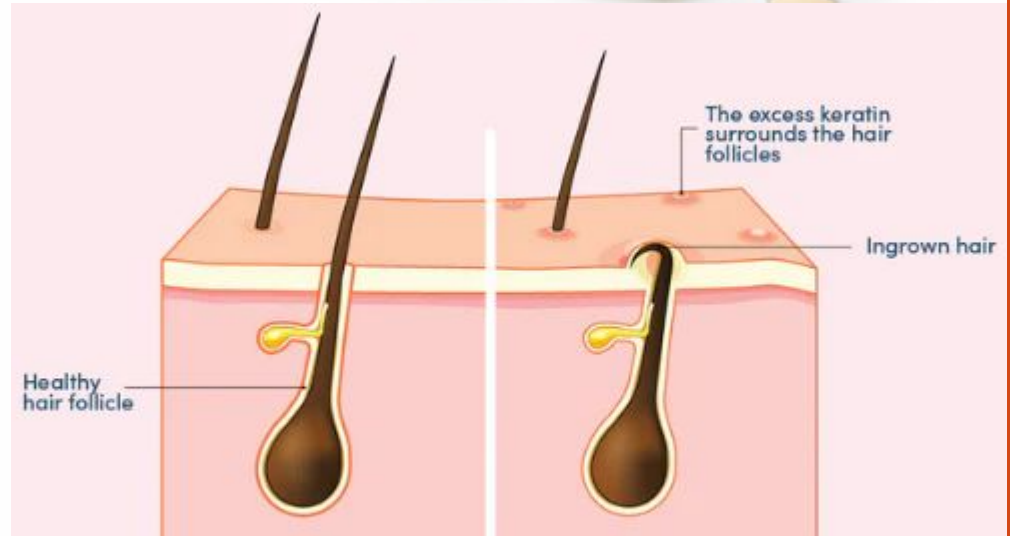
- Hot showers
- Harsh cleansers/exfoliants
- Cold weather

Topical Keratolytic is Key:

- Lactic acid 10%* (superior)
- Salicylic acid 5%*
- Urea cream 40%*
- Use 1-2 times per day x 12 wks

OTC Keratolytics:

- AmLactin, CeraVe, La Roche Posay, Keralyt 5, Eucerin, Ebanel
- Average cost: \$18



OTC Treatment for Keratosis Pilaris:



4 months of topical lactic acid* treatment

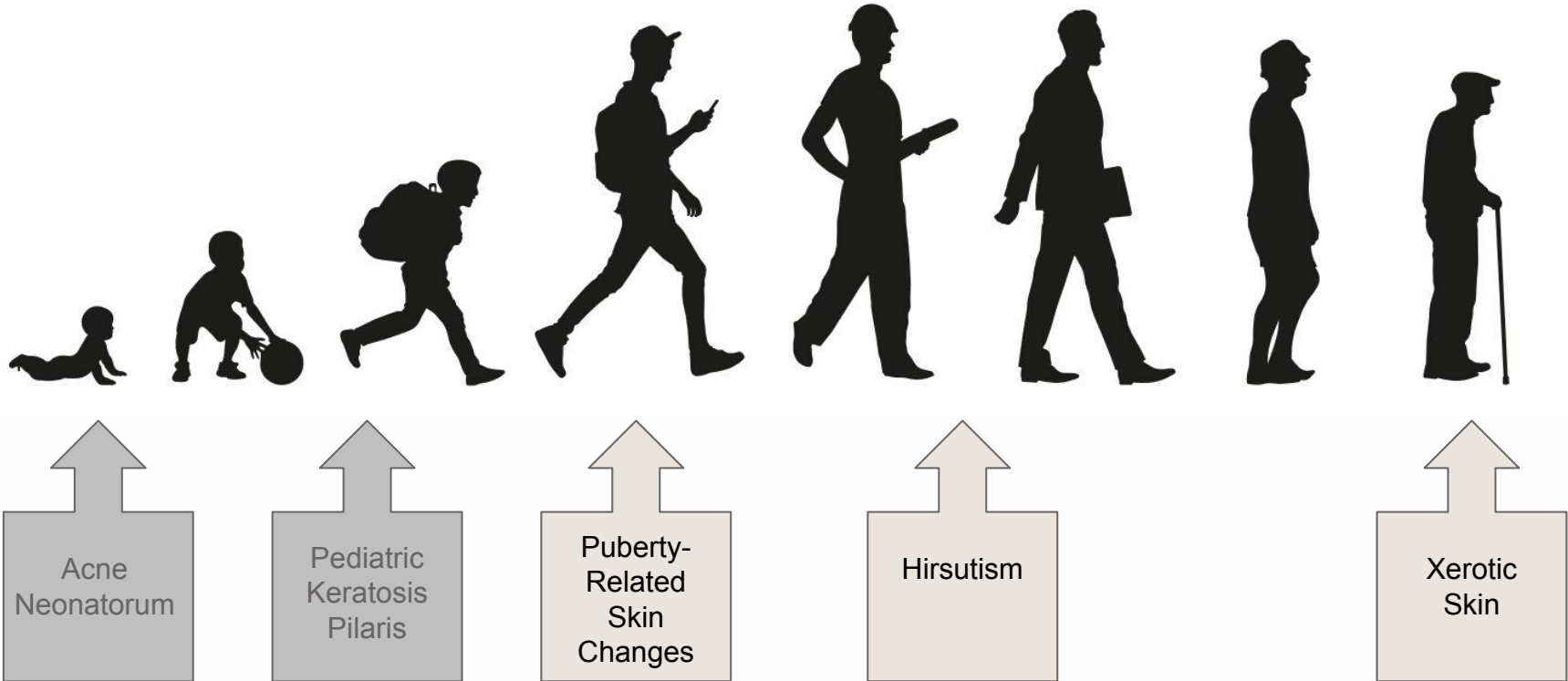
https://www.reddit.com/r/keratosis/comments/osl4i8/ammonium_lactate_and_clindamycin_helped_my_kp/

