



Papulosquamous Dermatoses: *Don't (Do?) Make A Rash Decision*

PRESENTED BY: Lara Clayton, PA-C, Assistant Professor in Dermatology

Papulosquamous and eczematous rashes

- Red, pink, purple papules or plaques with scale
- Heterogenous group of disease
 - Lichen planus
 - Psoriasis
 - Pityriasis rosea
 - Tinea/Candidiasis
 - Eczemas/dermatitis
 - Atopic dermatitis
 - Contact dermatitis
 - Lichen simplex chronicus
 - Nummular dermatitis
 - Dyshidrotic eczema
 - Seborrheic Dermatitis
 - Many others

Case 1



Lichen planus

- Autoimmune disorder in the skin, nails, mucosa
 - T cell mediated autoreactive disease against keratinocytes whose self antigens have been changed (trauma, infection)
- Etiology: Unclear (maybe viruses, contact allergens, medications, stress, physical injury, genetic)
- 40's-60's but can occur at any age
- No predilection for sex or ethnicity
- 1% of population
- Medications (captopril, enalapril, labetalol, propranolol, methyldopa, calcium channel blockers, NSAIDs, hydroxychloroquine, thiazide diuretics, etanercept, infliximab, gold)

Lichen planus

- pruritic, flat-topped, polygonal, pink to purple papules/plaques that are localized most commonly along the volar wrists, forearms, shins, ankles, and hands/feet, but may be widespread
 - Oral & genital LP
 - Lichen planopilaris
 - Nails
- 6 Ps: purple, planar, polygonal, pruritic, papules, and plaques
- Worse with trauma (Koebnerization)
- Wickham striae



DDX: lichenoid drug reaction, lupus, pityriasis lichenoides chronica, contact dermatitis, GVHD, granuloma annulare...

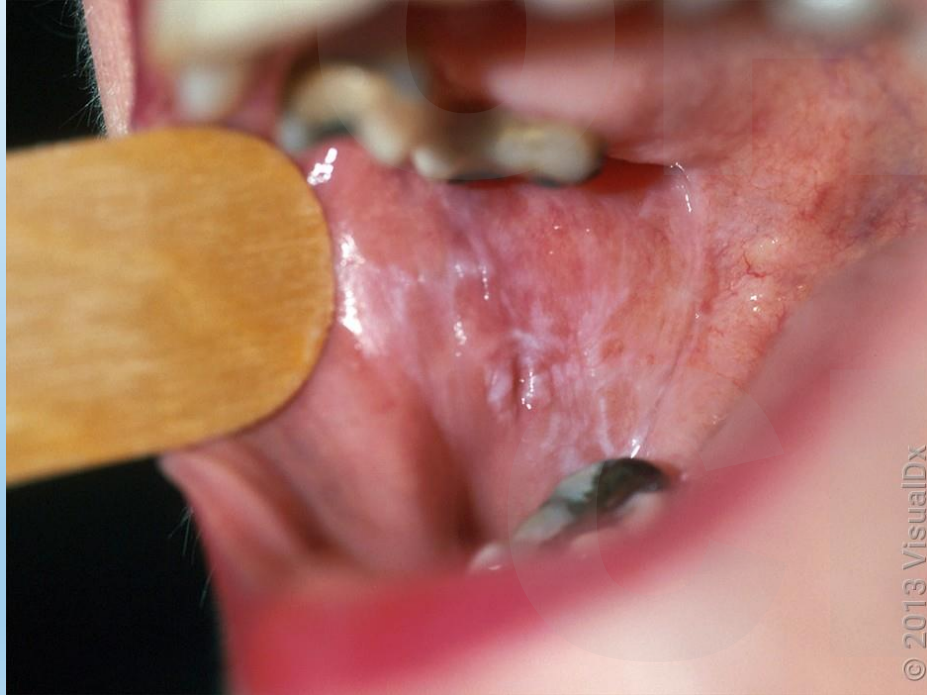
Lichen planus



Lichen planus (nails)



Lichen planus (oral and genital)



Lichen planopilaris



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DermNetNZ.org

Lichen planus Work-up

- History & physical
- Biopsy to confirm
- Drug list
- Consider Hep B&C, LFTs
- Patch test?



Lichen planus: Treatment

- Stop offending medication
- Control pruritus
- Topical Steroids
- Tacrolimus
- Intralesional steroids
- Oral prednisone, acitretin, hydroxychloroquine, methotrexate, phototherapy



"We still don't have a diagnosis for your rash, so we're going to rub some more money on it and see what happens."

Case 2a



Case 2b



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Case 2c



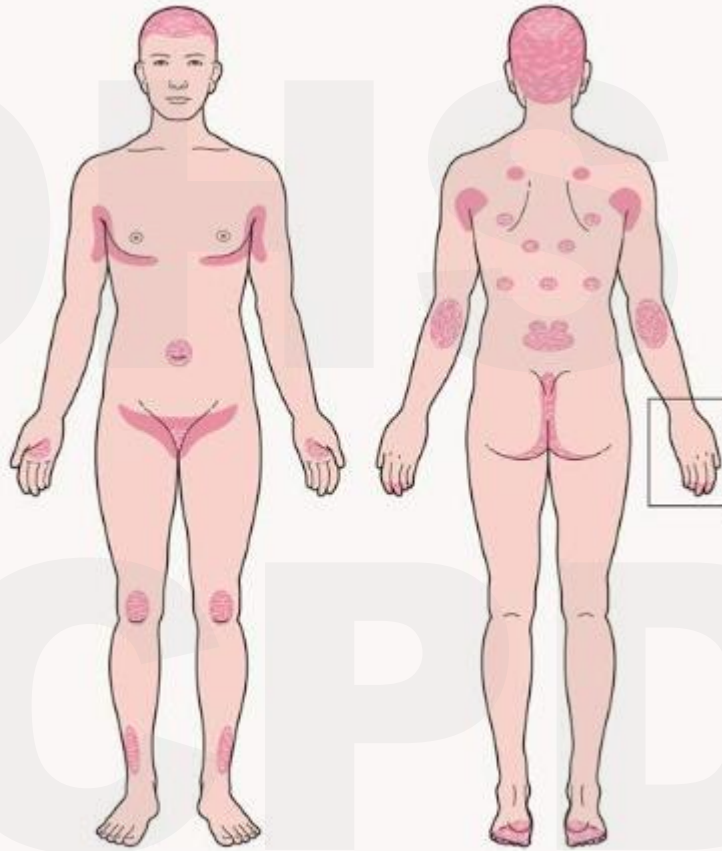
Psoriasis

- Chronic, immune mediated inflammatory skin disease with well demarcated plaques
 - T cell driven involving cytokines TNF alpha, IL-23
- Polygenic: 30% of patients have a first degree relative with psoriasis
- Triggers: Strep, HIV, medications
- Common, 2% population
- Onset 20-30 years and 50-60 years but can occur at any age
- Clinical diagnosis but can be confirmed with biopsy

