Adult Dermatology Update
Part One

Kristina Vaji, MSN, FNP-C
Internal Medicine and Pediatrics
Medicine Institute
Objectives

• Identify common skin disorders seen in primary care
• Understand general terminology
• Identify elements of a thorough skin exam
• Be familiar with treatments of common skin disorders
• Identify dermatologic emergencies
• Discuss patient education for health promotion of skin and aftercare of dermatologic treatments
General Terminology

- **Pruritis**: Itching
- **Blanchable**: Reddened area of skin turns white or pale when pressure is applied with a fingertip
- **Xerosis**: Excess dryness
- **Dyshydrotic**: Related to sweat or water
- **Hyperhidrosis**: Profuse or excessive sweating
- **Induration**: Process of becoming firm or hard
- **Confluent**: Merging together
Elements of Exam

- Hair
- Nails
- Skin
  - Color, moisture, temperature, texture, mobility and turgor, lesions
  - Be sure to include palms, soles, webbing of fingers and toes
- Eyes
- Mouth
- Neck
- Lungs
- Heart

** Special Technique – Wood’s Lamp**
Skin Lesions

- Location
- Blanchable or not
- Pattern and shape
- Size
  - Pencil eraser is about 6 mm
- Shape
- Type
- Color
- Distribution

** Top three diagnoses in dermatology for primary care dermatitis, tinea and pyogenic (cellulitis)
## Description of Lesions

<table>
<thead>
<tr>
<th>Macule</th>
<th>Petechiae</th>
<th>Telangiectasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patch</td>
<td>Purpura</td>
<td>Eczematous</td>
</tr>
<tr>
<td>Papule</td>
<td>Scales</td>
<td>Papulosquamous</td>
</tr>
<tr>
<td>Plaque</td>
<td>Excoriation</td>
<td></td>
</tr>
<tr>
<td>Nodule</td>
<td>Fissure</td>
<td></td>
</tr>
<tr>
<td>Tumor</td>
<td>Lichenfication</td>
<td></td>
</tr>
<tr>
<td>Vesicle</td>
<td>Keloid</td>
<td></td>
</tr>
<tr>
<td>Bulla</td>
<td>Burrow</td>
<td></td>
</tr>
<tr>
<td>Wheal</td>
<td>Comedome</td>
<td></td>
</tr>
<tr>
<td>Cyst</td>
<td>Milia</td>
<td></td>
</tr>
</tbody>
</table>
## Skin Lesions in Travelers

<table>
<thead>
<tr>
<th>Skin Lesion</th>
<th>Percentage of All Dermatologic Diagnoses (N = 4,742)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cutaneous larvae migrans</td>
<td>9.8</td>
</tr>
<tr>
<td>Insect bite</td>
<td>8.2</td>
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<tr>
<td>Skin abscess</td>
<td>7.7</td>
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<tr>
<td>Superinfected insect bite</td>
<td>6.8</td>
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<tr>
<td>Allergic rash</td>
<td>5.5</td>
</tr>
<tr>
<td>Rash, unknown origin</td>
<td>5.5</td>
</tr>
<tr>
<td><strong>Dog bite</strong></td>
<td><strong>4.3</strong></td>
</tr>
<tr>
<td>Superficial fungal infection</td>
<td>4.0</td>
</tr>
<tr>
<td>Dengue</td>
<td>3.4</td>
</tr>
<tr>
<td>Leishmaniasis</td>
<td>3.3</td>
</tr>
<tr>
<td>Myiasis</td>
<td>2.7</td>
</tr>
<tr>
<td>Spotted-fever group rickettsiae</td>
<td>1.5</td>
</tr>
<tr>
<td>Scabies</td>
<td>1.5</td>
</tr>
<tr>
<td>Cellulitis</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Eczema/Dermatitis

• Allergic/Contact
• Atopic
• Dishydrotic
• Seborrheic
• Nummular
• Stasis
Steroid Therapy

• Formulations include ointment, cream, gel, solution, spray

• Apply once or twice daily

• Absorption is site dependent- The thinner the skin the more sensitive it will be to the topical agent so use lower potency

