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**CHILDREN'S
HOSPITAL**
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Acne 2022: *What's trending...*

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IT EVEN WIPES OUT PIMPLES YOU DON'T HAVE.


Stri-Dex® does so much more than wipe out the pimples you have. Its keratolytic action opens pores to help stop new pimples from forming. Stri-Dex pads remove dirt and oil, too. Benzoyl peroxide creams can't do that. So wipe on Stri-Dex and wipe out pimples. And try new Stri-Dex® Big Pads. The first pads big enough to wipe out pimples anywhere on your body.



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Apostrophe

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Get your acne prescription now.

After your \$20 online visit with a dermatologist, we'll prescribe a customized treatment plan that includes appropriate prescriptions. We only provide what you need, nothing more.

Full-service skincare starts here

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served

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report effective*

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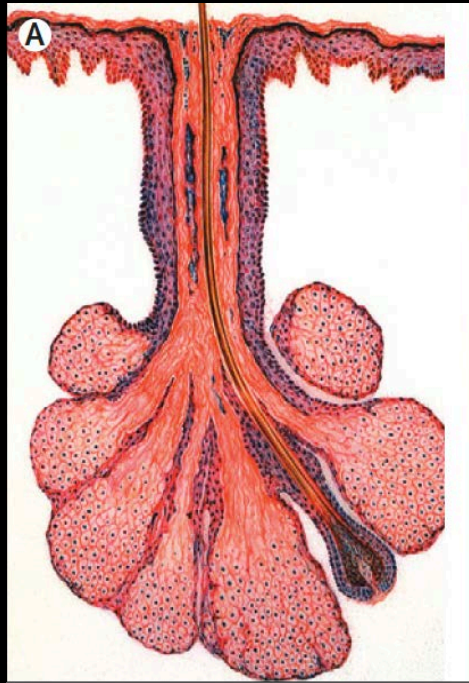
30-day trial. \$4.95 in shipping + handling. Cancel anytime. Subject to consultation.

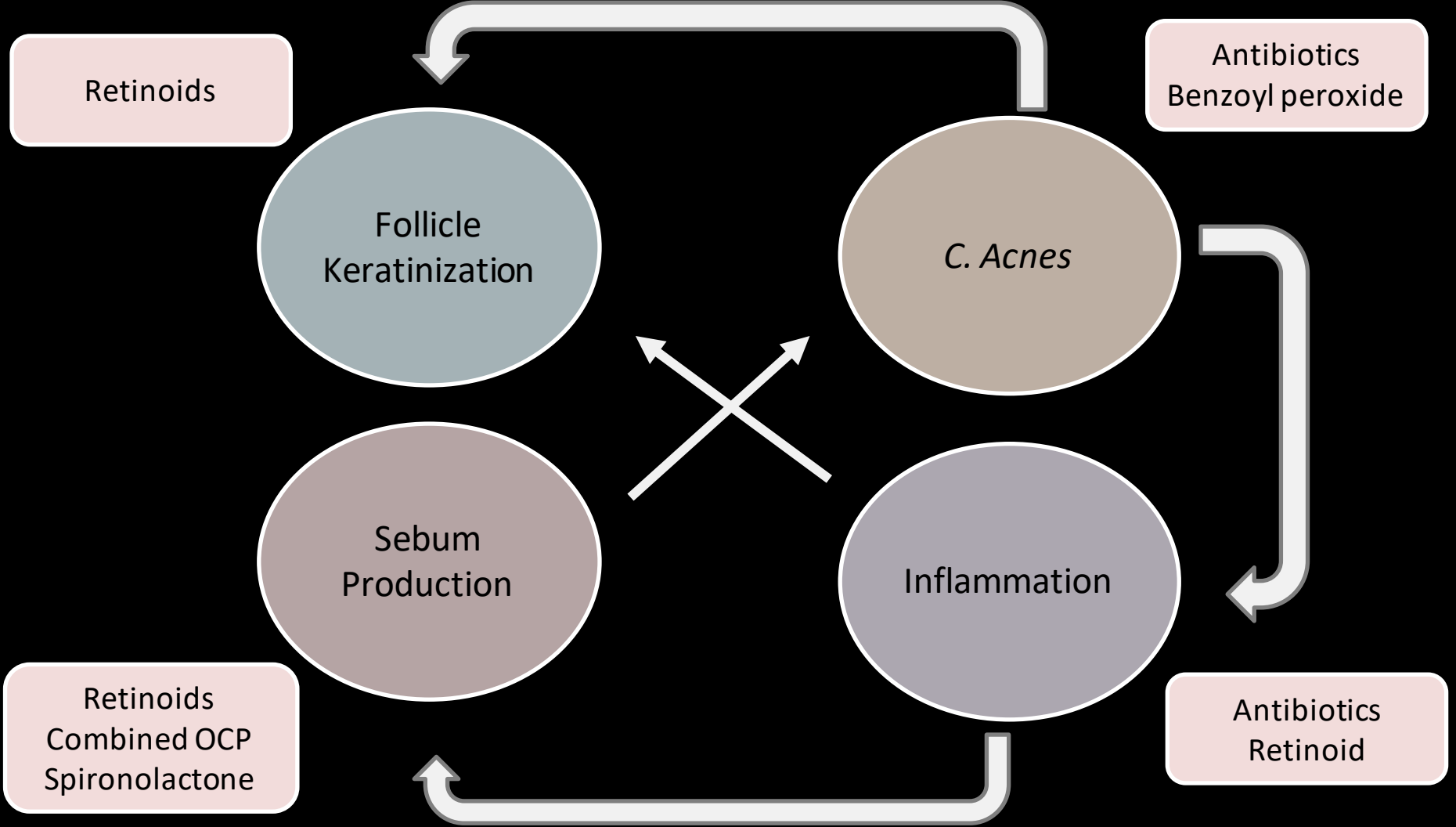


Goals

- Understand how pathogenesis guides treatment
- Apply acne guidelines to your practice
 - Acne management in skin of color patients
- What's new and where does it fit
- Recognize Hidradenitis Suppurativa

