

# Common Culprits in Pediatric and Adult Common culprits in pediatric and adult dermatology

CYNTHIA GRIFFITH MPAS, PA-C



# Molluscum Contagiosum

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single or, more often, multiple, rounded, dome-shaped, *umbilicated*, pink papules that are 2-5 mm

- Viral infection due to a pox virus, transmitted by skin to skin contact
- Three main groups at risk (children, sexually active adults and immunosuppressed patients)
- Various treatment options available
  - Cryotherapy, Cantharidin, Curettage, Topical retinoids, Imiquimod
- In children spontaneous remission frequently occurs and no treatment is a reasonable option



# Verruca (Warts)

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Types: Common (*Vulgaris*), Plantar (*Plantaris*), Flat (*Plana*), Genital

	HPV virus
Common	HPV-1, 2, 4
Plantar	HPV-1, 2, 4
Flat	HPV-3, 10
Genital	HPV-16 and 18

- Treatments: Watchful waiting, Cryotherapy, Salicylic Acid, 5-fluorouracil cream, Imiquimod, Electrocautery and curettage, diphencyprone (DCP) Immunotherapy

Also viral etiology similar to Molluscum (worse with Immunosuppression)

# Verruca (Warts)

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Common Warts *Verruca Vulgaris*: hyperkeratotic, exophytic, dome shaped, *verrucous appearing* papule on the fingers, dorsal hands, elbows, knees, with *punctate black dots*

Flat warts *Verruca Plana*: skin colored or pink flat topped papules common on the dorsal hands, face and arms

# Acne Vulgaris

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# Acne Vulgaris

Primary lesion: Comedone

open and closed comedones, papules,  
pustules, nodules, and cysts

- Include the following when describing
  - morphology
    - Comedonal vs Inflammatory (either papular/pustular or nodulocystic) or mixed)
  - severity (Mild, Moderate, Severe)
  - presence of scarring
- Pathogenesis of acne vulgaris is related to the presence of androgens, excess sebum production, the activity of *P. acnes*, and follicular hyperkeratinization



# Acne Vulgaris Treatment

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- Topical antimicrobial
  - Clindamycin, Erythromycin
- Systemic and topical retinoids – Vitamin A derivative, Tretinoin, Adapalene, Tazarotene (topical), Isotretinoin (Accutane, oral)
- Systemic antimicrobials – Tetracycline class: Minocycline, Doxycycline, Can also use Erythromycin
- Systemic hormonal therapies- Spironolactone, OCPs
- Other topical adjuncts- Benzoyl Peroxide, Azaleic Acid

# Acne Vulgaris Treatment in pregnancy

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- Topical antimicrobial
  - Erythromycin
  - Dosage forms: GEL: 2%; SOL: 2%; PAD: 2%
- Azelaic Acid
  - Dosage forms: GEL: 15%

# Acne

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- Acne Excoriée des Jeunes Filles
- Neonatal Cephalic Pustulosis- 2 wks-3months
- Infantile acne- presents 3-6 months resolved 1-2 years
- Drug Induced- within 2 weeks of oral or topical steroid use, INH, phenytoin, cyclosporine, lithium, Keflex, OCPs, Androgens
- Acne conglobata- Men, late puberty-early adulthood, severe acne: papules, nodules, draining sinus tracts on chest, shoulders, back, nape, buttock. No system symptoms
- Acne Fulminans- Acute Febrile Ulcerative Acne, Conglobata with systemic symptoms (fever, leukocytosis, myalgias, arthralgias, osteolytic lesions)



# Atopic Dermatitis

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Chronic, pruritic skin disease caused by barrier dysfunction, genetics, environment, impaired immune response.

"The itch that rashes"

Clinical presentation:

- Erythematous papules, that coalesce to form erythematous plaques that may display weeping, crusting, or scale over *cheeks*, forehead, scalp and extensor surfaces in toddlers and infants
- Lichenified, eczematous plaques in *flexural areas* of the neck, elbows, wrists, and ankles in older kids and adults



# Atopic Dermatitis

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Semantics:

Eczema is a descriptive term not technically a diagnosis. The term refers to a group of inflammatory skin eruptions; atopic dermatitis, contact dermatitis, dyshidrosis, ect.