• Be sure the patient has enough
  - ie: 1 gram for both hands, 4 grams for one leg
Steroid Potency

- **Super Potency** (Clobetasol propionate 0.05%)
- **High Potency** (Desoximetasone 0.25%)
- **Mid Potency** (Triamcinolone acetonide 0.1% and hydrocortisone valerate)
- **Low Potency** (Desonide 0.05% and hydrocortisone 1%)

** Avoid face with high potency steroids

** Caution around the eyes when using steroids on the face
Allergic/Contact

- Occurs from contact with a substance a person is sensitive to
- Triggers an immune response
- Rash can be local or systemic
- Common triggers include nickel, formaldehyde, fragrance, preservatives, poison ivy, poison oak and sumac. Also Neosporin and bacitracin Ointments
- Presentations as pruritic papular erythematous rash with indistinct margins, distributed in areas that were exposure
- Poison ivy, Poison oak and Sumac usually present as a linear vesicular rash on an erythematous base
- Diagnosed mainly by history and exam
Poison Ivy, Poison Oak and Sumac

• “Leaves of three let them be”
• Urushiol is the oily substance that causes the reaction
• Wash the area with soap and water immediately
• Cool, wet compresses and oatmeal baths
• Topical treatment of Calamine and menthol can provide symptomatic relief
• Topical astringents like Burow’s solution (aluminum acetate) and Domeboro (calcium acetate) may be useful to dry weeping lesions
• Zanfel which is a soap mixture of surfactants that can help to remove urushiol
Atopic Dermatitis / Eczema

• Also called atopic eczema
• Think about atopy as a syndrome of three
  - Asthma, allergic rhinitis and atopic dermatitis
• Occurs more frequently in children than adults
• Usually presents as pruritic erythematous dried or scaly rash
• Tends to be a more chronic condition
• Triggers include allergens, cold weather, illnesses, dry skin, emotional stress, sudden changes in temperature, frequent baths or showers and sudden change in temperature
Atopic Dermatitis

https://medlineplus.gov/ency/article/000853.htm  
https://medlineplus.gov/ency/imagepages/2560.htm
Atopic Dermatitis Treatment

- Avoidance of the trigger
- Moisturizer
- Antihistamines for the itching (dose accordingly for kids)
- In severe cases oral famotidine can be added to the antihistamine
- May also try hydroxyzine
- Topical steroids
- Oral steroids in severe cases (caution in diabetics)
- Treat if you suspect cellulitis (Usually from itching)
Dishydrotic Dermatitis

• Pruritic erythematous vesicular rash to palms
• Cause is usually multifactorial
• Commonly seen in professions that wash their hands frequently
• Can range from mild to severe cases
Dishydrotic Dermatitis

Dishydrotic Dermatitis Treatment

- Avoidance of the trigger/irritant
- Emollients
- Topical steroids (ranges from moderate to super potency)
- Oral corticosteroids for severe cases
- Psoralen plus UV light therapy for severe cases (PUVA)
- Burow’s solution or Witch Hazel can help to dry weeping lesions
Seborrhoeic Dermatitis

- Affects mainly the scalp, face and upper torso
- In children is known as cradle cap and can affect the diaper area
- Dandruff is a type of this rash
- All ages can be affected
- Erythematous scaly lesions
- Not curable but very treatable
- May be caused by oily skin or fungus, but not definitive
- Diagnosis by history and assessment
Seborrheic Dermatitis

http://hardinmd.lib.uiowa.edu/pictures22/dermnet/seborrheic_dermatitis_51.jpg
Seborrheic Dermatitis Treatment

- Topical antifungals like ketoconazole 2% shampoo or selenium sulfide 2.5% shampoo (Selsum blue)
- Hydrocortisone 1% and Ketoconazole 2% creams
- More severe cases could do oral treatments
  - Itraconazole 200 mg daily for one week and then with a single dose of 200 mg every two weeks for 18 weeks
  - Ketoconazole, fluconazole and terbinafine can be used as well
Nummular Dermatitis

• Also called discoid eczema

• Pruritic rash that appears as round or coin-shaped areas of erythematous raised macular lesions, may be dried and scaly. Ranges from 1-10 cm

• Can appear after skin injury such as burn, abrasion or insect bite.

