The itch sensation

Pruritus is the subjective sensation of itching. It can become severe enough to interfere with work and restful sleep. Histamine is the primary mediator of itching in many disorders. Antihistamines are effective in treating histamine-mediated pruritus, but they may be less effective in patients with diseases that trigger pruritus through mechanisms involving serotonin, leukotrienes, or neuropeptides.

Dermatology Nomenclature

<table>
<thead>
<tr>
<th>Lesion type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macule</td>
<td>Concentrated area of change in normal skin color with no skin elevation</td>
</tr>
<tr>
<td>Papule</td>
<td>Solid, raised, usually less than 5 mm in diameter; usually visible color</td>
</tr>
<tr>
<td>Nodule</td>
<td>Similar to papule but deeply depressed in the dermis and subcutaneous tissue more than 5 mm in diameter</td>
</tr>
<tr>
<td>Plaque</td>
<td>Concentrated elevation of the more than 5 mm in diameter, often a scaly surface</td>
</tr>
<tr>
<td>Pustule</td>
<td>Concentrated areas of pus containing elevated fluid</td>
</tr>
<tr>
<td>Vesicle</td>
<td>Concentrated elevated, fluid-filled lesion up to 5 mm in diameter</td>
</tr>
<tr>
<td>Bump</td>
<td>Concentrated elevations that are fluid-filled lesion larger than 5 mm in diameter</td>
</tr>
<tr>
<td>Pustule</td>
<td>Small raised, dome-shaped lesion up to 5.5 mm in diameter that does not break with pressure</td>
</tr>
<tr>
<td>Scales</td>
<td>Scaly layer of materials with a crinkled surface that is not removed by normal abrasion</td>
</tr>
</tbody>
</table>
Primary vs. Secondary Skin Lesions

Primary skin lesions are those which develop as a direct result of the disease process. Secondary lesions are those which evolve from primary lesions or develop as a consequence of the patient’s activities.

Secondary lesions

- scar
- excoriations
- erosion
- fissure
- lichenification
- hyperpigmentation
- callus

Basics of Prescribing Topical Corticosteroids

- Understand the role of the VEHICLE: Ointment, Cream, Lotion, Gel, Foam, Solution, Oil, Tape, Spray
- Potency: Seven classes
- Size to be dispensed: consider the BSA affected!
- Where will it be applied?

Steroid Vehicles

- "Vehicle" refers to the base in which the medication is contained
- The type of vehicle affects the potency, for example:
  - Triamcinolone .1% CREAM=Class 4/MID Potency
  - Triamcinolone .1% OINTMENT=Class 5/HIGH Potency
- In general, the more occlusive the vehicle the more potent
- Ointments work well on dry, scaling eruptions
- Creams or gels are preferable for moist or weeping areas
- Hair bearing areas often require a solution, lotion or foam
How Much Topical Steroid is Needed?

A finger tip unit (FTU) is defined as the amount of ointment, cream or other semi-solid dosage form expressed from a tube with a 5mm diameter nozzle, applied from the distal skin-crease to the tip of the index finger of an adult.

Location, Location, Location…..

Except in rare situations and for short durations, high-potency and ultrahigh-potency steroids should not be used on the face, groin, axilla, or under occlusion.

Adverse Effects of Topical Corticosteroids

- Steroid Acne
- Hypopigmentation
- Atrophy
- Striae
- Telangiectasias
- Steroid Rosacea
- Topical Steroid Withdraw (TSW)
- Purpura
- Glaucoma/Cataracts
- Perioral Dermatitis
- Folliculitis
- Hirsutism
- Masking/worsening of Infections (Tinea Incognito)
- Delayed Wound Healing
- Tachyphylaxis

Pediatric Considerations

- Low potency topical corticosteroids are safe when used for short intervals
- Can cause side effects when used for extended durations
- High potency steroids must be used with caution and vigilant clinical monitoring for side effects in children
- Potent steroids should be avoided in high risk areas such as the face, folds, or occluded areas such as under the diaper
Neurodermatitis

- Prurigo Nodularis
- Neurotic Excoriations

Lichen Simplex Chronicus

- LSC is a localized well-circumscribed area of thickened skin (lichenification) resulting from repeated rubbing, itching and scratching of the skin.

