Disclaimers

- No financial disclosures
- Will be discussing off-label uses of medications
- Wife is an NP
- Provided a Pediatric Dermatology textbook for APRN conference drawing
Our Locations

- 4 Pediatric Dermatologists
- 4 Nurse Practitioners
- 1 General Pediatrician
- 1972 - International Society of Pediatric Dermatology was founded.

- The Society for Pediatric Dermatology (SPD) began in 1973
  - Alvin Jacobs, MD, Samuel Weinberg, MD, Nancy Esterly, MD, Sidney Hurwitz, MD, William Weston, MD, and Coleman Jacobson, MD

- The Journal of Pediatric Dermatology released its 1st issue in 1982 (36 years ago)

- AAP did not have a section of dermatology until 1986
Rashes account for 10-30% of urgent visits

Impacts almost every aspect of pediatrics

Majority of rashes can be initially dealt with by primary providers
Abnormal pigmentation

- 17 yo male
- 4 month history of white spots on the skin
- Noted in Summer 2018
- No previous inflammation
- Mildly itchy, more so when he is hot or sweats
- Worried he has vitiligo, PCP tried 2.5% HC oint
Abnormal Pigmentation: Next Step

- Try a stronger topical steroid? 0.1% TAC
- Check thyroid studies and try a Woods lamp (Black light)?
- Scrape skin, add KOH and examine under microscope?
Examine under microscope
Tinea Versicolor

- Aka - pityriasis versicolor
- Common superficial fungal disorder of the skin
- Multiple scaling, oval macules, patches, and thin plaques
- Trunk, upper arms, neck or face (sebum “rich” areas)

- Dimorphic fungus (yeast form): known as *Malassezia furfur*, aka *Pityrosporum orbiculare* or *ovale*.
- Yeast produces a dicarboxylic acid called *Azelaic acid*, this blocks dopa-tyrosinase reaction = causes **hypopigmentation** in dark skinned individuals
Tinea versicolor:

- **DDx:** CARP, Retention hyperkeratosis, vitiligo, tinea corporis, allergic contact dermatitis, postinflammatory hyperpigmentation

- **Treatment:**
  - Topical – variety of options, hard for large surface areas
  - Oral – easier, more costly
Tinea Versicolor Treatment

- **Topical**
  - Selenium sulfide shampoo daily x 1-2 weeks
  - Ketoconazole shampoo or cream daily x 1-2 weeks
  - Terbinafine spray x 2 weeks

- **Oral**
  - **Ketoconazole**: 400mg + exercise: FDA warning about liver toxicity (87.9% success)
  - **Itraconazole**: 400mg x1 = 200mg qd x1 week (drug interactions, liver toxicity, CHF)
  - **Fluconazole**: 300mg once, repeat in 1-2 weeks (81.5% success)

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Atypical foot lesion

- 16 yo female
- 1 week history of dark lesion on sole of foot
- Appeared suddenly, not changing
- Asymptomatic, no pain or itching
- Tried OTC antifungal cream (Tinactin) for a few days, no change
- Mom is worried about melanoma, +FHx of skin cancer
Atypical Foot lesion: Options

- Scrape for fungal culture and start PO Griseofulvin?
- Reassure and wait/watch?
- Skin biopsy to rule out melanoma?
Black Walnut Stains

- If no ACD: stain will slowly resolve as skin grows and naturally sheds
  - Can take weeks to over a month
- If ACD: topical steroids
Wet Hands

- 14 yo female
- Several year history of sweaty hands and feet
- Worse when nervous, scared, hot
- Does not happen when asleep
- Constantly wipes hands on pants and towels
- Having trouble at school: messes up written paperwork, embarrassed, trouble using touch screen electronic devices
Wet Hands: What to do?

- Check TSH, Free T4, T3?
- Reassurance, start Certain Dri Roll-on antiperspirant?
- Check serum and urinary catecholamines to rule out a pheochromocytoma?
- Referral to psychology for biofeedback therapy?
Hyperhidrosis

- Idiopathic hyperhidrosis, aka primary pediatric hyperhidrosis
- Excessive production of sweat in response to heat/emotional stimuli/other stimuli
- Hands, feet, axilla, body
- Not drug related, not metabolic related (does not happen when asleep)
- Mild $\rightarrow$ Severe
- Severe: disabling, embarrassing, interfere with work/play, affect social interactions
**Hyperhidrosis Treatment**

**Topical : qHS- BID**
- 12% aluminum chloride (OTC): Certain Dri Roll On
- 20% aluminum chloride (Drysol)
- Qbrexza (glycopronnium) cloths (10-2018)

**Oral**
- **Glycopyrrolate**
  - 1-3mg BID
  - SE: dry mouth, blurry vision, constipation, tachycardia
  - Start low, titrate up

Tapwater Iontophoresis

- Electric device that delivers a direct current to patient
- Uses Tap water as the conductive medium
- MOA? Causes development of keratotic plugs in the eccrine sweat ducts
- Effect may last for weeks
- Iontophoresis units (Drionic, General Medical Co., Los Angeles, CA) are available without a prescription via mail or internet (www.drionic.com)
Drionic Hands & Feet Devices

Dry confidence.

BUY THIS $234.00
Botulinum Toxin for Axillary Hyperhidrosis

Ada Regina Trindade de Almeida, MD, Suelen Montagner, MD

KEYWORDS
- Axillary hyperhidrosis
- Excessive underarm sweating
- Botox
- Botulinum toxin
- Neuromodulators

KEY POINTS
- Botulinum toxin has been proved to be safe and effective for the treatment of axillary hyperhidrosis.
- Although its pathophysiology continues to be controversial, the beneficial effect of type-A neuromodulators in temporarily inhibiting localized sweating supports a level A recommendation from evidence-based review.
- Before the procedure, the correct identification of the affected area is mandatory to avoid wastage of drug and neglect of target areas, and to enhance efficacy, as the hyperhidrotic location may not match the hairy axillary region.

INTRODUCTION
Axillary hyperhidrosis is a disease that affects the social and occupational lives of many people on all continents. Axillary hyperhidrosis begins during the teenage years and equally affects men and women. When associated with axillary malodor it becomes a significant problem for the patient. However, preliminary findings of a recent study suggest that the eccrine gland’s secretory clear cell exercises a main role in fluid transport (the only one equipped with cotransporter and aquaporin channels), and is likely the source of excessive sweating in this form of hyperhidrosis.
Fig. 4. In the same patient shown in Fig. 3, injection sites 1.5 cm apart are marked inside the delimited area.
FOCUSED ON SWEATING? SO ARE WE!

www.sweathelp.org
Perioral dermatitis?

- 15 yo female
- Originally diagnosed with acne, later-perioral dermatitis
- Worsening over last year, no menstrual flares
- Stopped topical steroids, no Inhaled steroids
- Failed: Metronidazole cream, Elidel cream, BPO wash, Benzaclin, Oral doxycycline for 8 weeks,
Perioral Dermatitis: What to do?

- Refer to dermatology for Accutane?
- Try topical clindamycin and a SA wash?
- Refer to Endocrine for spironolactone?
- Scrape a pustule and take a look?
Scrape it!

- Mineral oil, #15 blade, wipe on a glass slide, examine under 10-40x microscope
Demodex folliculitis

- Commensal ectoparasite
- Live in the hair follicle/sebaceous gland of face
- Present in teens → adults, children with HIV or leukemia
- Red papules and pustules, sometimes itchy
Demodex folliculitis: Tx

- **TOPICAL**
  - 5% Permethrin cream
  - Metronidazole cream or gel
  - Topical precipitated sulfur
  - Sodium sulfaacetamide
  - 1% ivermectin cream
Demodex folliculitis: Tx

- **ORAL:**
  - Oral Ivermectin? 200-400 mcg/kg x1
  - Recurrence is common
  - Hard to eradicate

Jacked up Wart

- 6yo male
- 5 month history of painful wart under R 4th toenail
- Tried OTC Compound W, no improvement
- Here for cryotherapy
What’s the next step?