Atopy Triad: Allergic rhinitis, Asthma, Atopic dermatitis

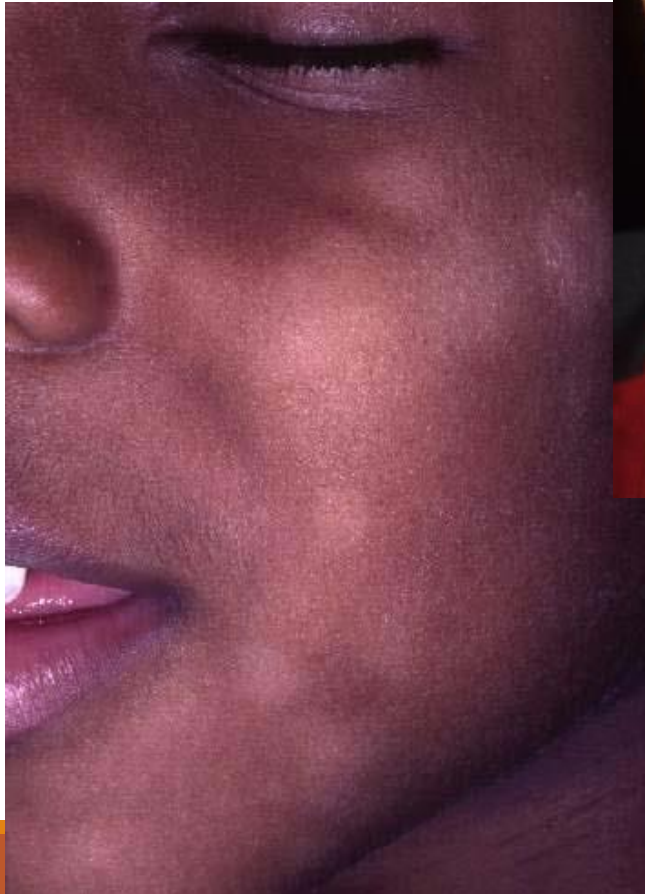
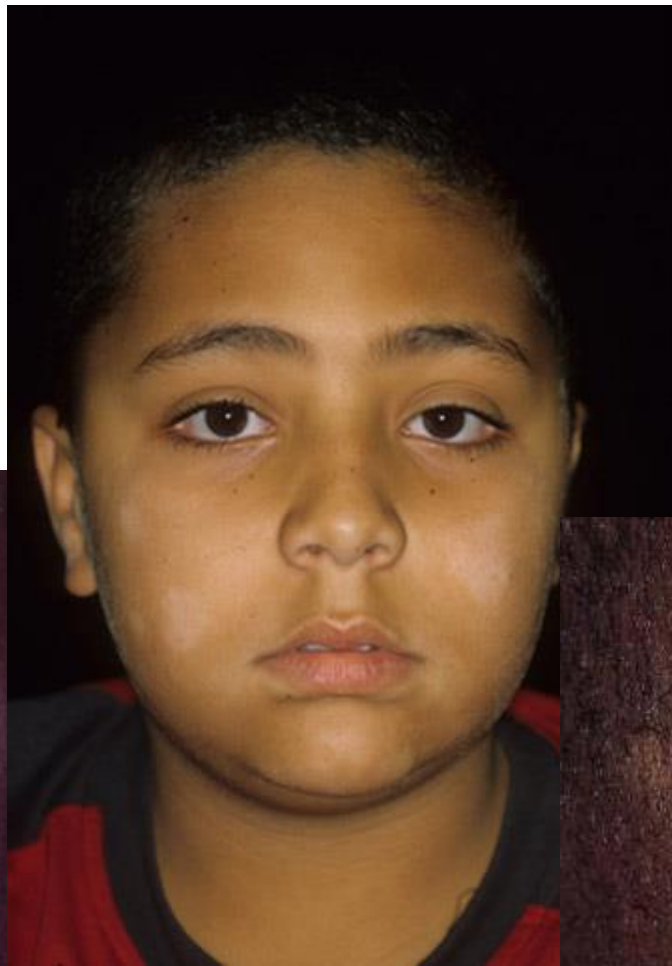
Food allergy may be a factor in kids with refractory AD

# Atopic Dermatitis

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- Treatment:
  - Topical Steroids like Desonide (for use on the face or body fold areas), Triamcinolone (for use on the body), Clobetasol (for use on thick plaques)
  - Topical Calcineurin inhibitors (Steroid Sparing medications) – Tacrolimus and Pimecrolimus
- Phototherapy
  - Most commonly Narrow Band UVB
- Immunosuppressants
  - Methotrexate, Mycophenolate mofetil, Cyclosporine, Azathioprine