• Affects men more than women

• Ages 55-65 usually

• Legs and arms

• More chronic condition
Nummular Dermatitis

Nummular Dermatitis Treatment

• High or ultra high potency steroids like Clobetasol propionate 0.05%, Betamethasone dipropionate 0.05%
• UVB light therapy
• Oral corticosteroids for more severe cases

• Patient Information
  – Use non soap cleansers
  – Bathe in lukewarm water
  – Apply moisturizers that contain ceramides twice daily (ie cereve or cetaphil)
  – Humidify the air in the home
Stasis Dermatitis

• Chronic venous insufficiency that leads to inflammation of the skin of the lower legs

• Pruritic rash that presents as scaling with hyperpigmentation

• May see ulcerations or thickened fibrotic skin

• Lipodermatosclerosis is a painful induration that gives the lower leg a “coke or champagne bottle” appearance
Stasis Dermatitis

http://sandison.bigpondhosting.com/haemasiderin.JPG

<table>
<thead>
<tr>
<th></th>
<th>Arterial</th>
<th>Venous</th>
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<tbody>
<tr>
<td>Pulses</td>
<td>Decreased</td>
<td>Present</td>
</tr>
<tr>
<td>Cap Refill</td>
<td>&gt;3 secs</td>
<td>&lt; 3 secs</td>
</tr>
<tr>
<td>Edema</td>
<td>None</td>
<td>Present</td>
</tr>
<tr>
<td>Hair</td>
<td>None</td>
<td>Present</td>
</tr>
<tr>
<td>Skin Color</td>
<td>Rubor or pallor</td>
<td>Brown</td>
</tr>
<tr>
<td>Skin Texture</td>
<td>Thin, shiny</td>
<td>Thick, hardened</td>
</tr>
<tr>
<td>Pain</td>
<td>Sharp, stabbing, worsens with activity and elevation</td>
<td>Aching, cramping, elevation relieves pain</td>
</tr>
<tr>
<td>Ulcers</td>
<td>Distal toes</td>
<td>More proximal lower leg and ankle</td>
</tr>
<tr>
<td>ABI</td>
<td>&lt; 0.75</td>
<td>&gt; 0.90</td>
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</table>
Stasis Dermatitis Treatment

• Based on improving the venous insufficiency
  – Leg elevation
  – Compression stockings

• High or med potency steroid creams
  – Fluocinolone acetonide ointment 0.025% (high)
  – Desoximetasone cream 0.05% (med)

• Hydrocolloid dressing for weeping lesions

• Unne boots

• Vascular and wound care typically follow these patients
Psoriasis

• Immune mediated, believed to be T-lymphocyte mediated
• Risk factors include genetic, smoking, obesity, drugs, infections and alcohol
• Onset is between 20-30 years of age
• Not usually pruritic
• May begin as purplish, red to salmon colored scaling papules that band together to form plaques with silvery-white scales
• Common sites are scalp, ears, elbows, groin, knees, umbilicus, gluteal cleft and nails
• Usually diagnosis by visualization, but can do a punch biopsy
• 50% of those affected usually have scalp involvement

**May be the first sign of HIV. Will usually be explosive and includes face**
Psoriasis


Psoriasis Treatment

Mild to moderate disease
• Topical steroids
• Tar baths
• Emollients
  – May include salicylic acid to help remove plaques

Severe disease
• Retinoids, Methotrexate, cyclosporin
• Light therapy (PUVA) psoralen plus UVA
• Biologics (adalimumab, etanercept, and infliximab)

** Teach patients to keep their skin well lubricated
Case Study

• 33 year old female presents with nonpruritic rash for the last 2 weeks to her knees. Says it has worsened over the last two days. Thinks she may have had the rash in the past once or twice. She denies new lotions, soaps, medications, travel and camping. She has one sexual partner for the past 6 years. She denies fever, chills, mouth sores, sob, chest pain.

• No pertinent medical or family history

• Physical exam

• VS 36.9, 68, 18 118/72 POx 98%

• Exam negative except for

• Lesions noted to the left.
Fungal / Yeast

- Versicolor
- Tinea in various locations
- Onychomycosis
- Candida
Tinea Versicolor

• Non inflammatory fungal infection
• Pityrospum orbiculare, part of normal flora, overgrows due to unknown reason
• Multiple circular macules of various colors
  – White, pink or brown
• May see increase in size of lesions with scaling
• Upper trunk is mostly affected
• Usually asymptomatic, may be pruritic, not contagious
• Most evident in warm weather
• Also exacerbated by humidity, pregnancy, corticosteroid treatment and immune suppression
• Often mistaken for vitiligo
Tinea Versicolor

https://www.dermquest.com/imagemlibrary/large/038690HB.JPG

Tinea Versicolor Treatment

• Topical antifungals
  – Topical selenium sulfide, and topical zinc pyrithione (first line)
  – Topical azole antifungals, topical terbinafine, and topical ciclopirox
  – Treatments range from a few days to four weeks

• Oral antifungals
  – Itraconazole 200 mg per day for five days
  – Fluconazole 300 mg once weekly for two weeks
Tinea by Location

• Fungal infection

• Treatment will vary by location

• Tinea capitus will need to be treated with oral antifungal, as it does not respond well to topical treatment

• Tinea locations
  – Tinea corporis
    – Infection of body surfaces other than the feet, groin, face, scalp hair, or beard hair
  – Tinea pedis
    – Infection of the foot
  – Tinea cruris
    – Infection of the groin
  – Tinea capitis
    – Infection of scalp hair
Tinea Treatment

- Topical antifungals
- Oral antifungals
  - Tinea capitis must be treated with oral antifungals
  - Griseofulvin is treatment of choice, cut can use itraconazole or terbinafine
  - Tinea corporus topical if 1-2 lesions, but if more than that will need oral treatment usually terbinafine and itraconazole (aka ring worm)
- Antihistamines for pruritis
- Oral corticosteroids for severe pruritis or generalized rash
Wood’s Lamp Florescence

http://www.usc.edu/student-affairs/Health_Center/adolhealth/images/b4derm6_clip_image038.jpg

http://www.huidziekten.nl/afbeeldingen/tineawoods.jpg
Onychomycosis

- Fungal infection of the nail bed
- Occurs in all ages
- In immunocompromised or diabetics there is a risk of bacterial infection
Onychomyocosis Treatment

• First-line topical therapies efinaconazole, amorolfine, tavaborole, and ciclopirox

• Terbinafine is the first-line oral agent to treat mild to moderate
  – 250 mg daily for 6 weeks (fingers)
  – 250 mg daily for 12 weeks (toes)

• Patient Information:
  – Apply solution once daily for 48 weeks
  – One drop to each nail and two to great toe
  – Apply to nail bed, adjacent nail folds, hyponychium and undersurface of nail plate
  – Avoid pedicures, nail polish and cosmetic nail products
  – Oral treatment requires evaluation of liver function
Candidal Infections

• Fungal infection caused by overgrowth of Candida, usually Candida albicans

• Symptoms can vary depending on the area of the body that is infected

• Usually affect areas of the body that are warm, moist areas and skin folds

• Can occur anywhere on the body including mouth and genitalia

• Pruritic

• Usually presents as erythematous glistening papules or pustules

• Can diagnose with microscope on KOH wet mount

• Usually diagnosis of history and exam
Candida

Candidal Infections

http://www.regionalderm.com/Regional_Derm/RD_Large/IntertrigoMan.jpg

http://images.medicine.net.com/images/appictures/thrush-s5-symptoms-signs.jpg
Candida Treatment

- Nystatin cream or powder 100,000 units/gram
- In really moist areas you can apply cream until absorbed and then apply nystatin powder
- Miconazole or clotrimazole
- For oral thrush nystatin oral solution 100,000 units/ml 4-6 ml four times daily for 7-14 days
- Advise patient to keep solution in mouth for as long as possible
Pityriasis Rosea

