

ACNE TREATMENT ALGORITHM IN ADOLESCENTS AND YOUNG ADULTS

	MILD	MODERATE	SEVERE
1st Line Treatment	<p>Benzoyl Peroxide (BP) or Topical Retinoid</p> <p>--- OR ---</p> <p>Topical Combination Therapy** BP + Antibiotic or Retinoid + BP or Retinoid + BP + Antibiotic</p>	<p>Topical Combination Therapy** BP + Antibiotic or Retinoid + BP or Retinoid + BP + Antibiotic</p> <p>--- OR ---</p> <p>Oral Antibiotic + Topical Retinoid + BP</p> <p>--- OR ---</p> <p>Oral Antibiotic + Topical Retinoid + BP + Topical Antibiotic</p>	<p>Oral Antibiotic + Topical Combination Therapy** BP + Antibiotic or Retinoid + BP or Retinoid + BP + Antibiotic</p> <p>--- OR ---</p> <p>Oral Isotretinoin</p>
Alternative Treatment	<p>Add Topical Retinoid or BP (if not on already)</p> <p>--- OR ---</p> <p>Consider Alternate Retinoid</p> <p>--- OR ---</p> <p>Consider Topical Dapsone</p>	<p>Consider Alternate Combination Therapy</p> <p>--- OR ---</p> <p>Consider Change in Oral Antibiotic</p> <p>--- OR ---</p> <p>Add Combined Oral Contraceptive or Oral Spironolactone (Females)</p> <p>--- OR ---</p> <p>Consider Oral Isotretinoin</p>	<p>Consider Change in Oral Antibiotic</p> <p>--- OR ---</p> <p>Add Combined Oral Contraceptive or Oral Spironolactone (Females)</p> <p>--- OR ---</p> <p>Consider Oral Isotretinoin</p>

** = can be a fixed combination product or as a separate component

Recommendations for Topical Therapies

Benzoyl peroxide or combinations with erythromycin or clindamycin are effective acne treatments and are recommended as monotherapy for mild acne, or in conjunction with a topical retinoid, or systemic antibiotic therapy for moderate to severe acne

Benzoyl peroxide is effective in the prevention of bacterial resistance and is recommended for patients on topical or systemic antibiotic therapy

Topical antibiotics (eg, erythromycin and clindamycin) are effective acne treatments, but are not recommended as monotherapy because of the risk of bacterial resistance

Topical retinoids are important in addressing the development and maintenance of acne and are recommended as monotherapy in primarily comedonal acne, or in combination with topical or oral antimicrobials in patients with mixed or primarily inflammatory acne lesions

Using multiple topical agents that affect different aspects of acne pathogenesis can be useful. Combination therapy should be used in the majority of patients with acne

Topical adapalene, tretinoin, and benzoyl peroxide can be safely used in the management of preadolescent acne in children

Azelaic acid is a useful adjunctive acne treatment and is recommended in the treatment of postinflammatory dyspigmentation

Topical dapsone 5% gel is recommended for inflammatory acne, particularly in adult females with acne

There is limited evidence to support recommendations for sulfur, nicotinamide, resorcinol, sodium sulfacetamide, aluminum chloride, and zinc in the treatment of acne



Recommendations for Systemic Antibiotics

Systemic antibiotics are recommended in the management of moderate and severe acne and forms of inflammatory acne that are resistant to topical treatments

Doxycycline and minocycline are more effective than tetracycline, but neither is superior to each other

Although oral erythromycin and azithromycin can be effective in treating acne, its use should be limited to those who cannot use the tetracyclines (ie, pregnant women or children <8 years of age). Erythromycin use should be restricted because of its increased risk of bacterial resistance

Use of systemic antibiotics, other than the tetracyclines and macrolides, is discouraged because there are limited data for their use in acne. Trimethoprim-sulfamethoxazole and trimethoprim use should be restricted to patients who are unable to tolerate tetracyclines or in treatment-resistant patients

Systemic antibiotic use should be limited to the shortest possible duration. Re-evaluate at 3-4 months to minimize the development of bacterial resistance. Monotherapy with systemic antibiotics is not recommended

Concomitant topical therapy with benzoyl peroxide or a retinoid should be used with systemic antibiotics and for maintenance after completion of systemic antibiotic therapy

Female Acne - Recommendations for Hormonal Agents

Estrogen-containing combined oral contraceptives are effective and recommended in the treatment of inflammatory acne in females

Spironolactone is useful in the treatment of acne in select females

Oral corticosteroid therapy can be of temporary benefit in patients who have severe inflammatory acne while starting standard acne treatment

In patients who have well documented adrenal hyperandrogenism, low-dose oral corticosteroids are recommended in treatment of acne

Zaenglein et al. JAAD 74.5 (2016): 945-973, doi: <http://dx.doi.org/10.1016/j.jaad.2015.12.037>

Acne Differential Diagnosis Across the Age Spectrum

ADOLESCENT (~12 to 18 y of age)

- Corticosteroid-induced acne
- Demodex folliculitis
- Gram-negative folliculitis
- Keratosis pilaris
- Malassezia (pityrosporum) folliculitis
- Papular sarcoidosis
- Perioral dermatitis
- Pseudofolliculitis barbae
- Tinea faciei

