

Let's Make a Rash Decision.

Kristin Rygg, MPAS, PA-C



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- University of Florida, College of Medicine – 2008
- SDPA President Elect, 2024-2025
- SDPA Vice President, 2023-2024
- SDPA Director at Large, 2021-2023
- AAPA Huddle Representative, Dermatology, 2022
- Guest Faculty - University of Colorado PA Program
- Pharmaceutical Speaker
- Denver, Colorado

Overview

- Steroids
- Contact Dermatitis
- Eczema / Atopic Dermatitis
- Psoriasis, guttate
- Drug eruption, EM, SJS/TEN

Steroid Classes

Medscape® www.medscape.com		
Class	Generic Name	Formulation
Class 1 Very High Potency	Betamethasone dipropionate	0.05% G O (diprolene)
	Clobetasol	0.05% C F G L O
	Diflorasone diacetate	0.05% O
	Halobetasol propionate	0.05% C O
Class 2 High Potency	Amcinonide	0.1% O
	Betamethasone dipropionate	0.05% C (diprolene)
	Desoximetasone	0.05% G, 0.25% C O
	Fluocinonide	0.05% C G O S
	Halcinonide	0.1% C
	Mometasone furoate	0.1% O
Class 3 High Potency	Amcinonide	0.1% C L
	Betamethasone dipropionate	0.05% C (non-diprolene)
	Betamethasone valerate	0.1% O
	Desoximetasone	0.05% C
	Diflorasone diacetate	0.05% C
	Fluticasone propionate	0.005% O
	Halcinonide	0.1% O S
	Triamcinolone	0.1% O
Class 4 Mid Potency	Betamethasone valerate	0.12% F
	Flucinolone acetonide	0.025% O
	Flurandrenolide	0.05% O
	Hydrocortisone valerate	0.2% O
	Mometasone furoate	0.1% C
	Triamcinolone	0.1% C
Class 5 Mid Potency	Betamethasone dipropionate	0.05% L
	Betamethasone valerate	0.1% C
	Flucinolone acetonide	0.025% C
	Fluticasone propionate	0.05% C
	Flurandrenolide	0.05% C
	Hydrocortisone butyrate	0.1% C
	Hydrocortisone valerate	0.2% C
Class 6 Low Potency	Alcometasone dipropionate	0.05% C O
	Betamethasone valerate	0.1% L
	Desonide	0.05% C L O
	Flucinolone acetonide	0.01% C S
Class 7 Low Potency	Hydrocortisone acetate	0.5% C L O, 1% C O F
	Hydrocortisone hydrochloride	0.25% C L, 0.5% C L O S, 1% C L O S, 2% L, 2.5% C L O S

C = Cream, F = Foam, G = Gel, L = Lotion, O = Ointment, S = Solution

Source: Dermatol Nurs © 2006 Jannetti Publications, Inc.

General adult use, but use caution

- Classes 1, 2: scalp, palms, soles
- Classes 3, 4, 5: trunk, extremities
- Classes 6, 7: face, folds, genitals

Infants/children

- Lowest potency steroid, least amount of time
- Be aware of peanut allergy



Steroid Pearls

- Judicious use
- Vehicle matters: solution, lotion, cream, ointment
- Know one-two steroids in each class
- Know when, where and how to use them
- When treating peri-orbital area always ensure no cataract/glaucoma
- Always put stop date on rx instructions
- Careful with moderate-to-large BSA
- Avoid occlusion
- Steroids can cause glaucoma, cataract, HPA axis suppression, striae, atrophy
- Ensure steroid is age appropriate. Kids are different.
- Never give steroid/antifungal combo

Approach to Rashes

- History is King
 - Age
 - HPI
 - ROS
 - Unadulterated version?
 - New or changed medications?
- Distribution
- Are they sick? Do they look toxic?
- Biopsy
- Treatment

Contact Dermatitis



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Contact Dermatitis



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Contact Dermatitis: Overview