Psoriasis: Morphology







Psoriasis

Factors that worsen psoriasis


- Obesity
- Smoking
- Strep
- Alcohol
- Stress
- Physical injury
- Medications
- Stopping steroids

Diseases associated with psoriasis

- Inflammatory arthritis
- IBD
- Uveitis
- Celiac disease
- Metabolic syndrome
- Fatty liver disease
- Cardiovascular disease
- Psychological disorders
- Malignancy
- Obesity
- Smoking
- Alcohol abuse
- Skin Malignancy

Psoriasis: The Joint

- 85% of patients: psoriasis precedes joint symptoms
- 30% of people with psoriasis will have joint disease

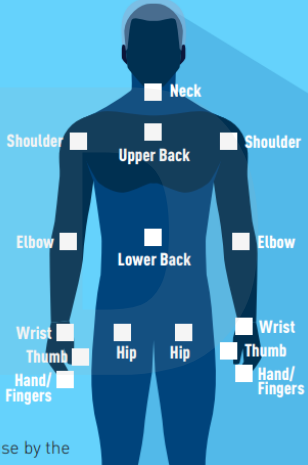


Screening Tool for Psoriatic Arthritis

Psoriatic arthritis is a form of arthritis that can affect almost one-third of people with psoriasis and lead to lasting damage to your joints and bones. But getting diagnosed and treated as soon as possible can prevent that damage and help you stay healthy.

Answer the following five questions to find out if you're at risk for psoriatic arthritis. Then put a check mark next to the places on the diagram where your body feels tender or sore. Bring this handout with you to your doctor's appointment.

1. Have you ever had a swollen joint (or joints)?
 Yes No
2. Has a doctor ever told you that you have arthritis?
 Yes No
3. Do your fingernails or toenails have holes or pits?
 Yes No
4. Have you had pain in your heel?
 Yes No
5. Have you had a finger or toe that was completely swollen and painful for no apparent reason?
 Yes No



This validated screening tool was approved for use by the National Psoriasis Foundation (NPF). For more information, visit www.nationalpsoriasis.org.

Psoriasis: The Burden

- **50%** surveyed in the United States indicated they would rather have a medical condition generally considered more dangerous, such as hypertension or asthma, than a skin condition like psoriasis.
- **82.9%** of patients often or always felt the need to hide their psoriasis
- **74.3%** claimed that their self-confidence was often or always affected by their psoriasis
- **45.7%** were often or always depressed because of their psoriasis
- **82.9%** would often or always avoid activities like swimming and sports because of their psoriasis
- **35.3%** were often or always inhibited in their sexual relationships because of their psoriasis
- **22.9%** stated that psoriasis affected their choice of career

Guttate Psoriasis: Case 2a

- Ask about sore throat or exposure to strep and treat
- Ask about medications (systemic steroids, beta blockers, lithium, antimalarials, interferon, NSAIDS)
- Biopsy?
- ASO titer, anti-DNase B titre.
- Treatment
 - Phototherapy
 - Mid potency steroids
- Clears 3-4 months; however 25% can evolve to plaque psoriasis
- DDX: pityriasis rosea, syphilis, ID reaction to tinea, small plaque parapsoriasis



Plaque Psoriasis: Case 2b

- Most common form
- Well demarcated erythematous plaques: bilateral symmetric
- Auspitz sign
- Koebner phenomenon
- Examine: hands, feet, face, scalp, genitals
- **Treatment:**
 - Emollients
 - Topical steroids- mid to high TS for torso, arms and legs and low potency for intertriginous or facial involvement
 - Calcineurin inhibitor (tacrolimus, pimecrolimus)
 - Vitamin D analogue (calcipotriene)
 - Excimer



Severe Plaque Psoriasis: Case 2c

- >30% BSA
- Affecting groin, hands, feet
- Affecting QOL

Treatment:

- Phototherapy
- Oral (methotrexate, acitretin, cyclosporine, apremilast (Otezla))
- Biologics
 - Humira
 - Enbrel
 - Remicade
 - Stelara
 - Cosentyx
 - & more



Dermatology Life Quality Index (DLQI)

AAC # _____ Date: _____ Provider: _____

Name: _____ DOB: _____ Diagnosis: _____ Score: _____

The aim of this questionnaire is to measure how much your skin problem has affected your life OVER THE LAST WEEK.

Please check (X) one box for each question.