PREADOLESCENT (≥7 to ≤12 y of age)

- Acne venenata or pomade acne (from the use of topical oil-based products)
- Angiofibromas or adenoma sebaceum
- Corticosteroid-induced acne
- Flat warts
- Keratosis pilaris
- Milia
- Molluscum contagiosum
- Perioral dermatitis
- Syringomas

MID-CHILDHOOD (1 to 7 y of age)

- Adrenal tumors
- Congenital adrenal hyperplasia
- Cushing syndrome
- Gonadal tumors
- Ovarian tumors
- PCOS
- Premature adrenarche
- True precocious puberty

ANY AGE

- Acne venenata or pomade acne (from the use of topical or oil-based products)
- Bilateral nevus comedonicus
- Chlorinated aromatic hydrocarbons (chloracne)
- Corticosteroids (topical, inhaled, and oral)
- Demodicidosis
- Facial angiofibromas (tuberous sclerosis)
- Flat warts
- Infections (bacterial, viral, and fungal)
- Keratosis pilaris

MEDICATION-INDUCED

(anabolic steroids, dactinomycin, gold, isoniazid, lithium, phenytoin, and progestins)

- Milia
- Miliaria
- Molluscum contagiosum
- Periorificial dermatitis
- Rosacea

Eichenfield et al. Pediatrics 131.Supp 3 (2013): S163-S186, doi: <https://doi.org/10.1542/peds.2013-0490B>



PEDIATRIC TREATMENT RECOMMENDATIONS FOR **MILD ACNE**

Mild Acne = Comedonal or Inflammatory/Mixed Lesions

Mild Comedonal Acne

(central face common in preteens and early teens)

More Extensive Comedonal Acne

(forehead involvement common in preteens and early teens: often with no or few scattered superficial inflammatory lesions)

Mild Inflammatory Acne

(scattered superficial inflammatory papules/pustules + some comedones)

Pediatric Treatment Recommendations for **MILD ACNE**

Initial Treatment

Benzoyl Peroxide (BP)
or
Topical Retinoid

--- OR ---

Topical Combination Therapy*
BP + Antibiotic
or
Retinoid + BP
or
Retinoid + Antibiotic + BP

Inadequate Response**

Add BP or Retinoid
If Not Already Prescribed
or
**Change Topical Retinoid
Concentration, Type and/or
Formulation**
or
**Change Topical
Combination Therapy**

Topical dapsone may be considered as single therapy or in place of topical antibiotic

*Topical fixed-combination prescription available

**Assess adherence



Additional Treatment Considerations

- Previous treatment/history
- Costs
- Vehicle selection
- Ease of use
- Managing expectations/side effects
- Psychosocial impact
- Active scarring
- Regimen complexity

PEDIATRIC TREATMENT RECOMMENDATIONS FOR MODERATE ACNE

**Moderate Acne =
Comedonal or
Inflammatory/Mixed Lesions**

**Note Marked Number of
Inflammatory Lesions**

Some Comedones Present

Pediatric Treatment Recommendations for MODERATE ACNE

Initial Treatment

**Topical Combination Therapy*
Retinoid + Benzoyl Peroxide (BP)**

or

Retinoid + (BP + Antibiotic)

or

(Retinoid + Antibiotic) + BP

--- OR ---

Oral Antibiotic

+

Topical Retinoid + BP

or

Topical Retinoid + Antibiotic + BP

Inadequate Response**†

**Change Topical Retinoid
Concentration, Type and/or
Formulation**

or

**Change Topical
Combination Therapy**

AND / OR

**Add or Change
Oral Antibiotic**

FEMALES:

Consider Hormonal Therapy

--- OR ---

Consider Oral Isotretinoin†

Topical dapsone may be considered in place of topical antibiotic

†Consider dermatology referral

*Topical fixed-combination prescription available

**Assess adherence



Additional Treatment Considerations

- Previous treatment/history
- Costs
- Vehicle selection
- Ease of use
- Managing expectations/side effects
- Psychosocial impact
- Active scarring
- Regimen complexity

PEDIATRIC TREATMENT RECOMMENDATIONS FOR **SEVERE ACNE**

**Severe Acne =
Inflammatory Mixed and/ or
Nodular Lesions**

**Extensive Inflammatory
Lesions Involvement**

Note Diffuse Scarring

Pediatric Treatment Recommendations for **SEVERE ACNE**

Initial Treatment

Combination Therapy*
Oral Antibiotic
or
Topical Retinoid
+
Benzoyl Peroxide (BP)
+/-
Topical Antibiotic

Inadequate Response†**

**Consider Changing Oral
Antibiotic**
AND
Consider Oral Isotretinoin
FEMALES:
Consider Hormonal Therapy

Topical dapsone may be considered in place of topical antibiotic

† Consider dermatology referral

*Topical fixed-combination prescription available

**Assess adherence; consider change of topical retinoid



Additional Treatment Considerations

- Previous treatment/history
- Costs
- Vehicle selection
- Ease of use
- Managing expectations/side effects
- Psychosocial impact
- Active scarring
- Regimen complexity