



# Tackling Topical Pharmacotherapeutics: A Case-based and Practical Approach

**Skin, Bones, Hearts, and Private Parts**

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# Disclosures and Images

- No conflicts to disclose
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- Thank you

# Learning Objectives

- Review some of the most common dermatologic conditions encountered in primary care and the topical therapy indicated for treatment of these conditions.
- Discuss the various vehicles for delivery of topical medications including creams, lotions, ointments, powders and others.
- Demonstrate the proper prescribing practices for topical medications including dosing, duration, and safety issues.

# General Principles of Topical Therapy

- Good news
  - Skin disease is accessible
  - Can be treated with locally applied medications
  - Limits systemic effects of medications
- The efficacy of any topical medication is related to:
  - **Vehicle \*\***
  - Active ingredient and concentration
  - Anatomic location of application – hydration, skin temperature, vascular supply
  - Acceptability
    - If the patient won't use it, even the best drug won't do any good!

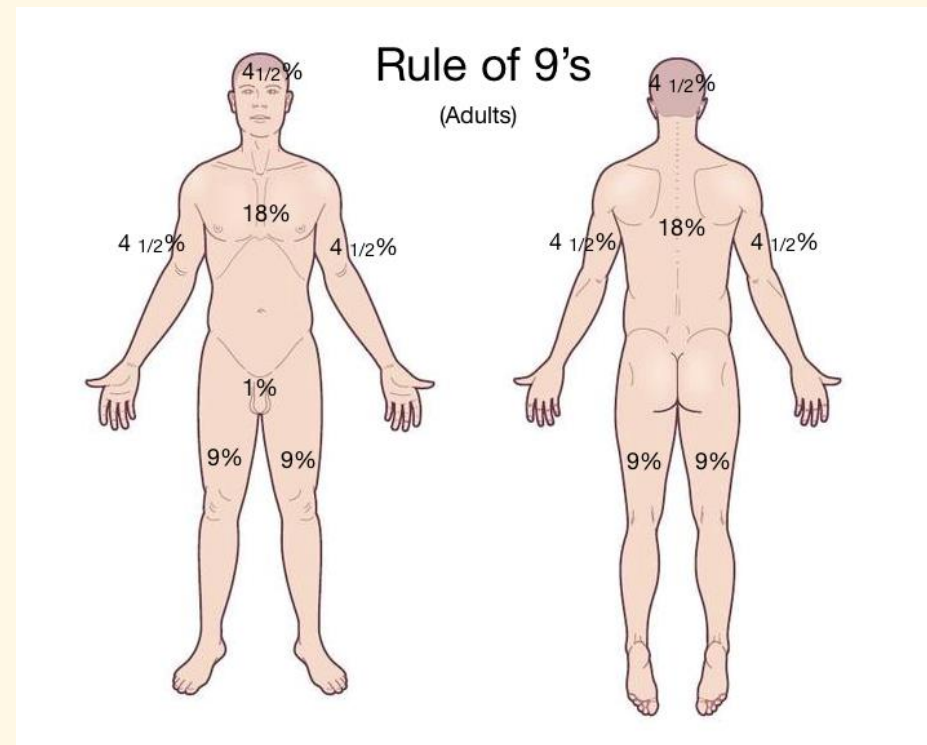
\*\*The vehicle of generics and brand name products may differ and may not be of equal efficacy

# Vehicles: Driving the Active Ingredient

- Ointment
  - Greases with little or no water, translucent, more lubricating, most effective at penetrating and delivering medication to skin
- Cream – most commonly used
  - Oil in water emulsions, less greasy, usually white in color and vanishes when rubbed in, can be used in any area including intertriginous
- Lotion
  - Liquids or solutions of diluted creams, contain alcohol, cooling and drying effect
- Gel
  - Semi-solid, greaseless, propylene glycol based with alcohol or water
- Foam/Aerosol
  - Agent suspended in base and delivered under pressure, useful for scalp or hair-barren areas

# When is topical treatment generally acceptable?

- If the patient has a skin disorder covering  $< 30\%$  BSA
  - that still sounds like a lot
- Generally, 5-10 % can be consistently treated with topical therapy by a reasonable patient



# How Much Does the Patient Need?

- Finger tip unit
- Rule of the hand
- Rule of 9's: BSA

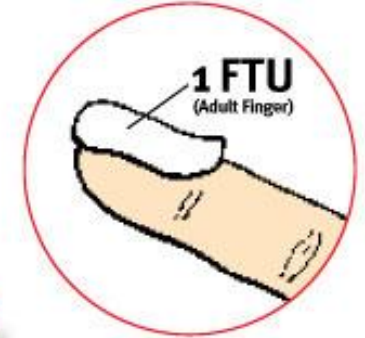
# Fingertip Unit (FTU)



- Amount that can be squeezed from the fingertip to the first crease
- 1 FTU = 0.5 g

## The fingertip unit method\*

FTU = Fingertip unit(adult)  
 1 FTU = 1/2 g of cream or ointment.  
 Measurement based on 5mm nozzle.