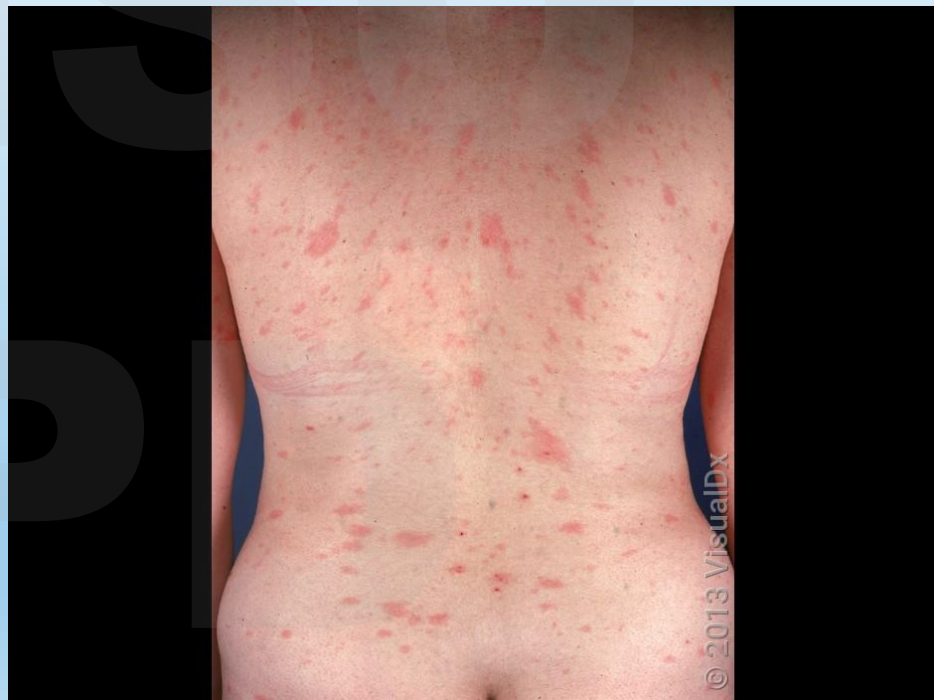
1. Over the last week, how itchy, sore, painful or stinging has your skin been?	Very much A lot A little Not at all	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
2. Over the last week, how embarrassed or self-conscious have you been because of your skin?	Very much A lot A little Not at all	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
3. Over the last week, how much has your skin interfered with you going shopping or looking after your home or garden?	Very much A lot A little Not at all	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Not relevant <input type="checkbox"/>
4. Over the last week, how much has your skin influenced the clothes you wear?	Very much A lot A little Not at all	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Not relevant <input type="checkbox"/>
5. Over the last week, how much has your skin affected any social or leisure activities?	Very much A lot A little Not at all	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Not relevant <input type="checkbox"/>
6. Over the last week, how much has your skin made it difficult for you to do any sport?	Very much A lot A little Not at all	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Not relevant <input type="checkbox"/>
7. Over the last week, has your skin prevented you from working or studying?	Yes No	<input type="checkbox"/> <input type="checkbox"/> Not relevant <input type="checkbox"/>
If "No," over the last week how much has your skin been a problem at work or studying?	A lot A little Not at all	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
8. Over the last week, how much has your skin created problems with your partner or any of your close friends or relatives?	Very much A lot A little Not at all	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Not relevant <input type="checkbox"/>
9. Over the last week, how much has your skin caused any sexual difficulties?	Very much A lot A little Not at all	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Not relevant <input type="checkbox"/>
10. Over the last week, how much of a problem has the treatment for your skin been, for example by making your home messy, or by taking up time?	Very much A lot A little Not at all	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Not relevant <input type="checkbox"/>



Case 3



Case 3





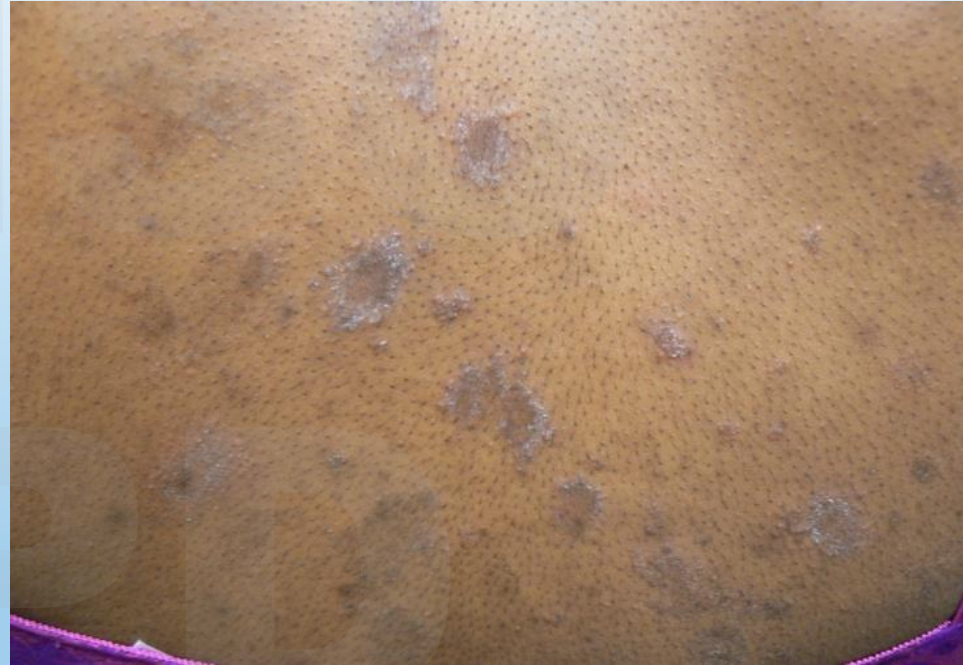
Pityriasis rosea

- Acute eruption thought to have a viral trigger
- Peaks in late teens and 20's
- Herald patch appears 1-20 days before generalized rash
 - 2-5cm in diameter
 - Scale just inside the edge of the plaque and central clearing
- Generalized rash
 - Chest, back > upper arms, thighs, >> neck
 - Spares palms, soles, face, scalp
 - Rash follows skin tension lines
 - Fir tree "Christmas Tree"

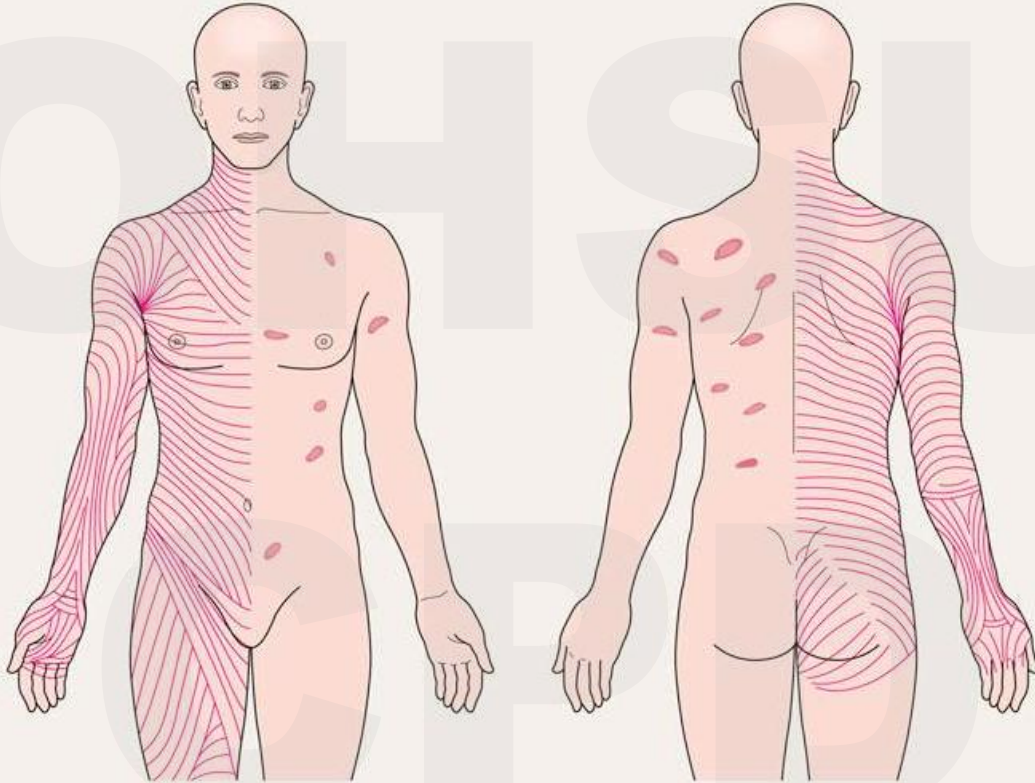


Pityriasis rosea

- Clinical diagnosis
- Asymptomatic but can have itching
- Viral symptoms can be present
- Mean duration is 5 weeks. 80% resolve within 8 weeks. Recurrence is rare.
- 25% would like treatment for pruritus
- Treatment: topicals (antipruritic lotions, steroids, phototherapy, erythromycin, azithromycin, acyclovir)
- DDX: tinea, guttate psoriasis, secondary syphilis, pityriasis lichenoides chronica, nummular dermatitis, drug eruption



LESIONS OF PITYRIASIS ROSEA FOLLOWING THE SKIN TENSION LINES



Lesions of PR follow the skin tension lines: These lines are often referred to as Langer lines of cleavage. The long axis of the individual lesions aligns with these lines.



What about “Pityriasis rosea” on the palms/soles?

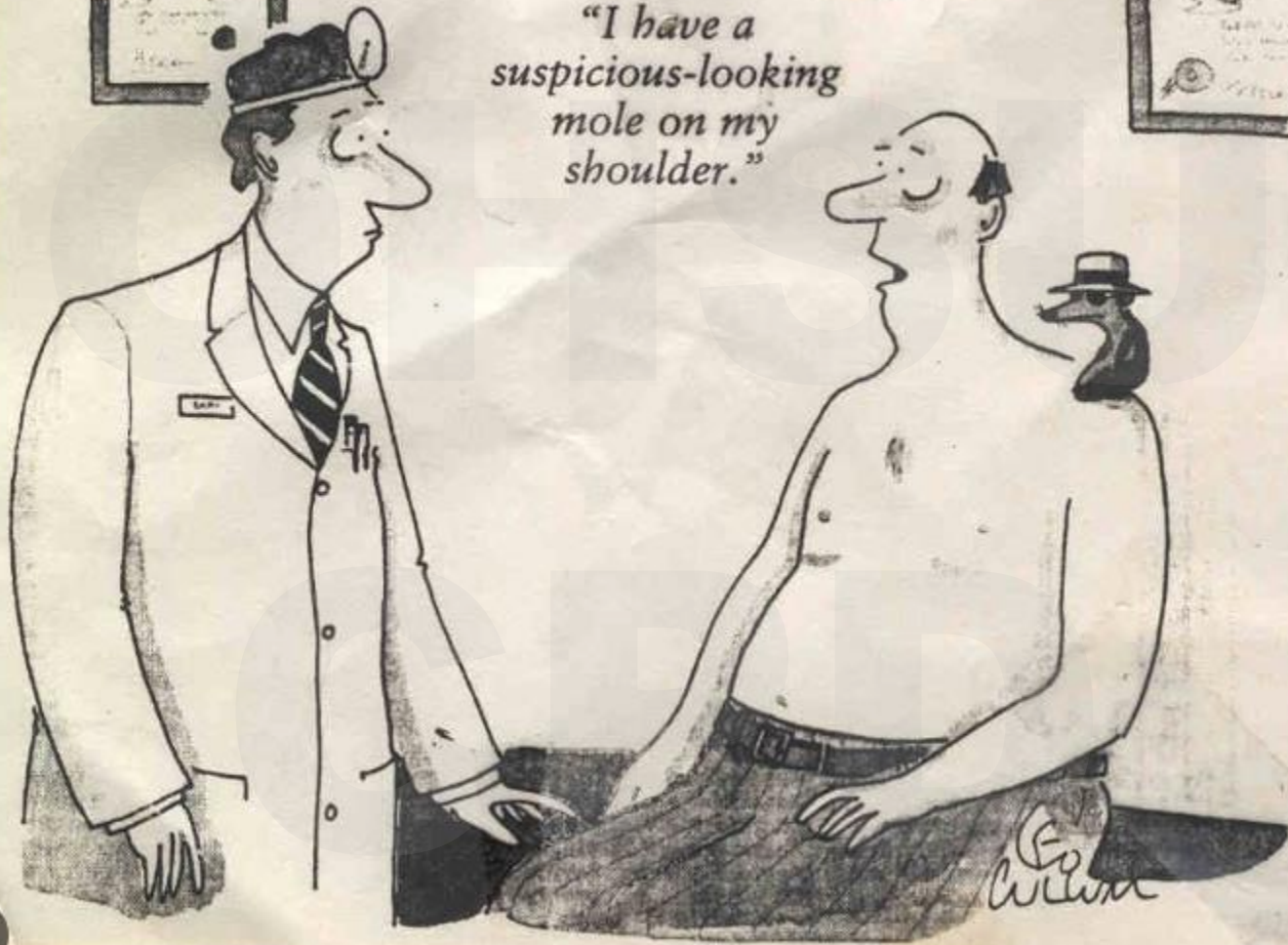


Secondary Syphilis

- Should be on the DDX for new onset scaly rash
- Papulosquamous eruption similar to PR
- Prodrome of malaise, fever, neck stiffness, myalgias, arthralgias
- Ask about history of a painless chancre on genitals
- Draw RPR
- IM PCN



*"I have a
suspicious-looking
mole on my
shoulder."*



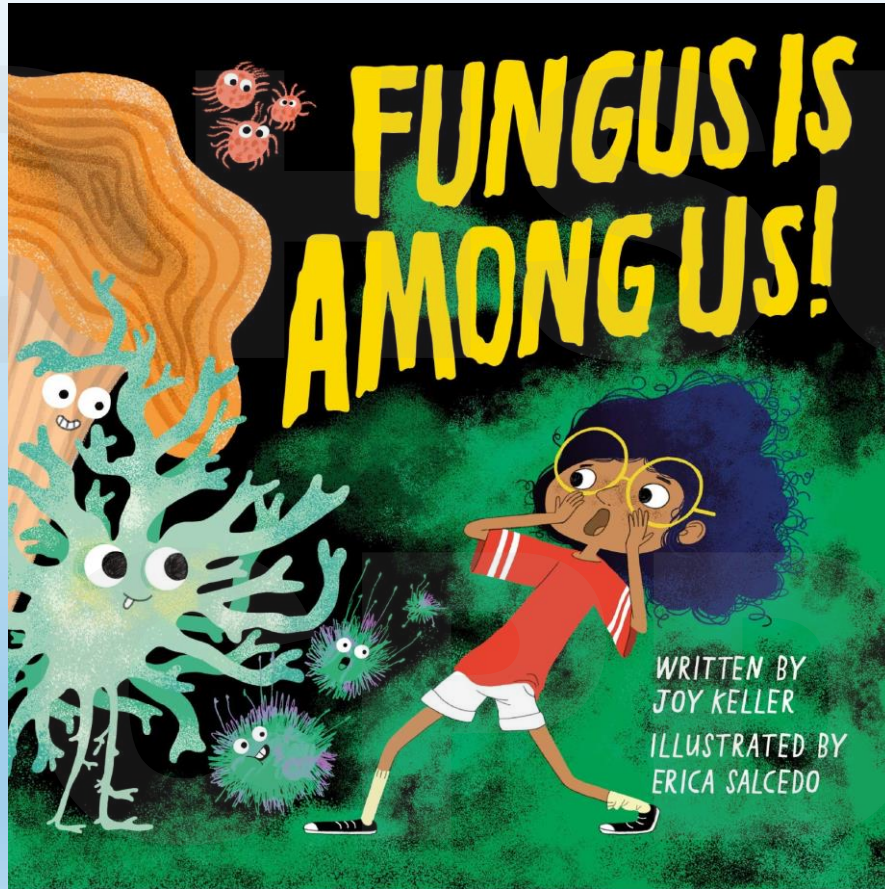
Case 4: Progressing Hand Dermatitis



2 weeks later



FUNGUS IS AMONG US!





Tinea versicolor

- Not caused by dermatophyte.
- Malassezia
- Well demarcated hypo or hyper pigmented macules and patches on the trunk, arms (salmon pink, tan, brown)
- Use 15 blade to appreciate scale
- +KOH: “spaghetti and meatballs” short hyphae and round spores
- Treatment: selenium sulfide shampoo (5-7min), Ketoconazole shampoo (10 min). Ketoconazole cream 2-4 weeks





Tinea corporis



Tinea cruris

KOH+

Terbinafine Cream BID x 4-6 w (2nd line clotrimazole, miconazole)

Can do oral for 2 weeks if extensive



Tinea Capitis



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Tinea Capitis

- Child with scaly alopecia on scalp
- History!
- Trichophyton tonsurans & Microsporum canis.
- Perform fungal culture
- Tx: oral terbinafine (4-6 weeks+) or griseofulvin (8+ weeks)
 - Add antifungal shampoo



Tinea Barbae



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- Papules, pustules, nodules in beard
- History!
- Trichophyton
- Perform KOH
- Tx: terbinafine (2-4w)



Tinea pedis

- One hand, two feet
- *Trichophyton rubrum*
- Warm environments (public showers)
- 4 types: interdigital, moccasin, vesicular, ulcerative



Tinea Pedis Treatment

- Start terbinafine (fungicidal) cream twice daily for 2-4 weeks
- Fungistatic: clotrimazole and miconazole
 - 4-6weeks