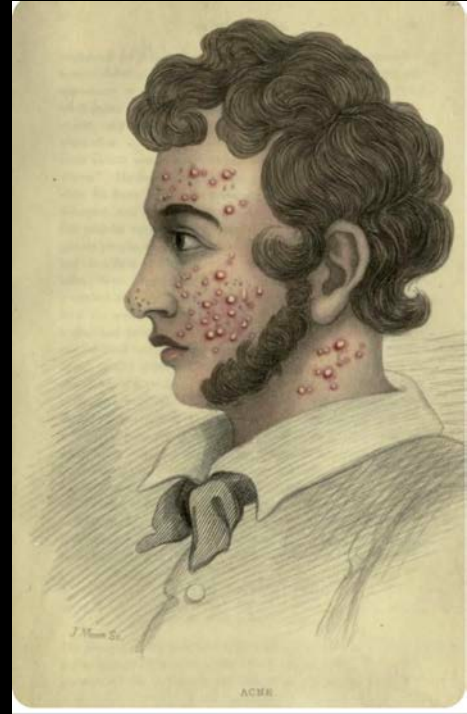
A pimple's journey





The Acne Vulgaris History

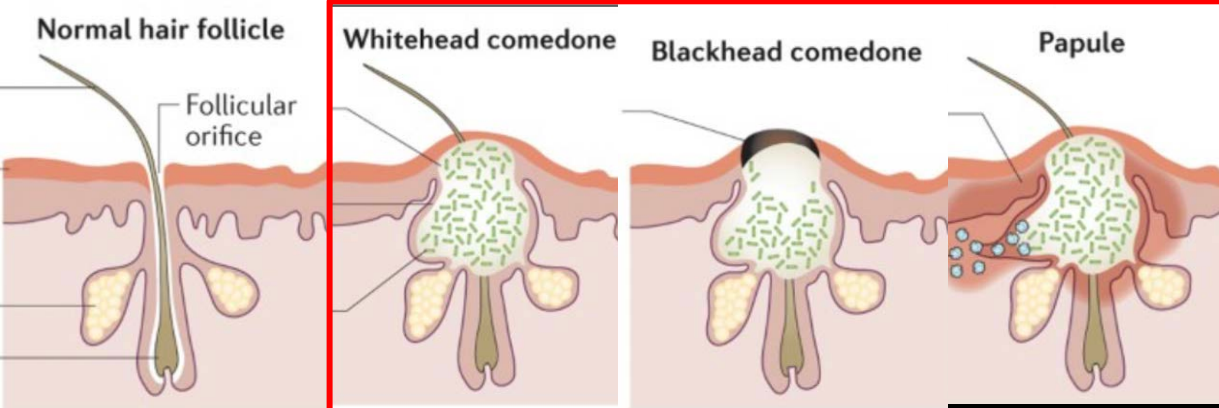
- Onset?
- Family history?
- Menstrual history?
- Response to past treatments?
- Patient goals?



