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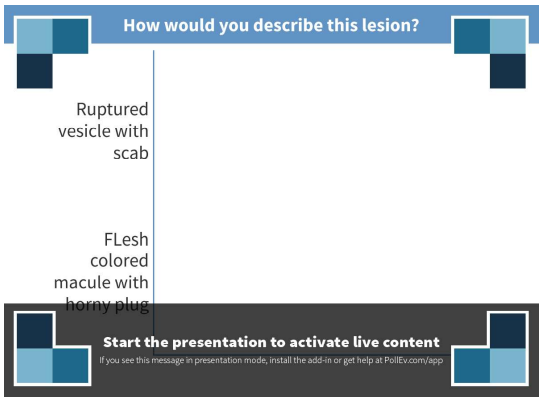

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Common Dermatologic Conditions in Ambulatory Care

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Disclaimer

The opinions expressed reflect the personal opinions of the presenters and do not reflect the opinion of the Uniformed Services University, United States Air Force, or the Department of Defense.

We have nothing to disclose.

Objectives

- Identify the 10 most common skin conditions encountered in the Family Medicine clinic
- Understand basic treatment principles
- Know when to refer to a Dermatologist

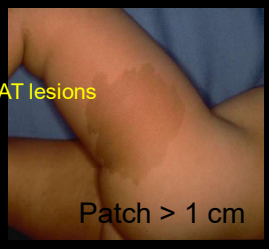
Overview

- Dermatology Terminology
- Top 10 Dermatologic Conditions in Ambulatory Care
  - –Acne
  - –Atopic Dermatitis
  - –Contact Dermatitis
  - –Seborrheic Dermatitis
  - –Psoriasis
  - –Condyloma
  - –Benign Tumors
  - –Skin Cancers
  - –Tinea
  - –Candida

Dermatology Terminology

telangiectasia
nodule
plaque
blister
macule
patch
vesicle
ulcer
excoriation
scale
purpura
pustule
papule
bullae
petechiae
urticaria

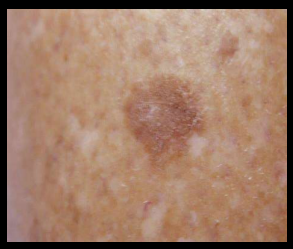
Macule vs Patch



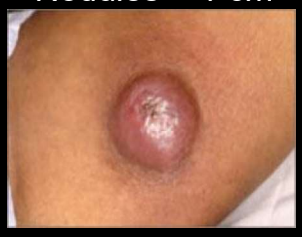
Flat well circumscribed lesion any color or lack of color

Papules vs Nodules

Nodules > 1 cm

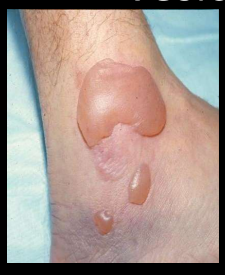


Papules < 1cm

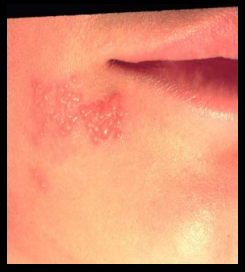


Both solid raised lesion

Vesicles vs Bullae

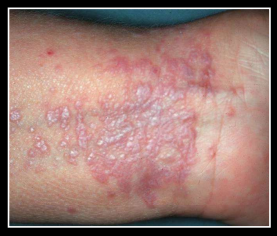


Bulla
Fluid filled structure > 1 cm



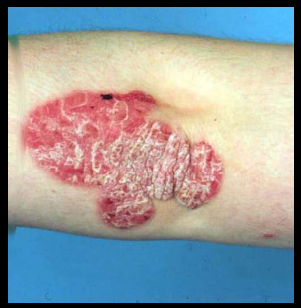
Vesicle
Fluid filled structure < 1 cm

Plaques

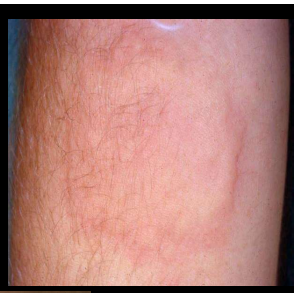


Often confluence (coalesced) papules

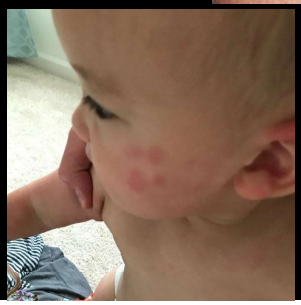
Raised lesion
Surface area > height



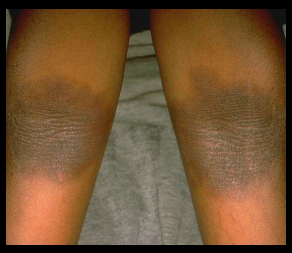
Urticaria



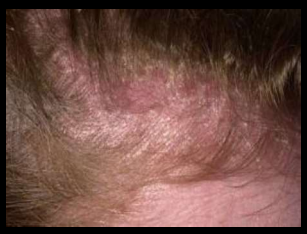
- Red, itchy, elevated lesion caused by local edema
- Each lesion lasts < 24 hours



Lichenification vs Scale



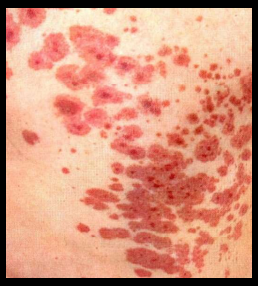
Lichenification
Thickened epidermis
Accentuates the skin lines



Scales
Excess dead epidermal cells
Abnormal keratinization and shedding

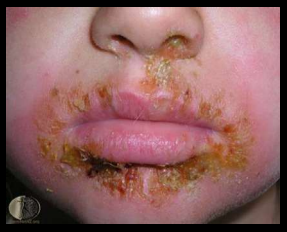
Petechiae

- Non-blanchable, punctate foci of hemorrhage

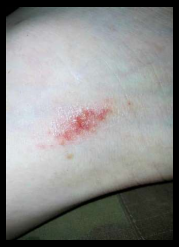


Crust

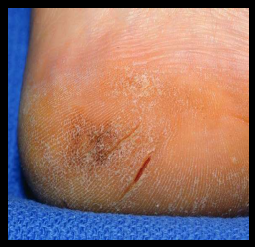
Drying plasma or exudate



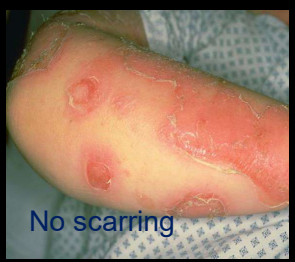
Excoriation
Skin breakdown due to scratching or rubbing

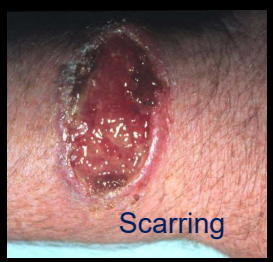


Fissure
Linear cleavage of skin
Extends into the dermis



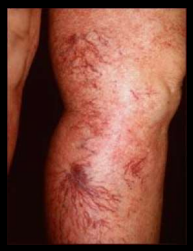
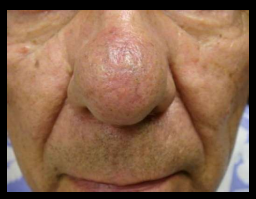
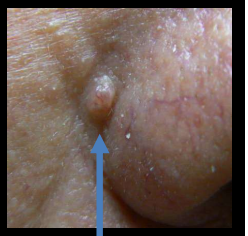
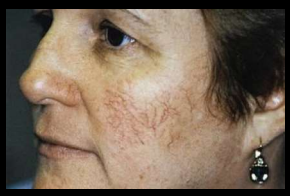
Ulceration vs Erosion





Erosion
Does NOT cross the dermo-epidermal border

Ulceration
Crosses into dermis

Telangiectasias
Permanently dilated vessels

What is a differentiating feature of urticaria?

It is the only palpable lesion

It is the only flat lesion

It is the only lesion that lasts < 24 hours

It is the only lesion > 1cm

It is the only thematous lesion

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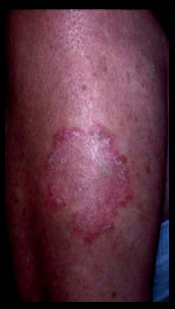
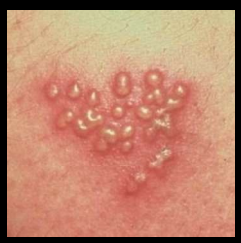
Other dermatologic features

- Pattern
- Location
- History
- Configuration

Medication class	Diagnosis	Side effects
Retinoids	Acne, Psoriasis	Skin redness, burning, skin peeling and dryness, sun sensitivity
Steroids (oral/topical)	Atopic dermatitis, Contact dermatitis, Seborrheic dermatitis, Psoriasis,	Hypopigmentation, skin thinning, rosacea,
Calcineurin Inihibitors	Atopic dermatitis, Psoriasis	Black box warning: lymphoma
Anti-fungals (oral/topical)	Seborrheic dermatitis, Tinea, Candida	Oral – elevated LFTs, multiple drug interactions
Antihistamines	Atopic dermatitis, Contact dermatitis	Drowsiness
Coal tar	Seborrheic dermatitis, Psoriasis	Skin tingling or irritation