- Freeze it with liquid nitrogen?
- Shave it off with a #15 blade?
- Try warm soaks and get better fitting shoes?
- X-rays of foot?
Subungal Exostosis

- Usually presents as solitary lesion
- Small firm lesion, located deep to the free edge of the nail
- Children and young adults
Subungal Exostosis

• Half of the reported cases described patients under 20 years of age
• Female predominance
• DDx: verruca vulgaris, subungual fibroma/fibrokeratoma pyogenic granuloma, glomus tumor, subungual epidermal inclusion cyst, achromic malignant melanoma, squamous cell carcinoma of the nail bed, melanotic whitlow, osteogenic sarcoma and enchondroma

Possible Causes
- Trauma
- Chronic infections
- Tumor
- Hereditary abnormality
- Activation of a cartilaginous cyst
- May represent cartilaginous metaplasia occurring in response to acute/chronic irritation
Subungal Exostosis

Diagnosis

- AP and Lat x-rays to confirm diagnosis

Treatment

- Surgical excision by hand/foot plastic surgery or orthopedics is curative
- Recurrence rare

Recalcitrant Eczema

- 7yo female, fair skin
- Eczema since a baby, +FHx of similar rash in both parents
- Face, both arms
- Never itchy
- Tried a multitude of topical medications
Recalcitrant Eczema: What to do?

- Reassurance, topical moisturizers, topical keratolytics?
- Start Lidex ointment with wet wraps?
- Begin Vitamin A supplementation?
- Start 6% precipitated sulfur in Vanicream?
Keratosis Pilaris

- Common
- Keratinous plugs in the follicular orifices
- Variable degree of surrounding erythema

- Facial cheeks
- Upper extensor arms
- Anterior thighs
- Can be diffuse
- Usually asymptomatic
- Bothersome
Keratosis Pilaris: To treat or Not to treat?

- Try not to treat! Prevents disappointment

- Topical keratolytics:
  - 6-12% lactic acid cream or lotion (LacHydrin RX, AmLactin – Costco)
  - Glycolic acid
  - Salicylic acid
  - 10-20% Urea – humectant
  - Topical retinoids (adapalene, etc)
Keratosis Pilaris: To treat or Not to treat?

- Exfoliative techniques:
  - Microfiber washcloth, buff-gloves, etc.
  - Topical steroids only temporarily help reduce redness

- Rare associations:
  - Look at the eyebrows! Ulerythema Ophryogenes
“My Kid’s Feet Stink”

- 13yo male
- Here for mole check, mother declines foot exam?
- Why? Mother complains that patient’s feet (and hands sometimes) are “putrid” and is embarrassed about it
Stinky feet?

- Fungal culture & start ketoconazole cream?
- Skip the exam, and refer to podiatry?
- Try topical clindamycin solution and hope it works?
Pitted keratolysis

- Superficial corynebacterial infection
- Erythema
- Shallow round pits, small craters
- Weight-bearing portions of the feet. Less commonly on hands.
- Bad smell is common

- *Corynebacterium (Kytococcus) sedentarius*
- Produces extracellular enzymes that breakdown keratin
- High risk:
  - Sweaty feet, athletes
Pitted keratolysis

- No need to perform bacterial culture
- Treating the sweaty feet is helpful
  - Certain Dri, Drysol, etc
- Shoe Odor Pearl
  - Wash and dry shoes monthly
  - baking soda in a sock, in shoe **overnight**
- **Topicals**
  - Erythromycin lotion
  - Clindamycin lotion/gel
  - Mupirocin ointment
  - Benzaclin