Acne Vulgaris Severity Assessment

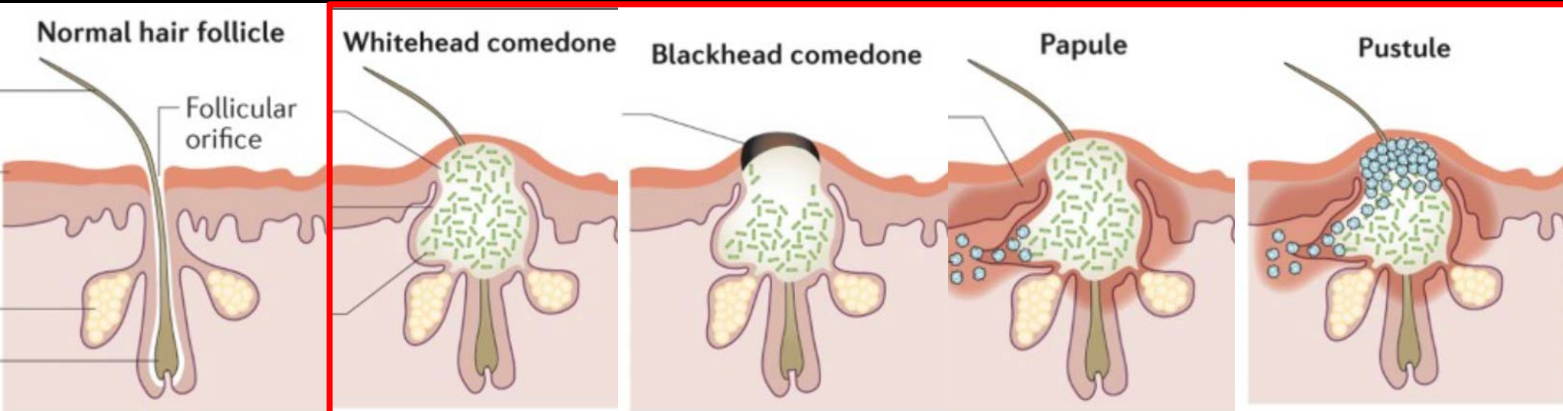
Mild

Comedones +/- Few papules/pustules



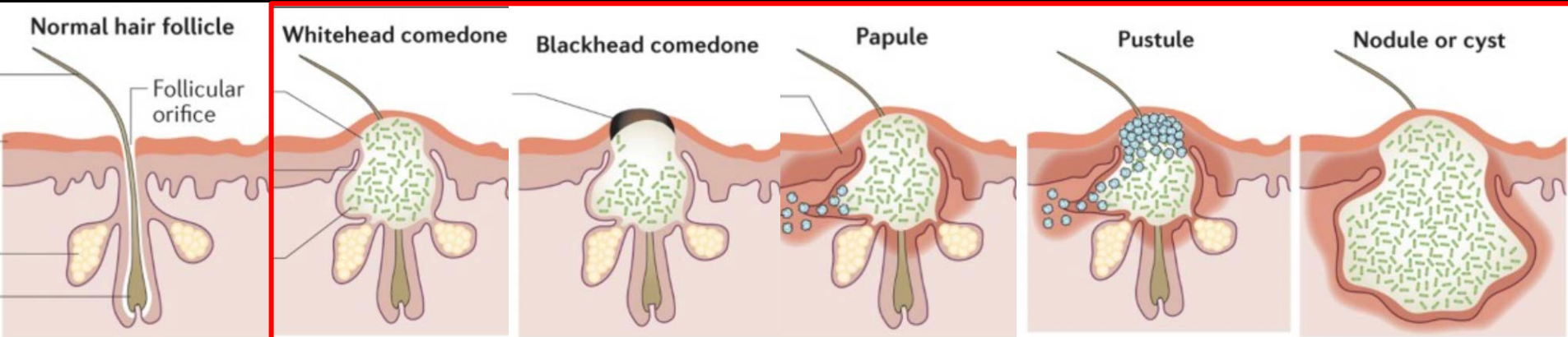
Acne Vulgaris Severity Assessment

Moderate
Comedones, Papules/pustules (>10) and 1-2 nodules



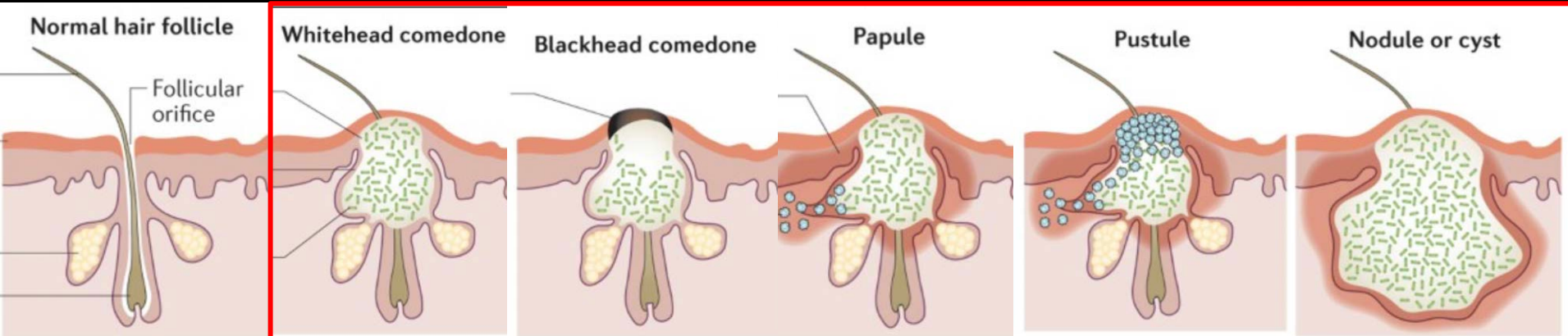
Acne Vulgaris Severity Assessment

Severe
Comedones, Papules/pustules, Many nodules



Acne Vulgaris Severity Assessment

Scarring



American Academy of Dermatology

Acne Guidelines 2016



Journal of the American Academy of Dermatology

Volume 74, Issue 5, May 2016, Pages 945-973.e33



From the academy

Guidelines of care for the management of acne vulgaris

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	Mild	Moderate	Severe
1st Line Treatment	Benzoyl Peroxide (BP) or Topical Retinoid -or- Topical Combination Therapy** BP + Antibiotic or Retinoid + BP or Retinoid + BP + Antibiotic	Topical Combination Therapy** BP + Antibiotic or Retinoid + BP or Retinoid + BP + Antibiotic -or- Oral Antibiotic + Topical Retinoid + BP -or- Oral Antibiotic + Topical Retinoid + BP + Topical Antibiotic	Oral Antibiotic + Topical Combination Therapy** BP + Antibiotic or Retinoid + BP or Retinoid + BP + Antibiotic -or- Oral Isotretinoin
Alternative Treatment	Add Topical Retinoid or BP (if not on already) -or- Consider Alternate Retinoid -or- Consider Topical Dapsone	Consider Alternate Combination Therapy -or- Consider Change in Oral Antibiotic -or- Add Combined Oral Contraceptive or Oral Spironolactone (Females) -or- Consider Oral Isotretinoin	Consider Change in Oral Antibiotic -or- Add Combined Oral Contraceptive or Oral Spironolactone (Females) -or- Consider Oral Isotretinoin

Simplified Acne Approach

Barely Perceptible	Mild	Moderate	Still not getting better	Severe
Benzoyl Peroxide Or Topical retinoid	BPO + Tretinoin 0.025% cream or Adapelene	BP + Topical Retinoid + Doxycycline 100mg po BID	OCP	Isotretinoin
	Increase strength of retinoid		Spironolactone	
	Add clindamycin Switch to Tazorac	Switch Antibiotic (Minocycline, Bactrim)	Spironolactone + OCP	

Simplified Acne Approach

Barely Perceptible	Mild	Moderate	Still not getting better	Severe
Benzoyl Peroxide Neutrogena Clear Pore or Panoxyl	BPO + Tretinoin 0.025% cream or Adapelene	BP + Topical Retinoid + Doxycycline 100mg po BID	OCP	Isotretinoin
	Increase strength of retinoid Add clindamycin Switch to Tazorac	Switch Antibiotic (Minocycline, Bactrim)	Spironolactone	
			Spironolactone + OCP	

A close-up photograph of human skin, showing texture and some minor blemishes. Three light gray speech bubbles with black outlines are overlaid on the image, each containing a question. The bubbles are arranged vertically, with the top one at the top left, the middle one in the center, and the bottom one at the bottom left. The background skin is a warm, reddish-orange tone.

