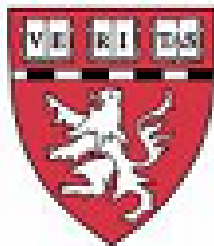


Dermatology: A to Z



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October 2015

Overview

- Common dermatologic conditions
- Treatment options and clinical pearls*
- Updates in management and associations
- When to refer

Atopic Dermatitis





Nummular Eczema

Steroid Ranking

SUPER HIGH I		
Lotion 0.05%	1, 2 oz	clobetasol propionate
Gel, Ointment 0.05%	15, 50 gm	betamethasone dipropionate
Lotion 0.05%	30, 60 ml	betamethasone dipropionate
Cream, Ointment 0.05%	15, 30, 45, 60 gm	<u>clobetasol propionate</u>
Emollient Cream, Gel 0.05%	15, 30, 60 gm	<u>clobetasol propionate</u>
Solution 0.05%	25, 50 ml	clobetasol propionate
Foam 0.05%	50, 100 gm	clobetasol propionate
Ointment 0.05%	15, 30, 60 gm	diflorasone diacetate
Cream, Ointment 0.05%	15, 30, 45, 60 gm	clobetasol propionate
Emollient Cream, Gel 0.05%	15, 30, 60 gm	clobetasol propionate
Solution 0.05%	25, 50 ml	clobetasol propionate
Cream, Ointment 0.05%	15, 50 gm	halobetasol propionate
HIGH		
Ointment 0.1%	15, 30, 60 gm	amcinonide
Cream 0.05%	15, 50 gm	betamethasone dipropionate
Ointment 0.1%	15, 45 gm	mometasone furoate
II Cream, Gel, Ointment 0.05%	15, 30, 60 gm	<u>fluocinonide</u>
Cream 0.05%	15, 30, 60 gm	diflorasone diacetate
Cream, Ointment 0.05%	15, 30, 60 gm	diflorasone diacetate
Cream, Gel, Ointment 0.25%	15, 60 gm	desoximetasone
Cream, Ointment 0.1%	15, 60 gm	<u>triamcinolone acetonide</u>
Ointment 0.005%	15, 30, 60 gm	fluticasone propionate
III Cream 0.1%	15, 30, 60 gm	amcinonide
Lotion 0.1%	20, 60 ml	amcinonide
Cream 0.05%	15, 30, 60 gm	fluocinonide
Cream 0.05%	15, 60 gm	desoximetasone

MID		
IV Cream 0.1%	15, 45, 90 gm	<u>clocortolone pivalate</u>
Ointment 0.1%	15, 60 gm	prednicarbate
Cream 0.1%	15, 45 gm	<u>mometasone furoate</u>
Lotion 0.1%	30, 60 ml	mometasone furoate
Foam 0.12%	50, 100 gm	betamethasone valerate
Cream 0.1%	15, 45, 80 gm	hydrocortisone probutate
Ointment 0.025%	15, 60 gm	fluocinolone acetonide
Ointment 0.2%	15, 45, 60 gm	hydrocortisone valerate
Lotion 0.05%	15, 60 ml	flurandrenolide
Cream 0.05%	15, 30, 60 gm	fluticasone propionate
Cream 0.1%	15, 60 gm	prednicarbate
V Cream, Ointment 0.1%	15, 45 gm	hydrocortisone butyrate
Solution 0.1%	20, 60 ml	hydrocortisone butyrate
Cream 0.1%	15, 45 gm	hydrocortisone butyrate
Cream 0.025%	15, 60 gm	fluocinolone acetonide
Cream 0.2%	15, 45, 60 gm	<u>hydrocortisone valerate</u>
LO		
Cream, Ointment 0.05%	15, 45, 60 gm	aclometasone dipropionate
VI Cream, Ointment 0.05%	15, 60 gm	<u>desonide</u>
Lotion 0.05%	60, 120 ml	desonide
VII Lotion 2.5%	60 ml	<u>hydrocortisone</u>
Lotion 1%, 2.5%	2, 4 oz	hydrocortisone

Importance of Formulation

SUPER HIGH			MID		
Lotion 0.05%	1, 2 oz	clobetasol propionate	Cream 0.1%	15, 45, 90 gm	clocortolone pivalate
Gel, Ointment 0.05%	15, 50 gm	betamethasone dipropionate	Ointment 0.1%	15, 60 gm	prednicarbate
Lotion 0.05%	30, 60 ml	betamethasone dipropionate	Cream 0.1%	15, 45 gm	mometasone furoate
Cream, Ointment 0.05%	15, 30, 45, 60 gm	clobetasol propionate	IV Lotion 0.1%	30, 60 ml	mometasone furoate
Emollient Cream, Gel 0.05%	15, 30, 60 gm	clobetasol propionate	Foam 0.12%	50, 100 gm	betamethasone valerate
Solution 0.05%	25, 50 ml	clobetasol propionate	Cream 0.1%	15, 45, 80 gm	hydrocortisone probutate
Foam 0.05%	50, 100 gm	clobetasol propionate	Ointment 0.025%	15, 60 gm	fluocinolone acetonide
Ointment 0.05%	15, 30, 60 gm	diflorasone diacetate	Ointment 0.2%	15, 45, 60 gm	hydrocortisone valerate
Cream, Ointment 0.05%	15, 30, 45, 60 gm	clobetasol propionate	Lotion 0.05%	15, 60 ml	flurandrenolide
Emollient Cream, Gel 0.05%	15, 30, 60 gm	clobetasol propionate	Cream 0.05%	15, 30, 60 gm	fluticasone propionate
Solution 0.05%	25, 50 ml	clobetasol propionate	Cream 0.1%	15, 60 gm	prednicarbate
Cream, Ointment 0.05%	15, 50 gm	halobetasol propionate	V Cream, Ointment 0.1%	15, 45 gm	hydrocortisone butyrate
HIGH			Solution 0.1%	20, 60 ml	hydrocortisone butyrate
Ointment 0.1%	15, 30, 60 gm	amcinonide	Cream 0.1%	15, 45 gm	hydrocortisone butyrate
Cream 0.05%	15, 50 gm	betamethasone dipropionate	Cream 0.025%	15, 60 gm	fluocinolone acetonide
Ointment 0.1%	15, 45 gm	mometasone furoate	Cream 0.2%	15, 45, 60 gm	hydrocortisone valerate
II Cream, Gel, Ointment 0.05%	15, 30, 60 gm	fluocinonide	LO		
Cream 0.05%	15, 30, 60 gm	diflorasone diacetate	Cream, Ointment 0.05%	15, 45, 60 gm	aclometasone dipropionate
Cream, Ointment 0.05%	15, 30, 60 gm	diflorasone diacetate	VI Cream, Ointment 0.05%	15, 60 gm	desonide
Cream, Gel, Ointment 0.25%	15, 60 gm	desoximetasone	Lotion 0.05%	60, 120 ml	desonide
Cream, Ointment 0.1%	15, 60 gm	triamcinolone acetonide	VII Lotion 2.5%	60 ml	hydrocortisone
Ointment 0.005%	15, 30, 60 gm	fluticasone propionate	Lotion 1%, 2.5%	2, 4 oz	hydrocortisone
Cream 0.1%	15, 30, 60 gm	amcinonide			
Lotion 0.1%	20, 60 ml	amcinonide			
Cream 0.05%	15, 30, 60 gm	fluocinonide			
Cream 0.05%	15, 60 gm	desoximetasone			

Application

- Layer ~0.1mm thick
- 1g cream covers 10 cm², oint 10% more
- Distal third of a finger = FTU = 0.5g
 - Covers two palms
- 70 kg man requires 20g, BID for one week= 280 g



Contact Dermatitis



Contact Dermatitis

- Bacitracin/ Neomycin: up to 15% incidence of allergic contact dermatitis
 - Increased when applied to open wounds



Irritant Contact Dermatitis

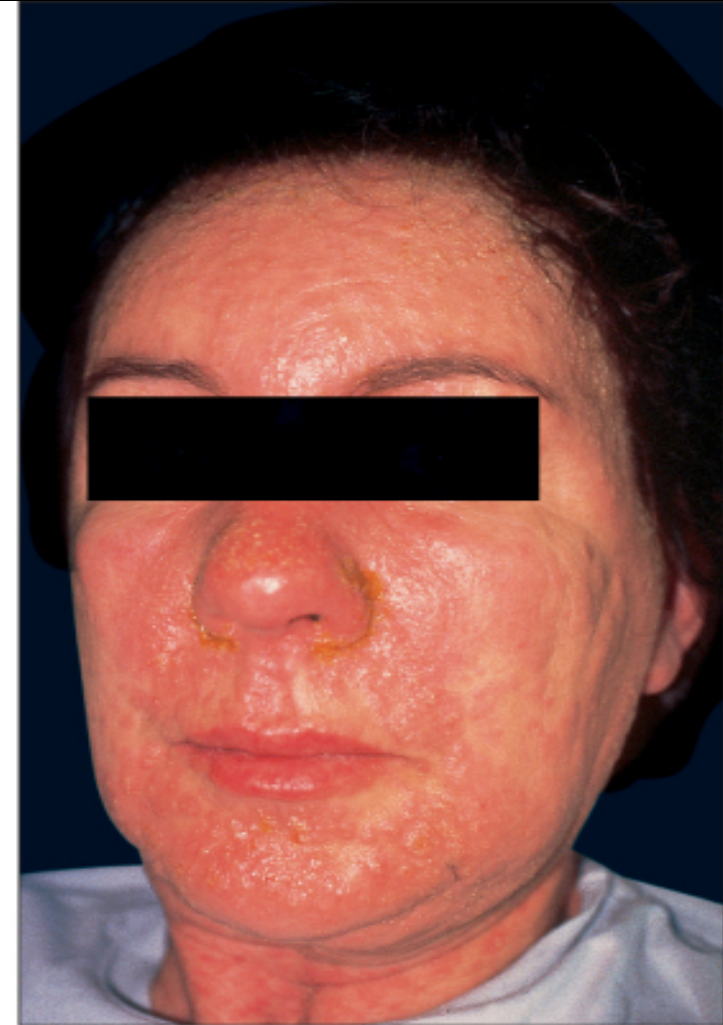


Drug Rash



Drug rash with eosinophilia and systemic symptoms (DRESS)

- Fever, rash, facial edema
- Usually 4-6 weeks after drug initiation



Drug rash with eosinophilia and systemic symptoms (DRESS)

- Liver: most common (and usually most severe) visceral site
- Myocarditis, interstitial pneumonitis, interstitial nephritis, thyroiditis eosinophilic brain infiltration
- GI bleeding if due to allopurinol



Drug rash with eosinophilia and systemic symptoms (DRESS)

- Labs: eosinophilia, elevated LFTs, TFTs
- Tx: steroids
- Offending drugs:
 - Aromatic anticonvulsants (phenobarbital, carbamazepine, and phenytoin), lamotrigine (esp if co-administered w valproate)
 - Sulfonamides
 - Minocycline
 - Allopurinol (esp full doses in the setting of renal dysfunction)
 - Gold salts and dapsone





Acute Generalized Exanthematous Pustulosis (AGEP)

- β -Lactams
- Macrolides
- Calcium channel blockers(diltiazem)
- Antimalarials
- Carbamazepine
- Other antimicrobials (terbinafine, INH, metronidazole, vancomycin, doxycycline)



Acute Generalized Exanthematous Pustulosis (AGEP)

Usually < 2 days after starting the drug (prior sensitization)

High fever (with, preceding or just after rash)

Superficial pustules, confluent lakes of pus last 1 to 2 weeks → superficial desquamation

Top Offenders

- β -Lactam antibiotics
- Macrolides
- Calcium channel blockers
- Antimalarials
- Carbamazepine





Treatment

- Supportive care
 - Attention to fluid and electrolytes
- Artificial ointment-based skin barrier
- Spontaneous resolution

Acute Generalized Exanthematous Pustulosis (AGEP)

- Numerous small, primarily nonfollicular sterile pustules, arising within large areas of edematous erythema
- High fever: generally same day as the rash or few days before/after rash onset
- Usually < 2 days after starting the drug (prior sensitization)
- Lesions last 1 - 2 wks, followed by superficial desquamation



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Stevens-Johnson Syndrome/ Toxic Epidermal Necrolysis (SJS/TEN)

- Prodrome of respiratory symptoms and fever
-
- Necrosis of large areas of oral mucosa with hemorrhagic crusts on lips
- Involvement of two or more mucosal sites
- May have target-like cutaneous lesions
- Prolonged course lasting 3 or more weeks

Precipitating Factors

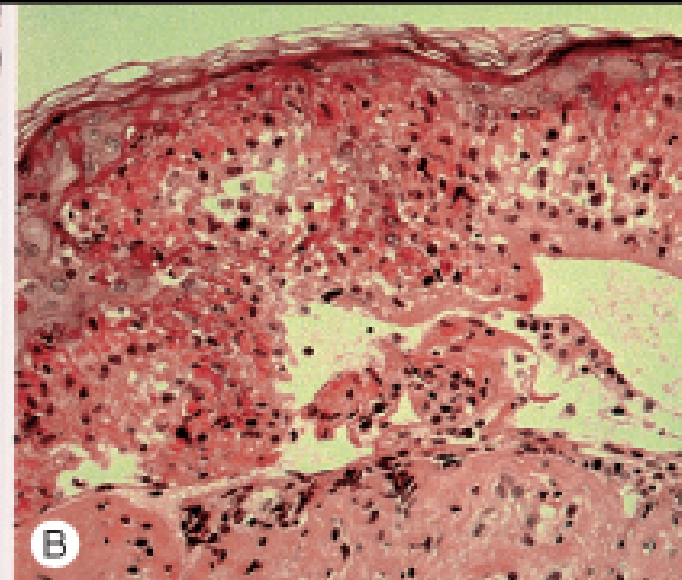
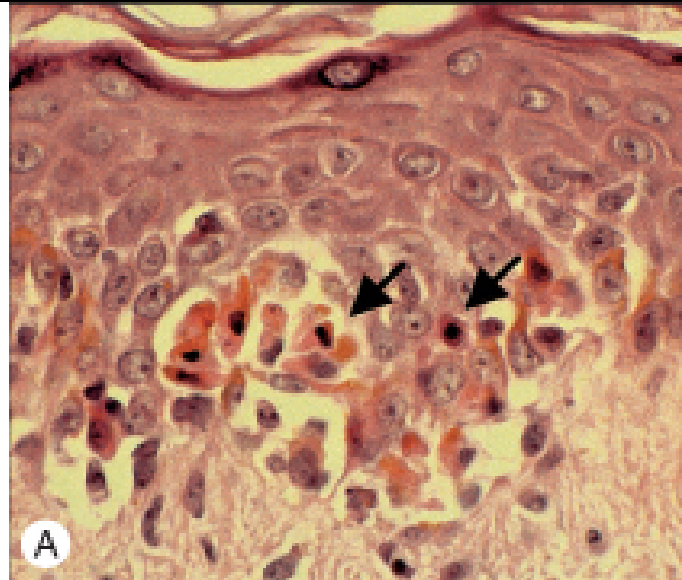
- Drugs: NSAIDs, Sulfonamides, Anticonvulsants, Penicillins, TCNs
- Bacterial infections: *Mycoplasma pneumoniae*, *Yersinia*,
 - *Mycobacterium tuberculosis*, *Treponema pallidum*
Chlamydia, *Streptococcus*, *Salmonella typhi*, *Pneumococcus*,
Enterobacteria
- Fungal infections: Coccidioidomycosis, Histoplasmosis
- Viral infections: Enteroviruses, Adenoviruses, Measles, Mumps, Influenza
- X-irradiation, inflammatory bowel disease, vaccines: BCG

SJS - TEN

- SJS <10% BSA (50% due to drug)
- TEN >30% BSA (>90% due to drug)
- Stop all unnecessary medications and all potential culprit drugs



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Erythema Migrans

- Within one month of tick detachment
- Present in 60-90% of early Lyme cases
- Most lesions lack 'classic' center or ring of clearing

Erythema Migrans

- Homogenous erythema 59%
- Central prominent erythema 30%
- Central clearing 9%
- Central purpura 2%

- Central vesiculation or ulceration 7%





Erythema Migrans

- Over half of lesions itch, burn or are painful due to local neuritis
- Can be accompanied by fever, esp after tx



Erythema Migrans

- Untreated, can develop arthritis, neurologic changes, cardiac conduction defects
- Testing: ELISA followed by Western blot
- Peak IgM response 3-6 weeks into the infection
 - Early presentations: 60% false negative testing

Erythema migrans

- Clue: spring/summer, tick hx, multiple lesions, location of lesion in atypical places, itch
- Routine: doxycycline 100 bid x 2 weeks
- Pediatric: amoxicillin 500mg po tid x 2 weeks
- Amox/clavulanate covers staph/strep/borrelia



Herpes Simplex



Herpetic Whitlow







Eczema Herpeticum



Eczema Herpeticum

- Severe, disseminated HSV in patients with atopic dermatitis or other chronic skin diseases
- Lesions widespread, but concentrate in areas of skin disease
- Secondary bacterial superinfection, fluid loss, and viremia.

Eczema Herpeticum

- Systemic antiviral therapy, hydration, electrolyte balance, antibiotics for secondary bacterial infection, and pain control
- Bland emollients to restore barrier function, addition of topical steroids once healing
- Ophthalmologic evaluation for facial involvement



Clinical Manifestations of HIV in the Immunocompromised Host

- Defective T-cell immunity → progressive mucocutaneous or visceral infection
- Chronic enlarging ulcerations or atypical verrucous, exophytic, or pustular lesions
- Disseminated disease: esophagitis, pneumonitis, hepatitis, pancreatitis, adrenal necrosis

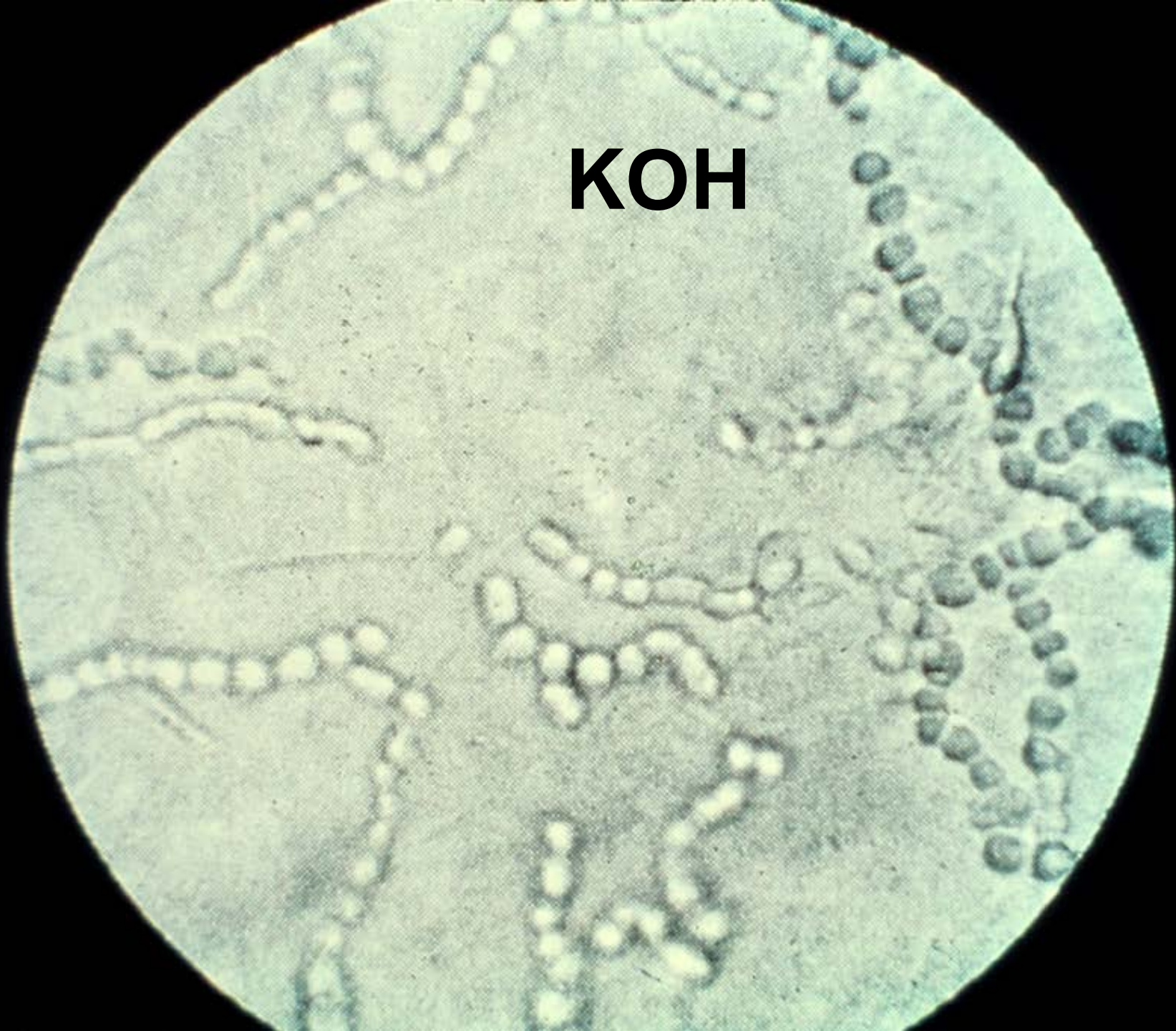




“Jock Itch” (Tinea Cruris)



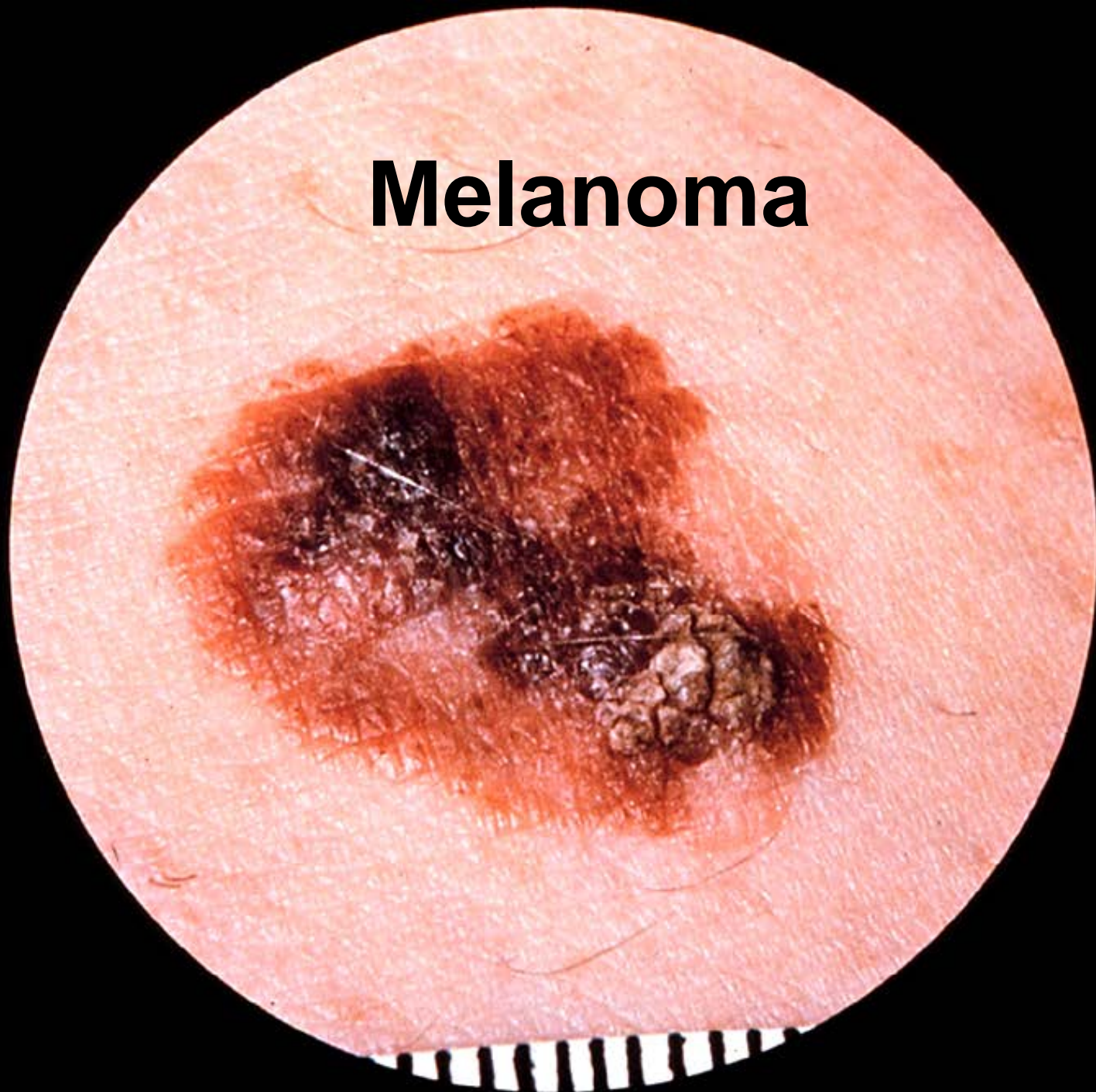
KOH



TOPICAL ANTIFUNGAL AGENTS

Generic name	Coverage	Formulation(s)	Preg	OTC/Rx
Imidazoles	Dermatophytes M.furfur Candida			
Clotrimazole		1% lotion, solution, cream, solution, troches, powder	B	OTC, Rx
<u>Econazole</u>		1% cream	C	Rx
Ketoconazole		1% and 2% cream, shampoo	C	OTC, Rx
Miconazole		2% cream, lotion, powder, solution	C	OTC
Sertaconazole		2% cream	C	Rx
Allylamines	Dermatophytes			
<u>Naftifine</u>		1% cream, gel	B	Rx
<u>Terbinafine</u>	(also candida)	1% cream, solution	B	OTC
Benzylamine	Dermatophytes			
Butenafine		1% cream	B	OTC, Rx
Polyenes	Candida			
<u>Nystatin</u>		cream, ointment, powder, oral suspension, lozenges vaginal tablets	C	Rx
Amphotericin B		3% cream, ointment, lotion	B	Rx
Others				
Ciclopirox olamine	Dermatophytes Candida	cream, gel, lotion, solution, 8% nail lacquer	B	Rx
<u>Iodoquinol</u>	Candida	1% iodoquinol with 2% hydrocortisone gel		

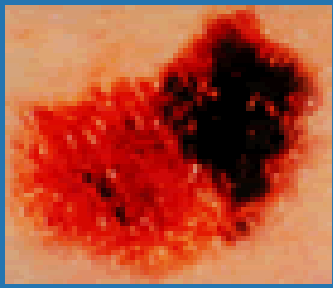
Melanoma



Melanoma Risk Factors

- Total numbers of nevi on the skin surface
- Presence and number of clinically atypical melanocytic nevi
- Personal or family history of melanoma
- History and number of sunburns

ABCDEs of Nevi



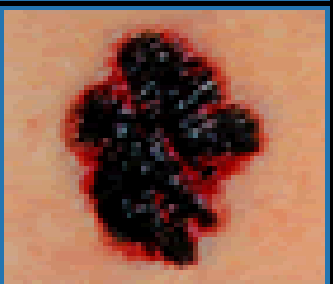
A for Asymmetry

One half is different than the other half.



B for Border Irregularity

The edges are notched, uneven, or blurred.



