

Acne Vulgaris

What is acne?

Acne is a follicular disorder in which the pilosebaceous unit (hair follicle and sebaceous gland) becomes blocked and inflamed, causing papules, pustules, and nodules. It may also cause noninflamed comedones (known commonly as blackheads). The most common type is acne vulgaris. It usually affects adolescents or younger children approaching puberty. It can present as young as 8 years old and may persist into adulthood for some patients.

What causes acne?

Acne vulgaris is multifactorial. Acne bacteria, occlusion of follicles, androgenic hormones, and family history can all contribute to worsening acne. Certain underlying conditions can cause acne flares. These include polycystic ovarian syndrome (PCOS), use of steroids, hormones, and some anticonvulsants. Additionally, high humidity and the use of occlusive/oil-based cosmetics can worsen acne.

What are the clinical features of acne vulgaris?

Acne vulgaris can range in appearance from noninflammatory comedones (blackheads) to inflammatory papules (small, tender, red bumps), pustules (whiteheads), nodules (large red bumps), or pseudocysts (fluctuant swellings). As the lesions resolve, they can leave scars or hyperpigmented macules.

What is the diagnosis of acne vulgaris?

The diagnosis is made clinically and is often classified by severity based on appearance. Typically, mild acne has few comedones and/or inflammatory lesions, with <30 total lesions. Severe acne is classified by multiple pseudocysts and/or many other lesions (approx. >125 total lesions). Moderate acne falls between the two in severity, and usually patients have few, if any, pseudocysts.

What is first-line acne treatment?

Mild acne ([photos](#)): Patients with mild acne often respond well to topical therapy in addition to good face washing and hygiene habits (clean towels, bedding, cell phones, etc.). Many patients may benefit from starting one product at a time, as beginning too many may result in skin irritation.

Common therapies include:

- Benzoyl peroxide face wash used with or without topical retinoids (discussed below)
 - The 5% formulation is often sufficient and may be less irritating.

- Patients using benzoyl peroxide (especially 10% formulations) should be advised that it can have a bleaching effect on fabric and may stain towels, washcloths, and bedding. It will not bleach the patient's skin.
- Retinoids, such as adapalene (often used in conjunction with benzoyl peroxide face wash)
 - Works best when applied at night, as ultraviolet (UV) radiation can deactivate the retinoid, rendering it less effective.
 - When beginning retinoid treatment, some patients may benefit from using it only a few times a week and titrating up while their skin becomes accustomed to the drying affects.
 - Retinoids increase sun sensitivity. Patients using retinoids should be advised to wear sunscreen daily.
 - These should not be used in patients who may be pregnant.
- Topical benzoyl peroxide cream — often best as a spot treatment
- Salicylic acid face wash
 - Both retinoid and salicylic acid can be drying and are not frequently used together due to the risk of skin irritation.
- Low-dose combined oral contraceptives (OCPs)
 - May be particularly helpful in females who may have a strong androgenic/hormonal component.

Moderate acne (photos): Topical treatments as listed above can be helpful first-line trials for patients. The addition of systemic treatment is also typically warranted. First-line antibiotic therapy is doxycycline for about 6 months. Erythromycin is a reasonable alternative in patients who cannot take doxycycline. Spironolactone can be considered for females who do not respond to OCPs and/or may have PCOS.

- Of note: Doxycycline also increases sun sensitivity, and patients should be strongly encouraged to apply sunscreen daily while taking this medication.

Severe acne (photos): Refer to a dermatologist, as the patient may benefit from isotretinoin treatment. Isotretinoin can lead to long-term remission in many patients.

When to refer to a dermatologist?

Refer to a dermatologist if a patient's acne does not respond to first-line therapy or if the patient has severe or cystic acne with concern for scarring.

More information

For families: Seattle Children's [Acne](#) ([Spanish](#), [Vietnamese](#), [Simplified Chinese](#)) (PE1879).

For providers: [Evidence-Based Recommendations for the Diagnosis and Treatment of Pediatric Acne](#). Pediatrics, May 2013.