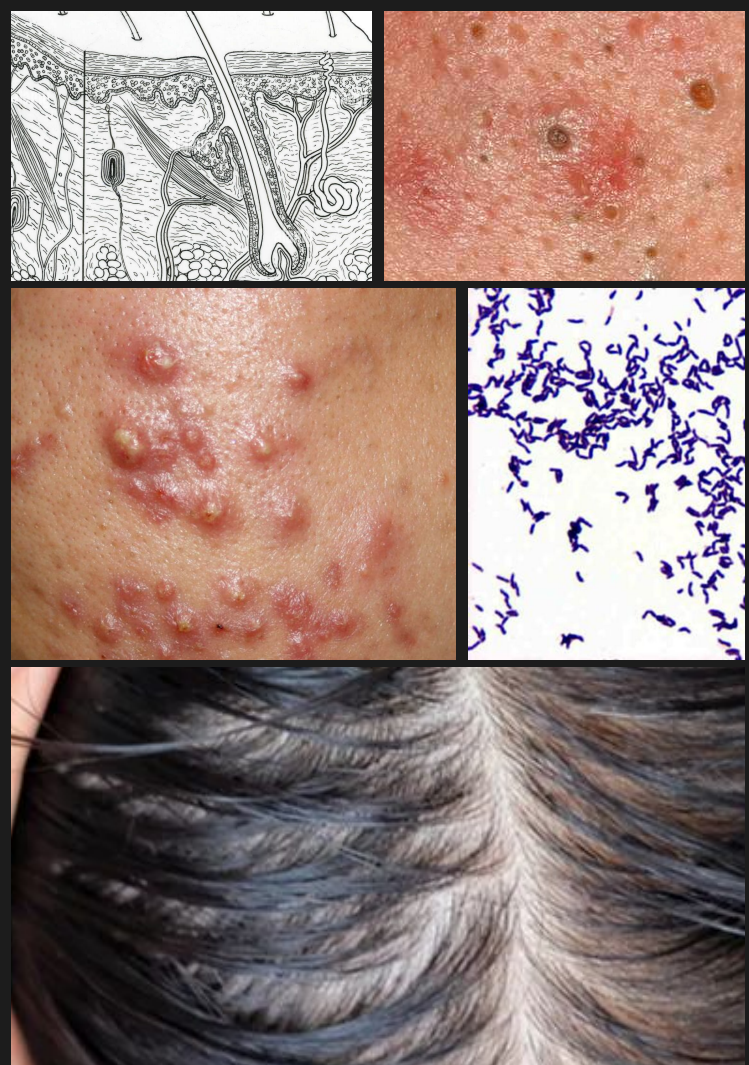
Keratosis Pilaris Summary:

- Suspect when patient has a papular rash on characteristic areas, flesh colored or erythematous
- Diagnosis is clinical
- Treatment depends on severity
 - Exhaust OTC keratolytic options before proceeding with harsher prescriptions, especially in children



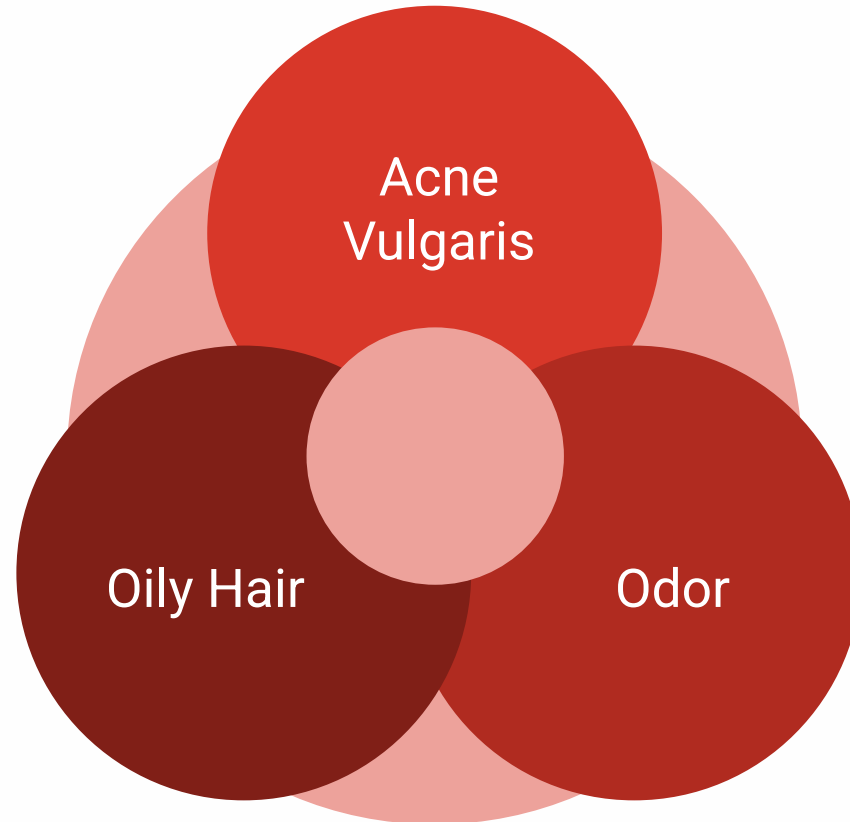
Roadmap:





Puberty-Related Skin Changes

Puberty-Related Skin Changes



...but why is this important?

BUT FIRST....^[11]

The Basics of Skincare: “CTMP”

1. Cleanse
2. Treat
3. Moisturize
4. Photoprotect

Pro-Tip #1: Know the skin condition you are treating. CTMP can be tailored to ANY skin condition.

Pro-Tip #2: Patients should adhere to treatment for at least 12 weeks prior to making adjustments.

Pro-Tip #3: Send patients home with their own “personalized” CTMP plan (written down).

Sample CTMP Plan for **NO** Skin Concerns:

AM:

- *C: Cleanse with lukewarm water, no soap. Do not dry the face afterwards.*
- *T: None*
- *M: Moisturize wet skin with cream-based moisturizer.*
- *P: Use a mineral-based SPF of 30.*

PM:

- *C: Cleanse with gentle, non-exfoliating cleanser. Do not dry the face afterwards.*
- *T: None*
- *M: Moisturize with same cream-based moisturizer as AM.*
- *P: None needed before bed.*

Acne Vulgaris: [12-13]

- Prevalence of ~ 40% of 7-11 year olds; 85% of adolescents
- Discussed in 14% of primary care office visits
- Chronic, inflammatory disorder of pilosebaceous unit
- **Types of lesions:**
 - Open comedones (blackheads)
 - Closed comedones (papules)
 - Pustules (whiteheads)
 - Nodulocystic
 - *Realistically, needs to be managed with dermatology or isotretinoin prescriber*



Corneocytes



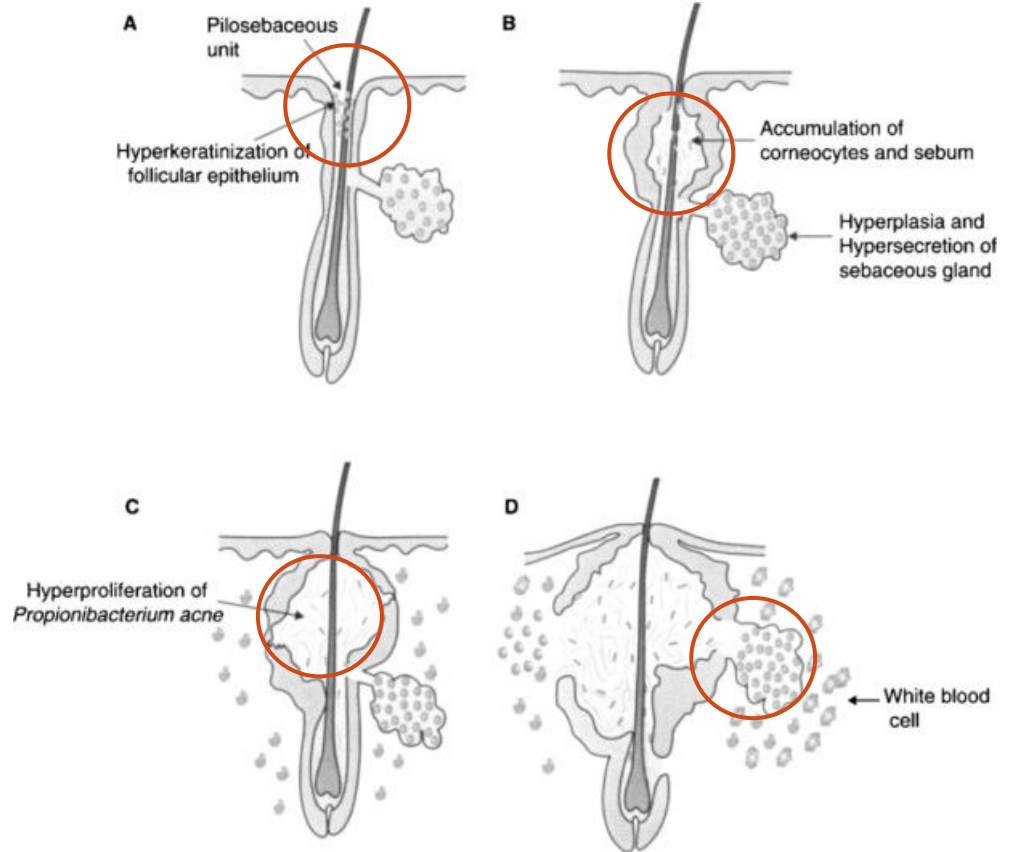
Sebum



C. acnes

Causes of Acne Vulgaris: [12-13]

- A. Hyperkeratinization
- B. Hypersecretion of sebum
- C. Flora colonization
- D. Inflammatory response



OTC and Rx Treatment of Acne Vulgaris: [12-13]

A. Hyperkeratinization

B. Hypersecretion of sebum

C. Flora colonization

D. Inflammatory response

Keratolytics:

- Benzoyl peroxide
- Azelaic acid
- Sulfur

Retinoids:

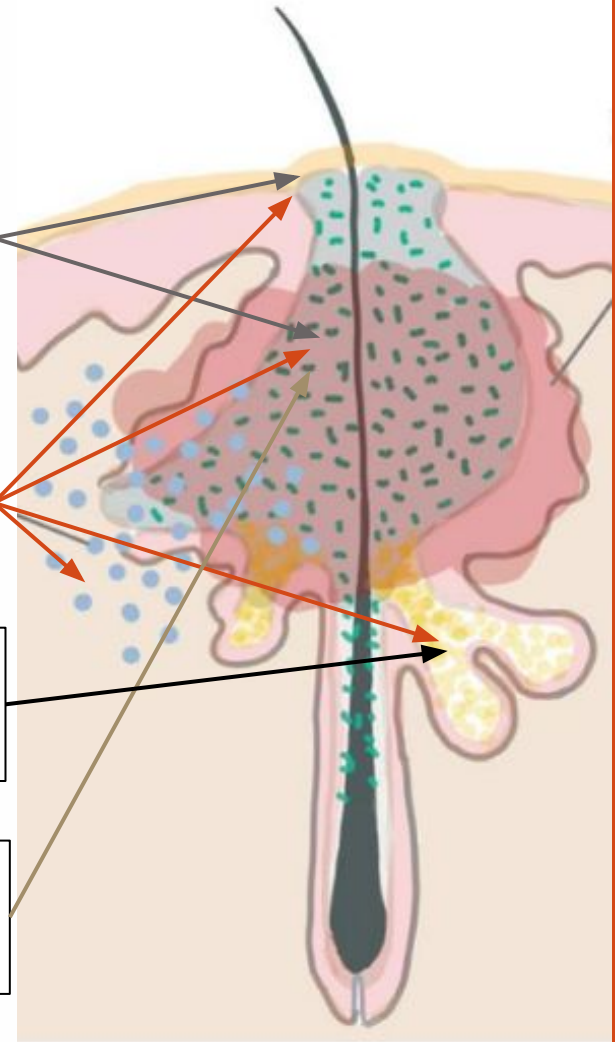
- Topical tretinoin
- Topical adapalene
- Oral isotretinoin

Anti-Androgens (females):

- Spironolactone*
- OCPs

Antibiotics:

- Topical clindamycin
- Oral tetracyclines



Sample CTMP for Acne Vulgaris:

16 year old female with combination skin and moderate acne vulgaris.

AM:

- C: Cleanse with **benzoyl-peroxide** containing wash. Do not dry the face afterwards.
- T: Use **clindamycin** gel, pea-sized amount, focusing on affected areas of skin.
- M: Moisturize wet skin with cream-based moisturizer.
- P: Use a mineral-based SPF of 30.
- Other: Consider setting the skin with **sulfur**-based setting powder to remove shine.

PM:

- C: Cleanse with **benzoyl-peroxide** containing wash. Dry the face fully.
- T: Use **tretinoin** cream, pea-sized amount, 3x per week, avoiding eye area and lips. It's beneficial to apply petroleum gel to these areas prior to applying tretinoin. Expect things to "get worse" for 6 weeks before "getting better."
- M: Moisturize with same cream-based moisturizer as AM.
- P: None needed before bed.
- Other: Take **spironolactone*** and **OCP** prior to bed.

- **Pro-Tip:** Be sure to discuss medication side effects thoroughly to improve adherence



Before and After Topical Treatments:



1 year of topical tretinoin only

https://www.reddit.com/r/tretinoin/comments/t0l0kz/my_skin_after_1_years_of_tretinoin_acne/?rdt=36180



5 months of topical tretinoin and clindamycin gel

https://www.reddit.com/r/acne/comments/1fj4o9z/5_months_of_clindamycin_gel_tretinoin/