C for Color

The color is uneven. Shades of brown, tan, and black are present



D for Diameter

Diameter is greater than 6 millimeters.

E for Evolution

The lesion has changed in appearance or become symptomatic

Dysplastic Nevi

- Clinicopathologic diagnosis
- Mild, moderate, severe
- Signature nevus
- Dysplastic nevus syndrome

Melanocytic Nevus Phenotypes

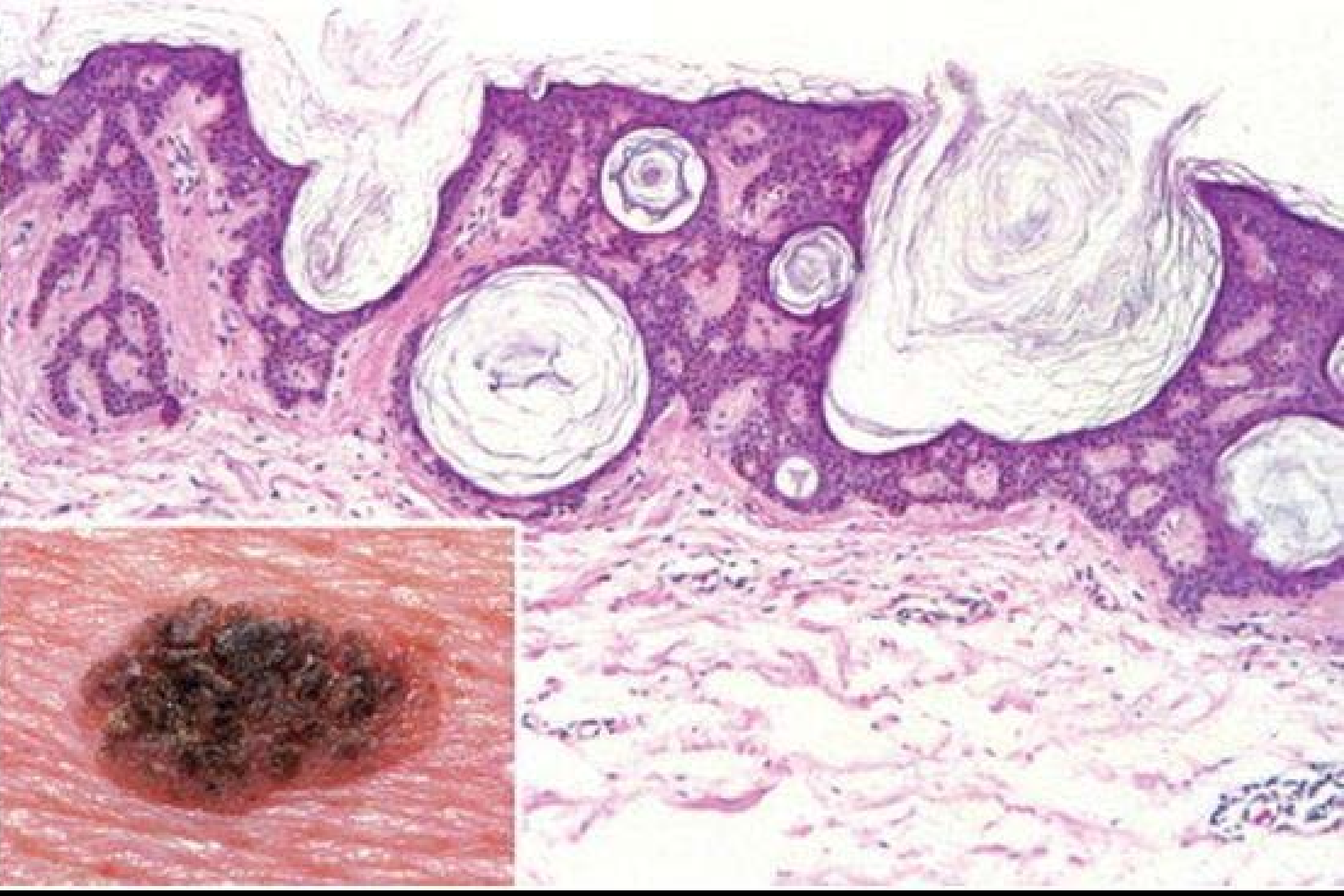
Common

- None to <25 nevi
- <5 mm
- Uniform, homogenous color
- Well-circumscribed

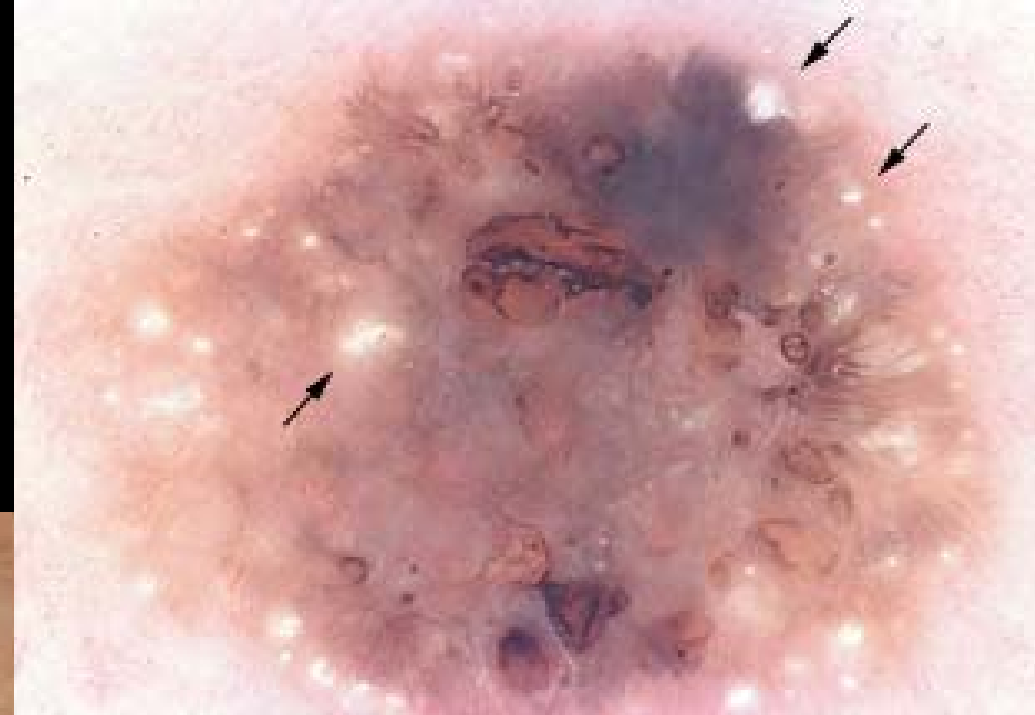
Atypical

- >50 nevi
- Small to lg, often several >5 mm
- Some to many nevi with irregular or haphazard color, erythema
- Irregular or ill-defined borders





Seborrheic Keratoses



Onychomycosis



Treatment of OM

- Itraconazole :
 - 200 mg po qd for 12 weeks
 - 200 mg po bid for 1 week, then 3 weeks off, repeated twice

- Terbinafine:
 - 250 mg po qd for 12 weeks
 - 500 mg po qd for 1 week, then 3 weeks off, repeated twice



Psoriasis



Aggravating Factors

- Trauma, scratching, sunburn
- Medications: Li, beta-blockers, anti-malarials, ibuprofen, naproxen, inderal, **prednisone taper**
