Pediatric Topic: Acne

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What is Acne?

- The chronic or recurrent development of papules, pustules, or nodules on the face, neck, chest, back, or proximal upper extremities
  - Comedones and inflammation caused by multiple factors including: stimulation of the sebaceous glands, skin bacteria, genetics, diet, and many more
- The severity of skin involvement varies from minimal involvement to highly inflammatory
- Most commonly seen in adolescents and young adults but is not limited to these age groups
  - Usually begins in the preadolescent period (7-12 years of age) and resolves in the third decade
- Hyperpigmentation, scarring, and negative psychosocial effects are common complications

Neonatal Acne

- About 20% of newborn babies will have neonatal acne
  - Occasionally, babies can be born with neonatal acne
- Tends to develop around 2 weeks of age, but it can occur anytime within the first 6 weeks of life
- The cause of neonatal acne is uncertain, but it could be due to testosterone over activity in the skin's oil glands

What does Neonatal Acne look like?

- Neonatal acne will look like red spots or white bumps, rather than blackheads
- These lesions are most common on the cheeks and nose, but can develop on the forehead, chin, scalp, neck, upper back, and upper chest

Neonatal acne: Treatment

- Neonatal acne does not require treatment
- According to the American Academy of Dermatology (AAD), neonatal acne tends to spontaneously resolve within a few weeks to months
  - Never use acne wash or treatment on a baby's skin unless recommended by your health care provider
- It is important to:
  - Be gentle with the skin (avoid rubbing/scrubbing the lesions)
  - Use lukewarm, rather than hot, water to wash the baby's skin
  - Avoid oily or greasy skin products

Infantile Acne

- Less common than neonatal acne
- Results from an increase in the amount and activity of sebaceous (oil) glands secondary to androgenic stimulation
- Typically presents at 3-4 months of age, but may rarely occur in the first few weeks of life
- More common in boys
- Clinically, presents with comedones, inflammatory papules, pustules, and sometimes nodules on the face
- Most infantile acne clears spontaneously by the end of the first year of life, but could persist until 3 years of age

Infantile Acne: Differential Diagnosis

- BENIGN VESICULOPUSTULAR ERUPTIONS
  - Miliaria (“prickly heat” or ”heat rash”)
  - Erythema Toxicum Neonatorum (ETN)
  - Atopic Dermatitis (eczema)
  - Transient neonatal pustular melanosis (TNPM)
  - Eosinophilic pustular folliculitis of infancy (EPFI)
  - Neonatal cephalic pustulosis (NCP)

- INFECTIOUS VESICULOPUSTULAR ERUPTIONS
  - Viral infection
    - Primary Herpes Simplex
    - Varicella-Zoster (chicken pox)
  - Bacterial infection
    - Staphylococcal pustulosis
    - Staphylococcal scalded skin syndrome (SSSS)
    - Streptococcal infection
    - Listeriosis
    - Congenital syphilis
  - Fungal infection
    - Neonatal/congenital candidiasis
  - Infestations
    - Scabies

When Should I see my Health Care Provider?

- Follow up with your health care provider if:
  - You have any concern about the appearance of the lesions
  - Your child is experiencing any symptoms associated with the lesions such as fever, irritability, cough, runny nose, abdominal pain, fatigue, or poor feeding
  - If the lesions are associated with pain, itching, discharge or if they spread, increase in size, change color, or change shape

Infantile Acne: Treatment

- Treatment may be required because infantile acne can persist and potentially cause scarring
- **Mild/moderate inflammation:** mild keratolytic agents, such as benzoyl peroxide, topical antibiotics (clindamycin or erythromycin), or topical retinoids may be used
  - **Note:** Because topical therapies commonly cause skin dryness and irritation, parents should first test for a local reaction to the topical treatment by applying a small amount to the antecubital fossa before application to the face
- **Severe inflammation:** systemic therapy with oral erythromycin, trimethoprim-sulfamethoxazole, or oral isotretinoin may be indicated
  - **Note:** tetracycline antibiotics should be avoided in children < 8 years of age
- **Severe, unremitting infantile acne** warrants an evaluation for underlying androgen excess due to congenital adrenal hyperplasia, a gonadal or adrenal tumor, or precocious puberty