Treatment

- Ultra high potency topical steroid (clobetasol)
- Intralesional Kenalog
- Behavior modification

Contact Dermatitis

- Rhus Dermatitis (Plant Induced)
  - topical corticosteroids as first-line treatment for localized allergic contact dermatitis
  - systemic corticosteroids for lesions covering more than 20% of body surface area
  - for example, prednisone 0.5-1 mg/kg per day for first 5-7 days, then 50% of the dose for ANOTHER 5-7 days

Atopic Dermatitis

- “Eczema”
  - Atopic dermatitis is characterized by pruritus. It is generally defined as a chronic, relapsing inflammatory skin disease that often occurs in patients with a personal or family history of asthma or allergic rhinitis. In contrast to other dermatologic disorders, atopic dermatitis often lacks a primary skin lesion. Usually only the secondary cutaneous findings of excoriation, weeping, lichenification, and pigment changes are apparent.
AD Treatment Guidelines

- ALWAYS MOISTURIZE, EVERY DAY, EVERYWHERE, EVERY PATIENT
- MILD: Emollients + LOW Potency Topical Steroids (TC)
- MEDIUM: Emollients + Medium Potency TC's + Topical Calcineurin Inhibitors (TCI's) or Crisaborole (Eucrisa)

What are… Emollients?

Emollients are products designed to soothe dry skin and work particularly well on conditions like eczema and psoriasis. Oil-based emollients are heavier in texture and leave a slight greasy sheen on the skin, which makes them ideal for very dry skins whereas water-based emollients can be used on all skin types. Where You’ll Find Them: Emollients are used in many products, from face creams to lipsticks.

What are… Occlusives?

Occlusives are compounds that sit over the epidermis. They are mainly lipid (oil) based meaning they leave a slightly greasy sheen over the skin, which can block the pores if used on oily and acne-prone skins. They don’t increase the moisture levels of the skin but can help prevent water loss. Occlusives can be found in hundreds of products but mainly skin care oils, serums and lotions.

What are… Humectants?

Humectants draw moisture into the skin and store it away until it is needed, making humectants a great moisturiser for the majority of skin types. The most popular humectants used in skin care are Glycerin and Hyaluronic Acid. Humectants are found in everything from cleansers to serums as well as more intensive skin care products.
Treatment of Atopic Dermatitis

- Non-steroidal Options

**Tacrolimus (Protopic)**
- 2 strengths: .03% for ages 2-12 and .1% for 12 and older
- ointment vehicle
- Available in 30, 60 and 100gm tubes

**Pimecrolimus (Elidel)**
- Available in 1 strength: 1% for ages 2 and up
- cream vehicle
- Available in 30, 60 and 100gm tubes

**Topical Calcineurin Inhibitors (TCI’s)**

**Dupilumab (Dupixent)**

**DOSING**

- **Dyshidrotic Eczema**
  - common form of eczema
  - causes small, intensely itchy blisters on the edges of the fingers, toes, palms, and soles of the feet
  - twice as common in women as it is in men
  - hyperhidrosis is an aggravating factor in 40% of patients with dyshidrotic eczema
  - strong association with seasonal allergies: dyshidrotic eczema blisters are known to erupt more frequently during the spring allergy season
  - blisters may last up to three weeks before they begin to dry and can sometimes be large and painful
  - as the blisters resolve, they may evolve into skin fissures or cause the skin to feel thick and spongy, especially if there has been scratching of the area
  - AKA: Dyshidrosis, Foot-and-hand eczema, Pompholyx, Vesicular eczema, Palmoplantar eczema
- no cure for dyshidrotic eczema, but the good news is, in many cases it's manageable.
- Exogenous factors (e.g., contact dermatitis) may trigger episodes
Treatment of Dyshidrotic Eczema

- Typical first-line treatment includes high-strength topical steroids
- Barrier creams
- Cool compresses
- Drain vesicles
- Botulinum toxin injections
- Avoidance of triggers

Urticaria

- Urticaria, or hives, is a common disorder that affects up to 25 percent of the population. The usual lesion is an intensely pruritic, well-circumscribed, erythematous, elevated wheal. Individual lesions may coalesce and wax and wane over several hours. Histamine is the primary mediator for most types of urticaria, although other immunohistochemicals may play an important role in more chronic cases.

Tinea corporis (ring worm)

- Dermatophytes. Dermatophyte infections cause localized pruritus and a rash characterized by peripheral scaling and central clearing. Tinea pedis (athlete's foot) usually occurs between the toes with dry, cracking skin and white areas of maceration. Tinea infections can occur at several other sites, including the scalp, trunk, and groin.