ACNE VULGARIS – DR. HALISTA

ATOPIC DERMATITIS
CONTACT DERMATITIS
SEBORRHEIC DERMATITIS
PSORIASIS
BENIGN TUMORS
SKIN CANCER
TINEA
CANDIDA
CONDYLOMA

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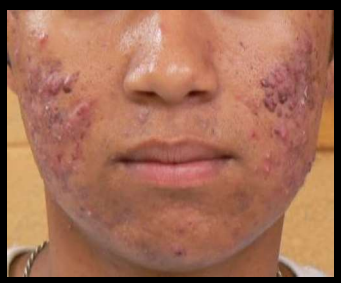
Acne

- Most common skin disorder affecting adolescents and young adults
- Prevalence decreases with age
- Males > Females in adolescence
- Females > Males in adulthood



Pathophysiology of Acne

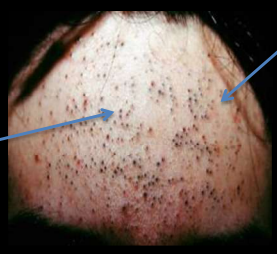
1. Follicular hyperkeratinization
2. Increased sebum production
3. *Propionibacterium acnes* within the follicle
4. Inflammation

Role of Androgens

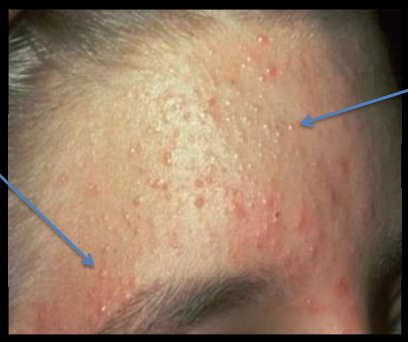
- Androgen precursors are converted to active hormones in the sebaceous glands
- Testosterone and DHT receptors are present in the sebaceous glands and on the follicular epithelium

Dehydroepiandrosterone sulfate (DHEA-S)
↓
Dehydroepiandrosterone (DHEA)
↓
Androstenedione
↓
Testosterone
↓
Dihydrotestosterone (DHT)

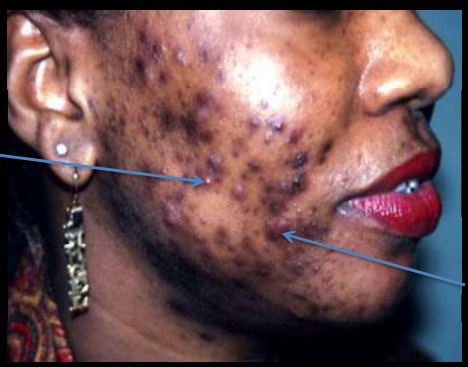
Types of Acne Vulgaris – Open and Closed Comedones



Types of Acne Vulgaris – Papules and Pustules



Types of Acne Vulgaris – Nodules and Cysts



Treatment of Acne Vulgaris

<u>1. Follicular hyperkeratinization</u>
- Topical retinoids
- Oral retinoids
- Azelaic acid
- Salicylic acid
- Hormonal therapies

<u>2. Increased sebum production</u>
- Oral isotretinoin
- Hormonal therapies

<u>*3. Propionibacterium acnes* within the follicle</u>
- Benzoyl peroxide
- Topical and oral antibiotics
- Azelaic acid

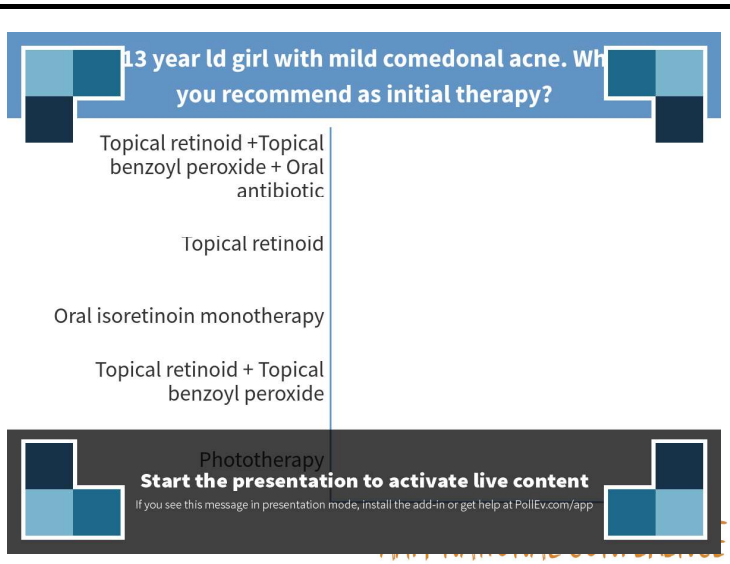
<u>4. Inflammation</u>
- Oral isotretinoin
- Oral tetracyclines
- Topical retinoids
- Azelaic acid

Treatment of Acne Vulgaris American Academy of Dermatology 2016 Guidelines

Type of Acne	Recommended 1st Line Therapy
Comedonal, non-inflammatory acne	Topical retinoid
Mild papulopustular and mixed (comedonal and papulopustular) acne	Topical antimicrobial (Benzoyl peroxide alone or Benzoyl peroxide + Topical antibiotic) + Topical retinoid Or Benzoyl peroxide + Topical antibiotic
Moderate papulopustular and mixed acne	Topical retinoid + Oral antibiotic + Topical benzoyl peroxide
Severe (nodular) acne	Topical retinoid + Oral antibiotic + Topical benzoyl peroxide Or Oral Isotretinoin monotherapy

Treatment Pearls

- Benzoyl peroxide bleaches fabric
- Benzoyl peroxide and topical retinoids should NOT be applied at the same time
  - –Benzoyl peroxide oxidizes tretinoin
  - –Apply benzoyl peroxide in morning and tretinoin in evening
- Topical antibiotics (e.g. Erythromycin, Clindamycin) should not be used as monotherapy
  - –Use w/ benzoyl peroxide to decrease antibiotic resistance



Hormonal therapies for women

- OCPs
- Spironolactone

OCPs

- Estrogen predominant → anti-androgenic → decreased sebum production
- 3 FDA approved formulations in United States
  - –Estrostep
  - –Ortho Tri Cyclen
  - –Yaz
  - –Many others not FDA approved but can be used

Spironolactone

- Androgen receptor blocker and 5-alpha-reductase inhibitor
- Contraindicated in pregnancy
- Ideal candidates
  - –Women whose flares coincide w/ menses
  - –Women w/ predominant acne on lower face & jawline
- Dosing
  - –25 – 100mg daily divided BID

Oral Isotretinoin

- Candidates: patients with severe nodular acne that is unresponsive to conventional therapies
- Mechanism of action: decreases size of sebaceous glands leading to decreased sebum production and decrease *P. acnes* colonization

- Must be registered in iPledge to prescribe

Oral Isotretinoin

- Dosing:
  - 0.5 mg/kg/day either daily or divided BID for 1st month
  - 1 mg/kg/day either daily or divided BID thereafter

- Treatment Goal: 120 – 150 mg/kg total

Oral Isotretinoin

- Highly teratogenic
  - All females MUST be on 2 forms of birth control

- Potential adverse side effects
  - Dry skin, including cheilitis and epistaxis
  - Transaminitis
  - Hypertriglyceridemia
  - Severe muscle aches, especially after exertion
  - Worsening depression with suicidal ideation

Monitoring on Oral Isotretinoin

Laboratory Test	Prior to initiating therapy	Monthly while on therapy	One month after completing therapy
Liver Function Tests	X	X*	
Fasting Lipids	X	X*	
Urine or Serum β-hCG	X	X	X

*May discontinue monthly monitoring if stable during the first 3 months of therapy

When to Discontinue Oral Isotretinoin

- Triglycerides > 800 mg/dl due to risk of pancreatitis
- AST or ALT > 3x normal
- After reaching treatment goal

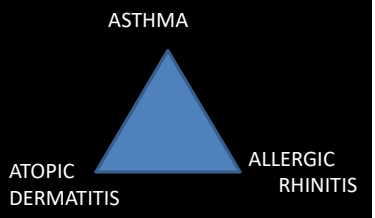
ACNE VULGARIS

ATOPIC DERMATITIS – DR. KNOBLOCH

SEBORRHEIC DERMATITIS
CONTACT DERMATITIS
PSORIASIS
SKIN CANCER
BENIGN TUMORS
TINEA
CANDIDA
CONDYLOMA

Atopic Dermatitis

- Affects approximately 11% of US population
- Most commonly diagnosed <2 years
- "Allergic triad"

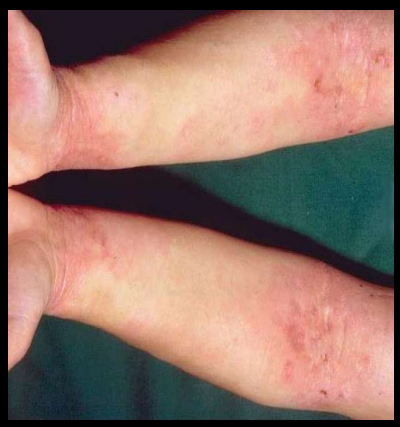


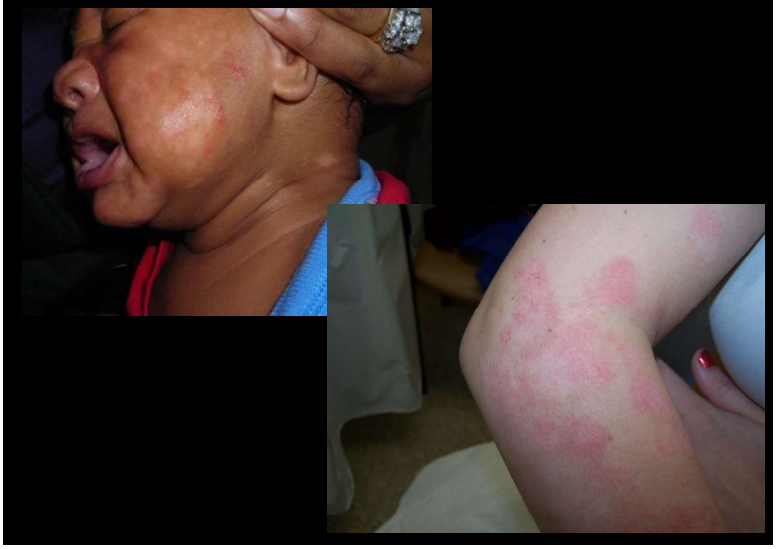
Pathophysiology

- Genetic defect in filaggrin and other skin barrier proteins
- Disrupted epidermis → increased contact between environmental antigens and immune system
- Immune system response to antigens → itch
- Scratching further disrupts barrier - "itch-scratch cycle"

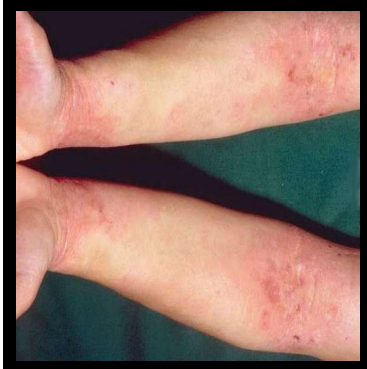
Clinical Presentation

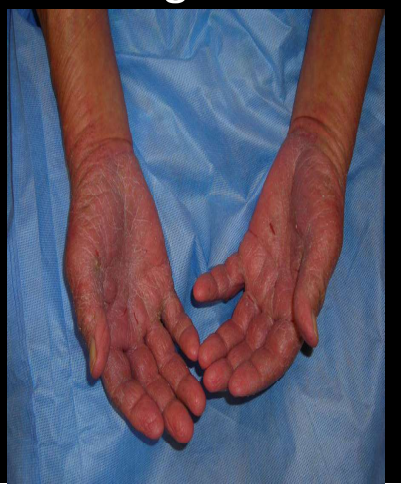
- Erythema
- Papules and plaques
- Pruritus
- Xerosis
- Most commonly on flexural surfaces*





Chronic skin changes





Management – 1st line

- Behavioral and lifestyle changes
- Warm (not hot) showers, sponge baths
- Minimize use of soap
- Regular emollient use regardless of active lesions immediately after bathing
- Ointment >> Cream

Management – 1st line

- Topical corticosteroid
  - Tailor potency to severity of disease
  - Occlusive therapy if severe symptoms*
  - Apply daily for 2 weeks or until improved
  - If not improved, consider step-up in therapy

Topical Steroids

Superpotent

Least potent

Clobetasol 0.05%
- Palms, soles, scalp

Triamcinolone ointment 0.01%
- Body

Desonide 0.05%, Hydrocortisone 2.5%
- Face, groin, neck

Management – 2nd line

- Topical Calcineurin Inhibitors*
  - Indicated for moderate to severe disease
  - Pimecroliums (Elidel®)
  - Tacrolimus (Protopic®)
  - Can be used in more sensitive areas
  - Black box warning: lymphoma, skin malignancy

Management -2nd line

- Second line: Topical phosphodiesterase-4 enzyme inhibitor
  - Crisaborole (Eucrisa®)
  - No black box warning

Systemic Therapy – 3rd line

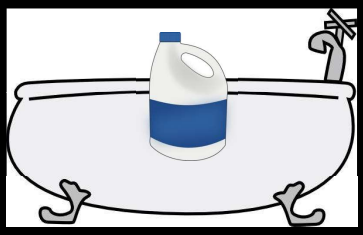
- → Dermatology referral
  - UV light therapy
  - Systemic immunomodulatory therapy
  - Short course of PO or IM corticosteroids

Complications

- Common secondary bacterial infections: *Staphylococcus* and *Streptococcus*
- HSV infection (eczema herpeticum)
- Post-inflammatory skin changes, scarring
- Thinning of skin, hypopigmentation from chronic steroid use

Antibiotics

- No indication for routine use
- 2% mupirocin ointment as indicated
- Weekly bleach baths for decolonization



Choosing Wisely

Bacterial complications

MSSA, Strep

- Adults
  - Dicloxacillin 250-500mg QID for 7 days
  - Cephalexin 250-500mg QID
- Children
  - Dicloxacillin 25-50mg/kg/day divided in 4 doses
  - Cephalexin 25-50mg/kg/day in 3-4 divided doses

MRSA

- Adults:
  - Clindamycin 300-450 QID
  - TMP/SMX DS 1-2 tabs daily
  - Doxycycline 100mg BID
- Children
  - Clindamycin 20mg/kg/day in 3 divided doses
  - TMP/SMX DS 8-12mg of TMP/kg/day in 2 divided doses
  - Doxycycline (>8 years) 2-4mg/kg/day in 2 divided doses

...h old presents for concern of itchy red rash o... ...months. She is scratching all day. You diagno... dermatitis. What recommendations do you make?

Daily application of moisturizing ointments/creams

Clobetasol 0.05% ointment to affected area twice daily

Twice daily bubble bath

Hydroxyzine 1 mg/kg po at bedtime

A and D

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ATOPIC DERMATITIS

CONTACT DERMATITIS – DR. KNOBLOCH

SEBORRHEIC DERMATITIS
PSORIASIS
SKIN CANCER
BENIGN TUMORS
TINEA
CANDIDA
CONDYLOMA

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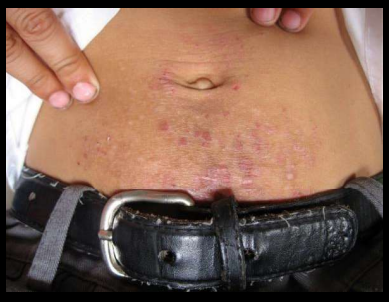
Contact Dermatitis

- Inflammatory skin condition due to contact with foreign substance
- Two types
  - Allergic contact dermatitis (20%)
  - Irritant contact dermatitis (80%)

Allergic Subtype

- Type IV, T-cell mediated hypersensitivity
- Occurs on exposed skin
- Pruritus is the dominant feature
- Vesicles and bullae
- Distinct borders



Allergic Subtype

- *Rhus* plant allergy
- 70% of people become sensitized
- Initial episode occurs 7-10 days after exposure
- Subsequent exposure → 2 days
- Streaks of erythematous papules and plaques, blisters may form
- Children often present with allergy on face

Allergic Subtype

- Other common causes:
  - Nickel
  - Topical antibiotic ointments
  - Fragrances/cosmetics
  - Latex

Choosing Wisely

Treatment

- Identify and avoid substance
  - Referral for patch testing
- Topical steroids
- Oral anti-histamines may improve pruritus
- Oatmeal baths, soothing lotions, cool compress
- Wet dressings if oozing/crusting present

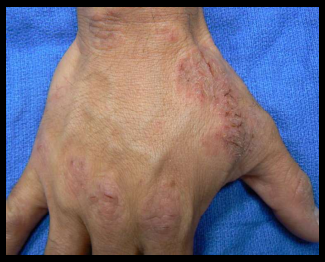
Treatment

- Severe reaction requires 2-3 week PO steroid taper
  - 0.5-1mg/kg/day of prednisone
  - DO NOT give steroid burst to these patients

Prevention

- Consider patch testing to ID substance
- Nickel allergy
  - coat with iron-on patch, clear nail polish
  - Test items with DMG solution
- Use emollients/barrier creams to prevent re-exposure

Irritant Subtype



- Symptoms may occur immediately due to direct skin injury
- Usually on hands
- Causes burning, pruritus, pain
- Dry and fissured skin with indistinct borders

Diagnosis

- Often occupation-related
- Commonly related to soaps
- Mimicking lesions
  - –Candida → KOH prep
  - –**Scabies → microscopy**
  - –Bacterial infection

Treatment

- Identify and avoid substance
  - Hand sanitizer in place of soaps
- Topical steroids
- Emollients, barrier creams
- If not improving
  - Patch testing to rule out allergic subtype
  - Dermatology referral

r old male presents to clinic with intensely p
and papules and weeping vesicles and bulla
ons over both legs, and on his hands and neck/lower j
What is the best treatment?

Medrol dose pack (6 days or oral steroids)

Oral doxycycline

Topical hydrocortisone cream

2-3 week taper of

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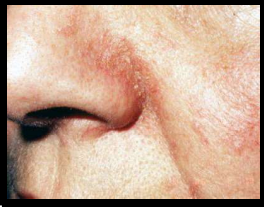
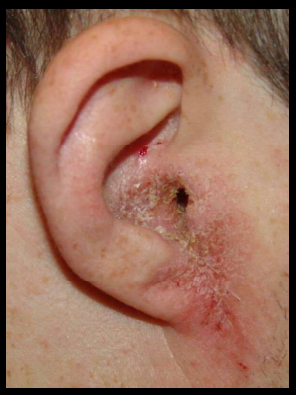
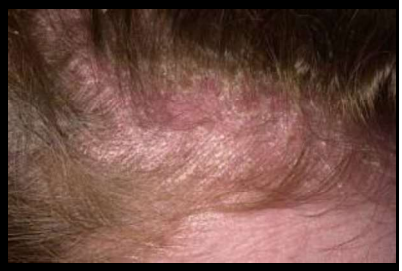
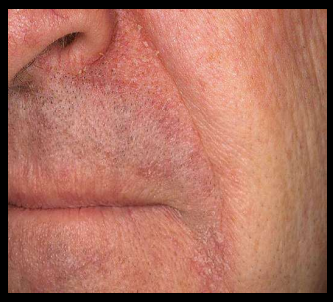
Seborrheic Dermatitis

- Chronic inflammation
- Common in areas with high density of sebaceous glands
  - –scalp, chest, face, and back
- 1-3% of general population
- 34-83% of immunocompromised
- *Malassezia* yeast
- In infants "cradle cap" up to 24 months
- Men>Women

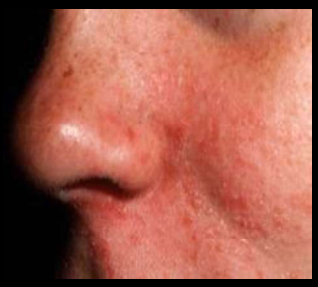








Some have intense pruritus
Others have no symptoms



Treatment

- Triple pronged management

Antiproliferative

Decrease the organism

Anti-inflammatory

Treatment

- Emollients
  - mineral oil, petroleum jelly
  - *do not use natural oils such as olive oil
  - Soft brush for infants

Keratolytics (OTC)—Scalp

- Coal tar shampoo: twice weekly
- Selenium sulfide shampoo: twice weekly
- Tea tree oil shampoo: daily
- Zinc pyrithione shampoo: twice weekly
- Purpose – control the scaling! (and helps with pruritus)

Topical Antifungals—Scalp

- Ketoconazole 2% shampoo: daily then twice weekly maintenance therapy
  - Creams: BID for 2 weeks for flares followed by twice a week for prevention
  - Shampoos: leave on for 5-10 minutes. Daily x2 weeks/ twice a week

Topical Antifungals–Face/Body

- Ketoconazole 2% cream/shampoo: twice daily for 8 weeks then PRN

Topical Corticosteroids—Scalp

- Clobetasol 0.5% solution: alternate with ketoconazole shampoo twice weekly, use for 2 weeks
- Fluocinolone Acetonide 0.01% oil (Derma-Smoothe®): daily for 2 weeks
- Moderate to severe cases
- ***KEY** - use a solution!

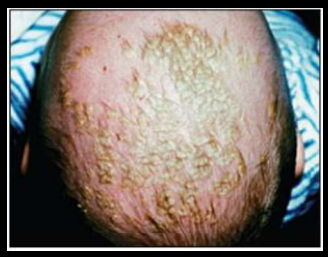
Topical Corticosteroids—Face/Body

- Desonide 0.05% cream, ointment
- Fluocinolone 0.01% oil

Calcineurin Inhibitors—Face/Body

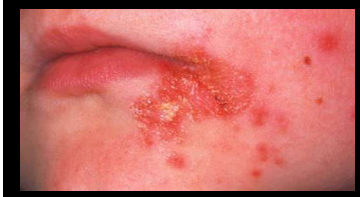
- Pimecrolimus 1% cream: BID
- Tacrolimus 0.1% ointment: BID

Special consideration - Infants



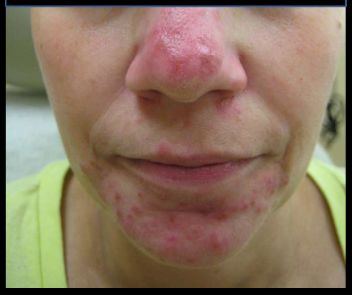
- Thick white or yellow plaque on scalp
- Typically self resolves – reassure and wait
- Remove scales with soft brush after shampoo
- Can still use the treatments for adults starting with antiproliferative

Masqueraders



Impetigo

Rosacea



Referral?

- Natural disease course can wax and wane in severity
- Rare to need referral
- If consistently not well controlled on good combination of therapy
  –Always discuss compliance issues

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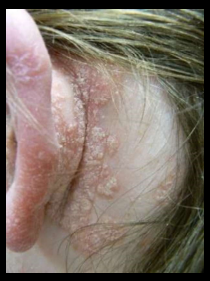
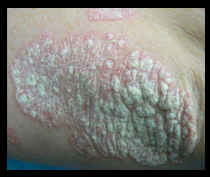
Psoriasis

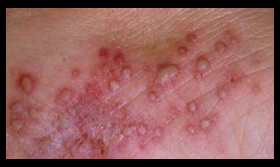


- Complex, immune-mediated disease w/ genetic component
- Well-demarcated erythematous plaques covered with silver scale
- Typically involves extensor surfaces
  - Elbows
  - Knees
  - Gluteal cleft
  - Posterior auricular region
  - Periumbilical
- Bimodal incidence between ages 30-39 and 50-69

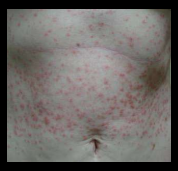
Types of Psoriasis



Chronic Plaque

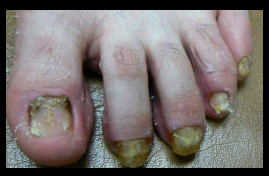


Pustular



Guttate

Erythrodermic
Diffuse erythema with scaling



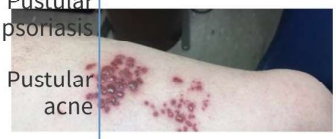
Nail

Inverse
Psoriatic involvement of intertriginous areas

What is the diagnosis?

Impetigo

Pustular psoriasis



Pustular acne

Shingles

Contact dermatitis

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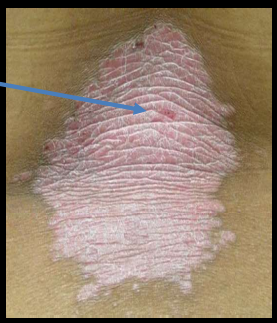
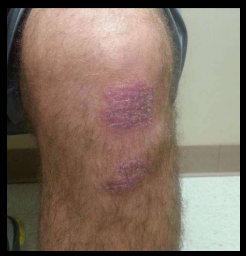
Auspitz Sign

- Punctate bleeding following removal of psoriatic scale
- Named after Austrian dermatologist, Heinrich Auspitz (1835-1886), who discovered phenomenon



Treatment of Psoriasis – Topical Therapies

- Topical corticosteroids
- Vitamin D analogues (Calcipotriene)
- Tazarotene (retinoid)
- Tacrolimus and pimecrolimus
- Emollients
- Salicylic acid
- Anthralin
- Coal Tar



Topical Corticosteroids

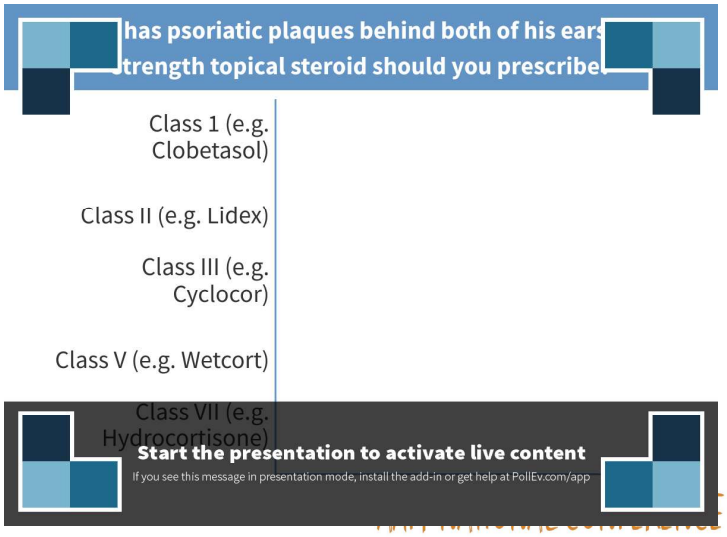
Superpotent

Class 1 (Clobetasol "Clobex")
Class 2 (Fluocinonide 0.05% "Lidex")
Class 3 (Amcinonide 0.1% "Cyclocor")
Class 4 (Desoximetasone 0.05% "Topicort")
Class 5 (Hydrocortisone Valerate 0.2% "Westcort")
Class 6 (Desonide 0.05% "Desonate")
Class 7 (Hydrocortisone 1% or 2.5%)

Least potent

Topical Corticosteroids

- Dosing: 1-2x daily for 2-4 weeks
- Side effects:
  - Local: skin atrophy, telangiectasias, striae, purpura, contact dermatitis, rosacea
  - Systemic: HPO suppression, osteonecrosis of the femoral head, increased intraocular pressure, glaucoma, cataracts

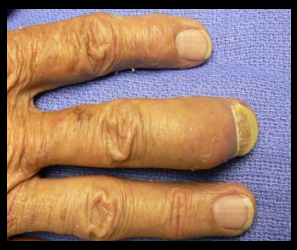


Adjunctive Therapies

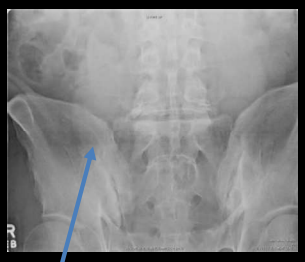
- Systemic therapy
  - DMARDs (e.g. Methotrexate, Cyclosporine, Azathioprine, Mycophenolate mofetil, Sulfasalazine, Tacrolimus)
- Phototherapy
  - Ultraviolet B (UVB)
  - Laser therapy
- Photochemotherapy
  - Psoralen plus ultraviolet A (PUVA)

Psoriatic Arthritis

- "Usually" seronegative arthropathy
  - Approximately 10-15% are RF positive
- Approximately 20-30% of pts w/ psoriasis will develop psoriatic arthritis
- Clinical manifestations:
  - Peripheral arthritis
  - Axial disease
  - Enthesitis
  - Dactylitis
  - Skin & nail disease

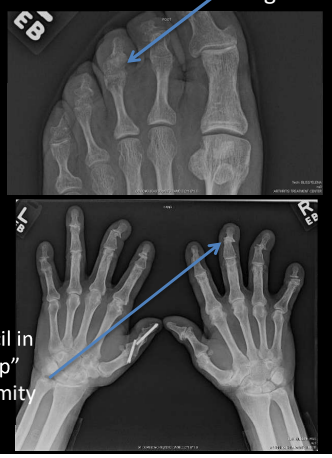


Radiographic Findings



Sclerosis of the SI joint

"Sausage digit"



"Pencil in a cup" deformity

Treatment of Psoriatic Arthritis

- Mild arthritis (<4 joints, no radiographic changes, minimal functional limitations) → NSAID's
  - –Naproxen 375mg – 500mg PO BID
  - –Celecoxib 200mg PO BID
- Moderate – severe arthritis (4 or more joints, radiographic changes, functional limitations) → DMARD*
  - –Methotrexate 15 – 25mg PO qweekly
    - + Folic Acid 1mg PO daily
    - Effective for both dermatologic and joint manifestations
  - –Leflunomide 20mg PO daily
    - Less effective for dermatologic manifestations

***Strongly consider Rheumatology referral to guide treatment**

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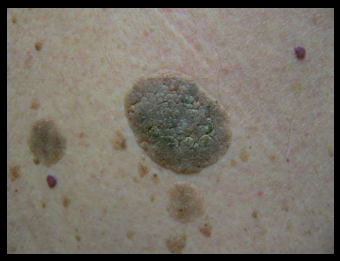
Types of benign lesions

- Seborrheic Keratosis
- Acrochordon
- Epidermal Inclusion Cyst
- Sebaceous Hyperplasia
- Lipoma
- Dermatofibroma
- Cherry Angioma
- Pyogenic Granuloma

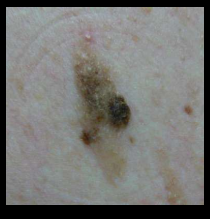
Seborrheic Keratosis



- Most common benign epithelial tumor
- Pts >30, hereditary
- Yellow to brown, greasy/velvety/warty
- "Stuck-on" appearance

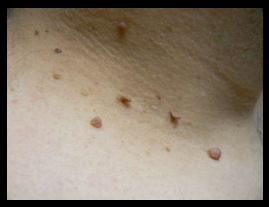
Seborrheic Keratosis

- Can mimic melanoma
- Treatment: electrodessication, laser ablation, curettage, cryosurgery
- Shave or punch if biopsy is required



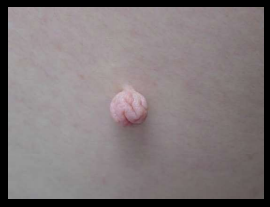
Acrochordons

- Common, pedunculated skin tags
- Occurs in areas of irritation
- Can be associated with metabolic syndrome
  - –Increased expression of ILGF-1



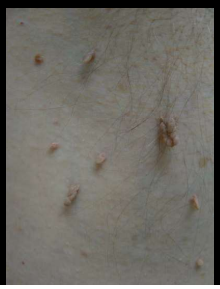
Acrochordons

- Typically skin colored to brown
- Increased incidence with age, pregnancy
- Occur in 25-50% of population

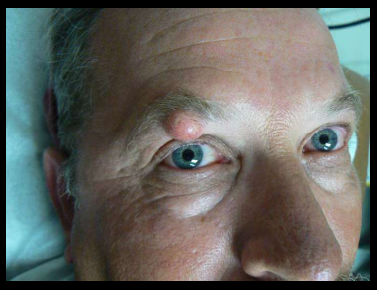


Acrochordons

- DDX: neurofibromas, SK, pedunculated nevi, cutaneous horn
- Tx: cryosurgery, electrodessication*, scissors, shave

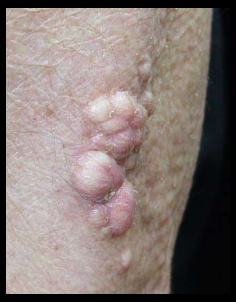


Epidermal Inclusion Cyst



- Implantation and proliferation of epidermal elements in the dermis
- Diagnosis based on physical exam, often have central punctum

Epidermal Inclusion Cyst



- May become inflamed or ruptured
- If inflamed, consider intralesional steroid injection
- Do not prescribe antibiotics for inflamed EIC

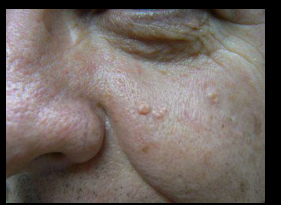
Choosing Wisely

Epidermal Inclusion Cyst

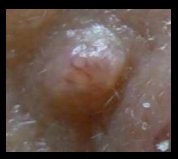
- Treatment not required
- Accomplished via excisional biopsy to include cyst wall

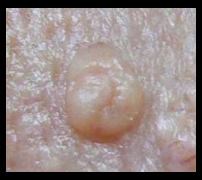
Sebaceous Hyperplasia

- Common in middle aged and older adults
- Often asymptomatic, soft yellow bumps on forehead, cheeks
- Most commonly removed for cosmetic purposes



Sebaceous Hyperplasia

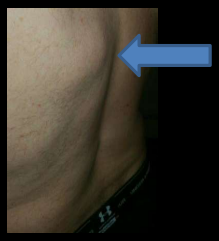




- Always keep skin cancer in differential
- Tx options: ED&C, phototherapy, shave excision, laser ablation, chemical cautery
- Oral isotretinoin if widespread*

Lipoma

- Most common type of soft tissue tumor
- Slow-growing, benign
- Often subcutaneous but may occur in any organ
- Soft, flesh colored, easily mobile nodule



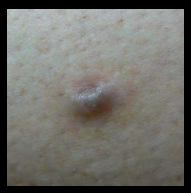
Lipoma

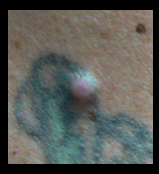
- Ddx: abscess v cyst if sub-q, liposarcomas
- Can use US for assistance in diagnosis
- Risk factor for malignancy: >10 cm, old age, rapid growth, location on thigh, invasion into deeper tissue

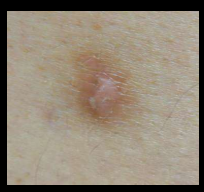
Lipoma

- Treatment: excision
- Elective

Dermatofibromas



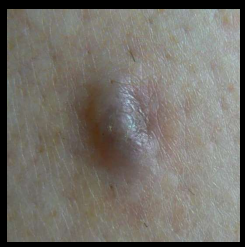


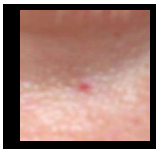


- Idiopathic, benign proliferation of fibroblasts
- Firm, raised papule/nodule
- Darker in the center and fade to normal pigmentation
- Generally lower limb

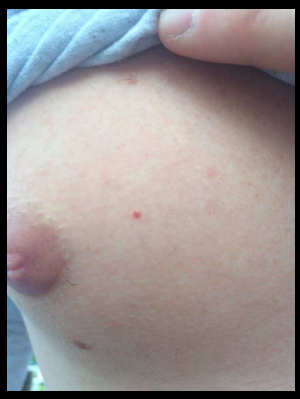
Dermatofibromas

- Exhibit dimpling/retraction of the lesion with lateral compression
- No treatment required
  - Punch or excisional biopsy if desired



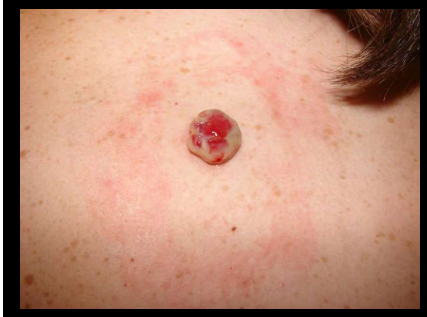


Cherry Angioma



- Extremely common, increasing frequency with age
- Bright red to violaceous, soft, compressible, smooth surface
- Treated effectively with electrodessication

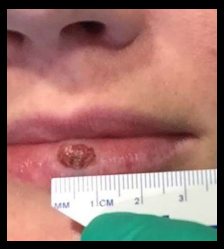
Pyogenic Granuloma



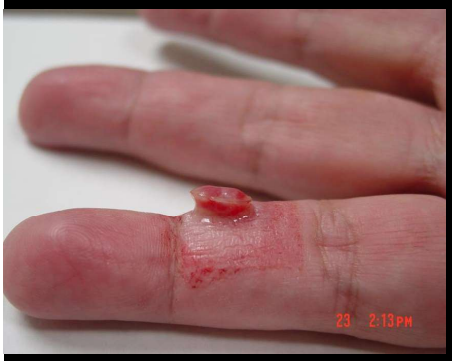
- Rapidly growing nodules that easily bleed
- Yellow to purple lesions, pulpy and vascular, surrounded by scaly collarette

Pyogenic Granuloma

- Common in infancy and childhood
  - –ALWAYS send pathology in children
- 2% of women develop a mucosal lesion during pregnancy



Pyogenic Granuloma



- Treatment: shave excision, electrodessication

…d male presents with 9 months of papular s… …s gotten darker around the edges over the la… …months. It is firm on palpation. What is the most likely diagnosis?

Dermatofibroma

Basal cell carcinoma

Acquired melanotic nevus

Epidermal inclusion cyst

Carbu…

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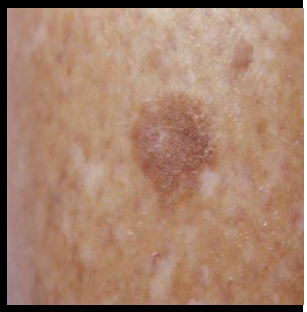
ACNE VULGARIS
ATOPIC DERMATITIS
CONTACT DERMATITIS
SEBORRHEIC DERMATITIS
PSORIASIS
BENIGN TUMORS

SKIN CANCERS – DR. SERVEY

TINEA
CANDIDA
CONDYLOMA

Actinic Keratosis

- "Pre-cancer"
- Rough, scaly lesions
- Sun exposed areas
- Thought to be carcinoma in situ
- Potential to progress to squamous cell
- 26% regress spontaneously
- 60% of SCC arise from AK's



Actinic Keratosis: Ablative Treatment

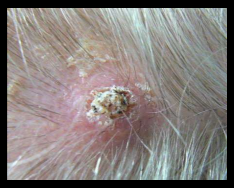
- Cryotherapy
- Curettage
  - Mechanically scrape away abnormal tissue
  - Requires local anesthesia
  - May use electrosurgery for hemostasis
- Photodynamic Therapy
  - Apply aminolevulinic acid followed by blue light
  - Cure rate of 69-93%
  - Side effects: Burning, erythema, crusting, ulceration

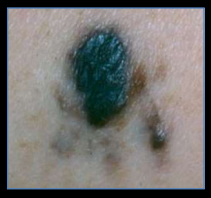
Actinic Keratosis:Topical Treatment

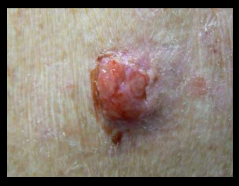
Agent	Dosing	Notes
Fluorouracil	Apply twice daily for 2-4 weeks	-Available in 5%, 1%, and 0.5% -Causes local erythema, dryness, scaling, and pain
Imiquimod	Apply once daily 2-3x/week for 16 weeks	-Complete resolution in 45-57% of patients -75% reduction in AK's in 59-72% of patients -Local reactions common
Diclofenac in hyaluronan gel	Apply twice daily for 90 days	-Complete resolution in 50% of patients vs. 20% in placebo group -Local reactions common

Types of Skin Cancer

- Squamous Cell Carcinoma
- Basal Cell Carcinoma
- Melanoma

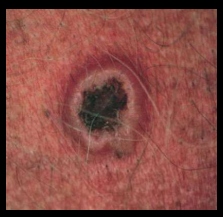


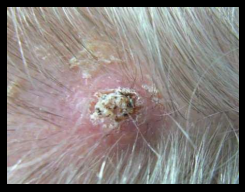




Squamous Cell Carcinoma

- 2nd most common type of skin cancer in the United States
- Account for approximately 20% on non-melanoma skin cancers
- Incidence highest among non-Hispanic whites over age 75





Squamous Cell Carcinoma

- Risk Factors:
  - –Fair skin
  - –Blue eyes
  - –Red or light-colored hair
  - –Unprotected sun exposure
  - –Exposure to ionizing radiation
  - –Tanning bed use
  - –HPV infection
  - –Immunosuppression
  - –Chronically diseased or injured skin (e.g. ulcers)
  - –Xeroderma pigmentosa

Xeroderma pigmentosum

- Autosomal recessive disease that affects 1 in 250,000
- Impaired ability to repair UV-damaged DNA
- Incidence of skin cancer prior to age 20 is 2000x higher than general population
- Median age of diagnosis of first tumor = 8

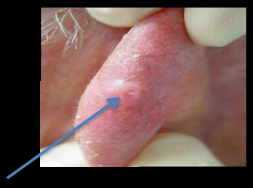
Squamous Cell Carcinoma

Characteristic Features

- Firm, smooth or hyperkeratotic papule or plaque
- Central ulceration
- Bleeding with minimal trauma

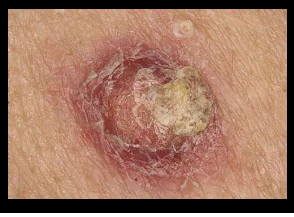
Distribution

- Head & neck (55%)
- Dorsum of hands & forearms (18%)
- Legs (13%)
- Shoulder or back (4%)
- Chest or abdomen (4%)
- Arms (3%)



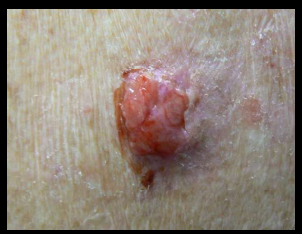
Squamous Cell Carcinoma

- Bowen's Disease: cutaneous SCC in situ
- Marjolin's Ulcer: SCC within chronic wound or scar
- Erythroplasia of Queyrat: SCC in situ involving the penis



Basal Cell Carcinoma

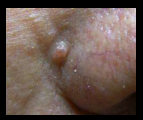
- Account for 80% of non-melanoma skin cancers
- Locally invasive
- Rarely metastasize (0.0029 – 0.55%)



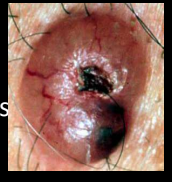
Basal Cell Carcinoma

- Risk Factors
  - –Unprotected sun exposure
  - –Chronic arsenic exposure
  - –Radiation therapy
  - –Long-term immunosuppressive therapy

Subtypes of Basal Cell Carcinoma



- Nodular (60%)
  - –Pink or flesh-colored ("Pearly Papules")
  - –Predominantly on face
  - –Often with telangiectasias
  - –May have rolled border or central ulceration
- Superficial (30%)
  - –Slightly scaly, non-firm macules
  - –Predominantly on trunk
- Morpheaform (5-10%)
  - –Smooth, flesh-colored w/ ill-defined borders
  - –Typically atrophic and firm to palpation



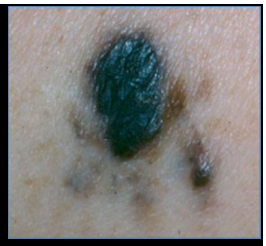
Non-Melanoma Skin Cancer Excision

- Shave Biopsy
  - Epidermis +/- Superficial Dermis
- Punch Biopsy
  - Epidermis + Dermis + Hypodermis (Subcutaneous Fat)
- Surgical Excision
  - Epidermis + Dermis + Hypodermis (Subcutaneous Fat)

Non-Melanoma Skin Cancer Treatment

- Electrodessication & Curettage
  - Does not allow for histologic confirmation of tumor removal
  - Best for low-risk superficial or nodular BCC's on trunk and extremities
- Surgical Excision
  - 4mm margin
  - >95% cure rate
- Mohs Micrographic Surgery
  - Histologic evaluation of surgical margins at time of excision
  - Ideal for primary superficial or nodular BCC's <6mm on the face

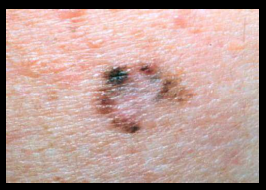
Melanoma

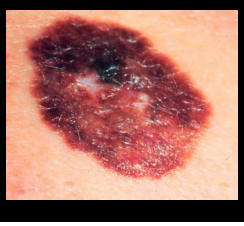


- Increasing incidence
  - 1990: 2.2/100,000 people
  - 2012: 21.6/100,000 people
- Risk Factors
  - Prior melanoma
  - Numerous nevi or multiple atypical nevi
  - Strong family hx of melanoma
  - Organ transplant recipients on immunosuppression
  - "Red Hair Phenotype"

ABCDE's of Melanoma

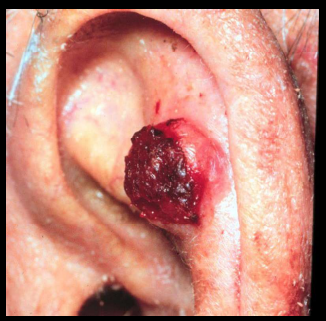
- A – Asymmetry
- B – (Irregular) Borders
- C – Color Variegation
- D – Dimensions (>6 mm)
- E - Evolution





How to do a full-body skin exam

- Have patient completely undress
  - Underwear and gown only
  - No socks or shoes
- Be systematic!
  - Head to toe
  - Distal to proximal
- Don't forget!
  - Scalp
  - Behind ears
  - Under breasts
  - Within groin folds
  - On buttocks
  - Between fingers and toes
  - Soles of feet



ould you biopsy a lesion suspicious for mela

Shave biopsy

Punch biopsy

Excisional biopsy

No biopsy, but have close monitoring

Either B or C

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Common treatments

Treatment	Diagnosis	Side effects
Cryotherapy	Seborrheic keratosis (SK), Acrochordon, warts, Actinic keratosis (AK)	Pain, scarring, blistering,
Electrodessication	Acrochordon, AK, SCC, BCC, Pyogenic granuloma	Pain, bleeding, minimal scarring, not used with implantable electrical devices
Shave biopsy	SK, Acrochordon, Pyogenic granuloma	Pain, scarring, bleeding
Punch biopsy	Dermatofibroma, Pyogenic granuloma, AK, SCC, BCC, Melanoma	Pain, scarring, bleeding
Excision	SK, EIC, Lipoma, Dermatofibroma, AK, SCC,BCC, Melanoma	Pain, scarring, bleeding

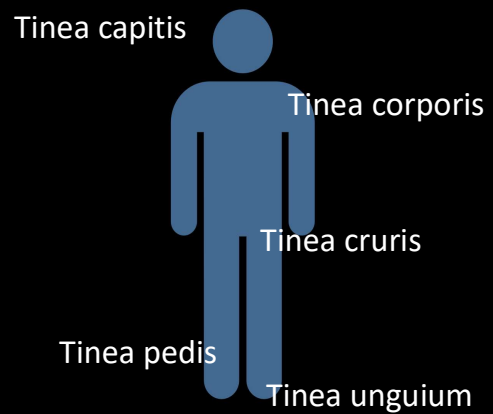
ACNE VULGARIS
ATOPIC DERMATITIS
CONTACT DERMATITIS
SEBORRHEIC DERMATITIS
PSORIASIS
BENIGN TUMORS
SKIN CANCERS

TINEA INFECTIONS – DR. KNOBLOCH

CANDIDA
CONDYLOMA

AAFP NATIONAL CONFERENCE
Family Medicine Resident + Medical Student

Tinea Infections



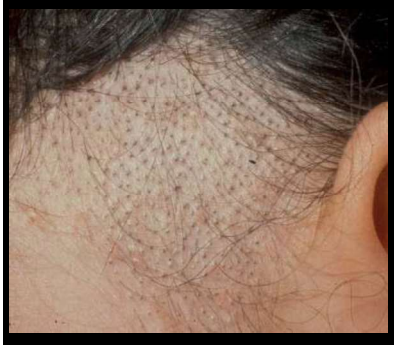
Tinea Infections

- Dermatophytes in the skin
  - *Trichophyton*
  - *Microsporum*
  - *Epidermophyton*
- Typically limited to hair, nails and stratum corneum

Tinea Capitis

- Typically affects children between 3-9 years
- More commonly children of African origin
- 3 different types:
  - Gray patch
  - Black dot
    - *T. tonsurans*
    - 95% of US cases
  - Favus

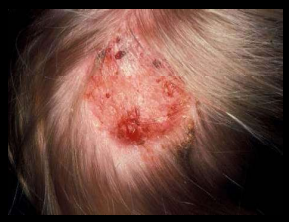
Tinea Capitis



- Scaly patches
- Pruritus
- Alopecia with hair broken at the base
- Children typically have cervical and sub-occipital LAD*

Tinea Capitis

- Untreated → may progress to kerion
- Boggy, tender plaques
- Pustules
- More likely to have permanent scarring and hair loss



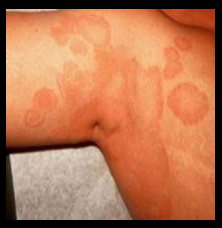
Tinea Capitis

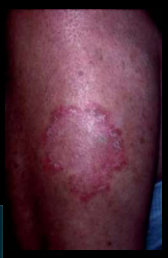
- Diagnosis: KOH prep or culture
- Woods lamp not helpful for *T. tonsurans*
- *M. canis* shows green fluorescence under Woods lamp

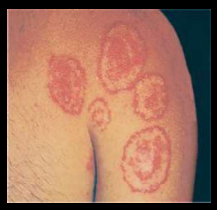
Tinea Capitis

- MUST use systemic therapy
- Griseofulvin superior for *T. tonsurans*
- Terbinafine superior for *M. canis*
- Treat PO and topical for the first 2 weeks to reduce transmission rate
  - 1 or 2.5% selenium sulfide shampoo
  - 2% ketoconazole shampoo

Tinea Corporis ("Ringworm")

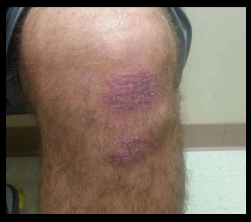




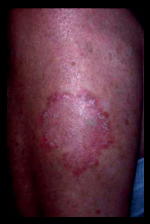


- Red
- Annular
- Scaling
- Central clearing
- Pruritic

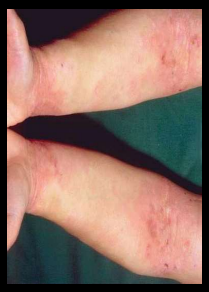
Tinea Corporis



Psoriasis



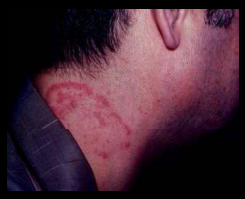
Tinea corporis



Atopic dermatitis

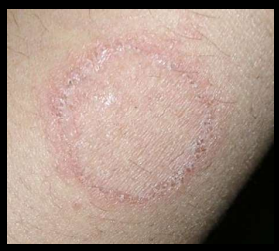
Tinea Corporis

- Clinical presentation
- KOH prep
- Worsening after steroids
- Cultures not helpful
- Biopsy with PAS stain

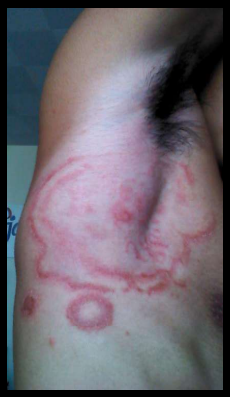


Tinea Corporis

- Topical antifungals
  - Clotrimazole, miconazole are first line
  - Terbinafine, naftifine are second line
  - Apply past the leading edge and use 1 week after resolution



Tinea Corporis

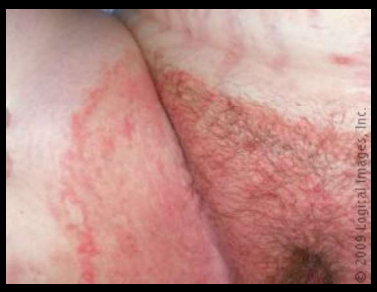


- Large burden of disease, poor response to topical therapy → systemic therapy
  - Obtain fungal culture
  - Terbinafine 250mg daily for 1-2 weeks

Tinea Corporis

- Pearl: Treatment is successful when macules/patches no longer scale
- Patient counseling: Pigment alteration will take several months to resolve, not contagious

Tinea Cruris ("Jock Itch")



- Red
- Annular
- Scaling
- Central clearing
- Pruritic
- May spread from tinea pedis

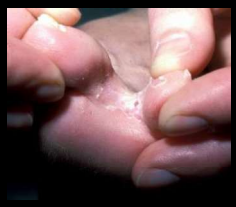
Tinea Cruris

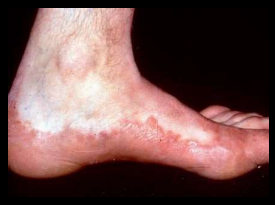
- Important to differentiate from:
  - Candidiasis: involves scrotum—tinea spares
  - Erythrasma: bright "coral red" fluorescence on woods lamp due to *Corynebacterium minutissimum*

Tinea Cruris

- Topical antifungals
  - Clotrimazole, miconazole, terbinafine daily for 1-2 weeks
-
- Systemic therapy
  - Terbinafine 250mg daily for 1-2 weeks
  - Itraconazole 200mg daily for 1 week
  - Fluconazole 150-200mg daily for 2-4 weeks

Tinea Pedis ("Athlete's Foot")

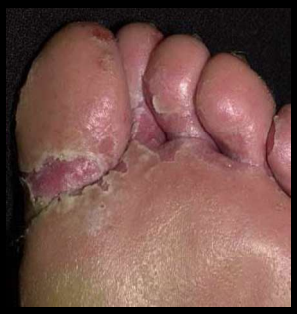




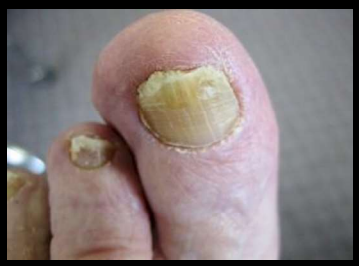
- Typically between toes but can spread→moccasin-type
- Acute: erythema, maceration, blistering
- Chronic: scaling/peeling with erythema
- KOH prep can help with diagnosis

Tinea Pedis

- Treatment: topical antifungals, often OTC
  - –Terbinafine, Miconazole: apply daily
  - – Antifungal foot power in shoes to prevent re-infection



Tinea Unguium



- Thickened, yellow/discolored , brittle nails
- Subungual debris
- Can have separation of nail plate from bed

Tinea Unguium

- Treatment is a long course, high failure rate and a high recurrence rate
- Assessment for cure should be done at 9-12 months due to slow-growing nails

- Terbinafine 250mg PO for 6-12 weeks
- Efinaconazole 10% solution topical daily for 48 weeks
- Ciclopirox 8% lacquer once weekly for 48 weeks

Choosing Wisely

ACNE VULGARIS
ATOPIC DERMATITIS
CONTACT DERMATITIS
SEBORRHEIC DERMATITIS
PSORIASIS
BENIGN TUMORS
SKIN CANCERS
TINEA

CANDIDA – DR. HALISTA

CONDYLOMA

AAFP NATIONAL CONFERENCE
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What is candida?

Virus

Yeast

Bacterium

Prion

tozoa

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Clinical Manifestations

- Oropharyngeal candidiasis ("Thrush")
- Vulvovaginitis ("Yeast infection")
- Intertrigo
- Diaper dermatitis

Oropharyngeal Candidiasis ("Thrush")

- Signs/Symptoms:
  - White patches or plaques on the tongue or mucous membranes
  - Difficulty swallowing
  - Angular cheilitis
- Risk Factors:
  - Infants <1-month-old (5-7%)
  - Elderly
  - Immunocompromised individuals, including diabetics
  - Users of inhaled corticosteroids

Treatment of Oropharyngeal Candidiasis

- Nystatin Swish & Swallow
  - Adults: 400,000 – 600,000 units 4 times daily
  - Children: 200,000 units 4 times daily

  *Continue for an additional 3 days after all lesions have resolved

Vulvovaginitis ("Yeast infection")

- Overgrowth of vaginal yeast
- Affects 75% of adult women at least once
- Occurs in moist areas where friction occurs
- Symptoms:
  - Itching
  - Burning
  - Cottage cheese-like vaginal discharge
- Risk Factors:
  - Pregnancy
  - Diabetes
  - Long-term use of broad-spectrum antibiotics or systemic corticosteroids

Diagnosis of Vulvovaginitis

- Differential diagnosis:
  - Candidiasis
    - Vaginal itching/soreness, thick, white, curd-like discharge
  - Bacterial vaginosis
    - Thin, gray or yellow, foul-smelling discharge
  - Trichomoniasis
    - Purulent, malodorous, thin discharge w/ burning, itching, dyspareunia, and/or dysuria
- Diagnostic Tests:
  - Saline wet mount
  - KOH wet mount
  - Amine "whiff" test

Uncomplicated vs. Complicated Vulvovaginitis

Uncomplicated

- Sporadic, infrequent episodes (<4 per year)
- Mild – moderate signs/symptoms
- Probable infection w/ *Candida albicans*
- Healthy, non-pregnant woman

Complicated

- 4 or more episodes per year
- Severe signs/symptoms
- Candida species other than *C. albicans* (i.e. C. *glabrata*)
- Pregnancy
- Poorly-controlled diabetes
- Immunosuppression
- Debilitation

Treatment of Vulvovaginitis

Uncomplicated

- Oral Fluconazole 150mg x1

*Side Effects:
- GI upset
- Headache
- Rash
- Transient LFT elevations

Complicated

- Oral Fluconazole 150mg x2-3 with each dose 72-hrs apart
- Topical azole (e.g. Clotrimazole) x7-14 days
  - Treatment of choice for pregnant women

Recurrent Vulvovaginitis

- Infectious Disease Society of America (IDSA) recommendation:
  - Initiate treatment with 10-14 days of a topical or oral azole
  - Follow with Fluconazole 150mg PO qweek or Clotrimazole 200mg vaginally twice weekly for 6-months

Intertrigo

- Typically refers to a Candidal infection of two opposing skin surfaces (e.g. axilla, groin, breasts)
- Treatment:
  - Topical antifungal BID x2-4 weeks:
    - Nystatin (polyene)
    - Miconazole, Clotrimazole, Ketoconozole, etc. (azoles)
  - Drying agent
    - Talcum powder (concern may increase risk of ovarian cancer)
    - Corn starch
  - Increased exposure to air

Diaper Dermatitis

- Occurs in 4-6% of term infants
- Peak onset between 3-4 months of age
- Typical description: erythematous, macerated plaques w/ satellite pustules
- *Candidal* infection represents a "superinfection" of untreated irritant dermatitis

Treatment of Diaper Dermatitis

- Frequent diaper changes
- Increased air exposure
- Barrier preparations
  - Ointments and pastes are preferable
  - Ex: Vaseline, Desitin, A&D Ointment
- Topical corticosteroids (low potency)
- Topical antifungal
  - Ex: Nystatin or Clotrimazole

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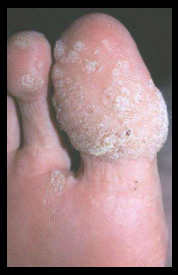
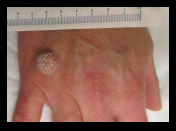
Condyloma

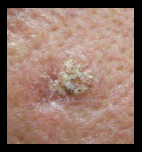
- Caused by Human Papillomavirus (HPV)
  - –Double-stranded DNA virus
- Tissue tropism
  - –Cutaneous epithelium
    - 10% of children
  - –Anogenital epithelium
    - Cervical cancer
    - Anal cancer
    - Penile cancer



Common Warts (Verruca Vulgaris)

- Confirming the diagnosis
  - –Use 15 blade to scrape off overlying hyperkeratotic degree
  - –Expose underlying thrombosed capillaries (numerous, small, black dots)





Treatment of Verruca Vulgaris

- Goal: Activate a local immune response
- Options
  - –Nail file / duct tape
  - –OTC products containing salicylic acid
  - –Cryotherapy (liquid nitrogen)
  - –Cantharidin
  - –Trichloroacetic acid
  - –Imiquimod
  - –Candida injection

Treatment of Verruca Vulgaris with Cantharidin

- Apply to lesion an 1-3mm of surrounding tissue
- Once dry, cover w/ non-porous tape
- Remove tape after 24-hrs
- +/- curettage
- Repeat weekly, as necessary
- **To be applied by a medical professional only**
- Side Effects:
  - –Blistering
  - –Burning
  - –Hypopigmentation

Genital Warts (Condyloma acuminata)

- Typically caused by HPV types 6 and 11
  - –>75% of adults in the U.S. are infected during their lifetime
- Almost always acquired through sexual contact
  - –Consider testing for other STI's in high-risk patients
- Warts do NOT need to be present for the virus to spread

Treatment for Genital Warts

- Cryotherapy
- Podophyllotoxin
  - –Apply BID x3-days
  - –Wash the area 1-4 hrs after application to avoid systemic absorption and skin necrosis
  - –Followed by 4-days of no treatment
  - –Repeat up to 4 times
- Imiquimod (e.g. Aldara, Zyclara)
  - –Cannot be used in the vagina or during pregnancy
- Trichloroacetic acid
  - –Applied by healthcare professional once weekly for 4-6 weeks
  - –Patient should not sit, stand, or dress until chemical has dried
- Surgical excision

Summary

- Dermatology Terminology
- Top

d female with 2 days of pruritic rash on her
nd camping trip. She has a similar area on he
smaller. What is the best treatment option?

Emoillients

Tacrolimus

Westcort cream

Oral Prednisone

trexate

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Q&A

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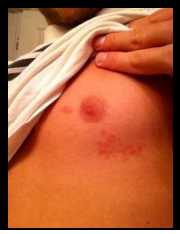
Bonus: Shingles (Herpes zoster)

- Reactivation of Varicella-zoster virus within sensory dorsal root ganglia
- Unilateral, vesicular eruption in a dermatomal distribution
- Affects ~30% of people within the United States
- Risk factors = age & immunocompromise



Treatment of Uncomplicated Shingles

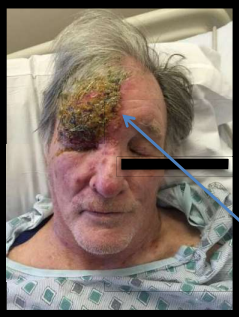
Goals of Treatment

- Lessen severity and duration of pain associated with acute neuritis
- Promote rapid healing
- Prevent new lesion formation
- Decrease viral shedding
- Prevent post-herpetic neuralgia

Treatment Options

- Valacyclovir 1000mg PO TID x7-days
- Famciclovir 500mg PO TID x7-days
- Acyclovir 800mg PO 5 times daily x7-days

Complicated Shingles – Herpes Zoster Ophthalmicus

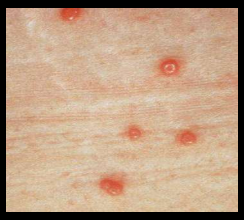


- VZV reactivation within trigeminal ganglia
- Frequently involves frontal branch of V1
- Ophthalmologic emergency!

Impetigo superimposed on Herpes Zoster Ophthalmicus

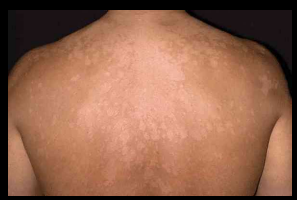
Bonus: Molluscum Contagiosum

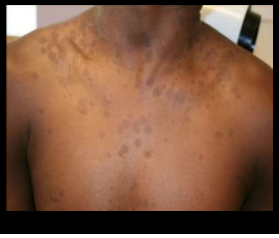
- Infection caused by Poxvirus
- Affects approximately 5% of healthy children
- May be spread via fomites (e.g. sponges, towels) or contact sports
- Can be an STI or a sign of immunodeficiency in adults
- Discrete, smooth, 3-6mm, flesh-colored papules w/ central umbilication



Tinea Versicolor (or Pityriasis Versicolor)

- Caused by yeast *Malassezia* –not a dermatophyte
- Well-demarcated scaling patches
- Typically trunk and arms





Pityriasis Versicolor

- **Ketoconazole 2% shampoo**: apply for 5 mins, repeat for 3 days
- **Terbinafine 1% cream:** twice daily for one week
- **Selenium sulfide 2.5% shampoo**: ten minute application daily for one week
- **Zinc pyrithione 1% shampoo**: 5 minute application daily for 2 weeks
- Oral -