- Smoking, alcohol
- Hormonal changes: puberty, pregnancy, menopause
- Early HIV infection



Disease Associations

- Psoriatics more likely to suffer from obesity and depression, more often smoke or drink to excess
- Increased risk of CAD and MI even when controlled for obesity, smoking, diabetes, hypertension
- Risk of atherosclerotic heart disease linked to low-grade inflammation, analagous to level seen in psoriasis

Sunscreen

- UVA vs. UVB
- Mechanism of action
- Pitfalls and application recommendations



UVA vs UVB coverage

- Most sunscreens combine several agents to provide broad coverage
 - “Broad-spectrum”

Effect	UVA	UVB
Sunburn	+	++++
Photoaging	++	++++
SCC	+	++++
BCC	?	+++
Melanoma	+	++
Photosensitivity	+++	+

Sunburn Protection Factor(SPF): UVB

SPF

% UVB blockage

15

90

30

95

40

97.5

“But I still burn...”

- SPF testing uses 2mg/cm²
 - Most users apply 25-75% of test quantity, reducing spf proportionately
- Recommended: six teaspoons/adult body
- Apply 30 min prior, reapply q2-3 hours

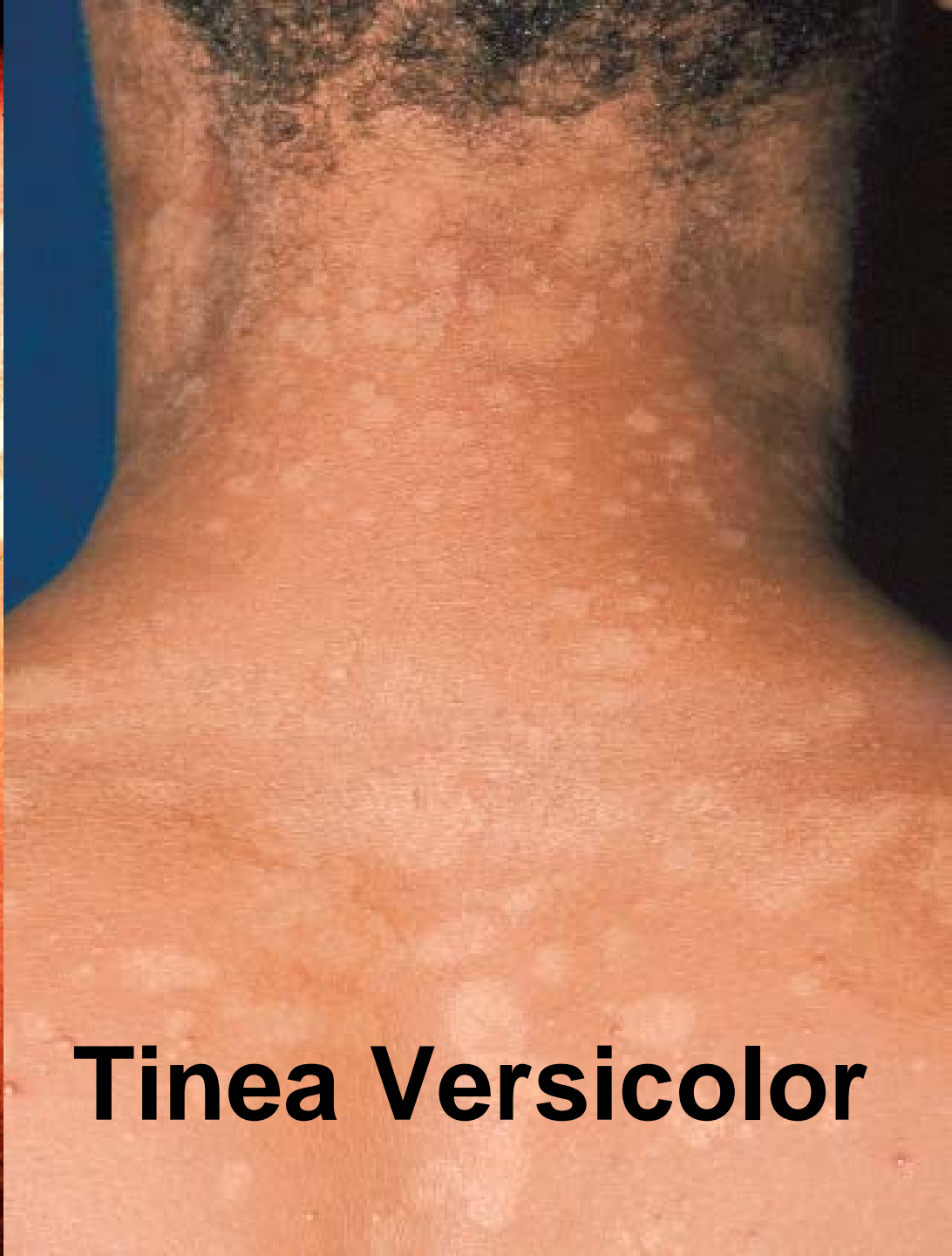
“I’m allergic”