FACE & NECK	ARM & HAND	LEG & FOOT	TRUNK (front)	TRUNK (back inc buttocks)			
1	1	1½	1	1½	3-6 months		
1½	1½	2	2	3	1-2 years		
1½	2	3	3	3½	3-5 years		
2	2½	4½	3½	5	6-10 years		
FACE & NECK	ONE ARM	ONE HAND	ONE LEG	ONE FOOT	TRUNK (front)	TRUNK (back)	
2½	3	1	6	2	7	7	Adult

Adapted from:  
<http://193.19.159.46/topicalsteroids/measuringsteroidbyfingertipunit/article/article.asp?ArticleID=77>



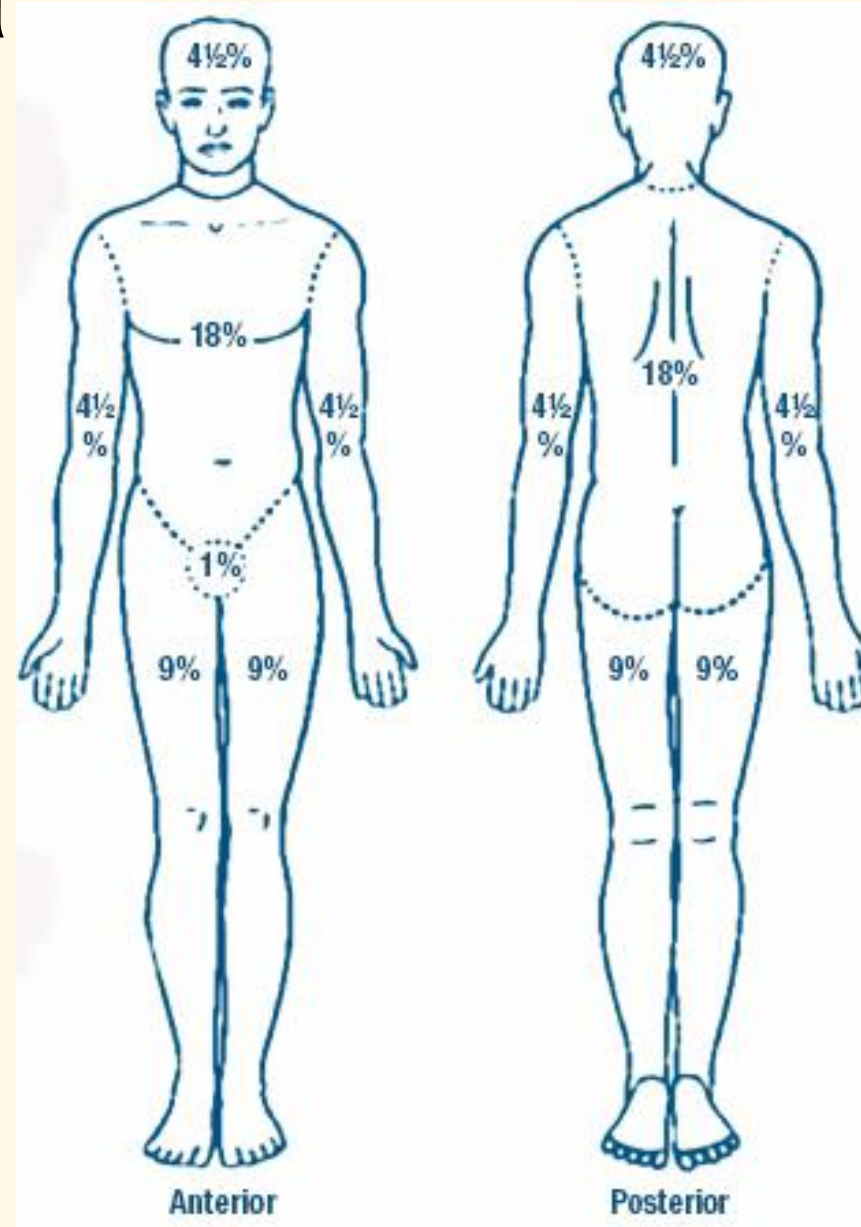
# Rule of the Hand

- Hand = 1% BSA
- One hand-sized area (one side) of the skin requires 0.5 FTU or 0.25 g of ointment/cream

Area of body	FTU required for one application	Wt required for one application (g)	Wt required for an adult to treat BID for 1 week (g)
Face and neck	2.5	1.25	17.5
Trunk	7	3.5	49
One arm	3	1.5	21
<b><u>One hand</u></b>	<b><u>0.5</u></b>	<b><u>0.25</u></b>	<b><u>3.5</u></b>
One leg	6	3	42
One foot	2	1	14

# Body Surface Area

Hand = 1%



# How Much Comes in a Tube/Tub?

- Most topical medications are dispensed as
  - 15 gram
  - 30 gram
  - 45 gram
  - 60 gram
- In general, 30 grams of medication will cover the whole body once
- Sometimes you will need a tub, not a tube (1 lb)
  - Triamcinolone 0.1% cream/ointment
  - Hydrocortisone 1% cream

# Common Topical Therapeutics in Primary Care

- Skin cleansers, sunscreens, emollients, moisturizers
- Corticosteroids and other anti-inflammatory agents
- Antimicrobials
  - Antibiotics
  - Antifungals
  - Antivirals
  - Antiparasitic agents (insecticides)
- Acne and rosacea medications
  - Retinoids
  - Benzoyl peroxide
  - Antibiotics
  - Combination products
- New agents you may see

# New(er) Topicals in Town

- Topical calcineurin inhibitors
- Topical phosphodiesterase inhibitors – crisaborole, roflumilast
- Topical JAK inhibitors - ruxolitinib
- Topical ivermectin
- Topical efinaconazole
- Topical tavaborole
- Topical minocycline foam
- Topical adapalene gel – OTC!!!
- Topical trifarotene

# LG, 9-year-old female



- History of recurrent pruritic skin lesions in the popliteal and anti-cubital fossa b/l
- Flares in winter months
- Skin is really dry and intensely itchy and rash seems to worsen with scratching
- How would you describe it?
- What's in the DDx?



# What additional historical or PE findings would support your suspected diagnosis?

- Personal or FH of atopy
- Hyperlinearity of palms
- Dennie-Morgan folds
- Other flexural rashes



# It Can Look Like This





# Or This



Diagnosis

**Atopic dermatitis**

# Topicals to Tx: Atopic Dermatitis

- Emollients/moisturizers/barrier creams
  - *Backbone of therapy*
- Topical corticosteroids
  - *Treat the flares*
- Topical calcineurin inhibitors
  - *Rescue the non-responders*
- Topical PDE4 inhibitors
  - *Rescue the non-responders*
- Topical JAK inhibitors
  - *Rescue the non-responders*
- Topical antibiotics
  - *For secondary infections if necessary*

# Emollients: Repair the Barrier

- Backbone of effective AD management
- 10-15 minute lukewarm bath, pat dry, apply immediately, at least once daily
- Good options:
  - Petrolatum-based emollients
    - Aquaphor, Vaseline
  - Lipid-rich, ceramide-containing ointments/creams
    - CeraVe
    - TriCeram
    - Atopiclair

# Emollient Choices

- Ideal ingredients: **Occlusive agent** (petroleum, mineral oil, dimethicone, lanolin), **Humectant** (urea, glycerol, lactic acid), **Lubricant** (glyceryl stearate, soy sterols)
- Improve skin barrier function
- Free of irritants and allergens
- Low cost
- Easy to use
- Some other good options: CeraVe, Curel Itch Defense Lotion, Aveeno Eczema Therapy, Theraplex Barrier Balm, Vanicream/Vaniply, Gold Bond Eczema, Cetaphil Cream, Aquaphor

Emollient enhancement of the skin barrier from birth offers effective atopic dermatitis prevention

Simpson, Eric L. et al. October 2014

Journal of Allergy and Clinical Immunology, Volume 134, Issue 4, 818 - 823

van Zuuren EJ, Fedorowicz Z, Christensen R, Lavrijsen A, Arents BWM. Emollients and moisturisers for eczema. Cochrane Database of Systematic Reviews 2017, Issue 2. Art. No.: CD012119. DOI: 10.1002/14651858.CD012119.pub2

# Evidence for Emollients (Cochrane 2017)

- A 2017 systematic review of 77 studies including 6603 participants (mean age 19 years) with mostly mild to moderate eczema evaluated the efficacy of emollients and moisturizers in reducing the signs and symptoms of eczema and the frequency of flares:
  - Based on both physician and patient assessment, the use of **any moisturizers reduced eczema** severity and itch compared with no use, resulted in fewer flares, and reduced the need for topical corticosteroids.
  - In three studies, patients found that a **moisturizer containing glycyrrhetic acid** (a natural anti-inflammatory agent) was four times more effective than vehicle in reducing eczema severity.
  - In four studies, patients using a **cream containing urea** (a humectant agent) reported improvement more often than those using a control cream without urea.
  - Three studies assessed a **moisturizer containing glycerol** (a humectant agent) versus control. More patients in the glycerol group experienced skin improvement, both by physician and patient assessment.
  - Four studies examined **oat-containing moisturizers** versus no treatment or control. No significant difference in skin improvement was noted between groups, although patients using oat moisturizers tended to have fewer flares and reduced need for topical corticosteroids.

# Topical Corticosteroids (TC): Treat the Flares

## How Do They Work?

- Anti-inflammatory, immuno-suppressive
  - Inhibit transcription and thereby protein synthesis
  - Regulation of cytokine production
  - Rebalance T-helper cell type 1 to type 2 ratio
  - Suppression of endothelial cell and lymphocyte function
  - Decrease vascular permeability
- Anti-proliferative
  - T-lymphocytes
- Vaso-constrictive
  - Inhibit capillary dilation

# Topical Corticosteroids: Strength

- Seven classes: I-VII
- Within each class, strength is essentially equivalent, unrelated to percentage
- Multiple Vehicles: Ointments, Creams, Lotions, Foams
- Potency classified based on vasoconstrictor assay (degree of blanching in healthy persons)
  - Classes I-III – ultra-high potency
  - Classes IV-V – medium potency
  - Classes VI-VII – low potency



# Some Examples of Steroids

<http://www.empr.com/dermatological-disorders/section/1982/>

- Classes I-III
  - Clobetasol proprionate 0.05% C, O
  - Halobetasol propionate 0.05% C, O
  - Betamethasone dipropionate 0.05% O
  - Triamcinolone diacetate 0.5% C
- Classes IV-V
  - Mometasone furoate 0.1% C, O, L
  - **Triamcinolone acetonide 0.1% O**
  - Fluticasone propionate 0.05% C
- Classes VI-VII
  - Alclometasone dipropionate 0.05% C, O
  - Hydrocortisone 0.5 to 2.5% C, O, L
  - Fluocinolone acetonide 0.01% C, S

C=Cream, O=Ointment, L=Lotion, S=Solution

# Principles for TC Application

- Steroid phobia is real – address it upfront
- Most patients can be managed with low-med potency steroids
- Lower potency: face, eyelids, intertriginous areas
- Select appropriate vehicle, occlude if needed
- Switch to another class of potency rather than increase the percentage of the same drug
- How to dose:
  - For 3 weeks or less, 1-2 times per day, with steroid-free intervals
  - Generally safe to use for the number of weeks equal to the class in non-folded or mucous membrane containing areas
  - Prophylactic therapy 1-2 times per week has been shown to be more effective than emollients alone

# Increased Steroid Potency = Increased Adverse Effects

- Atrophy
  - Bruising, telangiectasias
  - Fragile skin
  - Striae (not reversible)
- Steroid-induced acne
- Pigment changes
- Steroid rebound, tachyphylaxis
- Masking signs of infection or an underlying disease (fungal infections, lupus, cutaneous T-cell lymphoma)
- Cataracts, glaucoma
- HPA axis suppression

# SE of Topical Steroid (Over)Use



[http://www.google.com/imgres?imgurl=http://meded.ucsd.edu/clinicalimg/skin\\_steroid\\_atrophy3.jpg&imgreurl=http://meded.ucsd.edu/clinicalimg/skin\\_steroid\\_atrophy3.htm&usq](http://www.google.com/imgres?imgurl=http://meded.ucsd.edu/clinicalimg/skin_steroid_atrophy3.jpg&imgreurl=http://meded.ucsd.edu/clinicalimg/skin_steroid_atrophy3.htm&usq)

<http://vgrd.blogspot.com/2010/05/facial-erythema-secondary-to-topical.html>

# Other Uses for Topical Steroids

- Atopic dermatitis
  - Nummular eczema
  - Pompholyx
- Contact dermatitis
- Seborrheic dermatitis
- Psoriasis
- Lichen planus
- Lichen simplex chronicus



<http://x-medic.net/dermatology/lichen-simplex-chronicus-circumscribed-neurodermatitis/attachment/lichen-simplexchronicus/>

<http://www.dermis.net/dermisroot/en/14695/image> [http://organizedwisdom.com/Contact\\_Dermatitis\\_Pictures](http://organizedwisdom.com/Contact_Dermatitis_Pictures)

[www.skinsight.com/infant/seborrheicDermatitisPediatric.htm](http://www.skinsight.com/infant/seborrheicDermatitisPediatric.htm)

# Atopic Dermatitis – Rescue the Non-Responders

- Topical calcineurin inhibitors – acute and chronic/proactive treatment
  - Pimecrolimus 1% cream – 3 months and up
  - Tacrolimus 0.03 to 0.1% ointment – 2 yo and up
- Topical PDE4 inhibitors – indicated for mild to moderate
  - Crisaborole 2% ointment – 3 months and up
- Topical JAK inhibitor – short-term tx of mild to moderate
  - Ruxolitinib 0.75% to 1.5% cream – 12 yo and up

# GG, 19-year-old male



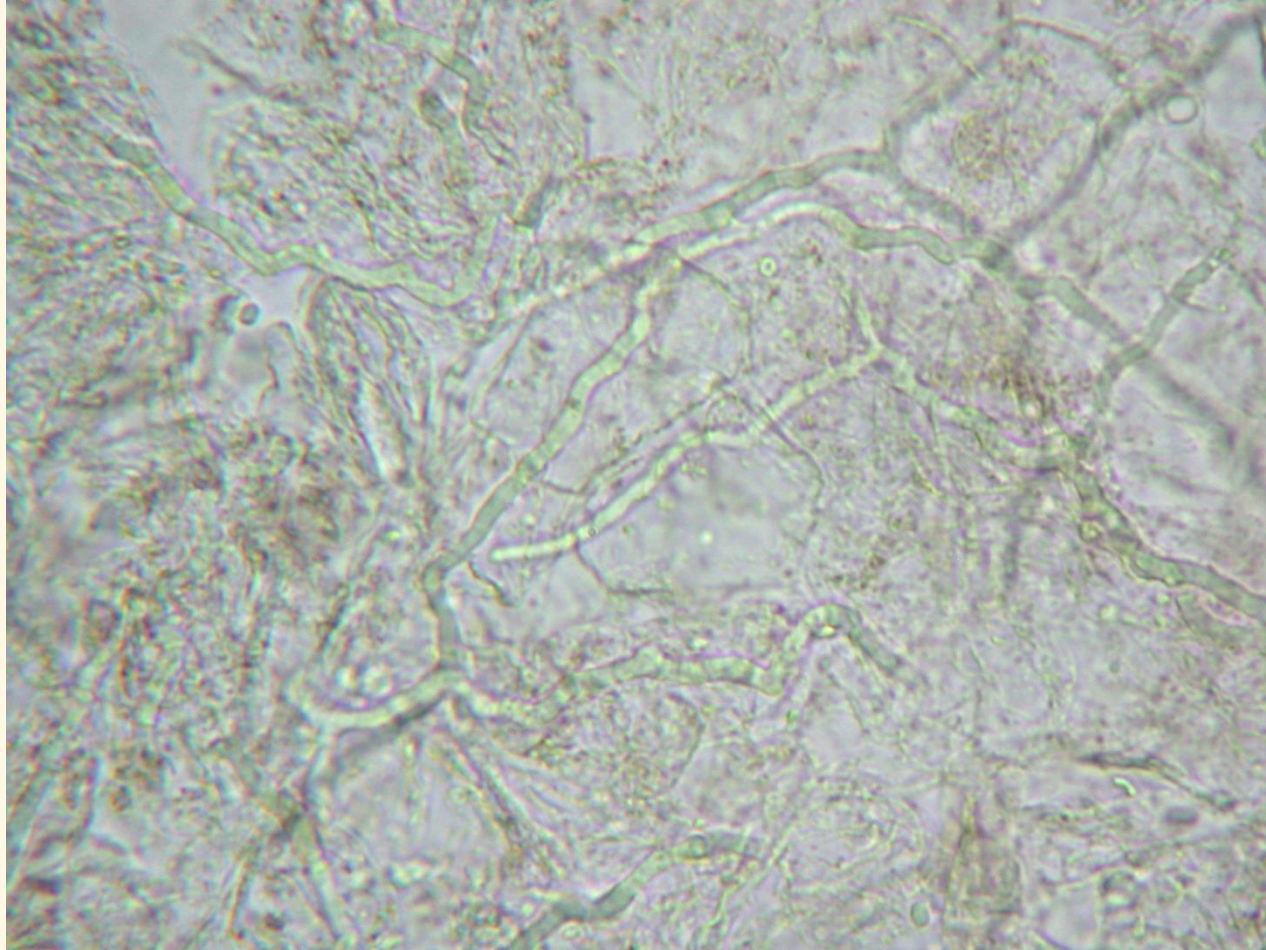
- Developed this rash on thigh over the past 2-3 weeks
- Slightly itchy
- How would you describe it?
- What else might you examine?
- What's in the DDx?

Diagnosis

**Tinea corporis**



# Scrape and KOH it! and Consider a Culture



# So you don't cause this...Tinea incognito



# Or this...Majocchi's granuloma



# Prescribe a Topical Antifungal

- There are several classes of topical antifungal medications
  - Azoles
  - Allylamines
  - N-hydroxypyridinone
    - Ciclopirox
  - Oxaborole
  - Polyene
    - Nystatin
- Some classes are fungistatic and some are fungicidal

# Azoles

- Azoles are a good choice if you are unsure if your patient has a yeast or fungus infection
- Azoles (fungistatic)
  - Clotrimazole (OTC) C, L, S
  - Miconazole (OTC) C, L, S, P
  - Ketoconazole (OTC) C, S
  - Sulconazole C \*\*
  - Econazole C \*\*
  - Oxiconazole C, L \*\*
  - Sertaconazole C \*\*
- \*\*Newer azoles feature once daily application and have some antibiotic and anti-inflammatory properties

# Allylamines

- Allylamine (fungicidal, anti-inflammatory activity)
  - Terbinafine (OTC)
    - 1% cream, 1% solution
  - Butenafine (OTC)
    - 1% cream
  - Naftifine
    - 1% cream, 1% gel
- Generally more effective than azoles
  - Higher cure rates, especially at 4-6 weeks of use
  - Lower relapse rates
  - High bioavailability, stay in stratum corneum longer

# Principles of Topical Antifungal Application

- Treat for long enough – they are more effective with time
  - 2-4 (6) weeks of tx are generally required
  - Treat for 1 week after clearing
  - Apply to the affected area and to 2 cm of normal skin surrounding lesion once or twice daily
- Vehicles
  - Lotions – intertriginous and hairy areas
  - Creams – non-oozing, moderate scaling
  - Ointments – hyperkeratotic lesions
  - Powders and sprays may be used to prevent re-infection

# Principles of Topical Antifungal Application

- Manage concomitant overhydration and secondary bacterial infections in tinea pedis
- May need to add a topical keratolytic for tinea pedis with significant moccasin keratosis
- Avoid combination products – beware the steroid and anti-fungal combo...just don't do it 😊
  - Exception in the case of super itchy tinea where a low-dose TCS can be added for first week



# Other Indications for Topical Antifungals

- Onychomycosis
- Tinea of trunk and extremities
- Candidal intertrigo
- Paronychia
- Tinea versicolor
- Seborrheic dermatitis



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# Topical Anti-fungal Nail Treatment

**Mild to moderate (up to 50-60% of nail)**

- Ciclopirox 8% hydro lacquer applied once daily
  - Used for 7 days in a row then removed with alcohol
  - Must be used in conjunction with monthly trimming by health care provider
- Efinaconazole 10% solution applied once daily
  - Triazole antifungal, approved FDA 2014
- Tavaborole 5% solution applied once daily
  - Boron-based antifungal agent, approved FDA 2014



# List of US Food and Drug Administration–approved drugs and respective cure rates at week 48<sup>1</sup>

Drug	Mycological cure	Complete cure
<b><u>Oral medications</u></b>		
Terbinafine	70%	38%
Itraconazole	54%	14%
<b><u>Topical medications</u></b>		
Tavaborole	31.1%	6.5%
Efinaconazole	53.4–55.2%	15.2–17.8%
Ciclopirox	29–36%	5.5–8.5%

1. Gupta AK and Stec N. Recent advances in therapies for onychomycosis and its management [version 1; peer review: 2 approved] F1000Research 2019, 8(F1000 Faculty Rev):968 (<https://doi.org/10.12688/f1000research.18646.1>) First published: 25 Jun 2019, 8(F1000 Faculty Rev):968 (<https://doi.org/10.12688/f1000research.18646.1>)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6600855/>

# CM, 6-year-old female



- Presents with multiple lesions on face
- 2 siblings with similar lesions
- No systemic symptoms
- How would you describe these lesions?
- What's in the DDx?

# It Can Look Like This



# Or This



Diagnosis

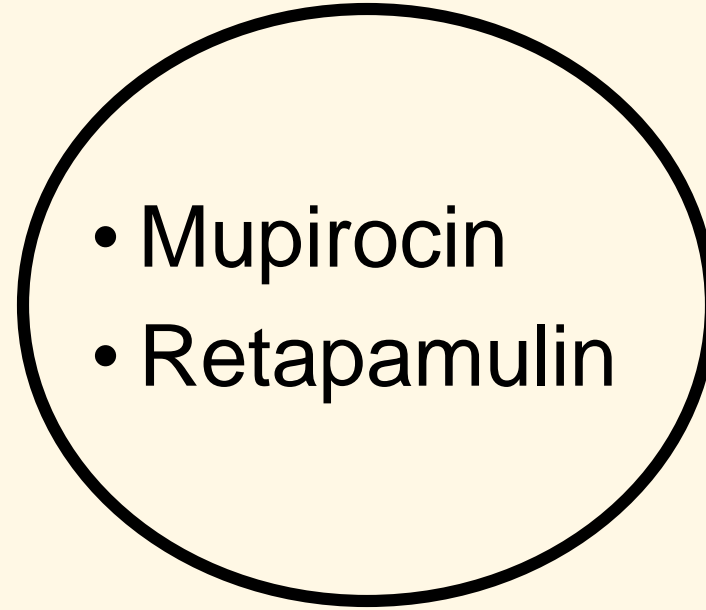
# Impetigo

11 million SSTI annually (that's a lot of infections)

# Topical Anti-Microbials

- Clindamycin
- Erythromycin
- Minocycline
- Benzoyl peroxide

- Neomycin
- Bacitracin
- Polymixin B



- Mupirocin
- Retapamulin

- Metronidazole
- Ivermectin



# Topical Antibiotics for Impetigo

- Mupirocin 2% ointment, cream
  - Covers *S pyogenes*, methicillin-susceptible *S aureus*
- Retapamulin 1% ointment
  - Additionally covers erythromycin-resistant *S pyogenes*, some MRSA coverage

# Principles for Topical Antibiotic Application

- At least 1 week of treatment is required (5-7 days)
- Frequency of application
  - Mupirocin 3 times per day for 5-7 days
  - Retapamulin twice a day for 5 days
- Remove crust before application, keep washcloths separate and launder often
- Cover lesions with gauze/dressing if needed
- Keep tube/jar clean
- If more than a few lesions or large areas (10 lesions or >2% BSA), consider an oral antibiotic
  - Dicloxacillin, Cephalexin

# Other Indications for the Use of Topical Antibiotics

- Superficial impetigo
- Folliculitis
- Prophylaxis of wound infection
- Acne
- Rosacea
  
- Abscesses are a different story
  - Topicals generally ineffective
  - I & D is key
  - Culture and sensitivity
  - Oral TMP/SMZ, doxycycline, or clindamycin if suspect MRSA

# SM, 6-year-old female



- Multiple lesions
- Wrists, ankles, between fingers and toes
- Intensely pruritic, especially at night
- Several family members with the same symptoms
- How would you describe these lesions?
- What's in the DDx?

# Or This



Diagnosis

**Scabies**

# Antiparasitic Agents

- Permethrin – topical of choice
- Ivermectin – close second, oral, easy, not in pregnancy or kids < 15 kg
- Topical sulfur is considered safe in infants <2mo
- Lindane – doesn't even cross the finish line...
  - CNS toxicity, bone marrow suppression
- Malathione, Pyrethrin, Benzyl benzoate, Ivermectin
  - Used for pediculosis

# Application of Antiparasitic Agents

- Permethrin 5% cream, 1% lotion or liquid
  - Treatment of choice for scabies
  - Indicated for pts 2 months of age and up, including pregnant and lactating
- Apply to the entire body neck and below and rinse off in 8-14 hours
  - Massage cream thoroughly into the skin
  - Include areas under the fingernails and toenails
  - 30 grams sufficient for average adult
  - For those under 2 yo scalp involvement is common so apply to scalp and face in this population
- A second application 1-2 weeks later may be beneficial



# Adjuncts to Scabicides

- Treat the family and all close contacts at once
- Low-Medium potency corticosteroid may be added after permethrin to tx hypersensitivity reaction
- May need to treat the itch with antihistamines
- Second-line therapy
  - Oral Ivermectin 200 mcg/kg as single dose, may need to be repeated in 7-10 days

# MB, 16-year-old female



- Facial lesions for several years
- Has had oily skin since she was 12-years-old
- Lesions seem to worsen the week prior to menses
- How would you describe these lesions?
- What's in the DDx?

# It Can Look Like This



# Or This



Diagnosis

**Acne VULGARIS**

# Topical Acne Medications

- **Comedolytic**

- Salicylic acid
- Benzoyl peroxide
- Retinoids
  - Tretinoin
  - Adapalene
  - Tazarotene
  - Trifarotene

- **Antimicrobials**

- Benzoyl peroxide
- Clindamycin
- Erythromycin
- Dapsone
- Sulfacetamide
- Minocycline

- **Anti-androgens**

- Clascoterone

# General Principles of Acne Management

- Be patient – treatment is preventative, not curative - it takes at least 4 weeks to affect a change and improvement may continue for up to 6 months
- Pay attention to the vehicle
  - Start with a cream, change to a gel if not effective and change to a lotion if cream is too irritating
- Apply stepwise approach to topical therapy management
  - OTC comedolytic, topical retinoid, topical antibiotic/comedolytic, oral antibiotic/topical comedolytic
- Retinoids are good for maintenance

# Topical Retinoid Formulations

- Tretinoin
  - 0.025%, 0.05%, 0.1% cream
  - 0.01%, 0.025%, 0.05% gel
  - Microencapsulated 0.04%, 0.1% gel
    - Contains glycerin and dimethicone to help repair epidermal barrier and increase skin moisturization
- Adapalene – best tolerated AND NOW **OTC!!!**
  - 0.1% cream
  - **0.1%, 0.3% gel**
- Tazarotene – most effective, most irritating
  - 0.05%, 0.1% cream
  - 0.05%, 0.1% gel
- Trifarotene
  - 0.005% cream



# Topical Retinoids

## How Do They Work?

- Act by down-regulating TLR2 and CD14 messenger RNA, reducing cell surface expression and resulting in anti-inflammatory activity
- Inhibit comedone formation by normalizing keratinocyte activity

# Application of Topical Retinoids

- Used for all types and grades and as monotherapy
- Skin irritation is common
  - Start low and go slow, every 2-3 days at first
  - Use only a pea-sized amount to cover the whole face, not for spot treatment
  - Can wash off after 20-30 minutes and then increase as tolerated
- Apply at night as sun exposure causes degradation
- Microsphere technology reduces irritation and has greater photostability
- Not for use in pregnant patients

# Topical Antimicrobials

## How Do They Work?

- Reduce the number of *C. acnes* colonizing the skin, reduce the inflammatory response
- Recommended for the treatment of inflammatory acne

# Topical Antimicrobial Formulations

- Benzoyl peroxide
  - 2.5% - 10% gels, lotions, creams, pads, masks, cleansers
  - Causes bleaching of hair/clothing
  - 2.5% generally most effective
- Erythromycin
  - 2% gel, solution
- Clindamycin
  - 1% gel, solution, lotion, foam
- Minocycline
  - 4% foam

# Application of Topical Antibiotics in Acne Management

- Should be used in combination therapy
- All applied once to twice daily
  - Antibiotic in AM
  - Retinoid in PM