Acne in Children and Adolescents: Risk Factors

- As stated, acne is most common among adolescents and young adults. It usually begins in the preadolescent period (age 7-12 years)
- The prevalence of acne decreases with increasing age and usually disappears by the third decade
- **Risk factors** for the development of acne:
  - **Genetics**
  - **Skin trauma:** from the use of exfoliating soaps and detergents which promotes inflammation
  - **Diet:** correlation between increased milk consumption/high glycemic load diets and acne due to increased levels of insulin-like growth factor (IGF)
  - **Stress**
  - **Insulin resistance:** stimulates androgen production

Acne in Children and Adolescents: Treatment

- **Non-inflammatory acne:**
  - Topical retinoid **(at bedtime)**
- **Mild inflammatory acne:**
  - Topical antimicrobial (benzoyl peroxide +/- topical antibiotics) **(in the morning)**
  - Topical retinoid **(at bedtime)**
- **Moderate inflammatory acne:**
  - Topical antimicrobial (benzoyl peroxide) **(in the morning)**
  - Topical retinoid **(at bedtime)**
  - Oral antibiotic → avoid tetracycline in children younger than 8 years old (tooth discoloration and reduced bone growth)
- **Severe acne (e.g. nodular acne):**
  - Consider isotretinoin (Accutane) as monotherapy
- **Truncal acne:**
  - A challenge to the use of topical therapy is the large surface area (i.e. the upper back)
    - Pharmacy-provided medication applicators may be helpful
  - Most commonly treated with oral antibiotics

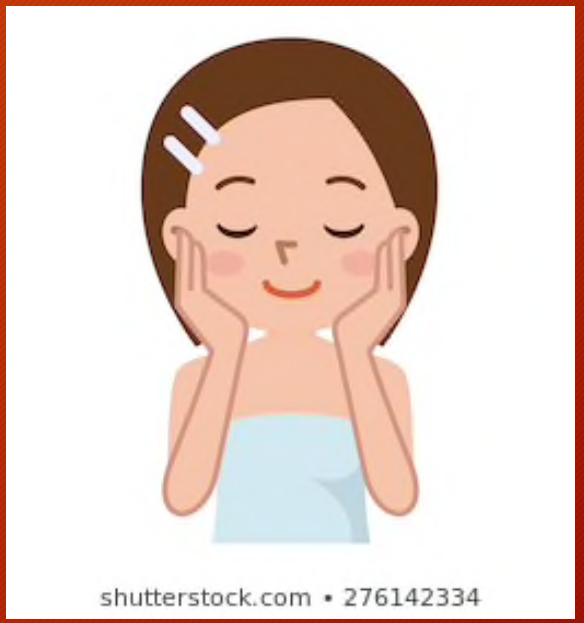
Tips for Successful Acne Treatment

- Engage in thorough discussions about the **realistic expectations** of treatment to prevent premature discontinuation of therapy due to discouragement (at least 3 months of continuous use to see results)
- Ensure each component of the treatment regimen is acceptable to the patient (no more than once or twice daily applications)
- Recognize the child's dislike of the vehicle prescribed (e.g. cream, lotion, gel) and monitor for side effects

- **Strict adherence to acne treatment regimen is critical for achieving clinical improvement!**

Home Skin Care Recommendations

- Apply a gentle synthetic detergent cleanser and rinse with warm water twice daily
- Do **not** aggressively scrub the skin. Gentle massage with the fingertips is sufficient
- **Water-based** lotions, cosmetics, and hair products are preferred over oil-based products for acne prevention
- Keep a cleansing towelette in children's sports bags for immediate cleansing after practice
- Do **not** pick acne lesions – this could cause scarring!



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