- Allergic (ACD)
 - Delayed hypersensitivity reaction and worsens with exposure
 - Inflammatory response to antigen or irritant
 - Common allergens: nickel, acrylic, formaldehyde, fragrance, plant, neomycin, adhesives, oxybenzone, cobalt
 - Appears within 24-96 hours after exposure
- Irritant (ICD)
 - Occurs only in area of direct contact
 - Commonly caused by chemical
- May be difficult to discern type
- May be well-demarcated
- May be airborne, occupation induced

Contact Dermatitis (cont)

- Acute: clear, fluid-filled vesicles or bullae on erythematous and/or edematous skin; associated pruritis
- Subacute: formation of papules, pruritis
- Chronic: scaling, fissures, lichenification, pruritis

Contact Dermatitis: Treatment

- Stop/avoid offender
- Bland emollients
- Topical steroids
 - Body part specific, BID x 1-2 weeks. Stop 1 week. May repeat once.
- May use topical tacrolimus (BBW)
- Consider antihistamines
- Consider referral to allergy for patch testing

Eczema and Atopic Dermatitis



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Eczema and Atopic Dermatitis



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Eczema and Atopic Dermatitis: Overview

- Poorly demarcated, erythematous scaly patches, lichenification, excoriations, vesicles, hyper- or hypo-pigmentation
- Skin flexural surfaces (neck, axf and popliteal) but can be anywhere
- Pruritis
- Frequently associated with secondary infection
- Multifactorial: allergens, stress, genetics, atopy (asthma, allergic rhinitis, AD)
- Nummular eczema: variant of AD presents mostly 40-50's
 - Pruritis, coin-shaped patches with scale
- Clinical diagnosis but biopsy if uncertain

Eczema and Atopic Dermatitis: Treatment

- Topical therapies are first-line if limited BSA or minimal disease
 - Steroid (body part specific) BID x 2 weeks. Stop 1 week. Repeat once.
 - Tacrolimus or Pimecrolimus
 - BBW, greater than 2 yo
 - Crisaborole (2%) oint BID
 - Ruxolitinib (1.5%) cream BID
- Systemic therapy for moderate-severe disease
 - Dupilimumab
 - Adult: Start 600 mg SC divided in 2 sites x 1 then 300 mg SC q2weeks
 - Pediatric: weight and age dependent
 - Tralokinumab
 - JAKS (Abrocitinib, Upadacitinib)
 - IL-31 – new drug pending FDA approval

Psoriasis and Guttate Psoriasis



Psoriasis and Guttate Psoriasis



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Psoriasis: Overview

- Chronic multisystem inflammatory disease that mostly affects skin and joints
- Classic disease
 - Pink to bright red well-demarcated plaques with silver scale
 - Extensor surfaces of knees and elbows
 - Can present anywhere including scalp, umbilicus, gluteal cleft, trunk, nails, genitalia
- Inverse psoriasis
 - Shiny, glistening, pink red plaques in creases
- Guttate psoriasis
 - “Raindrop” papules and plaques on trunk and extremities
 - Frequently follows strep infections
- Koebner phenomenon – new skin plaques due to trauma
- Clinical diagnosis, biopsy if uncertain

Psoriasis: PEST Score

Have you ever had a swollen joint (or joints)?

2. Has a provider ever told you that you have arthritis?

3. Do your fingernails or toenails have holes or pits?

4. Have you had pain in your heel?

5. Have you had a finger or toe that was completely swollen and painful for no apparent reason?

Psoriasis: Treatment

- Topical therapies are first-line if limited BSA
 - Steroid (body part specific) BID x 2 weeks. Stop 1 week. Repeat once.
 - Betamethasone/calcipotriene (0.064%/0.005%) QD up to 8 weeks. Never on face/folds/genitals
 - Roflumalast 0.3% QD, 18 yo and up, Contraindicated: hepatic impairment
 - Tapinarof 1% QD, 18 yo and up
 - Tacrolimus or Pimecrolimus
 - BBW, greater than 2 yo
- If extensive disease and/or positive PEST
 - Consider referral to dermatology and/or Rheumatology
 - Narrow-band ultraviolet B phototherapy
 - Consider biologics

Psoriasis: Treatment (cont.)

- Old pills
 - Acetretin, MTX, Cyclosporin
- Newer pills
 - PDE-4 inhibitor (Apremilast), TYK2 (Deucravacitinib)
- Biologics
 - TNF-Alpha, IL-17s, IL-23s, biosimilars

Psoriasis: Treatment (cont)

- Ensure NO history:
 - Malignancy, CHF, IBD, CNS or demyelinating disorders, TB, Hepatitis, immunosuppression, active infection
- Labs prior to starting any biologic and yearly
 - Quant gold
 - Hepatitis
 - CBC with diff
 - CMP
 - HIV
 - **ASO Titer
- **Warnings: Increased skin cancer risk, serious infection risk, malignancy

Drug Eruptions

Drug Eruptions: Types

- Fixed drug eruption
- Exanthematous drug eruption
- Drug-induced hypersensitivity syndrome (DIHS), also called Drug-related eosinophilia with systemic symptoms (DRESS)
- Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN)
- Erythema multiforme

Drug Eruptions

- Immediate vs. Delayed Reactions
- Immediate – occur less than 1 hour of the last dose
 - Urticaria
 - Angioedema
 - Anaphylaxis
- Delayed – occur after one hour; usually occur after 6 hours and occasionally up to weeks or months
 - Fixed drug eruptions
 - Exanthematous eruptions
 - Systemic reactions (DIHS, SJS, TEN)

Drug Eruptions

- All types of drugs:
 - Instilled (eye drops, ear drops)
 - Inhaled (steroids, beta adrenergic)
 - Ingested (oral medications – capsules, tablets, syrup)
 - Inserted (suppositories)
 - Injected (IM, IV)
 - Incognito (alternative substances – “natural” medications, herbs, homeopathic, vitamins, over-the-counter, CBD)
 - Intermittent (any medications patients intermittently - cough, cold, sinus, pain relievers, etc.)
 - **Ask if pills have changed size, dose, shape or color

Exanthematous Drug Eruption



Exanthematous Drug Eruption

- MPR "morbilliform"
- 1-5 mm diameter and may coalesce into plaques
- Chest, neck, upper trunk, spreads symmetrically

Treatment

- Take careful history
- Consider biopsy
- Stop offending drug
- Oral Antihistamines (H1B and H2B), topical steroids, emollients



Fixed Drug Eruption: Overview

- Characterized by the formation of a single or few round or oval patches or plaques
- recur at the same site when re-exposure to the drug occurs
- Most frequently affects mouth, genitalia, face and acral areas but can occur anywhere
- Occurs from 30 minutes to 8 hours after ingesting drug if previously sensitized
- Lesions become raised and then eventually form bullae and erosions
- Not typically accompanied by systemic symptoms
- Healing phase often involves a violet hue; post-inflammatory hyperpigmentation

Fixed Drug Eruption



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Fixed Drug Eruption: Common Offenders

- Phenolphthalein (laxatives)
- Tetracyclines: doxycycline, minocycline
- Metronidazole
- Sulfonamides (including Bactrim, sulfasalazine)
- Barbiturates
- NSAIDS
- Salicylates
- Yellow food coloring

Fixed Drug Eruption: Treatment

- Resolution of lesions occurs days to weeks after drug is discontinued
- If non-eroded – treat with a potent topical corticosteroid ointment
- If eroded – treat with a protective or antimicrobial ointment; keep covered until reepithelialized
- Symptomatic treatment for pruritis/pain
- Refer to dermatology or ER if widespread or generalized

Erythema Multiforme (EM)



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EM: Overview

- Immune-mediate skin reaction
- Self-limited
- Most commonly occurs < 40 years
- **90% associated with infections – HSV, M. pneumoniae**
- <10% caused by medications – NSAIDs, antibiotics, antiepileptics
- Usually begin on extremities; may spread to trunk
- Distinct disease from Stevens-Johnson

EM: Overview (cont)