Seborrheic Dermatitis

- AKA "Dandruff"
- Seborrheic dermatitis is a common skin condition in infants, adolescents, and adults
- Characteristic symptoms—scaling, erythema, and itching
- Occur most often on the scalp, face, chest, back, axilla, and groin
- A clinical diagnosis based on the location and appearance of the lesions
- Skin changes are thought to result from an inflammatory response to a common skin organism, Malassezia yeast

Seb Derm Treatment

- Treatment with antifungal agents such as topical ketoconazole is the mainstay of therapy for seborrheic dermatitis of the face and body
- Because of possible adverse effects, anti-inflammatory agents such as topical corticosteroids and calcineurin inhibitors should be used only for short durations
- Several over-the-counter shampoos are available for treatment of seborrheic dermatitis of the scalp, and patients should be directed to initiate therapy with one of these agents.
- Antifungal shampoos (long-term) and topical corticosteroids (short-term) can be used as second-line agents for treatment of scalp seborrheic dermatitis.

Psoriasis

- Psoriasis is an immune-mediated disease that causes raised, red, scaly patches to appear on the skin.
- Psoriasis typically affects the outside of the elbows, knees or scalp, though it can appear on any location. Some people report that psoriasis is itchy, burns and stings. Psoriasis is associated with other serious health conditions, such as diabetes, heart disease and depression.
Neuropathic Pruritus

Notalgia Paresthetica

- NP is a sensory neuropathic syndrome of the midback skin, classically described as the unilateral infrascapular area.
- Typically associated with pruritus and dysesthesia, known to vary in intensity.
- Associated with pain, pruritus, and hyperpigmentation.
- Tends to be a chronic condition with periodic remissions and exacerbations.
- Association with cervical musculoskeletal disease.
- Therapies, including transcutaneous electrical nerve stimulation (TENS) and electrical muscle stimulation (EMS) of the neck, have proved to be some of the most effective and promising treatments for this otherwise refractory condition.
- Topical treatments on affected back skin are essentially unsatisfactory and ineffective.
- Traditionally therapies such as capsaicin have been described as mainstays in treatment of notalgia paresthetica; however, therapies aimed at treating the underlying musculoskeletal pathology are likely much more effective than using topical therapies aimed at essentially masking the cutaneous symptoms.

Brachioradial Pruritus

- A chronic condition characterized by itching or burning around the outer forearm and occasionally in the shoulder and neck region.
- Most commonly diagnosed in middle-aged females with lighter skin tones.
- While the exact cause of the condition is presently unknown, it is believed to be due to either cumulative sun damage or nerve root entrapment caused by degenerative spine disease.
- Association with cervical spine disease and chronic UV damage.

Pruritus Secondary to Systemic Disease

- Chronic Renal Disease. More than 50 percent of patients with chronic renal disease and up to 80 percent of patients on dialysis have pruritus. The pruritus is often generalized, but may be localized to the back.
- Liver Disease. Pruritus caused by impaired bile secretion is a common symptom in several forms of liver disease. It can be generalized, but typically worse on the palms and soles. Associated conditions include primary biliary cirrhosis, sclerosing cholangitis, viral hepatitis, drug-induced cholestasis, and other causes of obstructive jaundice. Biliary obstruction leads to pruritus in these disorders, but there is little correlation between serum bilirubin level and severity of pruritus.
- Autoimmune Hepatitis
- Hemochromatosis
- Von-Willebrand’s disease
- Metastatic disease
- Cholestasis
- Portal hypertension
- Obstructive jaundice
- Drug-induced cholestasis
- Other causes of obstructive jaundice

Pruritus Secondary to Systemic Disease (cont’d)

- Malignancy. The possibility of an underlying malignant disease should be considered in patients with generalized pruritus of unknown cause. Among malignant diseases, Hodgkin lymphoma has the strongest association with pruritus, which occurs in up to 30 percent of patients with the disease. Pruritus can precede the clinical presentation of lymphoma by up to five years and is often the presenting symptom. Pruritus has been reported as a manifestation in patients with nasopharynx, prostate, stomach, breast, brain, uterine, or colon cancer.

Autoimmune
- Dermatitis herpetiformis
- Dermatomyositis
- Linear immunoglobulin A disease
- Sjogren syndrome
- Hemochromatosis
- Von-Willebrand’s disease
- Metastatic disease
- Cholestasis
- Portal hypertension
- Obstructive jaundice
- Drug-induced cholestasis
- Other causes of obstructive jaundice
- AIDS
- Infections
- Renal disease (gout, pseudogout, sarcoidosis, aspergillosis)
- Pre-dialysis
To Contact Me

Cell: 502.445.2236 (text/call)
Business Phone: 502.361.3909
Business Fax: 502.361.9229
Website: https://dermcarepractitioners.com