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Patient information: Acne (Beyond the Basics)

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ACNE OVERVIEW

Acne is a skin condition in which the pores become blocked, causing pimples to develop. Acne is the most common skin disorder in North America, affecting an estimated 85 percent of adolescents.

Effective acne treatments are available to treat existing pimples and prevent new ones from developing. In addition, cosmetic treatments can help to reduce scarring and changes in skin color caused by acne.

HOW DOES ACNE DEVELOP?

There are four basic steps involved in the development of an acne lesion.

- Hair follicles become blocked with an overabundance of normal skin cells ([figure 1](#)). These cells combine with sebum (an oily substance that lubricates the hair and skin), creating a plug in the follicle.
- The glands that produce sebum, known as sebaceous glands, enlarge during adolescence and sebum production increases ([figure 2](#)). Numerous sebaceous glands are found on the face, neck, chest, upper back, and upper arms.
- The increase in sebum production allows for the overgrowth of bacteria that normally lives on the skin.
- Bacterial overgrowth causes local inflammation, which causes rupture of the follicle ([figure 3](#)). This can lead to the formation of a red or tender pimple.

ACNE CAUSES

Hormonal changes — Hormonal changes during adolescence cause the sebaceous glands to become enlarged and sebum production increases. In most people with acne, hormone levels are normal, but the sebaceous glands are highly sensitive to the hormones.

Less often, women's hormone levels are affected by an underlying medical problem known as polycystic ovary syndrome (PCOS). (See "[Patient information: Polycystic ovary syndrome \(PCOS\) \(Beyond the Basics\)](#)".)

Acne tends to resolve between ages 30 to 40, although it can persist into or develop for the first time during adulthood. Post-adolescent acne predominantly affects women, in contrast to adolescent acne, which predominantly affects men. Acne can flare before a woman's menstrual period, especially in women older than 30 years.

External factors — Oil-based cosmetics may contribute to the development of acne. Oils and greases in hair products can also worsen skin lesions. Water-based or "non-comedogenic" products are less likely to worsen acne.

People with acne often use soaps and astringents. While these treatments remove sebum from the skin surface, they do not decrease sebum production; frequent or aggressive scrubbing with these agents can actually worsen acne.

Diet — The role of diet in acne is controversial. Some studies have found weak associations between cow's milk and an increased risk of acne, perhaps because of hormones that occur naturally in milk. However, there is no strong evidence that milk, high-fat foods or chocolate increase the risk of acne.

Stress — Psychological stress can probably worsen acne. In several studies of students, acne severity appeared to worsen during times of increased stress [1].

ACNE TREATMENT

There is no single best treatment for acne, and combinations of treatments are sometimes recommended. Since acne lesions take at least eight weeks to mature, you should use a treatment for a minimum of two to three months before deciding if the treatment is effective. (See "[Treatment of acne vulgaris](#)".)

Acne skin care — Skin care is an important aspect of acne treatment.

Skin hygiene — Wash your face no more than twice daily using a gentle non-soap facial skin cleanser (eg, Cetaphil®, Oil of Olay® bar or foaming face wash, or Dove® bar) and warm (not hot) water. Some providers recommend avoiding use of a washcloth or loofah, and instead using the hands to wash the face. Vigorous washing or scrubbing can worsen acne and damage the skin's surface.

Do not pick or squeeze pimples because this may worsen acne and cause skin swelling and scarring. It can also cause lesions to become infected.

Moisturizers — Use of a moisturizer minimizes dryness and skin peeling, which are common side effects of some acne treatments. Moisturizers that are labeled as "non-comedogenic" are less likely to block skin pores.

Sun protection — Some acne treatments increase the skin's sensitivity to sunlight (eg, retinoids, doxycycline). To minimize skin damage from the sun, avoid excessive sun exposure and use a sunscreen with SPF 15 or higher before sun exposure. (See "[Patient information: Sunburn prevention \(Beyond the Basics\)](#)".)

Can I treat my own acne? — If you have mild acne, you can try to treat yourself with non-prescription products initially. Non-prescription acne treatments may include salicylic acid, benzoyl peroxide, sulfur, alpha hydroxy acids, or tea tree oil, all of which are available in non-prescription strengths. A combination of these treatments may be more effective than using one single product alone. (See "[Light-based, adjunctive, and other therapies for acne vulgaris](#)".)

If you do not improve after three months of using non-prescription products or you have moderate or severe acne, consult a healthcare provider for advice on the most effective treatments.