- Initially begins as pink or red papules that enlarge to become plaques
- May burn or itch
- Within 3-5 days, they develop into the classic **target** (iris) lesion: round lesion of 3 concentric circles including a dark center surrounded by a lighter pink ring. Both of those are surrounded by a red ring.
- Often no identifying cause
- **May be associated with reactivation of HSV**, other viral illness
- May have up to 6 episodes/year for a period of 6-10 years
- Prophylactic treatment if >5 episodes of HSV or EM per year
- Persistence is rare – think IBD, malignancies

EM: Treatment

- Most cases require no further testing
- Labs to r/o other diagnoses
- Skin biopsy if unclear
- If caused by recent infection or medication, treat the infection or discontinue the drug
- If uncomplicated, treat symptomatically with topical steroids or antihistamines
- If HSV is causative agent – oral acyclovir or valacyclovir

Drug Eruption: Exanthematous



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Drug Eruption: Exanthematous

- 90% of all skin drug reactions
- 2% of new prescriptions
- Limited to the skin
- Erythematous macules and papules appear on the trunk and spread to the extremities symmetrically
- May be accompanied by pruritus and mild fever
- Timing: 7-10 days after drug initiation in 1st episode; 24-48 hours in repeat exposures
- MORBILLIFORM RASH

Drug Eruption: Exanthematous

- Beta-lactam antibiotics (penicillin, cephalosporins)
- Sulfonamides
- Allopurinol
- Anti-epileptic drugs
- NSAIDs
- Others including herbal and natural therapies

Drug Eruption: Exanthematous

- Resolves spontaneously after medication is stopped – usually few days to 1 week
- May continue the medication safely if the eruption is not too severe and the medication has no effective substitution
- May experience scaling/desquamation in healing
- No long-term sequelae
- Treatment: topical steroids, emollients, oral antihistamines, reassurance
- Signals of more severe reaction:
 - Erythroderma
 - High fever
 - Any mucosal involvement
 - Skin tenderness
 - Blistering, Pustules
 - Evidence of other organ involvement (kidneys, liver, lungs, blood)
 - **ANY of the above signals more severe reaction

SJS/TEN



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SJS/TEN



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SJS/TEN



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SJS/TEN



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SJS/TEN: Overview

- Rare, acute, serious, **potentially fatal** skin reaction almost always to medications
- **SJS < 10% BSA, TEN 10-30% BSA**
- > 200 meds have been reported to be associated with SJS/TEN
 - 40% are antibiotics (**frequently BACTRIM**)
 - Usually systemic meds but has been reported with topicals
 - More often in drugs with long half-lives
 - Rarely associated with vaccinations

SJS/TEN: Overview

- **Prodrome** – several days that resembles a URI or “flu-like illness” with fever, ST, runny nose, cough, red eyes, conjunctivitis, body aches
- Prodrome followed by abrupt onset of a **tender/painful skin rash (dusky red to purpuric macules** which look like target lesions) which progress to **flaccid blisters**. Begins on the trunk and spreads rapidly to face and limbs over hours to days.
- Usually reaches its maximum by 4 days.
- **Nicolsky’s sign**: the necrotic epidermis detaches with lateral pressure

SJS/TEN: Mucosal Involvement

- Often precedes skin eruption
- Frequently involves mouth, eyes and genital mucosa – “hemorrhagic crusts of the lips”
- Eye involvement will lead to permanent sequelae including blindness

SJS/TEN: Common Offenders

- Sulfa antibiotics (**Bactrim**), sulfasalazine
- Tetracyclines
- Allopurinol
- Anticonvulsants (carbamazepine, lamotrigine, phenobarbital, phenytoin)
- NSAIDS
- Nevirapine

SJS/TEN: Treatment

- **Dermatologic Emergency**
- Early recognition and discontinuation of the offending med is critical
- Mortality 5-12% for SJS; > 20% for TEN
- Poor prognosis: increasing age, significant comorbid conditions (DM, HTN, HIV, immunocompromised)
- SCORTEN Criteria
- Supportive care in **ICU or burn unit**
- Multidisciplinary care – derm, ophtho, CCM

Q & A