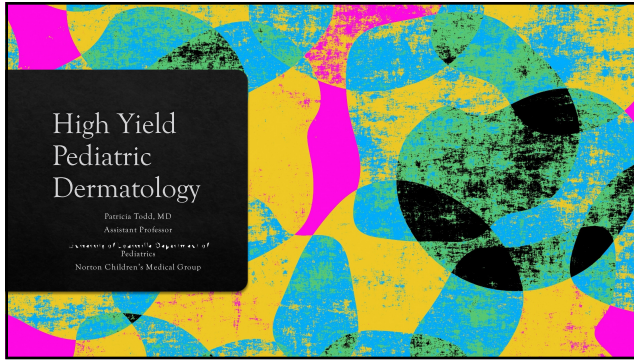




1

Disclosures

- ◆ I have no financial disclosures.
- ◆ I will discuss some medications which are considered offlabel in children or in children of certain ages.

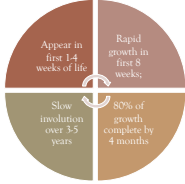
2

Objectives

- ◆ Review diagnostic features and management of common pediatric dermatologic conditions
 - ◆ Infantile hemangiomas
 - ◆ Warts and molluscum
 - ◆ Atopic dermatitis
 - ◆ Congenital and acquired melanocytic nevi
- ◆ Review Pediatric Dermatology Resources

3

Infantile Hemangiomas: the basics



- Epidemiology
 - Previous reports were 3-10%
 - Population based study in 2016:
 - 1.97 per 100 person-years¹

Anderson KB, Schuch JJ, Litken CM, Harad JL, Davis DM, Tellefsen MB. Increasing incidence of infantile hemangiomas (IH) over the past 25 years: Correlation with decreasing gestational age at birth and birth weight. *J Am Acad Dermatol*. 2016;74(1):120-126. doi:10.1016/j.jaad.2015.08.024

4

CLINICAL PRACTICE GUIDELINE Guidance for the Clinician in Rendering Pediatric Care

American Academy
of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

Clinical Practice Guideline for the Management of Infantile Hemangiomas

Daniel P. Krowchuk, MD, FAAP;¹ Ilona J. Frieden, MD, FAAP;² Anthony J. Mancini, MD, FAAP;³ David H. Darrow, MD, DDS, FAAP;⁴ Francine Blei, MD, MBA, FAAP;⁵ Arin K. Greene, MD, FAAP;⁶ Aparna Annam, DO, FAAP;⁷ Cynthia N. Baker, MD, FAAP;⁸ Peter C. Frommelt, MD, FAAP;⁹ Amy Hodak, CPMSM, Brian M. Pate, MD, FHM, FAAP;¹⁰ Jenice L. Pelletier, MD, FAAP;¹¹ Deborah Sandrock, MD, FAAP;¹² Stuart T. Weinberg, MD, FAAP;¹³ Mary Anne Whelan, MD, PhD, FAAP;¹⁴ SUBCOMMITTEE ON THE MANAGEMENT OF INFANTILE HEMANGIOMAS

5

Guidelines for Management of IH

- ◆ Identify high risk IH
 - ◆ Functional impairment
 - ◆ Ulceration
 - ◆ Potential for disfigurement
 - ◆ Life-threatening complications
 - ◆ Associated abnormalities

6

Management of IH



- ◆ Standard of care: beta blockers
- ◆ In the US, FDA-approval given to propranolol for treatment of infantile hemangiomas
- ◆ Most efficacious if started within the first 8 weeks of life
- ◆ Given at therapeutic doses throughout proliferative phase
- ◆ Preferably managed by dermatologist or other specialist with experience
- ◆ Refer by 1 month of age



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Safety of Propranolol

- ◆ **Serious Potential Risks:** symptomatic bradycardia, hypotension, hypoglycemia, bronchopulmonary
 - ◆ Very unlikely when appropriately screened and educated
 - ◆ Cardiac exam, obtain family history of arrhythmia and autoimmune disease; history of bronchopulmonary dysplasia in premature infants
 - ◆ Always give after feeding; hold if not eating
 - ◆ Hold if wheezing
- ◆ **Common Side Effects:** cold hands and feet, sleep disturbance, GI symptoms (diarrhea)

Gallo H, Rush ML, Chack P, Sarnavich DM, Millson TW. Safety of propranolol for infantile hemangioma in infants less than five weeks corrected age. *Pediatric Dermatology*. 2022 May;30(3):489-493. doi: 10.1016/j.pedder.2020.04.005. Epub 2022 Mar 2. PMID: 35244576.

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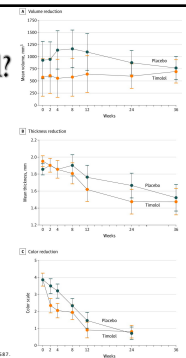
High Risk Locations

- | | |
|---|--|
| <ul style="list-style-type: none"> ◆ Deformity: <ul style="list-style-type: none"> ◆ Nasal tip ◆ Breast bud ◆ Ulceration: <ul style="list-style-type: none"> ◆ Ear ◆ Lower lip ◆ Neck ◆ Labia | <ul style="list-style-type: none"> ◆ Associated Congenital Anomalies <ul style="list-style-type: none"> ◆ Lumbosacral spine – Midline or SEGMENTAL involving buttock/genitalia ◆ Scalp/face – SEGMENTAL > 5 cm² ◆ Hemangiomas in other organs <ul style="list-style-type: none"> ◆ 5 or more cutaneous lesions ◆ ~ 20% risk ◆ Screen with RUQ ultrasound |
|---|--|

9

What about timolol?

- ◆ Has utility in small and/or superficial IH
- ◆ May be beneficial for ulcerated IH
- ◆ Generally, better tolerated than propranolol
- ◆ Limited efficacy overall; not appropriate for high risk, large lesions



Mulliken-Gorke JZ et al. *JAMA Dermatology*. 2021 May 1;157(5):583-587.

10

Warts and Molluscum

- ◆ Verruca vulgaris (Human papilloma virus) and molluscum contagiosum (MC virus, part of the poxvirus family) are indolent cutaneous viral infections
- ◆ Lesions can be distressing for patients and parents.
- ◆ Treatment remains challenging with a high non-response rate



Images from VisualDx.com

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What do I tell Parents about Warts?

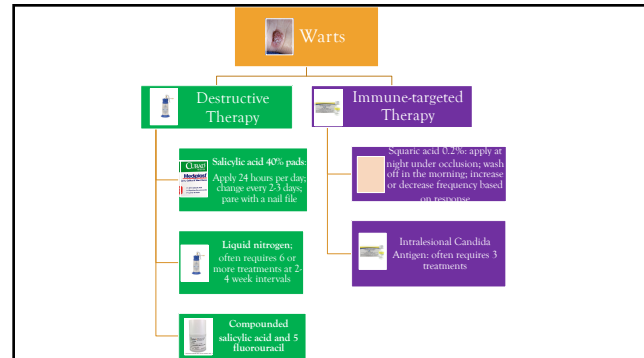
- ◆ Common; spread through contact, often household members who **MAY NOT** know they carry the virus on their skin (latent)
 - ◆ 10-20% of school-age children experience warts
 - ◆ ~90% will clear within 5 years (without treatment)
- ◆ When located in the genital area in a patient < 4 y/o, often benign transmission from care givers through diapering and assisting with potty training; use clinical judgement and inquire about risk of abuse, but this is not a definitive sign of abuse

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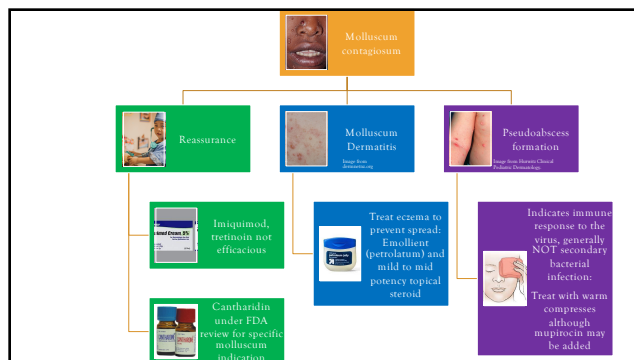
What do I tell Parents about Molluscum?

- ◆ Increasing in incidence, > 20-fold increase since the 1980's
- ◆ Spread through contact, frequently in water sources, but not always
- ◆ Most will resolve in 6 months – 2 years, but ~ 15% persist after 2 years
- ◆ Some lesions will leave an atrophic scar, regardless of treatment
- ◆ They **WILL** resolve unless immune suppression
- ◆ While bathing separately will minimize some risk to siblings, unlikely to fully protect them (allow practicality in parenting)

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Take Away Point: Change the paradigm in which we approach warts and molluscum in kids

- ◆ Dermatologic destructive therapy for either lesion is painful → consider this when referring for treatment → will the patient tolerate treatment?
- ◆ Treatment is not immediate; requires repetition
- ◆ Success rates of treatments are variable; regardless, eventual resolution of these lesions is likely

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Tips from Pediatric Dermatology

- ◆ Dry skin care regimen is as important as your prescription therapy
- ◆ Topical steroids are firstline and mainstay of therapy
 - ◆ Prescribe these safely, but don't under-treat
- ◆ New FDA-approved therapies for moderate to severe disease not controlled with topical steroid therapy can provide life-changing relief for many kids

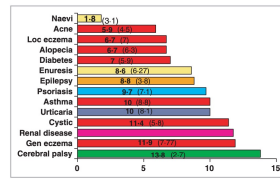
18

Atopic Dermatitis and Quality of Life

- ◆ Studies have indicated that generalized atopic dermatitis can have severe negative effects on quality of life

- ◆ Significant burden on the family

- ◆ Financial
- ◆ Time
- ◆ Sleep
- ◆ Stress



Children's Life Quality Index (CLQI) Scores

Reardon PE, Lewis-Jones ME, et al. Dermatitis. 2006;142(5):511-515.

19

Daily Gentle Skin Care is Key to Maintenance

- ◆ Bathe daily or every other day – no less than this
- ◆ Baths should be 10 minutes or less in lukewarm water
- ◆ Soap should be mild, fragrance free, and used sparingly
 - ◆ Ideally, use a soap that doesn't lather
 - ◆ Only to axillae, groin, buttock and feet
 - ◆ Use at the very end of the bath in infants
- ◆ Thick emollients (ointments or creams) should be applied generously within 2 minutes of drying off
 - ◆ "Must be able to scoop it out of a jar to be thick enough"

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Mainstay of Therapy: Still Topical Steroids

- ◆ Despite development of steroid-sparing agents, these are typically used as adjuvant therapy
- ◆ Known phobia to steroids affects compliance
- ◆ Topical steroids are safe and effective if prescribed appropriately



Chamman GR, Morris AD, Williams HC. Topical corticosteroid phobia in patients with atopic eczema. *Br J Dermatol*. 2000; 142(9):916.

Sato-Abe M, Futamura M, Yamamoto-Hanada K, et al. Topical corticosteroid phobia among caretakers of children with atopic dermatitis: a cross-sectional study using TOPOCOP in Japan. *Dollar Dermatol*. 2019 Mar; 8, doi:10.1155/2019-17584.

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What Are the Side Effects?

- ◆ Atrophy and striae at the site applied
 - ◆ Can be avoided by taking breaks and monitoring use closely
- ◆ Induction of perioral dermatitis, acne on the face
- ◆ Hypopigmentation at site applied – reversible
- ◆ Clinically evident systemic absorption is rare
 - ◆ More of a concern in infants and large surface area involvement

Hengge UR, Ruzicka T, Schwartz RA et al. Adverse effects of topical glucocorticosteroids. *J Amer Acad Dermatol*. 2006; 54(1): 1-15.

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Consequences of Uncontrolled Atopic Dermatitis

- ◆ Poor quality of life
- ◆ Frequent ED visits and hospitalizations
- ◆ Neurocognitive deficiencies
- ◆ Increased stress on the family
- ◆ Economic implications of managing a chronic disease

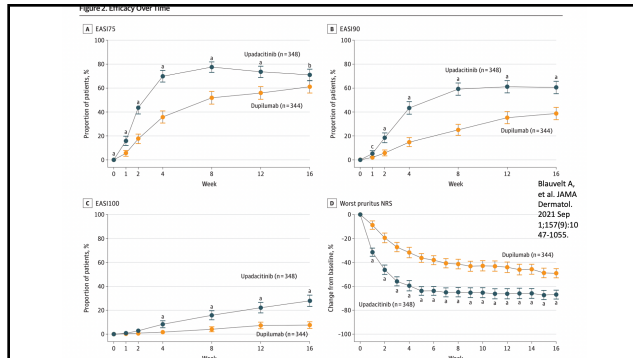
Gochmutter H, Valdez-Rodriguez B, Cardwell L. The psychosocial impact of atopic dermatitis. *Adv Exp Med Biol*. 2017; 1027: 57-69.

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What's New for Atopic Dermatitis

- ◆ Dupilumab (6 months of age and up)
 - ◆ IL-4R antagonist
 - ◆ Q2-4week injection
 - ◆ Improvement within 1 month, optimally by
 - ◆ Common side effect: conjunctivitis, injection site reaction, herpes labialis/eczema herpeticum on therapy have been reported in pts with history of this
- ◆ Upadacitinib (12 y/o and up)
 - ◆ JAK inhibitor – several downstream anti-inflammatory effects
 - ◆ Daily oral medication
 - ◆ Likely superior to dupilumab
 - ◆ BUT increased side effect profile
 - ◆ Common: upper respiratory tract infection, nausea, sore, headache, blood creatine phosphokinase increased, hypersensitivity, folliculitis, abdominal pain, fatigue, neutropenia, melnia
 - ◆ Serious: INFECTION, MALIGNANCY, THROMBOSIS, MAJOR ADVERSE CARDIOVASCULAR EVENTS, GI PERFORATIONS

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Melanocytic Nevus

- ◆ Overwhelmingly benign in children
- ◆ Melanoma can arise in children but is rare
- ◆ Review clinical characteristics of congenital melanocytic nevi and melanoma in children

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Congenital Melanocytic Nevus

- ◆ Appear at birth or within first year of life
- ◆ Grow proportionately with the child
- ◆ May become generally darker or lighter over time
- ◆ May become thicker and develop hypertrichosis (often around adolescence but may occur earlier)

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Care of Congenital Melanocytic Nevus in Newborns and Infants: Review and Management Recommendations

Maria N. Jahnske, MD,* Judith O'Haver, PhD, RN, CPNP-PC, Deepthi Gupta, MD,* Elena B. Hawryluk, MD, PhD,* Nika Finetti, MD,* Lucy Kruse, MD,* Malinda Jen, MD,* Kimberly A. Hori, MD,* Ilona J. Frieden, MD,* Harper Price, MD,* Carrie C. Coughlin, MD*

Jahnke MN, O'Haver J, Gupta D, et al. Care of Congenital Melanocytic Nevus in Newborns and Infants: Review and Management Recommendations. Pediatrics. 2021;148(6):e2021051536. doi:10.1542/peds.2021-051536

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Congenital Melanocytic Nevus: Size Matters

- ◆ Small (<1.5 cm) and medium (1.5-20 cm) congenital melanocytic nevi have < 1% lifetime risk of melanoma arising within them
 - ◆ These melanomas arise in late adolescence or adulthood
- ◆ Large (20-40 cm): risk is closer to 2%
- ◆ Giant (> 40 cm): risk is ~ 15% and occurs early in life
- ◆ Prophylactic excision generally not recommended given no change in incidence of melanoma

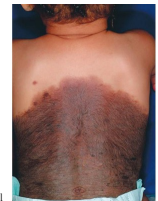


Image from Hurwitz Clinical Pediatric Dermatology.

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Pediatric Melanoma

- ❖ Different ABCD acronym
- ❖ Amelanotic
- ❖ Bleeding, bump
- ❖ Color is uniform
- ❖ Any Diameter, arises De novo



Cordoro KM, Gupta D, Frieden IJ, McCalmont T, Kashani-Sabet M. Pediatric melanoma: results of a large cohort study and proposal for modified ABCD detection criteria for children. *J Am Acad Dermatol*. 2013;68(6):913-925.
doi:10.1016/j.jaad.2012.12.953

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General Recommendations

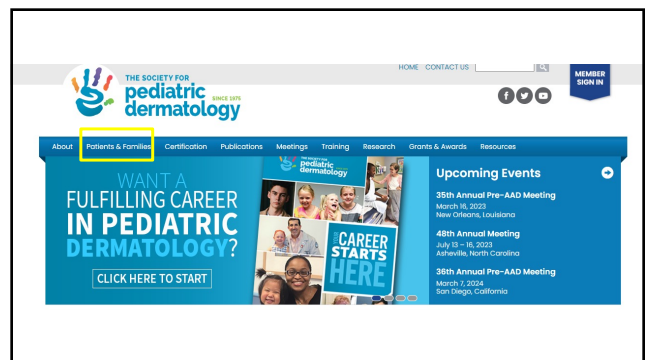
- ◆ If a nevus appears concerning to you → refer
- ◆ In general, stable or proportionately growing nevi (even if elevated off the skin), are benign
- ◆ Focus on interval changes and symptoms

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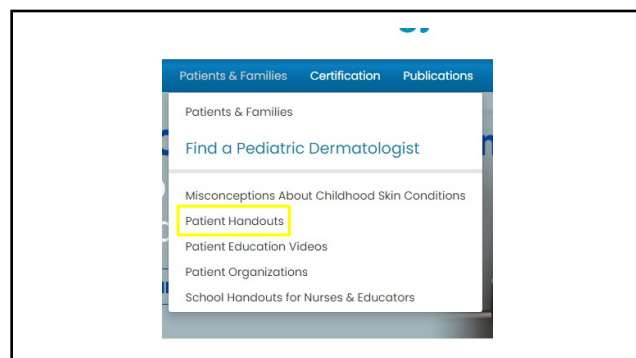
Resources