How often should I wash my face?

What's your favorite acne diet?

What should I buy at my drug store for
this?

Clinical evidence for washing and cleansers in acne vulgaris: a systematic review*

Thomas Stringer , Arielle Nagler, Seth J. Orlow & Vikash S. Oza 

Pages 688-693 | Received 26 Jan 2018, Accepted 10 Feb 2018, Accepted author version posted online: 20 Feb 2018, Published online: 25 Feb 2018

Gentle Cleanser



CHEAT SHEET

The Best Diet to Get Rid of Acne

YAYs...



Drink more water



Green leafy vegetables



Antioxidant-rich berries



Dark chocolate



Oysters



Green tea



Pumpkin seed

...and NAYs



Cut back on alcohol



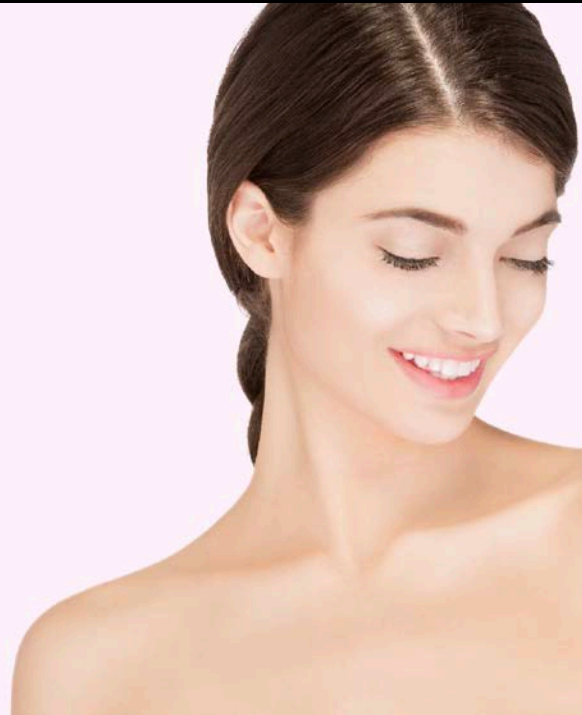
Cut back on sugar



Ditch dairy
(but keep Greek yogurt)



Avoid processed food



Acne Vulgaris – A Western Civilization Dermatosi

US Adolescents: 85% develop some degree of acne

Kitavan Islanders of Papa
New Guinea

1200 patients: 0 cases



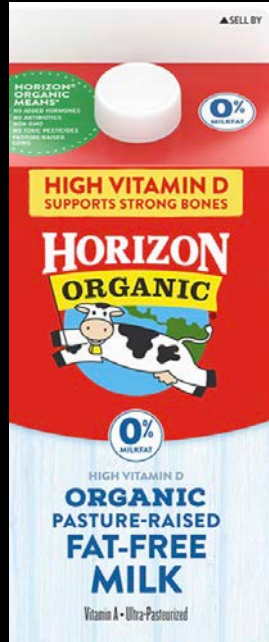
Ache hunter gathers of
Paraguay

115 patients: 0 cases



The “Acne Diet”

Milk Consumption



High Glycemic Index Diet



The “Acne Diet”

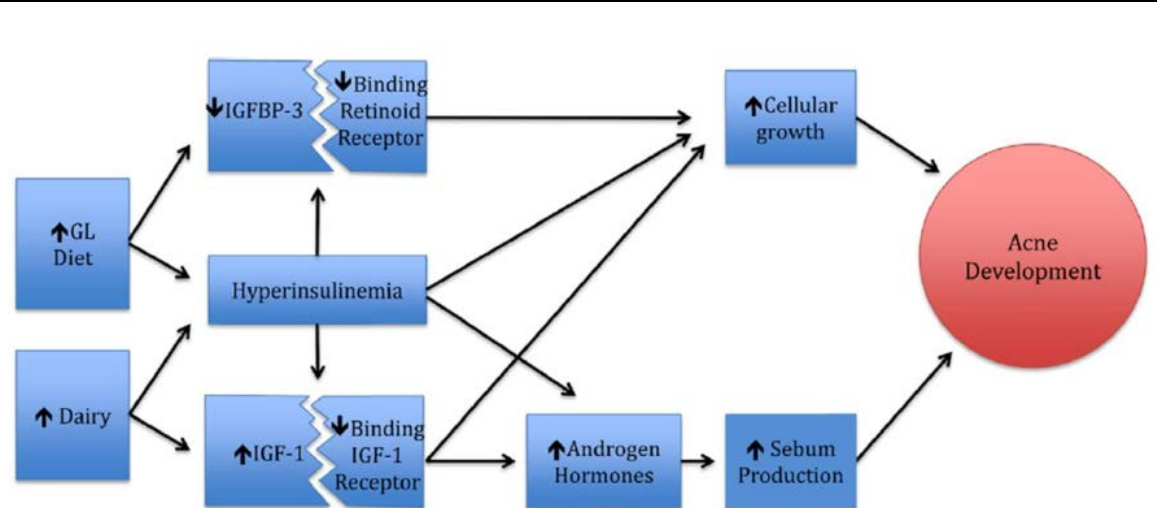
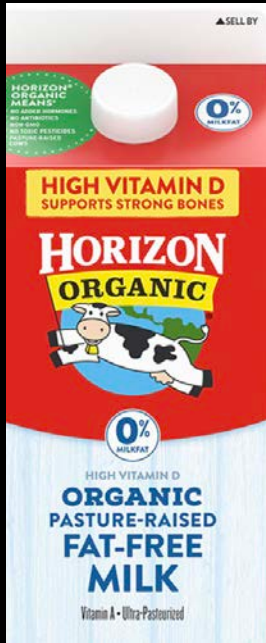


Figure 2. Current research suggests diet influences acne development. Glycemic load (GL) and Dairy ingestion lead to changes in circulating hormones, binding proteins, and receptors, leading to increased cellular growth and sebum production and influencing acne development. IGFBP-3=insulin growth factor binding protein 3. IGF-1=insulin growth factor 1. SHBG=sex hormone binding globulin.

The "Acne Diet"

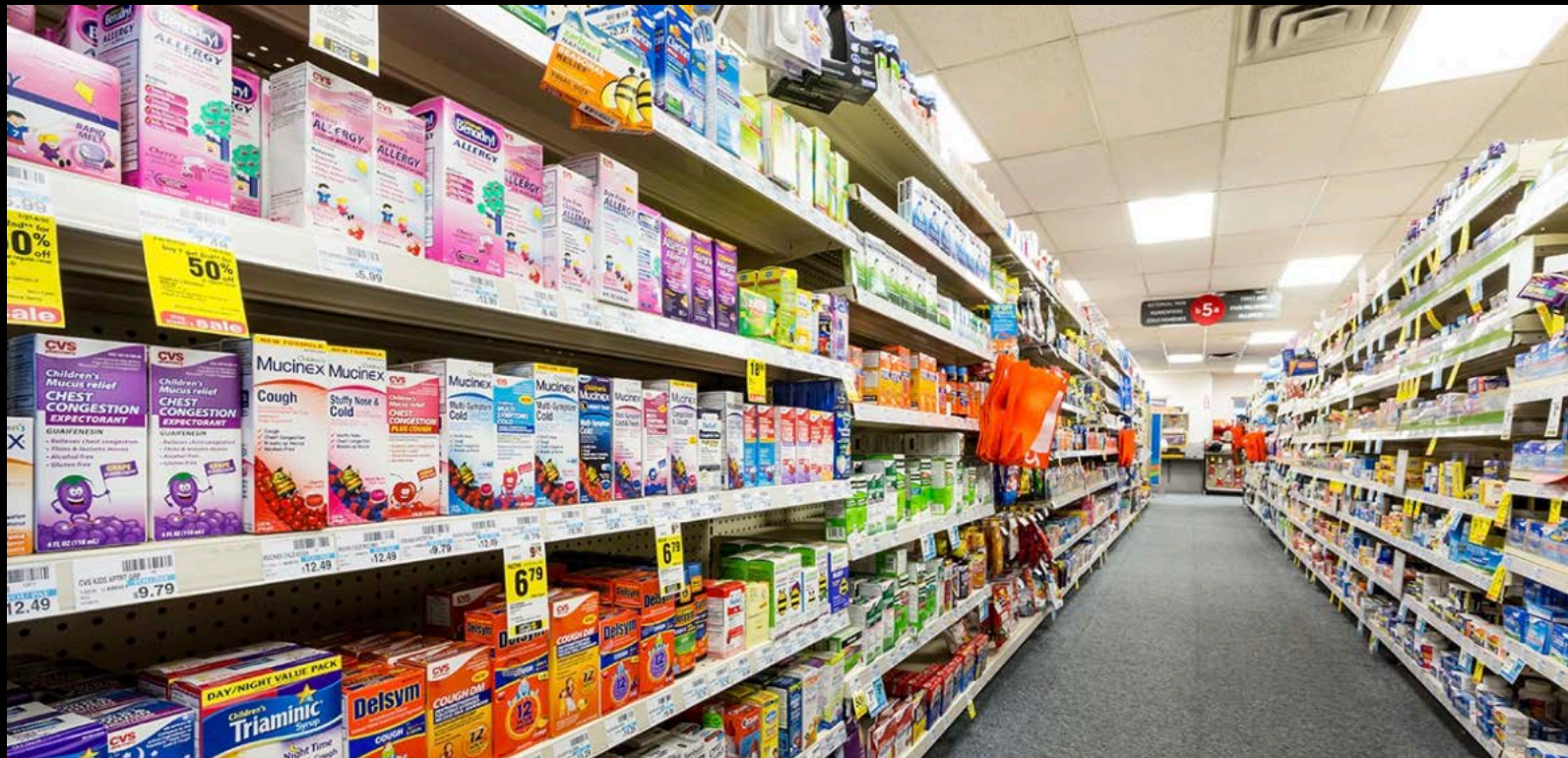


Low fat/skim milk biggest contributor

Table II. Number of servings of dairy per day, mean (SD)

Variables	All, N = 225	Acne, N = 120	Control, N = 105	P value
Unit: no. of serving		53.3%	46.7%	
Total dairy	2.51 (1.66)	2.69 (1.92)	2.29 (1.29)	.02
Total full-fat dairy	0.73 (0.68)	0.75 (0.68)	0.71 (0.67)	.95
Total reduced-fat dairy	0.86 (1.07)	0.90 (1.15)	0.82 (0.98)	.36
Total low-fat/fat-free dairy	0.55 (0.84)	0.64 (0.93)	0.45 (0.72)	.03
Total full-fat milk	0.11 (0.28)	0.11 (0.29)	0.12 (0.26)	.75
Total reduced-fat milk	0.47 (0.89)	0.50 (1.00)	0.44 (0.75)	.44
Total low-fat/skim milk	0.52 (0.83)	0.61 (0.93)	0.41 (0.68)	.01