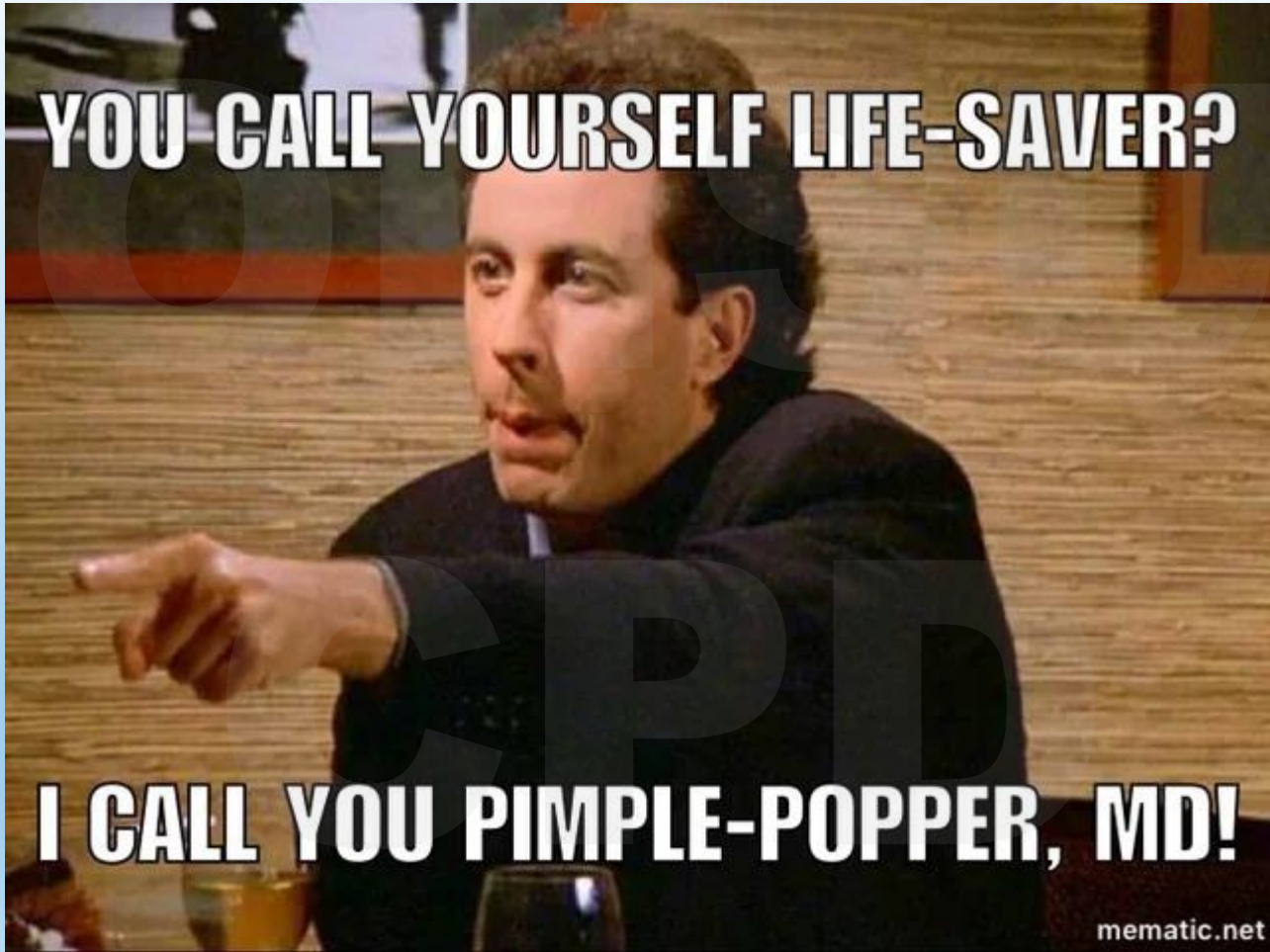
Candidiasis



Candidiasis

- Intertriginous erythema and satellite pustules
- Clinical Dx but can do KOH to see pseudohyphae , budding yeasts
- Treatment
 - miconazole twice daily
 - Zeasorb powder for maintenance
 - Oral fluconazole





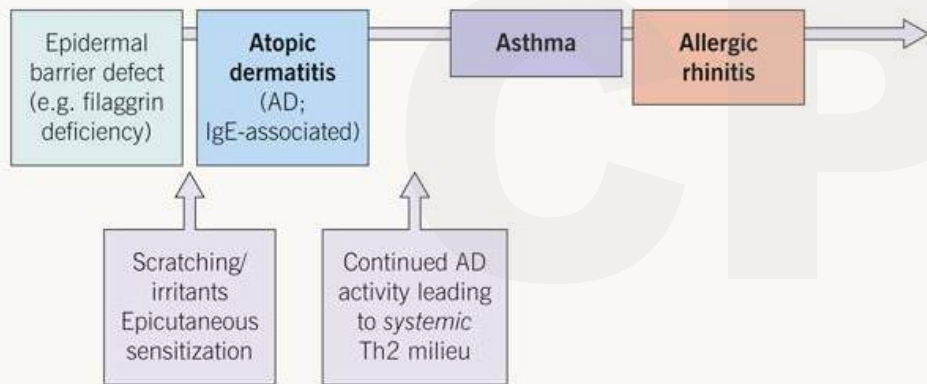
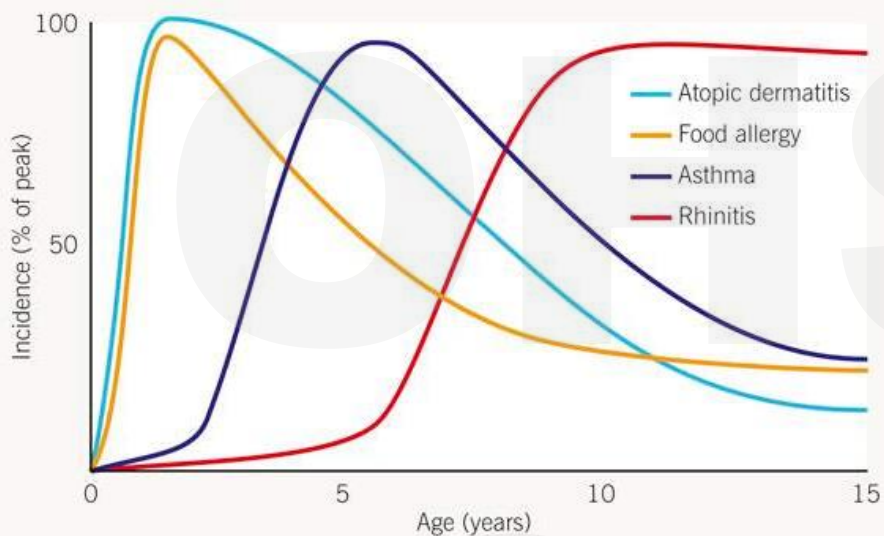
Atopic Dermatitis: Case 5

Eczema from the Greek word *ekzein*
“to boil, effervesce”

- *Red irritated plaques that weep*
- *“the itch that rashes”*
- *Chronic relapsing course*
- *AD sequelae*



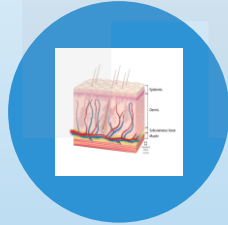
THE ATOPIC MARCH



AD: Epidemiology

- The onset of AD typically occurs in infancy or childhood, with more than 50% of patients developing the condition before age one and 85% before age five
- Higher incidence in urban and higher income
- **late-onset type** : defined as AD that starts after puberty
- **senile-onset type** : an unusual subset of AD that begins after 60 years of age

OHSU



IMMUNE
DYSREGULATION



FAMILY HISTORY
(GENES)



MUTATIONS IN
FILAGGRIN

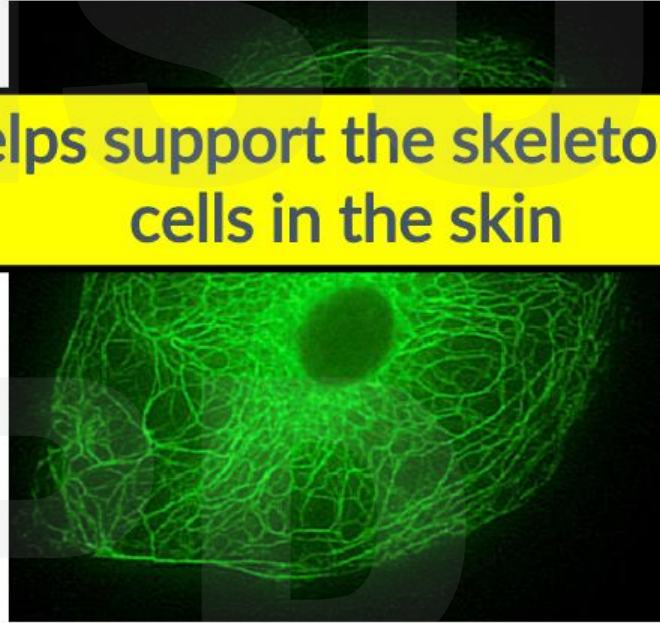
Pathogenesis

CPD

What does Filaggrin do?

Filament Aggregating Proteinin

Helps support the skeleton of
cells in the skin



A microscopic image of dry, cracked skin. The cracks form a complex, interconnected network of dark lines. A yellow rectangular box with a black border is positioned in the upper center, containing text. A large blue arrow points downwards from the bottom of this box towards a white rectangular box with a black border at the bottom center, which also contains text.

**No filaggrin = Disrupted Skin
Barrier and Dry Skin**

**Inflammation and
Itch!**

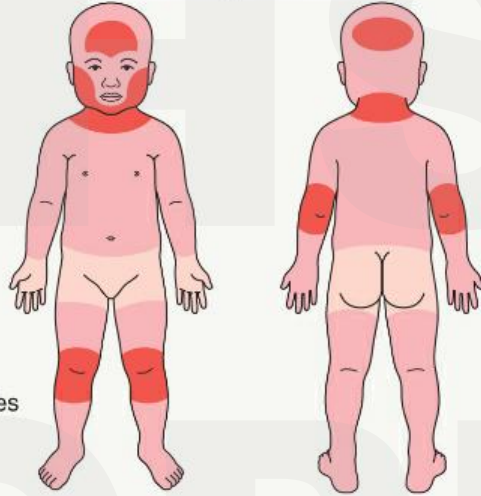
Signs and Symptoms



- ITCHY!
- Erythema
- Scaling and dryness
- Weeping
- Lichenification



DISTRIBUTION PATTERNS OF ATOPIC DERMATITIS AND REGIONAL VARIANTS

Infantile atopic dermatitis



-  Most common sites
-  Other frequently involved sites





Childhood and adolescent AD

Childhood and adolescent atopic dermatitis

Head and neck dermatitis:
primarily of face and neck after puberty; may be triggered by *Malassezia* overgrowth

Ear eczema:
erythema, scaling and fissuring under earlobe and/or in retroauricular region, ± bacterial superinfection

Eyelid eczema*:
often has prominent lichenification

Dryness (chapping) of vermillion lips, ± peeling, fissuring, angular cheilitis

Erythema and scaling surrounding vermillion lips, often due to irritation from licking (**lip licker's eczema**)

Dyshidrotic eczema:
deep-seated vesicles favoring sides of fingers and palms

Juvenile plantar dermatosis:
glazed erythema, scaling and fissuring of plantar forefeet

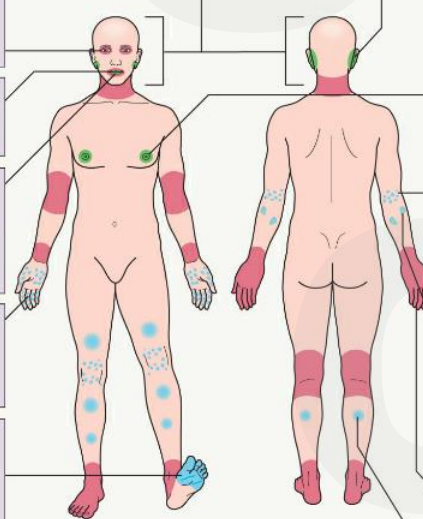
Nipple eczema:
exacerbated by rubbing of clothing (e.g. in joggers/athletes)

Frictional lichenoid eruption:
multiple, small, flat-topped pink to skin-colored papules on elbows > knees, classically in atopic boys in spring/summer

Prurigo-like lesions:
firm, dome-shaped papulonodules with central scale-crust, favoring extensor extremities

Atopic hand eczema*:
often superimposed irritant contact dermatitis

Nummular lesions†:
coin-shaped eczematous plaques, often with



- Most common sites
- Other sites of predilection
- Specific variants



Childhood AD



DIAGNOSTIC FEATURES OF ATOPIC DERMATITIS

Jon M. Hanifin¹ and Georg Rajka²

¹Department of Dermatology, University of Oregon, Health Sciences Center, Portland, Oregon, USA
and ²Department of Dermatology, University of Oslo, Norway

Must have 3 or more basic features:

Pruritus

Typical morphology and distribution:

Flexural lichenification or linearity in adults

Facial and extensor involvement in infants and children

Chronic or chronically-relapsing dermatitis

Personal or family history of atopy (asthma, allergic rhinitis, atopic dermatitis)

Plus 3 or more minor features:

Xerosis

Ichthyosis/palmar hyperlinearity/keratosis pilaris

Immediate (type I) skin test reactivity

Elevated serum IgE

Early age of onset

Tendency toward cutaneous infections (esp. *Staph. aureus* and *Herpes simplex*)/impaired cell-mediated immunity

Tendency toward non-specific hand or foot dermatitis

Nipple eczema

Cheilitis

Recurrent conjunctivitis

Dennie-Morgan infraorbital fold

Keratoconus

Anterior subcapsular cataracts

Orbital darkening

Facial pallor/facial erythema

Pityriasis alba

Anterior neck folds

Itch when sweating

Intolerance to wool and lipid solvents

Perifollicular accentuation

Food intolerance

Course influenced by environmental/emotional factors

White dermographism/delayed blanch



Differential Diagnosis

- Seborrheic Dermatitis
- Contact dermatitis
- Psoriasis
- Nummular dermatitis
- Asteatotic eczema
- Lichen simplex chronicus

Immunodeficiencies

- Wiskott–Aldrich syndrome
 - Hyperimmunoglobulin E syndromes
 - IPEX (immune dysregulation, polyendocrinopathy, enteropathy, X-linked) syndrome and IPEX-like condition
 - Omenn syndrome
- AND OTHERS...