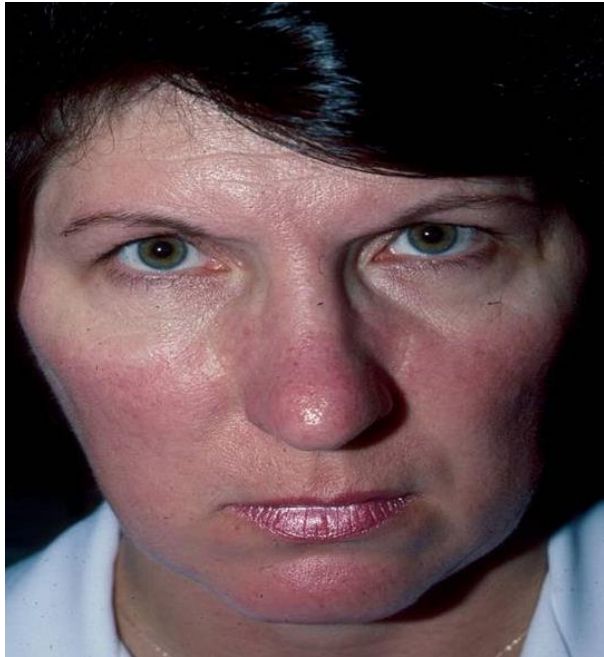


# Pityriasis alba

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- Mild Atopic Dermatitis
- poorly marginated, hypopigmented, slightly scaly patches on the cheeks, upper arms, and trunk, typically in children and young adults.
- Typically found in young children (with darker skin), often presenting in spring and summer when the normal skin begins to tan
- Differential Diagnosis: Tinea versicolor, Vitiligo,

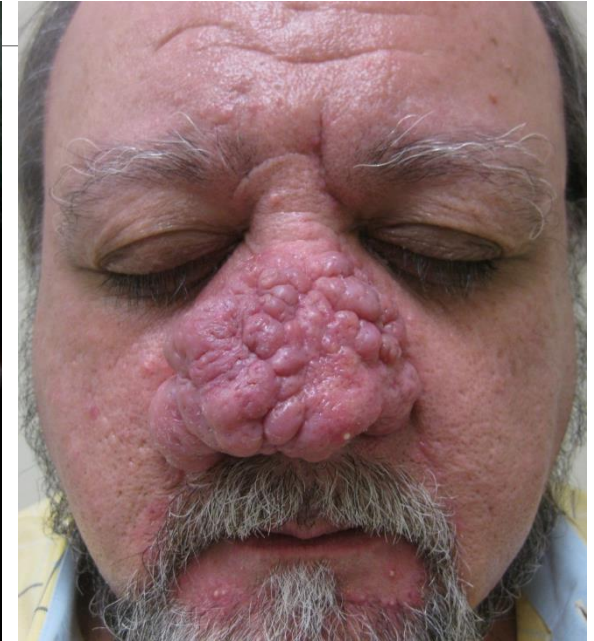
# Rosacea



Erythematelangectatic



Papulopustular



Phymatous

# Rosacea

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- Rosacea is a chronic inflammatory condition of the face, which may present with easy *flushing*, erythema, *telangiectasias*, papules and pustules, and/or *phymatous* changes
- Can have Ocular involvement: Blepharitis, FB sensation, burning, stinging, dryness, blurred vision, styes, corneal ulceration (refer to Ophthalmology)
- No comedones, unrelated to hormones. Triggers: sun, heat, emotion chemical irritation, alcohol, strong drinks, spices

# Rosacea

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- Topical treatments: Ivermectin cream, Metronidazole topical gel or cream, Sodium Sulfacetamide with %5 sulfur, Azelaic acid
- Oral treatments: Tetracyclines, macrolides
- Lasers: Pulse dye laser (Vbeam laser), Intense pulse light laser
- All patients with rosacea should use sunscreen
- Steroids can worsen or induce rosacea

# Ivermectin Topical

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- **Dosage forms:** CRM: 1%; LOTION: 0.5%
- No significant interactions known or found for this drug.

Pregnancy

## **Clinical Summary**

may use during pregnancy; no human data available, though risk of fetal harm not expected based on minimal systemic absorption

Lactation

## **Clinical Summary**

may use while breastfeeding; no human data available, though risk of infant harm and adverse effects on milk production not expected based on minimal maternal systemic absorption

# Rosacea

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# Melasma

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- onset most often in the reproductive years
- Tan, evenly pigmented macules and/or patches of the face and less commonly the forearms. The patches are usually symmetric and may have a "moth-eaten" appearance to their borders.





# Melasma Treatment

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- Sun avoidance and protection are of critical importance in melasma management.
- Broad-spectrum UVA/UVB sunscreen with SPF 30
- Patients should be counseled that sun exposure can result in relapse of successfully treated melasma
- skin-lightening agents such as hydroquinone alone or in combination with corticosteroids, tretinoin, retinol, kojic acid, or glycolic acid.
- A combination cream formulation of hydroquinone 4%, fluocinolone acetonide 0.01%, and tretinoin 0.05% (nightly for 8-24 weeks) has been used with good results



# Melasma Treatment

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- A paradoxical adverse effect of long-term or high-concentration hydroquinone is the occurrence of a bluish ochronosis-like pigmentation

Therefore, prescribe limited amounts and schedule regular follow-up appointments. Other side effects include irritant or allergic contact dermatitis, stinging, and erythema.