The Drug Store Acne Plan



The Drug Store Acne Plan

Benzoyl Peroxide Washes



Adapalene 0.1%

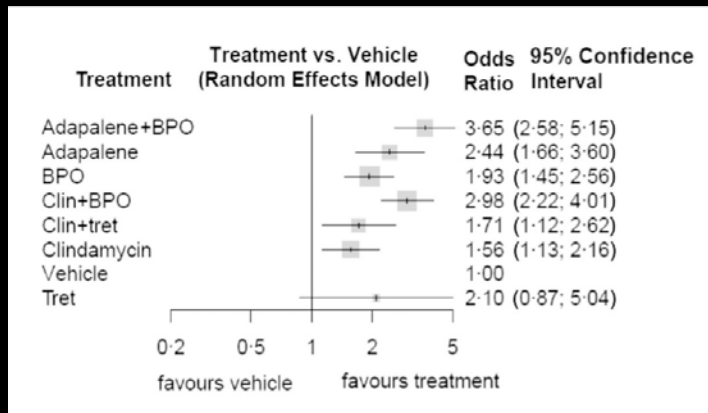


Acne Topicals – A lack of comparative effectiveness studies

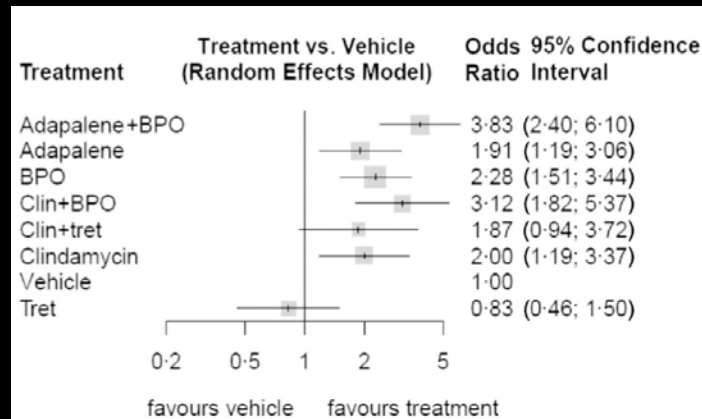


Adapalene + Benzoyl peroxide may be the treatment to beat!

Patient Global Assessment



Investigator Global Assessment



When will acne get better?

Face

4-6 weeks



Trunk

8-12 weeks



Simplified Acne Approach

Barely Perceptible	Mild	Moderate	Still not getting better	Severe
Benzoyl Peroxide Neutrogena Clear Pore or Panoxyl	BPO + Tretinoin 0.025% cream or Adapelene	BP + Topical Retinoid +	OCP	Isotretinoin
	Increase strength of retinoid	Doxycycline 100mg po BID	Spironolactone	
	Add clindamycin Switch to Tazorac	Switch Antibiotic (Minocycline, Bactrim)	Spironolactone + OCP	

Prescription Topical Acne Toolbox

Retinoids

Tretinoin
0.025%, 0.05%, 0.1%
Micronized formulations

Adapelene
0.1%, 0.3%

Tazorac
0.05% 0.1%

Trifarotene

Antimicrobials

Clindamycin 1%

Erythromycin 2%

Dapsone gel
5% BID or 7.5% QD

BPO 2.5-10%

Minocycline 4% foam

Prescription Topical Acne Toolbox

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Tretinoin
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Antimicrobials

Clindamycin 1%

Erythromycin 2%

Dapsone gel
5% BID or 7.5% QD

BPO 2.5-10%

Minocycline 4% foam

Combination

Clindamycin/BPO

Erythromycin/BPO

Adapelene/BPO

Tretinoin
micro/BPO

Tretinoin
/Clindamycin

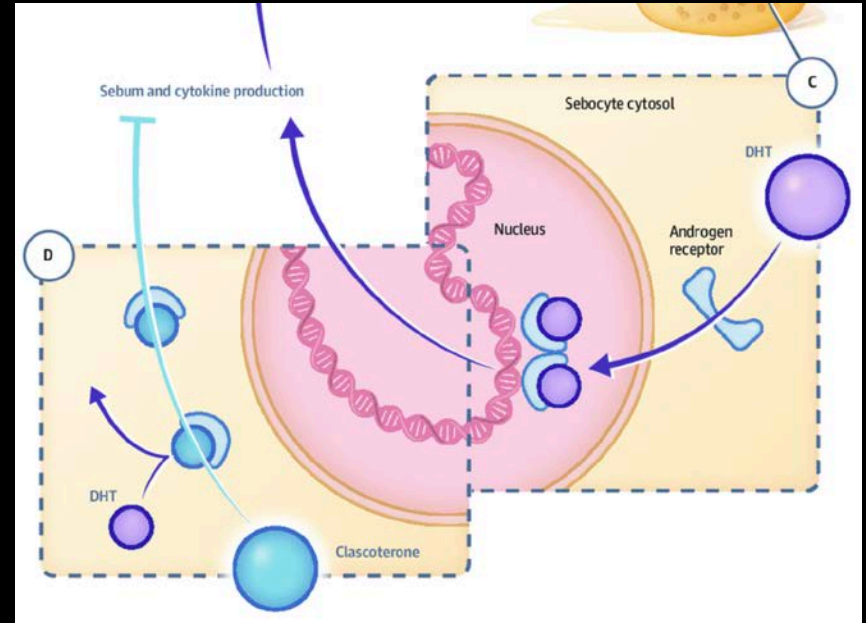
Antiandrogen

?

Azaelic acid

Topical Antiandrogen Therapy

Competitively binds to androgen receptors



Topical Antiandrogen Therapy



- Reduction of inflammatory acne by 12 weeks
 - Clascoterone: 45%
 - Vehicle 36%
- Can be use boys and girls >12 yo

What's your next move...?