# New Combos

- Adapalene 0.1%/BPO 2.5% gel
- Clindamycin 1.2%/Tretinoin 0.025% gel
- Clindamycin 1.2%/BPO 2.5% gel
- All combos used once daily, tretinoin product at bedtime
- Clindamycin/BPO gel contains glycerin and dimethicone to improve skin moisturization
- Triple-combination – clindamycin 1.2%/adapalene 0.15%/benzoyl peroxide 3.1%
  
- **New Guidelines Jan 2024**

# Topical Anti-Androgen

- Clascoterone 1% cream – androgen receptor inhibitor
  - Applied twice a day
  - Ages 12 and older
  - Can be used as monotherapy or in combination
  - \$600 for a 60 g tube

# Management of Acne Vulgaris

Adults, adolescents, and preadolescents ( $\geq 9$  years) with acne vulgaris

Baseline Evaluation

## SEVERITY ASSESSMENT:

- Acne objective severity should be assessed consistently, using the Physician Global Assessment (PGA) or other scales
- Assess satisfaction with appearance, extent of scar / dark marks, treatment satisfaction, long-term acne control, and impact on quality of life.

Routine microbiological and endocrine testing are not indicated

Mild

Moderate to severe

## TOPICAL TREATMENTS

Multimodal therapy combining multiple mechanisms of action is recommended

Topical retinoids

BP

Topical antibiotics

• Monotherapy is not recommended

Topical antibiotic & BP

Topical retinoid & BP

Topical retinoid & antibiotic

• Concomitant use of BP can prevent the development of antibiotic resistance.

Clascoterone

Salicylic acid

Azelaic acid

## PHYSICAL MODALITIES

Pneumatic broadband light added to adapalene

## SYSTEMIC ANTIBIOTICS

Limit systemic antibiotic use when possible to reduce the development of antibiotic resistance and other antibiotic-associated complications.

Use concomitant BP and other topical treatment

Doxycycline

Minocycline

Sarecycline

Doxycycline over azithromycin

## HORMONAL AGENTS

Combined oral contraceptives

Spironolactone

• Potassium monitoring is of low usefulness in patients without risk factors for hyperkalemia (e.g., older age, medical comorbidities, medications).

Intralesional corticosteroids

• Adjuvant treatment for larger acne papules or nodules at risk of acne scarring or for rapid improvement in inflammation and pain.

## ISOTRETINOIN

Isotretinoin

- Patients with psychosocial burden or scarring should be considered candidates for isotretinoin.
- We recommend monitoring only LFT and lipids
- Population-based studies have not identified increased risk of neuropsychiatric conditions or inflammatory bowel disease with isotretinoin.
- For persons of pregnancy potential, pregnancy prevention is mandatory.

Daily dosing over intermittent dosing

Either lidose-isotretinoin or standard isotretinoin

### Key:

- Strong recommendation in favor of the intervention
- Conditional recommendation in favor of the intervention
- Strong recommendation against the intervention
- Conditional recommendation against the intervention

Abbreviations: BP: Benzoyl peroxide  
LFT: Liver function test





# Topical Take-Home Points

- Many dermatologic conditions in primary care can be managed safely and effectively with topical medications
- Prescribe the right vehicle and the right amount
- Provide patient education to help ensure compliance

# Selected Resources/References

- [American Academy of Dermatology – Education Modules  
https://www.aad.org/education/basic-derm-curriculum](https://www.aad.org/education/basic-derm-curriculum)
- UpToDate General Principles of Dermatologic Therapy and Topical Corticosteroid Use:  
[http://www.uptodate.com/contents/general-principles-of-dermatologic-therapy-and-topical-corticosteroid-use?source=search\\_result&search=topical+dermatology+therapy&selectedTitle=9%7E150](http://www.uptodate.com/contents/general-principles-of-dermatologic-therapy-and-topical-corticosteroid-use?source=search_result&search=topical+dermatology+therapy&selectedTitle=9%7E150)
- Patient-Centered Pharmacology – Dermatology
- Symptom to Diagnosis – Evaluation of a Rash
- Zaenglein AL, Pathy AL, Schlosser BJ, Alikhan A, Baldwin HE, Berson DS, et al. Guidelines of care for the management of acne vulgaris. *J Am Acad Dermatol*. 2016 Feb 15.

# Selected Resources/References

- Emollients and moisturisers for eczema. van Zuuren EJ, Fedorowicz Z, Christensen R, Lavrijsen A, Arents BWM Cochrane Database Syst Rev. 2017;2:CD012119. Epub 2017 Feb 6.
- Emollients and moisturizers for eczema: abridged Cochrane systematic review including GRADE assessments. van Zuuren EJ, Fedorowicz Z, Arents BWM Br J Dermatol. 2017;177(5):1256. Epub 2017 Oct 1.
- Guidelines of care for the management of acne vulgaris, Rachel V. Reynolds, MD (Co-Chair) et al., Published: January 30, 2024 DOI: <https://doi.org/10.1016/j.jaad.2023.12.017>