# Melasma Treatment

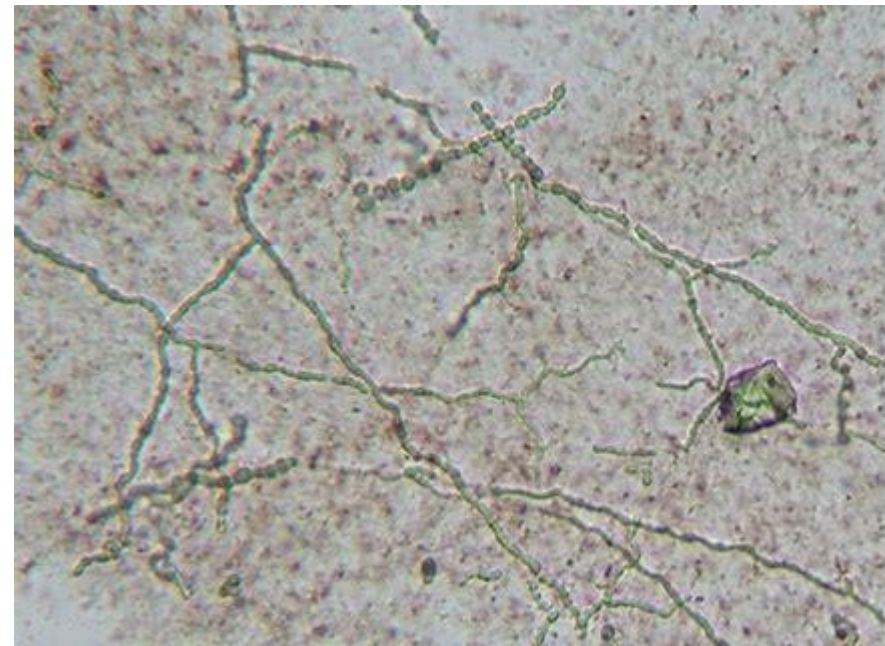
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- Azelaic acid is available in a 20% cream and 15% gel and is used off label for treatment of hyperpigmentation.
- Kojic acid, which is increasingly being used in Japanese skin care products, is a chelating agent that blocks conversion of tyrosine to melanin
- oral tranexamic acid are newer therapies that have shown promising results. A randomized controlled study showed that oral tranexamic acid 250 mg twice daily with sunscreen might be an effective treatment for moderate-to-severe melasma

# Common Fungal Infections

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- Tinea corporis (body)
- Capitis (head)
- Beard area (barbae)
- Tinea pedis (feet)
- Tinea Manus (hands)
- Cruris (inguinal folds)



Tinea corporis (body), Capitis (head), beard area (barbae)  
Tinea pedis (feet) Tinea Manus (hands)  
Cruris (inguinal folds)

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Skin infection caused by dermatophyte  
most commonly *trichophytum rubrum*

CP: annular, erythematous scaly plaques  
with central clearing, typically itchy

Tinea incognito – infection treated with  
topical steroids that can present with  
pustules and result in infection that tracts  
down follicle





# Treatment

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- Topical antifungals for 1-6 weeks, based on clinical response. Options include one of the following:
  - Terbinafine 1% cream or spray – Apply once to twice daily.
  - Clotrimazole 1% cream – Apply twice daily.
  - Econazole 1% cream – Apply once to twice daily.
- Extensive disease or hair bearing areas
  - Terbinafine 250 mg once a day for 2-4 weeks.



# Terbinafine topical

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- **Dosage forms:** CRM: 1%
- Tinea pedis/corporis/cruris [**apply bid x1-4wk**]
- No significant interactions known or found for this drug. Caution always advised with multiple medications.
- may use during pregnancy and breastfeeding
- **Metabolism:** liver; CYP450: 2D6 inhibitor; Info: <5% systemic absorption
- **Mechanism of Action**  
inhibits squalene epoxidase, reducing fungal cell membrane ergosterol synthesis



# Majocchi's granuloma (deep fungal infection)

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- Skin infection caused by dermatophyte most commonly *trichophyton rubrum* that involves the hair follicle
- More common in immunosuppressed patients but can happen in young adults treated with topical steroids
- Tx: Terbinafine 250 mg once a day for 2-4 weeks.





# KOH – Potassium Hydroxide

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Use 15 blade, Glass slide, solution of 10-20% KOH, chlorazol black e, cover slips

Scrape the leading edge of the scaling, burrow, or the subungal debris around a nail

Keep the blade perpendicular to the skin and scrape the blade onto the skin catching the scale with the glass slide

Add 2-3 drops of KOH and Chlorazol and cover slip, wait

Use low power and then higher power (10 objective) on the microscope to look for:

