

## Overview of Acne

Acne is a common skin condition that happens when hair follicles under the skin become clogged. Sebum—oil that helps keep skin from drying out—and dead skin cells plug the pores, which leads to outbreaks of lesions, commonly called pimples or zits. Most often, the outbreaks occur on the face but can also appear on the back, chest, and shoulders.

Acne is an inflammatory disorder of the skin, which has sebaceous (oil) glands that connects to the hair follicle, which contains a fine hair. In healthy skin, the sebaceous glands make sebum that empties onto the skin surface through the pore, which is an opening in the follicle. Keratinocytes, a type of skin cell, line the follicle. Normally as the body sheds skin cells, the keratinocytes rise to the surface of the skin. When someone has acne, the hair, sebum, and keratinocytes stick together inside the pore. This prevents the keratinocytes from shedding and keeps the sebum from reaching the surface of the skin. The mixture of oil and cells allows bacteria that normally live on the skin to grow in the plugged follicles and cause inflammation—swelling, redness, heat, and pain. When the wall of the plugged follicle breaks down, it spills the bacteria, skin cells, and sebum into nearby skin, creating lesions or pimples.

For most people, acne tends to go away by the time they reach their thirties, but some people in their forties and fifties continue to have this skin problem.

## Who Gets Acne?

People of all races and ages get acne, but it is most common in teens and young adults. When acne appears during the teenage years, it is more common in males. Acne can continue into adulthood, and when it does, it is more common in women.

## Types of Acne

Acne causes several types of lesions, or pimples. Doctors refer to enlarged or plugged hair follicles as comedones. Types of acne include:

- **Whiteheads:** Plugged hair follicles that stay beneath the skin and produce a white bump.

- **Blackheads:** Plugged follicles that reach the surface of the skin and open up. They look black on the skin surface because the air discolors the sebum, not because they are dirty.
- **Papules:** Inflamed lesions that usually appear as small, pink bumps on the skin and can be tender to the touch.
- **Pustules or pimples:** Papules topped by white or yellow pus-filled lesions that may be red at the base.
- **Nodules:** Large, painful solid lesions that are lodged deep within the skin.
- **Severe nodular acne (sometimes called cystic acne):** Deep, painful, pus-filled lesions.

## Causes of Acne

Doctors and researchers believe that one or more of the following can lead to the development of acne:

- Excess or high production of oil in the pore.
- Buildup of dead skin cells in the pore.
- Growth of bacteria in the pore.

The following factors may increase your risk for developing acne:

- **Hormones.** An increase in androgens, which are male sex hormones, may lead to acne. These increase in both boys and girls normally during puberty and cause the sebaceous glands to enlarge and make more sebum. Hormonal changes related to pregnancy can also cause acne.
- **Family history.** Researchers believe that you may be more likely to get acne if your parents had acne.
- **Medications.** Certain medications, such as medications that contain hormones, corticosteroids, and lithium, can cause acne.
- **Age.** People of all ages can get acne, but it is more common in teens.

The following do not cause acne, but may make it worse.

- **Diet.** Some studies show that eating certain foods may make acne worse. Researchers are continuing to study the role of diet as a cause of acne.
- **Stress.**
- Pressure from sports helmets, tight clothes, or backpacks.
- Environmental irritants, such as pollution and high humidity.
- Squeezing or picking at blemishes.
- Scrubbing your skin too hard.

## Diagnosis of Acne

To diagnose acne, health care providers may:

- Ask about your family history, and, for girls or women, ask about their menstrual cycles.
- Ask you about your symptoms, including how long you have had acne.
- Ask what medications you are currently taking or recently stopped.
- Examine your skin to help determine the type of acne lesion.
- Order lab work to determine if another condition or medical disorder is causing the acne.

## Treatment for Acne

The goals of treatment are to help heal existing lesions, stop new lesions from forming, and prevent scarring. Medications can help stop some of the causes of acne from developing, such as abnormal clumping of cells in the follicles, high sebum levels, bacteria, and inflammation. Your doctor may recommend over-the-counter or prescription medications to take by mouth or apply to the skin.

Topical medications, which you apply to the skin, include:

- Over-the-counter products, such as benzoyl peroxide, which kills bacteria and may decrease the production of sebum.
- Antibiotics, which are usually used with other topical medications.
- Retinoids, which come from vitamin A and can help treat lesions and reduce inflammation. They can also help prevent the formation of acne and help with scarring.
- Salicylic acid, which helps break down blackheads and whiteheads and also helps reduce the shedding of cells lining the hair follicles.
- Sulfur, which helps break down blackheads and whiteheads.

Topical medicines come in many forms, including gels, lotions, creams, soaps, and pads. In some people, topical medicines may cause side effects such as skin irritation, burning, or redness. Talk to your doctor about any side effects that you experience.

For some people, the doctor may prescribe oral medications, such as:

- Antibiotics, which help slow or stop the growth of bacteria and reduce inflammation. Doctors usually prescribe antibiotics for moderate to severe acne, such as severe nodular acne (also called cystic acne).
- Isotretinoin, an oral retinoid, which works through the blood stream to help treat acne and open up the pore. This allows other medications, such as antibiotics, to enter the follicles and treat the acne. Similar to topical retinoids, taking the medication by mouth can also help prevent the formation of acne and help with scarring.

- Hormone therapy, used primarily in women, which helps stop the effects of androgens on the sebaceous gland.
- Corticosteroids, which help lower inflammation in severe acne, including severe nodular acne.

Some people who have severe acne or acne scarring that does not respond to topical or oral medications may need additional treatments, such as:

- Laser and other light therapies. However, researchers are still studying the best types of light and the amount needed to treat acne.
- Injecting corticosteroids directly into affected areas of your skin.
- Superficial chemical peels that a doctor recommends and applies to the area.
- Filling acne scars with a substance to improve their appearance.
- Treating acne scars with tiny needles to help induce healing.
- Surgical procedures to help treat and repair scarring.

In addition to experiencing significant scarring, people of color can develop skin discoloration after acne heals. Your doctor can suggest a treatment approach that can fade existing dark spots. Using sunscreen when outdoors is especially important to help treat and prevent dark spots.

## Who Treats Acne?

The following health care providers may diagnose and treat acne:

- Dermatologists, who specialize in conditions of the skin, hair, and nails.
- Primary health care providers, including family doctors, internists, or pediatricians.

## Living With Acne

If you have acne, the following recommendations may help you in taking care of your skin.

- Clean your skin gently. Use a mild cleanser in the morning, in the evening, and after heavy exercise. Try to avoid using strong soaps, astringents, or rough scrub pads. Rinse your skin with lukewarm water.
- Shampoo your hair regularly, especially if you have oily hair.
- Avoid rubbing and touching skin lesions. Squeezing or picking blemishes can cause scars or dark blotches to develop.
- Shave carefully. Make sure the blade is sharp, and soften the hair with soap and water before applying shaving cream. Shave gently and only when necessary to reduce the risk of nicking blemishes.
- Use sunscreen, and avoid sunburn and suntan. Many of the medicines used to treat acne can make you more prone to sunburn.