

## Acne Vulgaris: Treatment Guidelines from the AAD

### Key Points for Practice

- First-line treatment for mild acne vulgaris includes benzoyl peroxide or a topical retinoid, or a combination of topical medications including topical antibiotics.
- Tetracyclines are the preferred oral antibiotic, and doxycycline and minocycline have been shown to be more effective than tetracycline.
- Topical or oral antibiotics should not be used as monotherapy because of the risk of developing resistance.

*From the AFP Editors*

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Acne vulgaris, which occurs in 50 million persons living in the United States, is associated with physical and psychological morbidity (e.g., scarring, poor self-image, depression) and results in more than \$3 billion in direct costs annually. In addition, knowledge about its pathogenesis is constantly evolving. The American Academy of Dermatology (AAD) has released guidelines for managing acne vulgaris in adolescents and adults.

### First-line and Alternative Treatment Options

First-line treatment for mild acne vulgaris includes benzoyl peroxide or a topical retinoid, or a combination of topical medications consisting of benzoyl peroxide and an antibiotic (erythromycin or clindamycin), retinoid, or both. An alternative treatment would include the addition of a topical retinoid or benzoyl peroxide if not already prescribed; a different retinoid; or topical dapsone (Aczone).

First-line treatment for moderate acne vulgaris includes a combination of benzoyl peroxide and a topical antibiotic (erythromycin or clindamycin), topical retinoid, or both; benzoyl peroxide, an oral antibiotic, and topical retinoid; or benzoyl peroxide, oral and topical antibiotics, and a topical retinoid. Alternative treatments to be considered include a different combination of medications; changing the oral antibiotic; adding a combined oral contraceptive or spironolactone in females; or oral isotretinoin.

First-line treatment for severe acne vulgaris includes an oral antibiotic, benzoyl peroxide, and a topical antibiotic (erythromycin or clarithromycin), topical retinoid, or both. Oral isotretinoin can also be considered as a first-line option. Alternative treatment options to consider include changing the oral antibiotic; adding a combined oral contraceptive or spironolactone in females; or starting oral isotretinoin.

### Treatment Options

#### TOPICAL AGENTS

The choice of topical agent is based on patient age, acne sites and severity, and patient preference. Most patients should be treated with a combination of medications that affect a variety of acne pathogenesis aspects. The benefit of using sulfur, nicotinamide, resorcinol, sulfacetamide, aluminum chloride, or zinc has not been supported by data.

Because of the risk of developing bacterial resistance when erythromycin and clindamycin are used as monotherapy, if prescribed, they should be combined with benzoyl peroxide. A topical retinoid alone is recommended primarily for comedonal acne, and for persons with mixed or inflammatory acne, it also can be used in conjunction with a topical or oral antimicrobial. Inflammatory acne can be treated with topical dapsone 5% gel, especially in women. Azelaic acid (Finacea) can be used to manage dyspigmentation that occurs with inflammatory acne. For acne in children who have not reached adolescence, topical adapalene (Differin), tretinoin (Retin-A), and benzoyl peroxide are safe to use.

#### SYSTEMIC ANTIBIOTICS

Moderate to severe acne, as well as inflammatory acne in which topical medications have been ineffective, can be treated with systemic antibiotics. Data are limited regarding the use of antibiotics that are not

tetracyclines or macrolides; therefore, their use should be avoided. Doxycycline and minocycline (Minocin) have been shown to be more effective than tetracycline. Oral erythromycin and azithromycin (Zithromax) should be used only in patients in whom tetracyclines are contraindicated (e.g., pregnant women, children younger than eight years), but erythromycin use should be limited given its associated drug resistance. Trimethoprim/sulfamethoxazole or trimethoprim should be used only in patients who cannot take tetracyclines or in whom tetracyclines have been ineffective.

Antibiotics should be prescribed for the briefest possible time frame, and their use should be assessed after three to four months to reduce the risk of developing a resistance. As with topical antibiotics, systemic antibiotics should not be used alone. To maintain results after antibiotic treatment has concluded, benzoyl peroxide or a retinoid should be used. Severe adverse effects of systemic antibiotics in persons treated for acne are uncommon.

#### HORMONAL AGENTS

Spirolactone can be of benefit in some females, and combined oral contraceptives containing estrogen are recommended in females with inflammatory acne. It should be noted that a Papanicolaou smear and bimanual pelvic examination are not required to prescribe combined oral contraceptives; however, the risks associated with them should be taken into consideration (e.g., cardiovascular problems, breast or cervical cancer).

In the short term, adding an oral corticosteroid when initiating the usual acne therapy in persons with severe inflammatory acne can be beneficial. Low-dose oral corticosteroids are recommended for persons with adrenal hyperandrogenism.

#### ISOTRETINOIN

Oral isotretinoin, which is best absorbed when taken with meals, is recommended for severe nodular acne, and is appropriate

for moderate acne in which other therapies have failed or for acne that results in scarring or causes patient distress. Low doses are effective while also decreasing related adverse effects, but it should be noted that intermittent dosing is not indicated. Common adverse effects of isotretinoin, which generally resolve when the medication is stopped, are usually related to hypervitaminosis A symptoms affecting the mucocutaneous, musculoskeletal, and ophthalmic systems. A liver function test and serum cholesterol and triglyceride measurements should be performed initially to obtain a baseline and repeated until the patient responds to treatment; however, it is not necessary to routinely perform complete blood counts. Patients should also be monitored for inflammatory bowel disease and depression.

If patients are taking isotretinoin, risks should be discussed and the risk management system iPLEDGE should be followed. Females of childbearing age should receive information about contraception.

#### ROLE OF DIET

Specific changes in diet are not recommended to treat acne, but developing information indicates that acne may be related to a high glycemic index and limited data indicate that some dairy, especially skim milk, can worsen acne. There is insufficient evidence to endorse recommendations related to antioxidants, probiotics, and fish oil.

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**Evidence rating system used?** Yes

**Literature search described?** Yes

**Guideline developed by participants without relevant financial ties to industry?** No

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