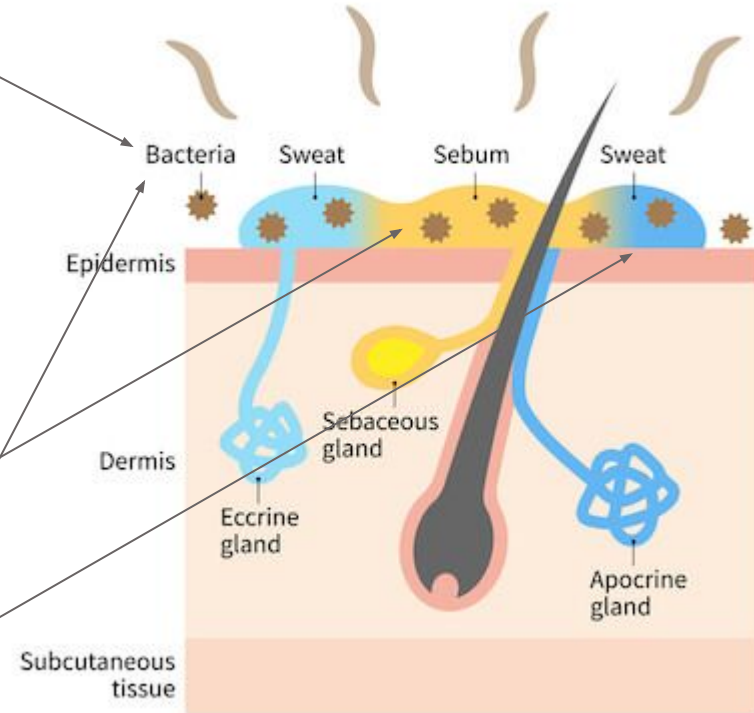
Oily Hair Tips: [12-13]

- Exfoliation of the scalp twice weekly = ↓ sebum production
 - **Glycolic acid 7%*** OTC applied 30 min prior to washing.
- Double-cleanse hair with a “clarifying shampoo” = ↓ sebum production
- Consider anti-dandruff shampoo, if flaking
- Only apply conditioner on ends, do not apply to scalp
- Blow dry hair



Odor Control Tips: [12-13]

- Decrease bacterial burden with anti-bacterial wash
 - OTC:
 - Panoxyl
 - Hibiclens
 - CVS brand
 - *Average cost: \$10*
- Maintain low bacterial burden and decrease sebum production with glycolic acid 7%* solution
 - Decreases pH of the skin to prevent bacterial replication
- Decrease sweat production with effective antiperspirant

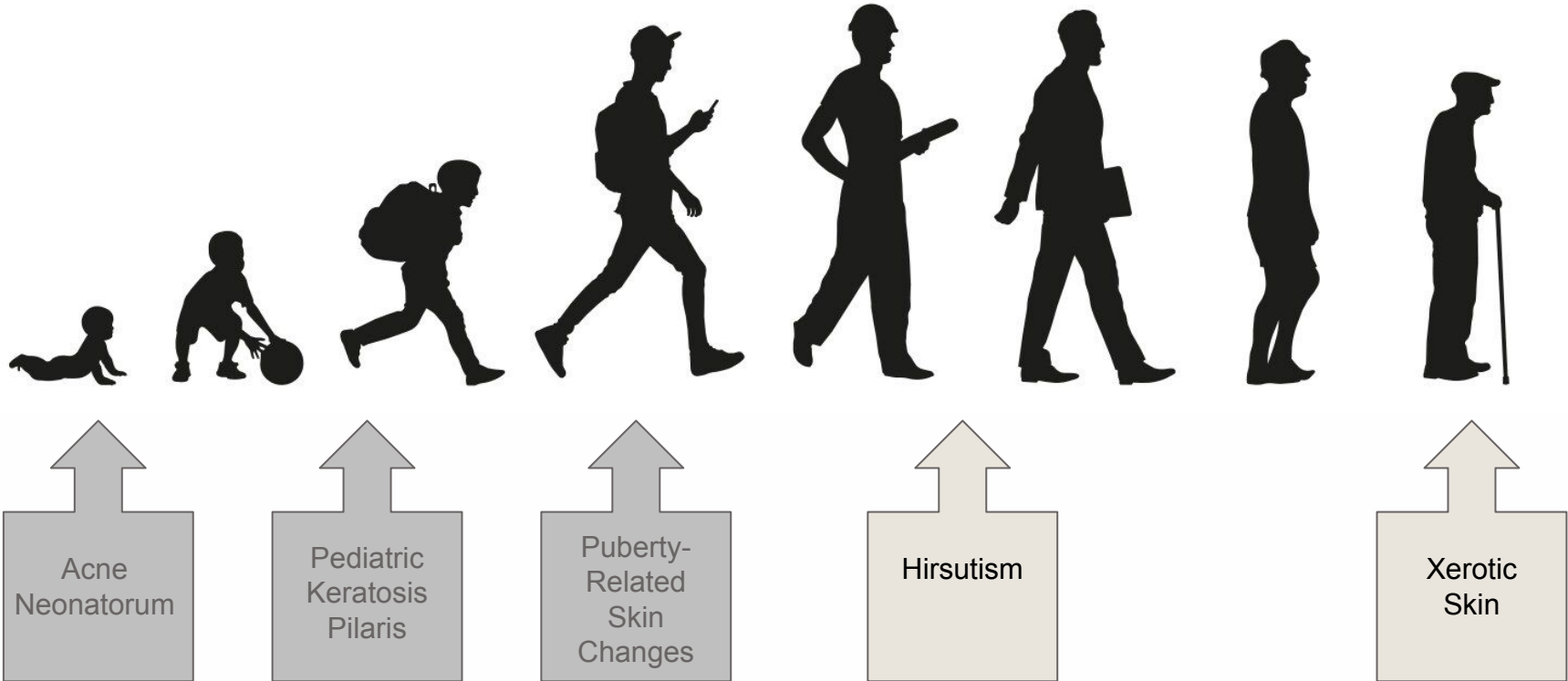


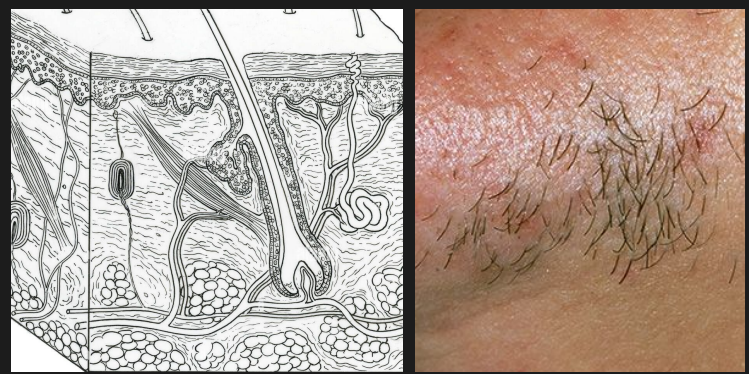
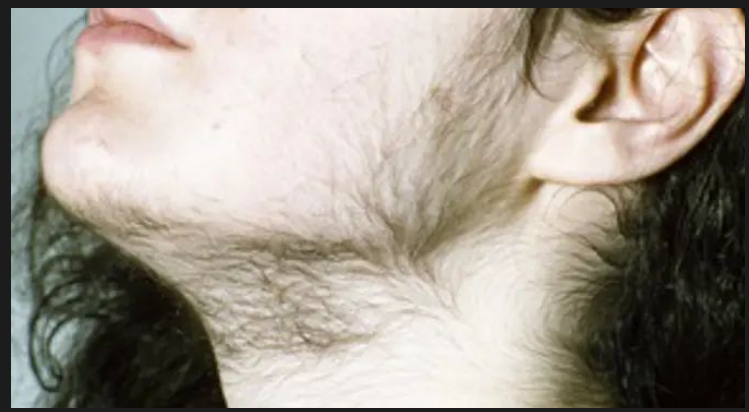
Puberty-Related Skin Changes Summary:

- Most puberty-related skin concerns are related to changes to the pilosebaceous unit, including increase sebum production and flora proliferation
- A clear, CTMP-directed skincare plan is the most helpful thing we can do to help adolescent patients with their skin concerns
- Treatment of acne vulgaris is highly effective if CTMP is followed, though nodulocystic acne should be treated w/ isotretinoin
- Glycolic acid 7%* has a wide range of uses, including for oily hair and body odor control



Roadmap:





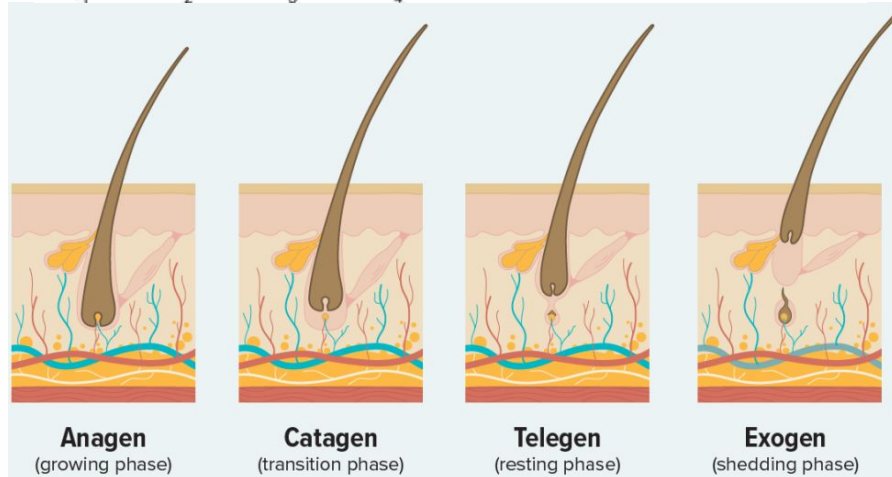
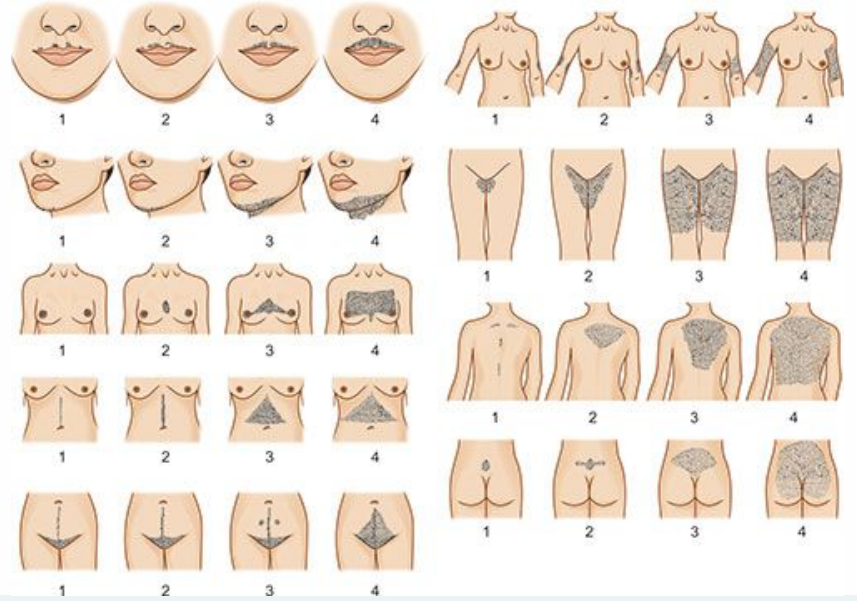
Hirsutism

Hirsutism: [14-16]

- Prevalence of ~ 5-15% of reproductive-aged females
- Ethnicity plays a large role in phenotype
 - FG score >8 = hirsutism
 - Cutoffs different for different ethnicities

• Causes:

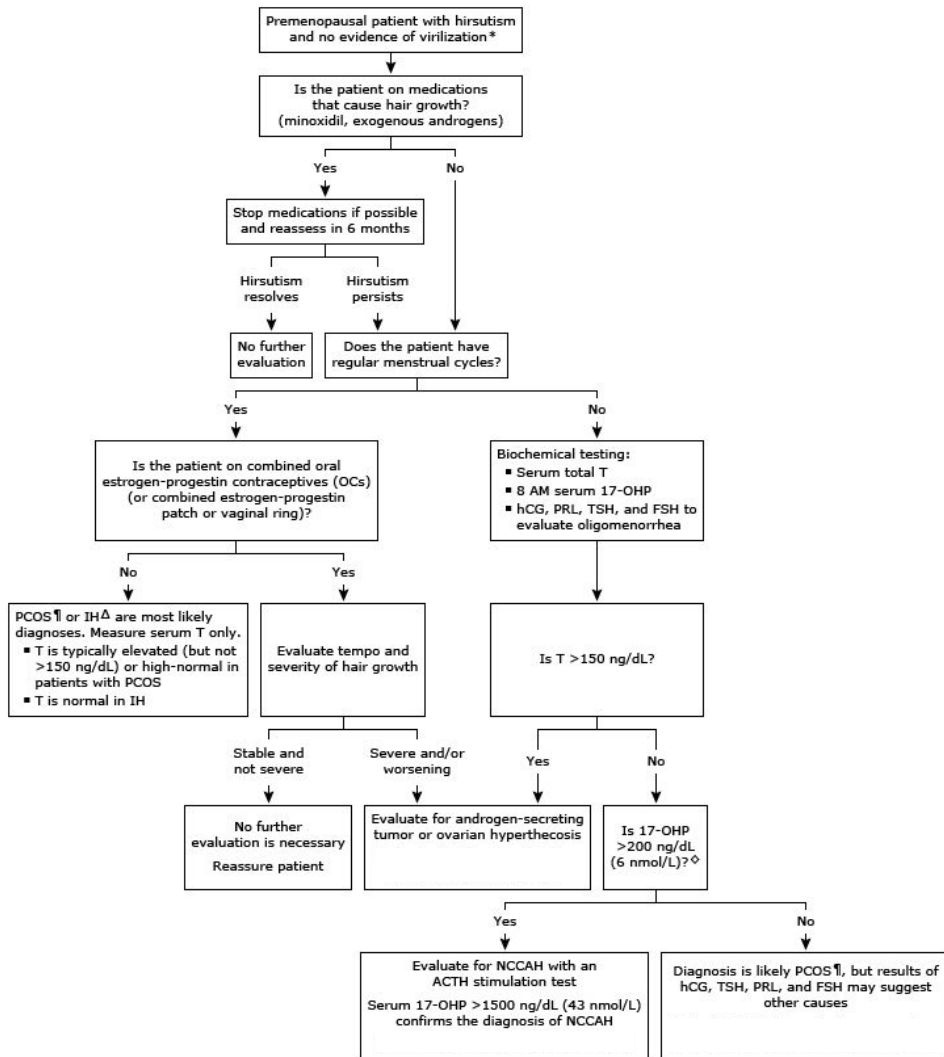
- PCOS (~71%)
 - Idiopathic (~25%)
 - Underlying androgen disorder
- Hair cycle dictates duration of treatment (AT LEAST 6 months to determine efficacy).



Hirsutism Evaluation: [14-16]

- Remember, most cases caused by PCOS...

- **Most important takeaways:**
 - Assess medications
 - Assess cycles
 - Serum total T most helpful lab



Treatment of Hirsutism: [14-16]

- *If PCOS or IH, any patient is a candidate for treatment*
- **Step #1: Weight Management**
 - High protein/low carbohydrate diet (ketogenic most effective)
 - Results in slight decrease in testosterone levels
- **Step #2: Combined Oral Contraceptive Therapy***
 - Avoid levonorgestrel (more androgenic)
 - Progestin-only OCP **not** effective
 - 6 month trial recommended prior to escalation
- **Step #3: Anti-Androgen Therapy***
 - Spironolactone* 50mg twice daily
 - Must have effective birth control
 - Potassium and renal function monitoring at start and after 1 month
 - 6 month trial between dose adjustments (100mg BID)
- **Pro-Tip:** Photoepilation and electrolysis most effective, but not covered by insurance



Before and After Treatments:



6 months of COC and
spironolactone

https://www.reddit.com/r/PCOS/comments/50imtg/what_6_months_of_spiro_looks_like_on_a_very/



1 year of electrolysis, Q2-3 weeks

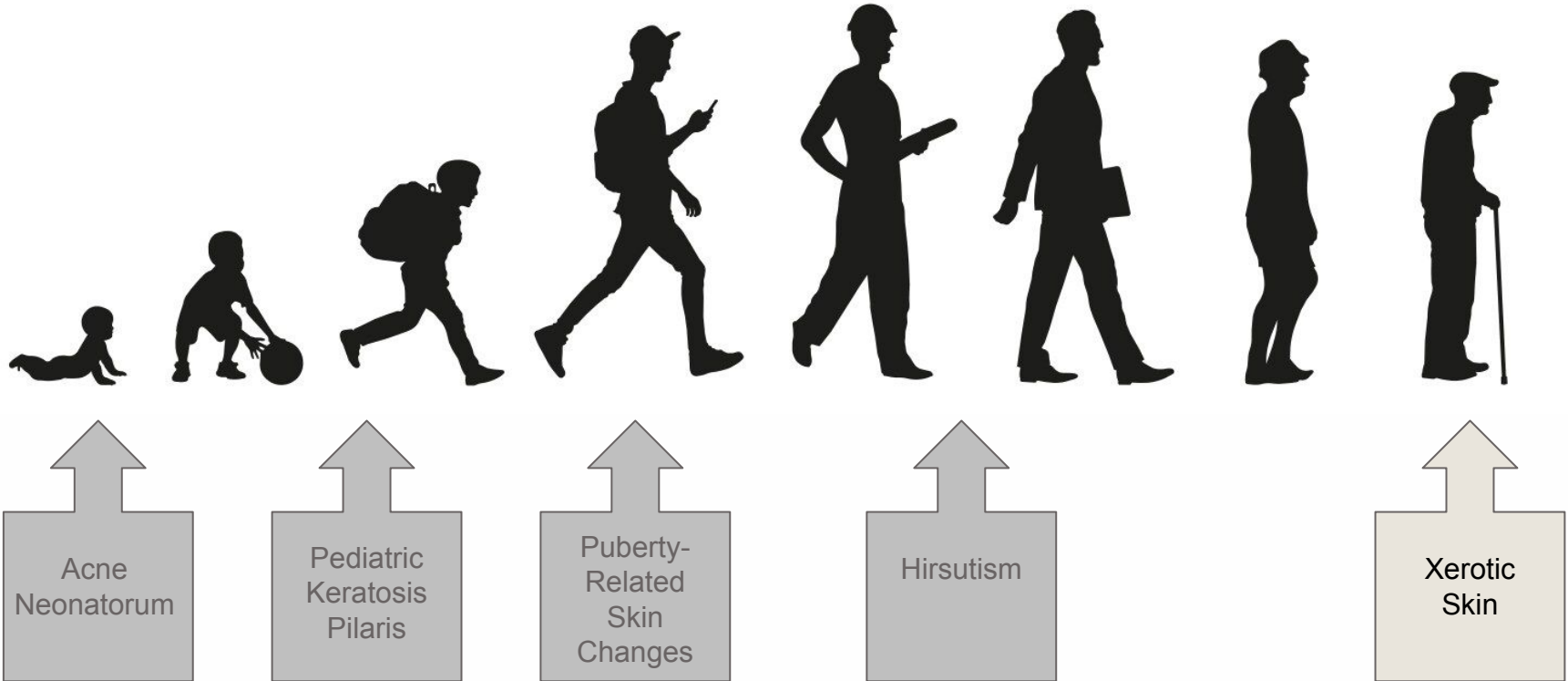
https://www.reddit.com/r/30PlusSkinCare/comments/1108w53/electrolysis_before_and_after_results_for_pcos/

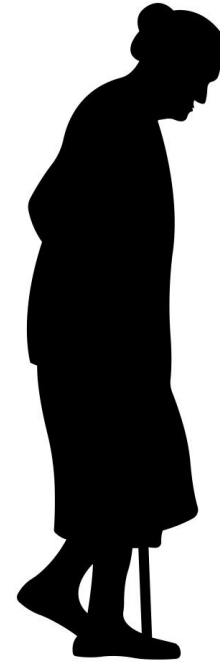
Hirsutism Summary:

- Hirsutism is common and phenotypically dependent on ethnicity
- Nearly all cases are caused by PCOS or are idiopathic
- Evaluation is stepwise, but straightforward, and includes hormonal testing
- Treatment is also stepwise, but non-prescription management is far superior to COCs* and anti-androgens*



