ACNE VULGARIS

DEFINITION

Acne vulgaris is a common chronic skin condition due to blockage and/or inflammation of pilosebaceous units (hair follicles and their accompanying sebaceous gland). It can present as noninflammatory lesions, inflammatory lesions, or a mixture of both, affecting mostly the face and sometimes back and chest.

EVALUATION

The diagnosis of acne vulgaris is usually done over history and clinical examination. Diagnosis requires different signs and symptoms which include comedones, papules, pustules, nodules, and scarring.

CLINICAL FEATURES

- Open and closed comedones (blackheads and whiteheads)
- Papules (small, tender red bumps)
- Pustules (white or yellow "squeezable" spots) Nodules (large painful red lumps)
- Pseudocysts (cyst-like fluctuant swellings)

Few secondary lesions include

- Excoriations (picked or scratched spots)
- Erythematous macules (red marks from recently healed spots)
- Pigmented macules (dark marks from old spots, mostly affecting those with dark skin)
- Scars of various types

INVESTIGATIONS

Associated PCOS: ultrasound pelvis, hormonal profile

Complete Blood count

Lipid profile, Liver function tests

MANAGEMENT

Treatment of acne vulgaris depends on the patient's age and sex, extent and severity of disease, duration, and response to previous treatments.

Physical treatments for acne

- Light and lasers including blue light for mild to moderate acne. The effect may be enhanced by the use of a photosensitizing agent (photodynamic therapy).
- Cryotherapy (freezing treatment) may be useful to control new nodules.
- Intralesional steroid injections can be used to shrink older nodules and pseudocysts.
- Comedones can be expressed or removed by cautery or diathermy (electrosurgery).
- Microdermabrasion can help mild acne.

Please refer table of recommendations for detailed management.

MANAGEMENT OF ACNE VULGARIS

Adoloped from: Clinical Practice Guideline: Acne Vulgaris
American Academy of Dermatology, 2013. 69(5): p. 754-761.

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Key to understanding level of evidence and strength of recommendation

*Evidence was graded using a 3-point scale based on the quality of methodology (eg, randomized control trial, case-control, prospective/retrospective cohort, case series, etc) and the overall focus of the study (ie, diagnosis, treatment/prevention/screening, or prognosis) as follows:	
I	Good-quality patient-oriented evidence (ie, evidence measuring outcomes that matter to patients: morbidity, mortality, symptom improvement, cost reduction, and quality of life).
II	Limited-quality patient-oriented evidence.
III	Other evidence, including consensus guidelines, opinion, case studies, or disease-oriented evidence (ie, evidence measuring intermediate, physiologic, or surrogate endpoints that may or may not reflect improvements in patient outcomes).

*Clinical recommendations were developed on the best available evidence tabled in the guideline. The strength of recommendation was ranked as follows:	
A	Recommendation based on consistent and good-quality patient-oriented evidence.
B	Recommendation based on inconsistent or limited quality patient-oriented evidence.
C	Recommendation based on consensus, opinion, case studies, or disease-oriented evidence.

Table of Recommendations

Clinicians may find it helpful to use a **consistent grading/classification scale** (encompassing the numbers and types of acne lesions as well as disease severity, anatomic sites, and scarring) to facilitate therapeutic decisions and assess response to treatment. Currently, no universal acne grading/classifying system can be recommended. *[Strong recommendation, Grade: B, level of confidence in evidence: High (II, III)]*	☐
Recommendations for microbiologic and endocrinologic testing	
Routine **microbiologic testing is not recommended** in the evaluation and management of patients with acne. Those who exhibit acne-like lesions suggestive of Gram-negative folliculitis may benefit from microbiologic testing **Routine endocrinologic evaluation is not recommended** for most patients with acne Laboratory evaluation is recommended for patients who have acne and additional signs of androgen excess. *[Strong recommendation, Grade: B, level of confidence in evidence: High (II, III)]*	☐
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 *[Recommendation, Grade: A, level of confidence in evidence: I, II]*	☐