- Allergy usually to fragrance or preservatives
 - Change brands, ‘fragrance-free,’ ‘sensitive skin’
- True allergy/photoallergy is rare
 - Oxybenzone, padimate O, avobenzone
- Refer for skin patch testing

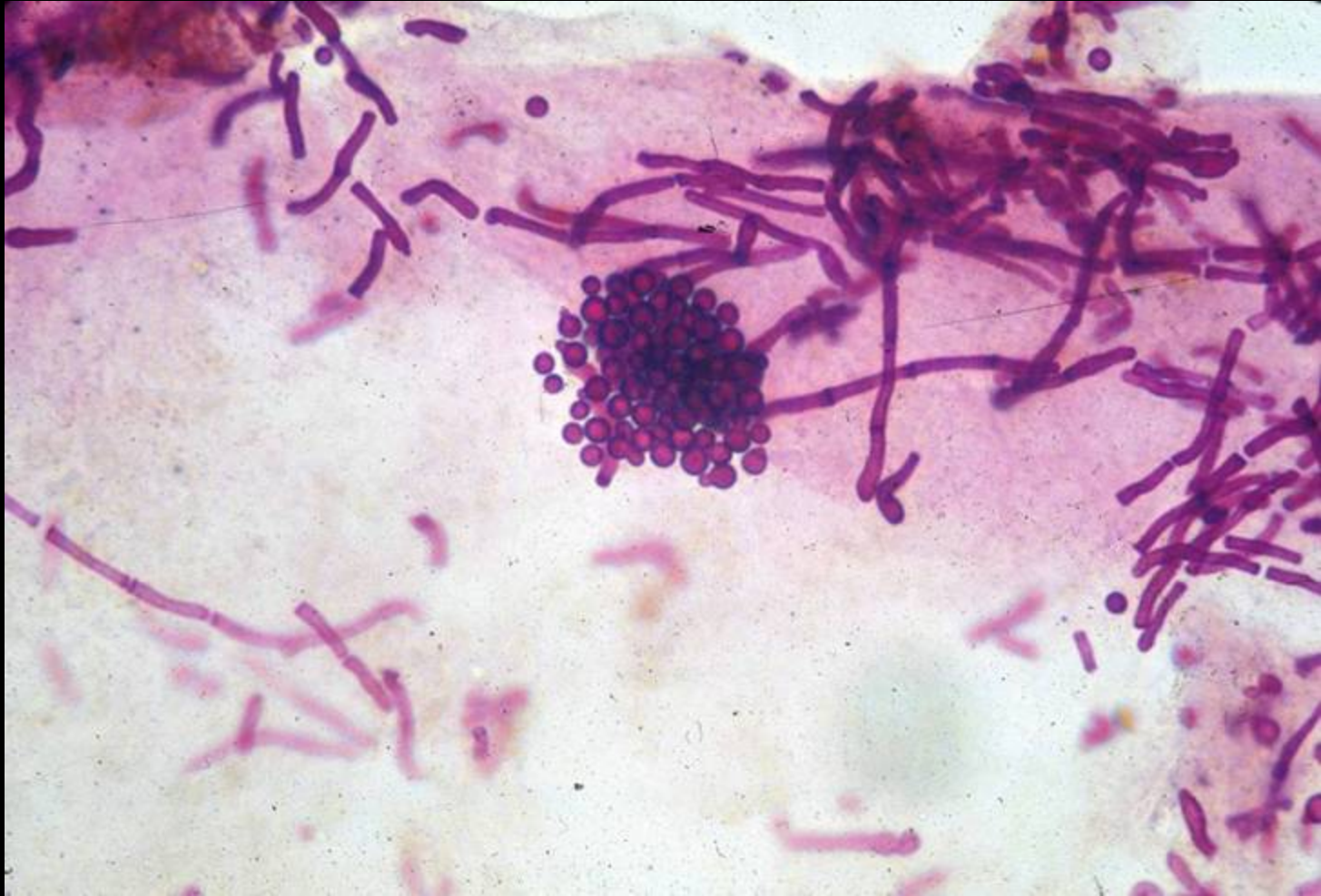
Pearls & Pitfalls



- Sunless tanners: Dihydroxyacetone
- ‘Sport’ products: bases remain in s.corneum longer → better retention upon activity
- Addition of antioxidants: unclear efficacy



Tinea Versicolor



Yeast



Zoster



Early Zoster







Conclusions

- Review and updates in dermatology
- Clinical pearls
- Questions?