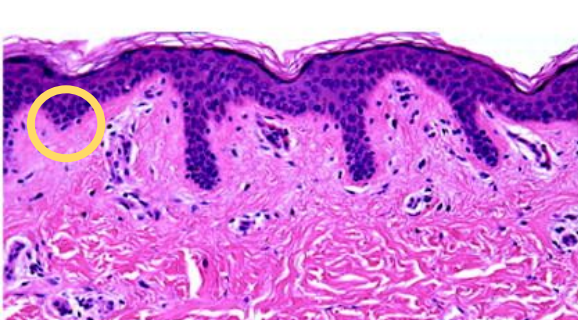
Roadmap:



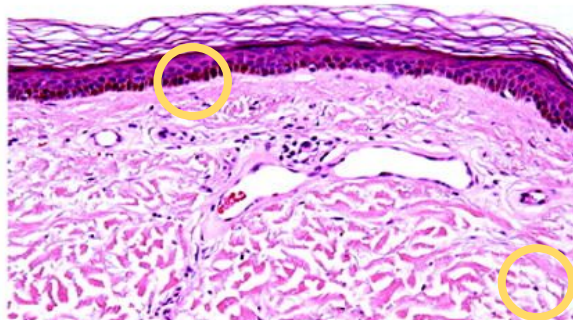


Xerotic Skin

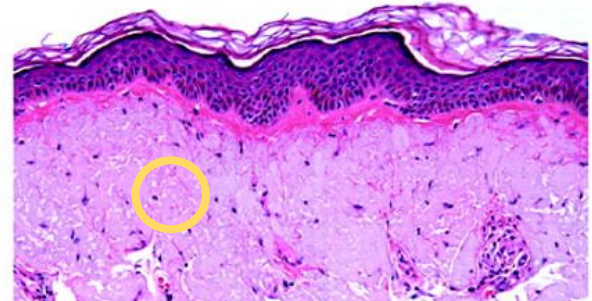
Introduction to Aging Skin: [17-18]



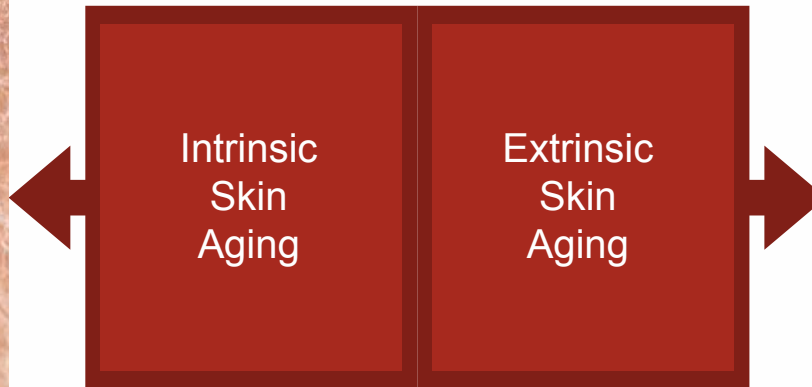
"Youthful Skin"



"Intrinsically Aged Skin"

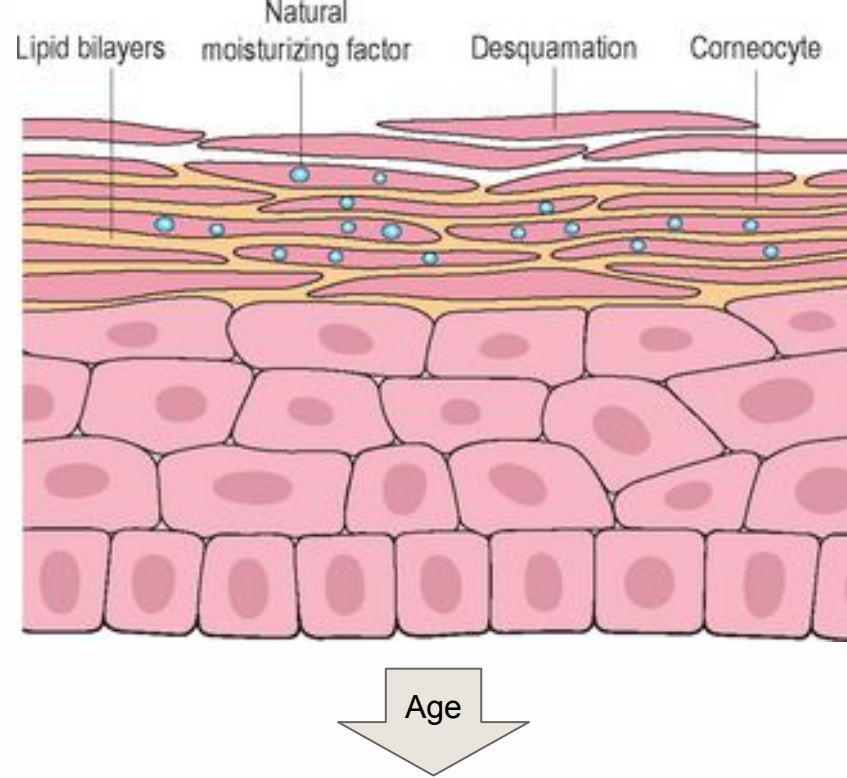


"Extrinsically Aged Skin"



Xerotic Skin: [19-20]

- Characterized by rough, scaly, or flaky skin
 - Pruritis often present
- Normal stratum corneum homeostasis:
 - Moisture factor production
 - Lipid processing
 - Keratinocyte differentiation
 - Desquamation
- Stratum corneum dysfunction with age is likely cause of xerosis by decreasing water-holding capacity



1. *Decreased* moisture factor production
2. *Decreased* lipid synthesis
3. *Decreased* differentiation of keratinocytes
4. *Lack* of desquamation

Treatment of Xerotic Skin: [19-20]

- *Treatment focuses on restoring the 4 functions of the stratum corneum*
- **Moisture factor production:**
 - Humectants (hyaluronic acid, glycerol) enhance NMF production
- **Lipid synthesis:**
 - Ceramides, free fatty acids, and mineral oils replace lipid content
- **Differentiation of keratinocytes:**
 - Dexpanthenol enhances epidermal differentiation
- **Desquamation:**
 - Keratinolytics remove excess keratinocytes
- **Pro-Tip #1:** *Many OTCs contain all of the above ingredients.*
- **Pro-Tip #2:** *CTMP is a very effective treatment method for xerotic skin!*



CTMC for Xerotic Skin: [19-20]

CTMP Plan for Xerotic Skin:

- *C: Soak in warm (not hot) bath or shower for at least 10 minutes to cleanse and moisten skin. Do not dry off.*
- *T: Desquamate ultra-rough skin (heels, etc) with a keratolytic agent, such as glycolic acid 5%* solution.*
- *M: Moisturize damp skin with cream-based moisturizer containing glycerol, ceramides, HA, FFAs, (may need separate for dexpanthenol). Enhance w/ non-physiologic lipid, like mineral oil. Lock in moisture with a barrier ointment, like petroleum gel, in ultra-dry areas.*
- *P: SPF 30 on sun-exposed areas. None needed before bed.*

