# ACNE Scientific Guidelines

## ACNE TREATMENT ALGORITHM

<table>
<thead>
<tr>
<th>Severity</th>
<th>Appearance</th>
<th>Type</th>
<th>First-line treatment</th>
<th>Second-line treatment</th>
</tr>
</thead>
</table>
| Mild Acne | Blackheads and whiteheads (clogged pores or comedones)  
Not deep or painful  
May have scattered superficial papules or pustules | Comedonal, noninflammatory | Benzoyl peroxide  
OR  
Topical retinoid  
OR  
**TOPICAL COMBINATION THERAPY:** Benzoyl peroxide + antibiotic or retinoid + benzoyl peroxide or retinoid + benzoyl peroxide antibiotic | Add topical retinoid or benzoyl peroxide (if not on already)  
OR  
Consider alternate retinoid  
OR  
Consider topical dapsone |
| Moderate Acne | Papules and pustules with yellow or white heads | Comedonal, inflammatory, mixed lesions | **TOPICAL COMBINATION THERAPY:** benzoyl peroxide  
OR  
Retinoid + (benzoyl peroxide + antibiotic)  
OR  
Oral antibiotic + topical retinoid + benzoyl peroxide  
OR  
Oral antibiotic + topical retinoid + benzoyl peroxide + Topical retinoid + benzoyl peroxide + topical antibiotic | Consider alternate combination therapy  
OR  
Consider change in oral antibiotic  
OR  
Add combined oral contraceptive or oral spironolactone (in females)  
OR  
Consider oral isotretinoin |
| Severe Acne | Deep nodules and cysts  
Painful to the touch  
May redden and scar | Inflammatory, mixed or nodular lesions | **ORAL ANTIBiotic + TOPICAL COMBINATION THERAPY:** benzoyl peroxide + antibiotic or retinoid + benzoyl peroxide or retinoid + benzoyl peroxide + antibiotic  
OR  
Oral isotretinoin | Consider changing oral antibiotic  
OR  
Add combined oral contraceptive or oral spironolactone (in females)  
OR  
Consider oral isotretinoin |
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 such as 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 post-inflammatory 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.
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, such as pregnant women or children less than 8 years old.

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.

Reevaluate 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.
Oral isotretinoin is recommended for the treatment of severe nodular acne

Oral isotretinoin is appropriate for the treatment of moderate acne that is treatment-resistant or for the management of acne that is producing physical scarring or psychosocial distress

Low-dose isotretinoin can be used to effectively treat acne and reduce the frequency and severity of medication-related side effects

Intermittent dosing of isotretinoin is not recommended

Routine monitoring of liver function tests, serum cholesterol, and triglycerides at baseline, and again until response to treatment is established, is recommended

Routine monitoring of complete blood count is not recommended

All patients treated with isotretinoin must adhere to the iPLEDGE risk management program

Females of child-bearing potential taking isotretinoin should be counseled regarding various contraceptive methods, including user-independent forms

Prescribing physicians also should monitor their patients for any indication of inflammatory bowel disease and depressive symptoms and educate their patients about the potential risks with isotretinoin
### Recommendations for Hormonal Agents

<table>
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<td>Estrogen-containing combined oral contraceptives are effective and recommended in the treatment of inflammatory acne in females</td>
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<tr>
<td>Spironolactone is useful in the treatment of acne in select females</td>
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<td>Oral corticosteroid therapy can be of temporary benefit in patients who have severe inflammatory acne while starting standard acne treatment</td>
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<tr>
<td>In patients who have well-documented adrenal hyperandrogenism, low-dose oral corticosteroids are recommended in treatment of acne</td>
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### Recommendations for Miscellaneous Therapies and Physical Modalities

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**SOURCES:**
https://www.jaad.org/action/showPdf?pii=S0190-9622%2815%2902614-6