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Benzoyl peroxide is effective in the **prevention of bacterial resistance** and is recommended for patients on topical or systemic antibiotic therapy. *[Recommendation, Grade: A, level of confidence in evidence: I]*	☐
Topical antibiotics (eg, erythromycin and clindamycin) are effective acne treatments but are not recommended as monotherapy because of the **risk of bacterial resistance** *[Recommendation, Grade: A, level of confidence in evidence: I, II]*	☐
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. *[Recommendation, Grade: A, level of confidence in evidence: I, II]*	☐
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. *[Recommendation, Grade: C, level of confidence in evidence: II, III]*	☐ ☐
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. *[Recommendation, Grade: A, level of confidence in evidence: I, II]*	☐
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, their 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.** *[Recommendation, Grade: A, level of confidence in evidence: I, II]*	☐
The 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.** *[Recommendation, Grade: A, level of confidence in evidence: I]*	☐
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. *[Recommendation, Grade: A, level of confidence in evidence: I]*	☐

Concomitant topical therapy with benzoyl peroxide or a retinoid should be used with systemic antibiotics and for maintenance after completion of systemic antibiotic therapy. *[Recommendation, Grade: A, level of confidence in evidence: I, II]*	☐
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 *[Recommendation, Grade: C, level of confidence in evidence: III]*	☐
Oral corticosteroid therapy can be of temporary benefit in patients who have severe inflammatory acne while starting standard acne treatment. *[Recommendation, Grade: B, level of confidence in evidence: II]*	☐
In patients who have well documented **adrenal hyperandrogenism, low-dose oral corticosteroids** are recommended in the treatment of acne. *[Recommendation, Grade: B, level of confidence in evidence: I, III]*	☐
Recommendations for isotretinoin	
Oral isotretinoin is recommended for the treatment of **severe nodular acne.** *[Recommendation, Grade: A, level of confidence in evidence: I, II]*	☐
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. *[Recommendation, Grade: A, level of confidence in evidence: I, II]*	☐
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. *[Recommendation, Grade: A, level of confidence in evidence: I, II]*	☐
Routine monitoring of **liver function tests, serum cholesterol, and triglycerides** at baseline and again until response to treatment is established is recommended. *[Recommendation, Grade: A, level of confidence in evidence: I]*	☐
Routine monitoring of complete blood count is not recommended. *[Recommendation, Grade: A, level of confidence in evidence: I]*	☐
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. *[Recommendation, Grade: B, level of confidence in evidence: II]*	☐

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. *[Recommendation, Grade: B, level of confidence in evidence: II]*	☐
Recommendations for miscellaneous therapies and physical modalities	
There is limited evidence to recommend the use and benefit of physical modalities for the routine treatment of acne, including pulsed dye laser, glycolic acid peels, and salicylic acid peels Intralesional corticosteroid injections are effective in the treatment of individual acne nodules. *[Recommendation, Grade: B, C level of confidence in evidence: II, III]*	☐
Recommendation for complementary/alternative therapies	
Herbal and alternative therapies have been used to treat acne. Although most of these products appear to be **well-tolerated, limited data exist** regarding the safety and efficacy of these agents to recommend their use in acne. *[Recommendation, Grade: B, level of confidence in evidence: II]*	☐
Recommendations for the role of diet in acne	
Given the current data, **no specific dietary changes** are recommended in the management of acne Emerging data suggest that **high glycaemic index diets may be associated with acne** Limited evidence suggests that some dairy, particularly skim milk, may influence acne. *[Recommendation, Grade: B, level of confidence in evidence: II]*	☐

ACRONYMS AND ABBREVIATIONS

PCOS	polycystic ovarian syndrome

ACKNOWLEDGEMENTS

Sadia Masood, MBBS MHPE [1,3], Sabeika Kerawala, MBBS [1], Shayana Rukhsar, MBBS [1], Unzela Ghulam, MPhil [1], Sarah Nadeem, MD [1,2], Mohsin Ali Mustafa, MBBS [2], Nashia Ali Rizvi, MBBS, MPH [2], Salima Saleem Aamdani BScN, MSc [2], Bushra Ayub, BSc, MSc [2]

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