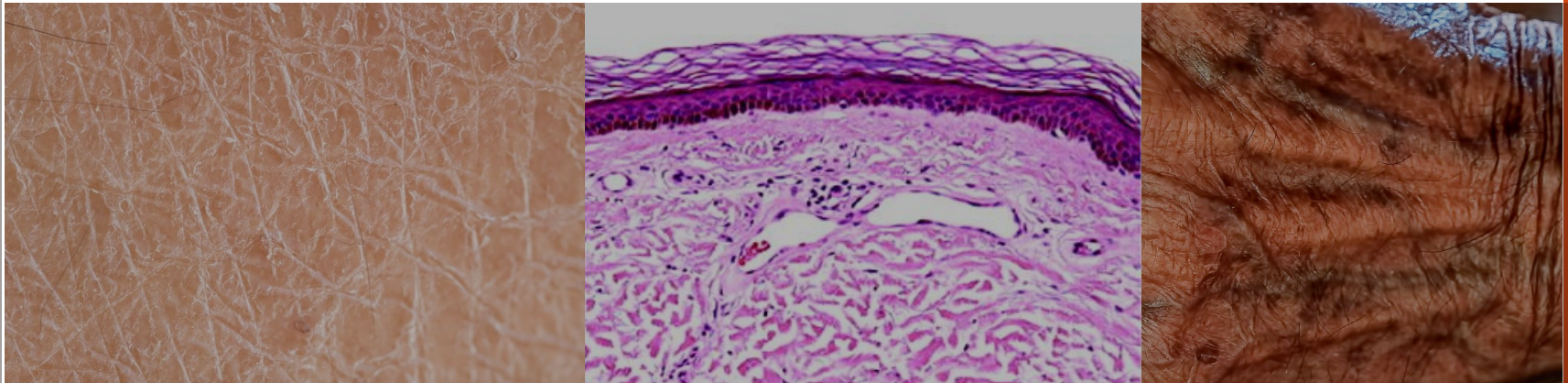


OTCs include:

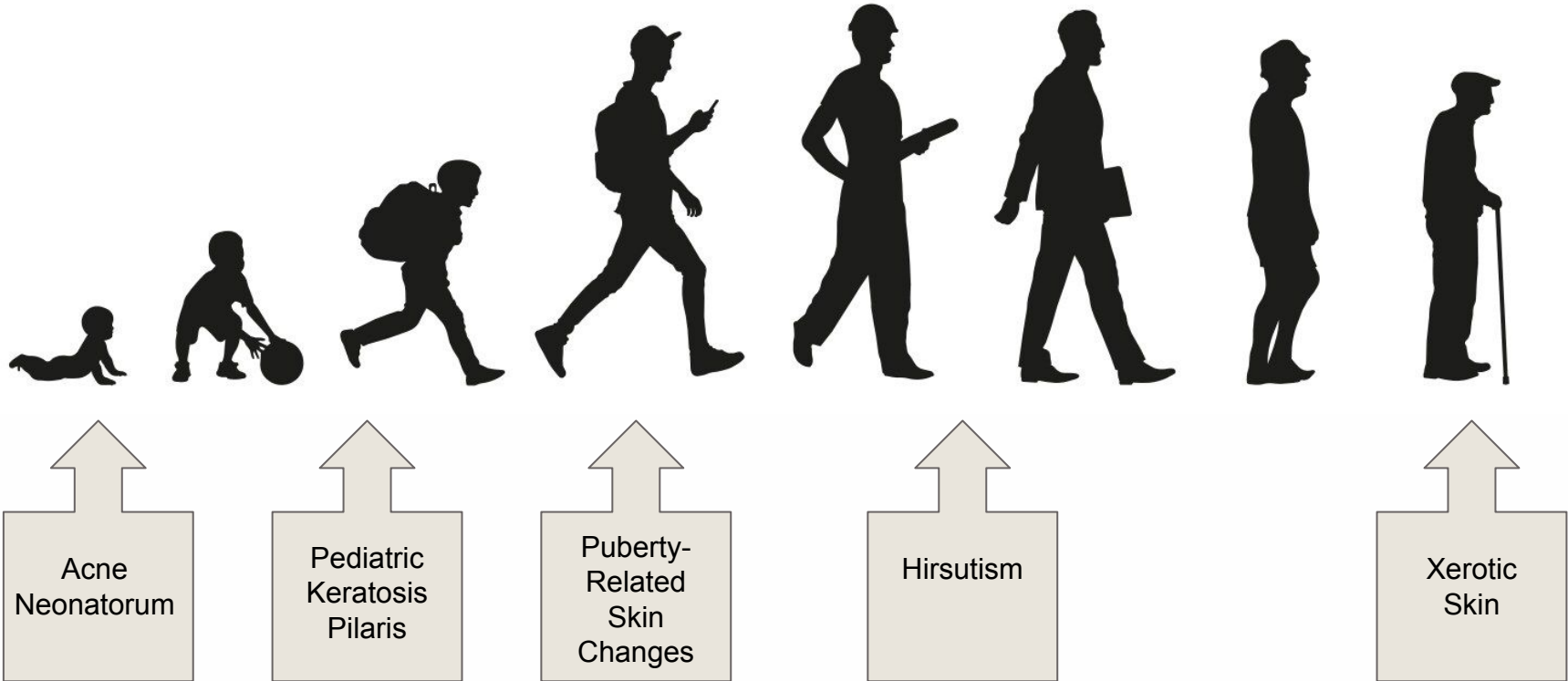
- Vanicream
- Cetaphil
- Eucerin
- **Average cost: \$15**

Xerotic Skin Summary:

- Aging impacts all layers of the skin, but changes to the epidermis result in problematic symptoms for patients, such as xerosis
- Focusing on increasing natural moisture factor production, lipid processing, keratinocyte differentiation, and desquamation are the hallmarks for treating xerotic skin.
- A high quality CTMP regimen, after desquamation, with OTCs that include humectants, lipids, and dexpanthanol, will restore the skin barrier with great patient satisfaction results



Roadmap:



Rapid Summary:

Gain	The skin is the body's first layer of defense, and as it ages, it becomes thin, fragile, and loses its ability to retain moisture, particularly due to dysfunction of the stratum corneum.
Identify	Skin concerns occur throughout the lifespan and include acne neonatorum, keratosis pilaris, puberty-related skin changes like acne, hirsutism, and xerotic skin.
Implement	There are many practical, over the counter treatments for these common skin conditions, and many skin conditions can be treated using the CTMP approach.

Main Takeaway...

“Listen to your patients. They know themselves best.”

- Dr. Richard Salk, *Family Physician*



Questions?

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Questions?

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