- Unknown origin, but may be viral
- Higher incidence in cold months
- 2-10 cm round/oval lesion that appears on the trunk (herald patch)
- Generalized rash erupts by 7-14 days (Christmas tree distribution)
- Multiple erythematous macules progressing to papules that enlarge and become oval with some scaling
- Rash lasts about 4-8 weeks
- Pruritic
Pityriasis Rosea

http://www.dermamin.com/site/images/clinical-pic/p/pityriasis_rosea/pityriasis_rosea85.jpg
Pityriasis Rosea Treatment

- Pruritis control
- Rule out syphilis
- Ask about herald patch
- Severe cases may try UV light and acyclovir, but this is rarely necessary

- Patient Education
  - May take lukewarm water oatmeal bath. No hot water.
  - Keep your body cool
  - Use unscented moisturizing lotion or cream to your skin.
Pyogenic

• Cellulitis
  – Spider bite and MRSA

• Folliculitis

• Abscess
  – see "Skin abscesses, furuncles, and carbuncles"
Cellulitis

• Staphylococcus aureus and streptococcus are the most common causes
• Presents as warm erythematous, papules or pustules
• May have an abrasion, small laceration or insect bite
• Must ensure that patient is not febrile and no lymphatic streaking present
• Tachycardia with low blood pressure may indicate sepsis
Cellulitis


http://images.medicinenet.com/images/dtarticleplayer/cellulitis-s5a-look-like.jpg
Cellulitis Treatment

- Clindamycin 300 mg three times daily for 10 days
- Trimethoprim/sulfamethoxazole (Bactrim)
  - 160/800 twice daily for 10 days
- Doxycycline 100 mg twice daily for 10 days
- Can also give topical mupiricin ointment
- Wound care if indicated
- Elevation if on an extremity
- Treatment of the underlying condition if present
  - Tinea pedis, vascular disease, diabetes, lymphedema
Folliculitis

- Inflammation of the superficial or deep portion of the hair follicle
- Usually noninfectious
- Various bacteria, fungi, viruses, and parasites are causes of infectious folliculitis
- Topical treatment with mupiricin or clindamycin
- Bactrim, clindamycin or doxycycline
Folliculitis


https://www.dermquest.com/imagelibrary/large/039925HB.JPG
Abcess

- Collection of pus in the dermal tissues
- Most commonly due to staphylococcus aureus
- Lesions under 2 cm
  - Usually can be treated by incision and drainage
- May opt to cover with oral antibiotics (treatment similar to MRSA) for larger lesions or patients with increased risk for infection
- If febrile may need to step up care
Wound Care Patient Information

- Draining wounds should be covered with clean, dry bandages.
- Patients that have open wounds should not participate in activities with skin to skin contact until wound is fully healed.
- Avoid sharing personal items that may become contaminated (clothing, towels, bedding, razors, athletic equipment).
- Clothing that is in contact with wound drainage should be laundered and dried thoroughly.
- Call for any fever, worsening erythema (lymphatic streaking) or swelling.
- Generally not feeling well or increase in symptoms despite antibiotic will need ER.
- Explain to patients what lymphatic streaking looks like.
Infestations

• Scabies
• Body and head Pediculosis
• Bed Bugs (cimex lectularius)
• Lyme
Scabies

• Infestation of the skin by the mite Sarcoptes scabiei
• Intensely pruritic and symptoms may increase at night
• Occurs worldwide

• Small, erythematous, nondescript papule
  – Often excoriated and tipped with hemorrhagic crusts
Scabies

http://scabiespics.com/large/11/Scabies-Mites-Pictures-1.jpg

Scabies Treatment

- Permethrin 5% cream (category B for pregnancy)
- Lindane 1% cream
- Antihistamines for the itching
- Hydroxyzine can also be used if the itching is severe
- Wash all items that have come into contact within the last three days
- Can bag items in plastic bags for at least three days
- Put items in a dryer on hot setting
- May steam furniture or mattresses
Pediculosis

- Usually noted on the trunk or head
- Body lice tend to be larger
- Body lice tend to congregate near seams of clothing
- Occurs usually due to close contact with a person who has body lice, or with clothing or bedding that is infested.
Pediculosis

