

## Acne

### What is acne?

More than 90 percent of people will have acne at some point in their lives. Although the exact cause of acne, why acne appears in certain areas of the body and at certain times in a person's life, is unknown, the mechanism of how acne is formed in the skin is fairly well understood. Acne lesions form when the opening of oil glands (also known as sebaceous glands) in the skin become blocked and is not able to be released onto the gland, causing inflammation. The blockage of the pores is caused by dead skin that normally should slough off but becomes sticky and clogs up pores. The swelling within the oil gland can become so intense that the oil gland (and associated hair follicle) can rupture, leading to further inflammation. A skin bacteria, *P. acnes*, also contributes to acne by breaking down sebum released by the oil glands creating fatty acids that also contribute to the inflammation of acne. Hormones play a role in acne by stimulating the oil glands to produce more oil.

Acne occurs on the face, as well as the neck, chest, back, shoulders, and upper arms. In people with darker skin tones, acne lesions may be replaced by an area of darker skin (called hyperpigmentation). This discoloration usually lasts a lot longer than the original pimple and can be just as distressing as the acne lesions themselves. Other patients experience permanent and disfiguring scarring from acne. For these reasons, people with acne should be seen by a dermatologist to discuss treatment options and prevent unwanted complications.

### When do people develop acne?

For some acne is mild and transient; for others it can be severe and long lasting. Most people develop acne during adolescence due to an increase in hormones during puberty, which causes the oil glands to enlarge and secrete. However, people can also form acne for the first time in their 20s and early to mid 30s as well. Middle aged women can have acne as a result of hormonal imbalances. For many, acne becomes less problematic in the mid to upper 30s. It is recommended to visit your dermatologist if you have persistent acne. In some instances, irreversible scarring can take place which can become permanent and very costly to improve. Diet has little to no effect on outbreaks; however, if you notice that certain foods to exacerbate your acne, avoid eating those foods. Certain cosmetics can worsen acne so using oil-free products is recommended.

### What causes acne?

Although the exact cause for why acne appears at a certain time and in a certain place is unknown, what is happening in the skin is well understood and multifactorial. It includes the following:

1. Androgens, such as the hormone testosterone which both males and females have, play an important role in most hormone-sensitive sebaceous glands, which produce oil, known as sebum. Sebum, in turn, has been called "the fuel that feeds the flame of acne."
2. A bacterium called *Propionibacterium acnes* that is normally present on the skin likely plays a role in acne by breaking down the sebum, producing fatty acids which then causes inflammation.
3. Skin cells that don't slough off at a normal rate results in pores that are clogged with dead skin cells and natural oils.
4. Acne may cycle with the menses, and it may improve or worsen during pregnancy.
5. Genetics can play a role in acne especially in severe, cystic forms of acne.
6. Stress can trigger acne flares.
7. There are no large scale studies to show that diet plays a significant role in acne. However, if you notice that certain foods worsen your acne, avoid those foods.

## How is the diagnosis of acne made?

For an experienced dermatologist, the diagnosis of acne is usually straightforward. The type of lesion and the distribution of the lesions is usually characteristic. In adults, however, the diagnosis can be more challenging as acne can overlap with rosacea, allergic reactions, and some kinds of folliculitis.

## Acne Treatment

Although the exact mechanism for how acne starts is unknown, treatments for acne are well-studied and there are a variety of different treatments to suit an individual's needs. SBC offers a wide range of topical and systemic treatments that are customized for you to maximize your results and minimize unwanted side effects. You and your doctor will decide what is best for your specific needs.

Effective over-the-counter medications include:

8. Salicylic Acid
9. Benzoyl Peroxide
10. Glycolic Acid

Prescription acne treatment usually involves a combination of the following topical treatments:

1. Retinoids (such as Differin, Retin A, and Tazorac)
2. Topical antibiotics (Clindamycin, Erythromycin, Minocycline)
3. Aczone
4. Benzoyl Peroxide
5. Sulfur preparations

Systemic treatments includes:

1. Tetracycline antibiotics (tetracycline, doxycycline, minocycline)
2. Other antibiotics, including Erythromycin and Bactrim.
3. For women, oral contraceptives (birth control)
4. For adult women with acne, other hormonal therapies such as spironolactone  
Isotretinoin (Accutane) which is very effective and has the potential to cure acne but must be used very cautiously under the supervision of a dermatologist because of the risk of severe birth defects when taken during pregnancy.

Other Acne Treatment Options:

1. Light therapy, including Blue light
2. A variety of chemical peels
3. Laser
4. Facials