Infestations and Infections

- Scabies
- Tinea
- HIV associated dermatoses
- Mucocutaneous candidiasis
- Impetigo
- Syphilis
- HTLV-1-associated “infective dermatitis

So many others:

- Nutritional deficiencies
- Langerhans Cell Histiocytosis
- Dermatitis Herpetiformis
- Drug eruptions
- Lymphoma

Treatment and Management

- **Induce remission:** treat to “put out the fire”
- **Maintenance:** continue to treat to reduce flares
- **Rescue:** Rescue flares quickly

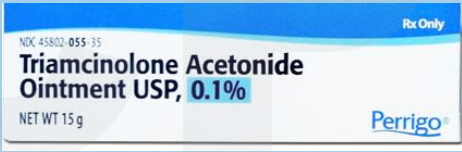
Induce Remission

- Baths-they are good! But...
 - Limit soap to only the necessary areas
 - Soak and smear (within 3 minutes)
 - Bland emollient at least twice daily
 - ~limit to 15-20 min
 - warm water...not hot!



Induce Remission

- Mid potency steroid for non facial AD applied twice daily until clear and then continue twice weekly for maintenance.
- They will flare again and when they do—rinse and repeat!
- Show them how much ointment to apply and where
- Prescribe an appropriate quantity
- Address steroid phobia
- Look out for infection!



Induce Remission

- **Hands/feet/scalp:** Strong steroid eg Clobetasol ointment
- **Body:** mid potency eg Triamcinolone ointment
- **Face/neck/axilla/groin:** low potency eg Hydrocortisone 2.5%

Maintenance

- Twice weekly mid potency steroid (body)
- Twice weekly low potency steroid (face/neck/groin)
- Continue proper bathing and emollient

Avoidance of Irritants/triggers

- Extreme temperatures
- Irritants
 - Wool
 - Detergents
 - Sweat
- Infections (Staph aureus, HSV, Molluscum, URI)
- Dust mites
- Pollen
- Stress
- Foods

Maintenance: non-steroid

- Utilize nonsteroidals:
 - ✓ Elidel (Pimecrolimus)
 - ✓ Protopic (tacrolimus)
 - ✓ Eucrisa (crisaborole) (Infants ≥ 3 months)
 - ✓ Topical ruxolitinib is a Janus kinase (JAK) inhibitor approved
 - ✓ Roflumilast cream 0.15%, six years and older
 - ✓ Roflumilast cream 0.05%, two to five years
 - ✓ Tapinarof cream

Observational Study | J Am Acad Dermatol. 2020 Aug;83(2):375-381.

doi: 10.1016/j.jaad.2020.03.075. Epub 2020 Apr 1.

No evidence of increased cancer incidence in children using topical tacrolimus for atopic dermatitis

Amy S Paller¹, Regina Fölster-Holst², Suephy C Chen³, Thomas L Diepgen⁴, Craig Elmets⁵, David J Margolis⁶, Brad H Pollock⁷

Affiliations + expand

PMID: 32246968 DOI: 10.1016/j.jaad.2020.03.075

Free article

Maintenance: non- steroidals

- They can be used on eyelids/face/genitals
- Work best when skin is not inflamed
- Can have some stinging (can place in refrigerator)
- Use as a maintenance (on non-inflamed skin)
- Helpful when a patient isn't staying clear on twice weekly steroid



Systemic treatment: Methotrexate

- Common to have insurance want this as first step
- Need to monitor CBC/CMP monthly for first 3 months
- Typically 15mg/kg per WEEK with daily folic acid
- Takes time ~3+ months
- Side effects: cytopenias, liver toxicity, pulmonary fibrosis as major SE and also nausea, oral ulcers as other potential SE

Systemic treatment : Cyclosporine

- Start at 5mg/kg day
- Monitor Blood Pressure
- Labs (CMP, CBC, Magnesium, uric acid, lipids)
- Avoid grapefruit juice, NSAIDS
- Can interact with statins
- Treat no longer than 6 months

Systemic Treatment: Dupilumab

- Human IgG4 receptor monoclonal antibody that inhibits IL-4 and IL-13
- FDA approved down to 6 months for severe AD
- Approved as adjunct therapy for asthma and chronic allergic rhinosinusitis w/ nasal polyps, prurigo nodularis, BP, and more!
- Sub-q injection; weight based
- Most common side effects: conjunctivitis , head and neck dermatitis, injection site reactions

Other treatments

- Phototherapy
- Wet Wraps
- Antibiotics
- Antivirals



Thursday, Saturday, Tuesday



Other Treatments

- 12 + Years old:

Tralokinumab

- human immunoglobulin G4 (IgG4) monoclonal antibody that binds to IL-13
- upper respiratory tract infection, injection site reaction, asthma, and headache

Lebrikizumab

- a humanized IgG4 monoclonal antibody that binds soluble IL-13

Nemolizumab

- humanized monoclonal antibody against the receptor of IL-31

Jak Inhibitors

12+ years old

- Janus kinases (JAKs) are a family of intracellular enzymes (JAK1, JAK2, JAK3, and tyrosine kinase 2 [TYK2])
- these are necessary for signaling inflammatory cytokines, including IL-4 and IL-13
- Upadacitinib, Abrocitinib, Baricitinib
- acne, headache, nasopharyngitis and upper respiratory tract infection, and creatine phosphokinase (CPK) elevations



Contact Dermatitis

- ICD (irritant contact dermatitis)
 - 80% of cases
 - Caused by a topical and physical irritant to epidermis
 - Commonly occupational
- ACD (allergic contact dermatitis)
 - Delayed hypersensitivity reaction to a substance
 - Ex: Poison Ivy

Irritant Contact



- Non-immunologically mediated
- Erythema, lichenification, fissures, scaling, vesicles
- Most commonly affects the hands
- Lip licker's dermatitis
- Common causes: soaps, wet work, petroleum, oils, coolants
- Tx: avoidance of triggers, emollients, topical steroids

Allergic Contact



- Delayed-type (type IV) hypersensitivity reaction
- Intense pruritus during the acute phase
- Well demarcated and localized
 - Autosensitization with extension from the original site
- Erythema, edema, vesicobullae, oozing, lichenification

Common allergens: metals (nickel), fragrances, preservatives, topical antibiotics, plants, airborne, sunscreens

Work-up: thorough history, patch testing

Tx: avoidance, topical and systemic corticosteroids



Thank you!