**Body lice in clothing**  Body lice nits tend to concentrate along the seams of clothing. (Photo courtesy of John T Crissey, MD.)

http://web.stanford.edu/class/humbio103/ParaSites2005/Pediculosis/Stacy%20-%20Pediculosis_files/body_lic.gif

http://www.gavink.com/personal/Australia/slides/Sea%20lice%20bites%20on%20Aidan.JPG
Pediculosis Treatment and Erradication

- Permethrin cream 5% apply and leave in place for 8-10 hours.
- Clothing, bedding, and towels used within 48 hours before treatment should be washed in hot water and dried in an electric dryer on the hot setting. Dry cleaning is also effective.
- You can use a vacuum to clean furniture, carpet, and car seats.
- Items that cannot be washed or vacuumed can be sealed inside a plastic bag for two weeks.
- Items that the person used more than two days before treatment are not likely to be infested because head lice cannot survive off the body for more than 48 hours.
- You do not need to have your home sprayed for lice.

Cleveland Clinic
Bed Bugs

- Two bedbug species
  - Cimex lectularius and C. hemipterus
- Present throughout the world.
- Found in more temperate climates
- Obligate blood feeding insects
- Rash usually presents as erythematous papules
- Pruritic
Bed Bugs


Bed Bug treatment

- Permethrine 5% lotion
- Treatment of the pruritis with topical corticosteroid and/or antihistamine
- Can cause psychological stress inquire about any anxiety or depression
- Advise to keep skin clean and dry
- Try not to scratch bites
- Treat any suspected cellulitis
Bed Bug Eradication and Prevention

- Insecticide-treated bednets
- Heat treatment of 50 C or 122 F for 90 minutes
- Elimination of cracks and crevices
- Insecticidal sprays of infested sites
- Direct removal of bedbugs most effective
- Visual examination of hotel rooms or other new sleeping areas and pay attention to mattress cords and crevices in box springs
- Place luggage away from the bed while traveling
- Place worn garments in a sealed plastic bag to minimize bedbug attraction to worn clothing
- Examination carefully used items before bringing them into your home
Just For Fun


Lyme disease is a tick-borne illness and is caused by three species of the spirochete Borrelia burgdorferi sensu lato.

- B. burgdorferi is the primary cause in the United States.
- All three pathogenic species, B. burgdorferi, Borrelia afzelii, and Borrelia garinii, occur in Europe.
- Borrelia afzelii, and Borrelia garinii occur in Asia.
- Broad spectrum of clinical manifestations.
- Varies in severity.
- Infection does not usually occur until the tick is imbedded for 48 hours.
- Target lesion.
- Diagnosed by blood titers or cerebral spinal fluid.
- Greatest occurrence is late spring and summer.
- Must be at least an eight legged nymph to infect host.
Tick Lifecycle

https://www.cdc.gov/ticks/life_cycle_and_hosts.html
https://www.cdc.gov/lyme/images/rashes/em_1_010728_bernard-cohen.jpg
Lyme Treatment

- Early localized disease
  - A few days to one month (erythema migrans)
  - Doxycycline 100 mg twice daily for 21 days
  - Amoxicillin and cefuroxime for 21 days

- Early disseminated
  - High dose penicillin, ceftriaxone and cefotaxime, doxycycline and IV PCN

- Late
  - Treatment as above and support of neurologic manifestations

** Ask if color and size of the tick and also if it was engorged with blood

** Transmission usually occurs about 24-48 hours

** Usually needs to be an adult tick before transmission can occur
Lyme Patient Information

• Wear shoes, long-sleeved shirts, and long pants when you go outside. Can tuck pants into boots
• Wear light colors so you can see the ticks if they get on your clothes
• Use insect repellent on skin and clothes
• Shower within 2 hours of being outdoors if you think you were exposed
• Check clothes, scalp, waist and skin folds
• Check your children
• Use measures to keep deer and mice away from dwellings
• May bring the tick in a enclosed container for identification
• If being treated for Lyme, call for any fever, worsening rash and neurologic symptoms
• Advise strongly of the importance of taking the medication as directed
Questions
Every life deserves world class care.