Comedonal
disease

Increase
retinoid
strength

Switch to
Tazorac

Inflammatory
disease

Add topical
antibiotic

Hormonal flares

Add/switch to
Clascoterone

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Acne Vulgaris Oral Antibiotic Therapy

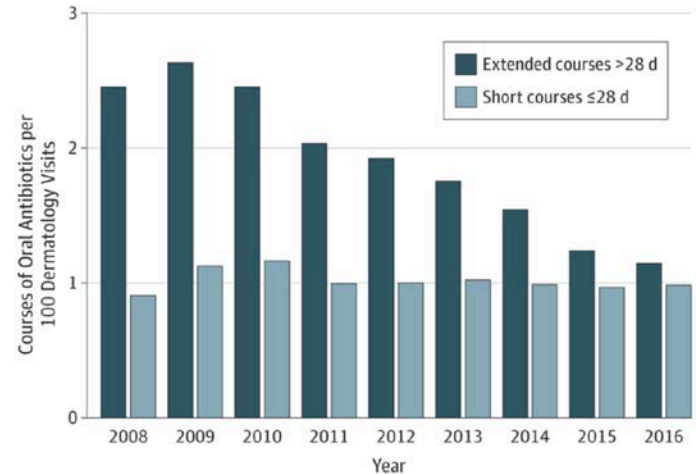
CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™



- Limit oral antibiotics to 3 months
- Never use as solo therapy

Avoidance of extended antibiotic courses

Figure 1. Antibiotic Prescribing Trends Between 2008 and 2016



Next Generation Tetracycline

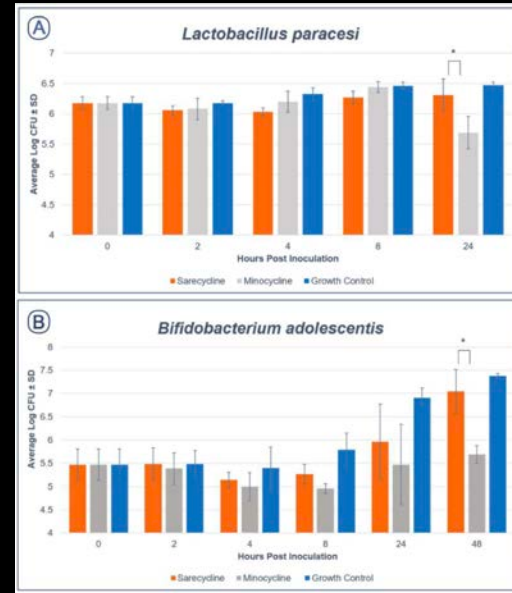


- Dosing: 1 pill daily
 - 33-54kg: 60mg
 - 55-85kg: 100mg
 - >85kg: 150mg
- Possibly less GI upset and photosensitivity

Next Generation Tetracycline



Potential for less dysbiosis

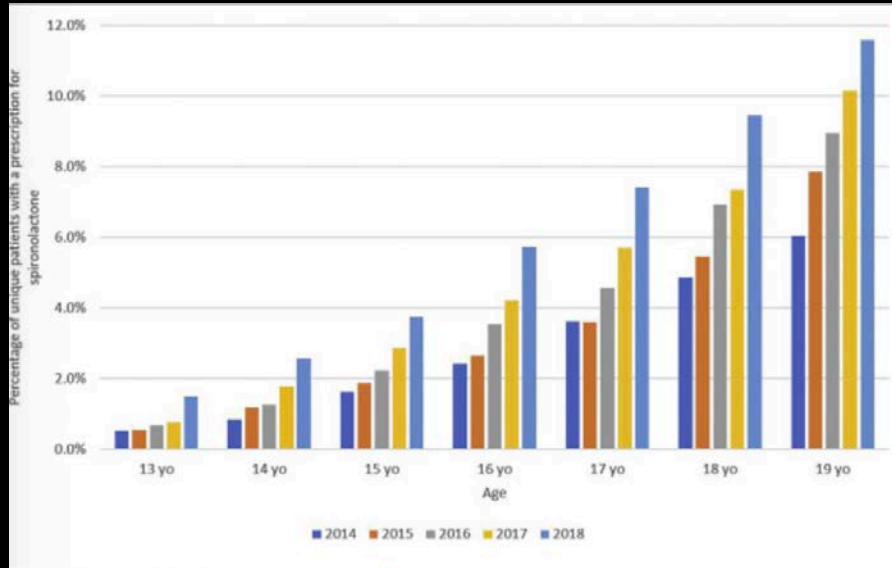


Simplified Acne Approach

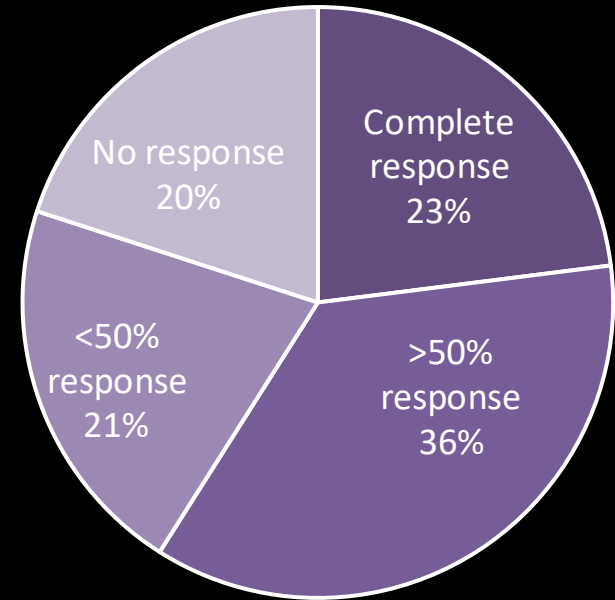
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			Spironolactone + OCP	

Antiandrogen Acne Vulgaris Therapy

Steady Increase in Spironolactone Prescriptions



Spironolactone Effectiveness (80 pts, 14-20)



Spironolactone Prescribing

- Dosing
 - 50mg daily x 2 weeks then 100mg daily
 - Range: 100-200mg
- Lab monitoring
 - Not needed for healthy children
- Side effects
 - Irregular menses, breast swelling/tenderness, dizziness