- ◆ Society for Pediatric Dermatology

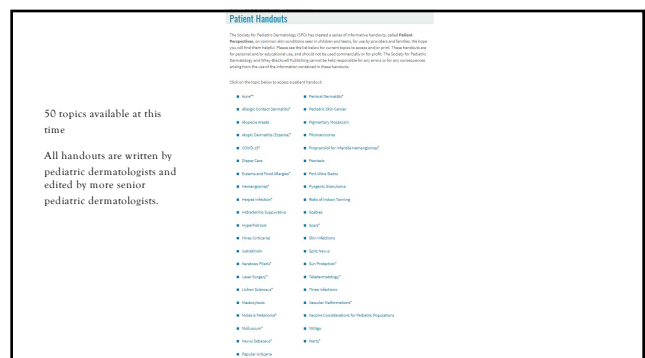
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**PATIENT
PERSPECTIVES**

What is perioral dermatitis?

Perioral (periorificial) dermatitis is a common acne or rosacea-like rash that develops around the mouth, nose, and eyes of children and young adults.

WHAT CAUSES PERIORAL DERMATITIS?

We don't know the exact causes of perioral dermatitis. Sometimes perioral dermatitis is triggered by chemical irritations (like sun tanners or makeup, applied to the skin) or related to the possible cause of acne (overgrowth of normal skin-bacteria and yeast).

PERIORAL DERMATITIS FACTS

- Perioral dermatitis looks like the many tiny pits or skin-colored bumps that usually come close to the lips, but don't go right to the lips.
- Perioral dermatitis may appear at any age in childhood and adolescence. Girls and boys both get it.
- The rash of perioral dermatitis is usually not very bothersome, although it can cause mild itching or burning.
- Many people with perioral dermatitis have a history of eczema or psoriasis. They may be because patients with eczema and psoriasis have a tendency to use topical medications (and may have skin barrier problems).
- Topical steroids may be the worst idea they try for perioral dermatitis, but the rash often comes back and may even get worse as soon as the topical steroids are stopped. Because of this, many people want to start the latest dermatologic agent, but it is important to try to break this cycle.

HOW IS PERIORAL DERMATITIS DIAGNOSED?

Your doctor will be able to diagnose perioral dermatitis by looking with and doing a careful skin examination. Sometimes you may need a biopsy of the skin.

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Resources

◆ VisualDx.com

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VisualDX

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WHO Information

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Start a differential by selecting a problem area

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Dermatology Skin Types

Dermatology Skin of Color

ENT / OME Medicine

Cardiac / Pulmonary

Neurology / Psychiatry

Gastroenterology

NEW Updated August 4th
Monkeypox images and information.

Dismiss See Updates

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[illegible]

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Acne vulgaris in Child

[Print](#) [Patient Handout](#) [Images \(6\)](#)

Contributors: Janelle S. Nasson MD, Sarah N. Robinson MD, John Barberi MD, Caylin Weiss BA, Cynthia Oyerinde MD, Susan Burgin MD

Synopsis

This summary discusses acne in children and teenagers. [Acne in neonates and acne in infants](#) are addressed separately.

Acne vulgaris is an extremely common, usually self-limited chronic inflammatory condition of the pilosebaceous unit. The pathogenesis involves multiple factors, including (1) increased sebum production, (2) follicular hyperkeratinization, (3) proliferation of the bacterium *Cutibacterium acnes* (formerly known as *Propionibacterium acnes*), and (4) inflammation. It typically begins at puberty as a result of androgen stimulation of the pilosebaceous unit and changes in the keratinisation at the follicular orifice.

There is a wide spectrum of clinical disease, ranging from a few comedones to many inflamed papules, pustules, and nodules. Acne vulgaris is most commonly found on areas of skin with the greatest density of sebaceous follicles, such as the face, back, and upper chest. There is no racial predilection. Acne almost always begins during the teenage years into adulthood. While a benign condition, acne can lead to permanent scarring and significant psychosocial distress. Therefore, initiation of treatment in the earliest stages is preferable.

A number of medications have been reported to cause acne vulgaris or an acneiform eruption. Most commonly, this is seen in patients who have received systemic corticosteroids or are using topical

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