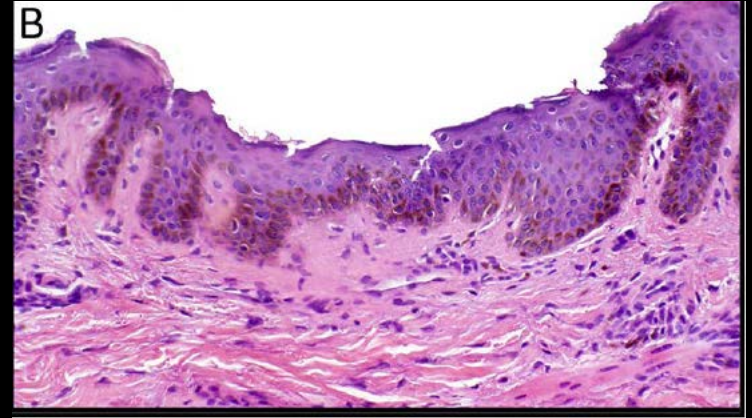
Acne and Skin of Color

Predominance of papules, comedones and hyperpigmentation. Less inflamed pustules



Acne and Skin of Color

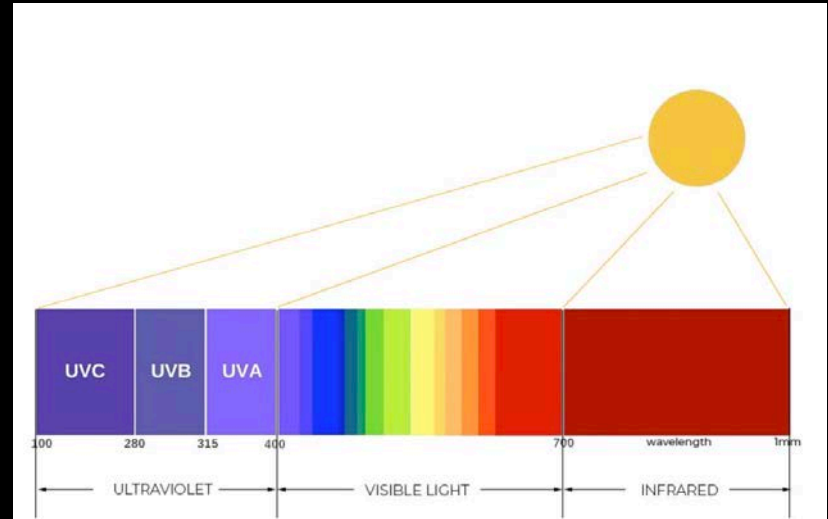
Subclinical inflammation leads to
hyperpigmentation



Acne and Skin of Color



Visible light plays an important role in hyperpigmentation



Acne and Skin of Color

Look for tinted mineral sunscreen



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		Switch Antibiotic (Minocycline, Bactrim)	Spironolactone + OCP	

Stay Tuned...





Pediatric Hidradenitis Suppurativa

- 25% of HS patients self report disease starting <18yo
- 50% have a positive family history
- 6:1 Female: Male
- Comorbidities
 - Obesity (65%)
 - Psychiatric disorder (22%): Depression/Anxiety
- Seek emergency care before diagnosis
 - Emergency department (37%), Urgent care (18%)

What to look for? Abscesses in HS Hot Spots

Waistline/Infrapannus



Inframammary



Medial thighs



Hidradenitis suppurativa often looks like a pimple or boil. If you have a tender, deep lump on any of these areas of your body, see a board-certified dermatologist for a diagnosis.

Underneath (or on) a breast

Armpit

Lower abs or waist

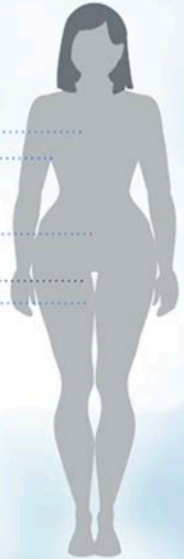
Genitals

Around the anus

Skin between the anus and genitals

Buttocks

Inner thighs (where the legs meet the core)



For help with hidradenitis suppurativa, see a board-certified dermatologist. Find one in your area at aad.org/findaderm.

What to look for? Subtle clues that HS has been around

Past Scarring



Hyperpigmentation



Open Comedones



Hidradenitis Suppurativa Staging

Stage 1

Abscess (single or multiple); No scarring/sinus tracts



Stage II

Recurrent abscesses + Sinus tracts and scarring



Stage III

Multiple tracts and abscesses covering the entire anatomic region



Diagnosing HS: Two Simple Questions

Have you every had boils during
the past 6 months?

Yes

Sensitivity: 90%

Where and how many did you
have?

Specificity: 97%

*2 or more in intertriginous
area*

HS for the Pediatrician: Evaluation and Counseling

Screening

- Hyperandrogenism if onset <8yo
- PCOS
- Metabolic syndrome
- Depression
- Inflammatory Bowel Disease

Lifestyle Modification

- Weight loss/healthy eating
- Loose fitting clothing
- Avoid smoking
- Avoid shaving (trim or laser hair removal)

HS for the Pediatrician: Management

Topical clindamycin 1% BID
+
Benzoyl peroxide 5% wash or
Chlorohexadine washes



Oral antibiotics – Doxycycline 100mg po QD
to BID often x 3 months

If dysmenorrhea – OCP +/- Spironolactone

If prediabetic - Metformin



Take Home Points

- Effective therapies can be found at the drug store
- Topical retinoids are the foundation of acne care
- Antibiotics should never be used in the absence of benzoyl peroxide
- Spironolactone is emerging as tool for females with moderate acne
- Skin of color patients are often undertreated
- Hidradenitis suppurative benefits from early recognition and treatment

Thanks!