

Acne

Acne is a term for the over production of oil, which results in plugged pores and outbreaks of lesions called pimples or zits, whiteheads, blackheads, nodules or cysts. Acne most commonly appears on the face, neck, chest, back, shoulders and arms. Teenagers are affected the most by acne, but acne can also affect adults between the ages of 20 to 40. After age 40, acne may lessen because of lower levels of hormones.

PREVALENCE

Approximately 17 million people in the U.S. have acne. Nearly 85% of people between the ages of 12 to 24 develop acne. While both men and women are affected by acne, young men are more likely to suffer the effects of acne for longer periods of time because testosterone tends to make acne worse.

CAUSES

The exact causes of acne are unknown, but it is believed that it can result from several factors, primarily, an increase in hormones called androgens, which both males and females have. Increases in androgens cause your oil glands to enlarge and produce more oil. This oil can also change into a thick white substance called sebum. An increased oil production clogs your pores with oil and sebum that can breakdown the cellular walls in your pores, which causes bacteria to grow and pimples to develop.

Some researchers also believe that your chances of developing acne can be greatly influenced by genetics. The use of certain drugs containing androgens and lithium are known to cause acne. The use of greasy cosmetics can also lead to acne because they plug your cell follicles and promote bacterial growth.

TYPES OF ACNE

- **Pimples** are formed when the follicle wall breaks down and allows oil and bacteria to spill into your tissue. This results in redness, swelling, and pus.
- A **whitehead** is a firm white bump that appears because your pores are clogged with oil as well as sebum that cannot reach your skin's surface.
- A **blackhead** is a darkened duct opening that is plugged with dead cells and bacteria. When this material gains pigmentation and is exposed to air, it will oxidize and turn dark. It is important to remember that a blackhead is not caused by dirt, so do not panic by scrubbing your face. Rigorous scrubbing will only cause more irritation.
- A **nodule** is a large, painful, solid lesion that is lodged deep within the skin. A cyst is a deep, painful pus-filled lesion that can cause scarring. Nodules or cysts appear when there are large amounts of oil, bacteria, and pus embedded in the skin layers.

TREATMENT - MILD CASES

Most people try to treat their acne with over-the-counter medications (OTC) before they see a dermatologist or skin specialist. These medications are typically topical, meaning they are applied to the skin.

Here are some tips about what you should be looking for in these products:

- Common OTC medications for acne can contain benzoyl peroxide, resorcinol, salicylic acid, sulfur, azelaic acid, or Retin-A. These are the most common topical OTC medications and each one works differently. They are

available in many forms, including gels, lotions, creams, soaps, and pads. The creams and lotions are usually good for people with sensitive skin. The gels and solutions are alcohol based and prescribed to people with oily skin, to dry their skin.

- Benzoyl peroxide is useful in killing bacteria and prohibiting oil production. Resorcinol, salicylic acid, and sulfur help to break down blackheads and whiteheads.
- Salicylic acid also helps to cut down the shedding of cells lining the follicles of the oil glands and is effective in combating inflammation and swelling.
- Azelaic acid reduces the growth of bacteria and it strengthens the cells lining your follicles, to prohibit oil eruptions.
- Retin-A is useful because it helps to unplug your pores by loosening the cells in the surface of the skin. As a result, pimples are sometimes pushed to the surface of the skin.
- All of these products are available in different strengths. For example, the label may say that the product has 2.5 % salicylic acid, 5%, or 10%. For your own peace of mind, it is best that you start with the lowest concentration possible. You do not know how your skin is going to react, and you want to lessen your chances of irritating it.
- Some people using these medications may experience side effects such as skin irritation, burning, or redness. In some people, it has been marked that these side effects go away with continued use of the product. It should be noted that if severe or prolonged side effects do occur, you should report them to your dermatologist.

TREATMENT - SEVERE CASES

People with moderate to severe acne should see a dermatologist so that they can be treated with prescription topical medications, oral medications, or both. Your PCP at UHS can refer you to a dermatologist.

There are several types of topical prescription medications that can treat acne, including antibiotics, benzoyl peroxide, adapalene, and azelaic acid. Like the common OTC treatments, these medications can come in many forms, but these prescription treatments are available in various strengths that allow your dermatologist to determine which particular strength and treatment would best suit your skin.

Some side effects associated with these medications are stinging, burning, redness, peeling, scaling, or discoloration of the skin. In fact, your skin may look worse before improving because some level of irritation will be involved, and it will take time for your skin to adjust. Prolonged or severe forms of these symptoms should be reported to your dermatologist. It may take anywhere between 4 to 6 weeks before you see an improvement. Your dermatologist could also recommend that you take an oral or topical antibiotic. Oral antibiotics are thought to control acne by curbing the growth of bacteria and reducing inflammation. Common types of oral antibiotics include Erythromycin and Tetracycline.

Side effects associated with use of oral antibiotics could include gastrointestinal problems, allergies, liver problems, and yeast infections. Erythromycin should not be taken with terfenadine, astemizole or cisapride, because these combinations can increase the possibility of heart irregularities. Tetracycline should never be taken in combination with antacids containing magnesium, calcium, aluminum, or sodium bicarbonate because they can decrease absorption, as can iron pills. In some studies, the use of

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Tetracycline reduced the effectiveness of oral contraceptives. If you are using any of these medications, be sure to inform your dermatologist.

TREATMENT - NODULAR OR CYSTIC

If you have deep painful sores, you should be treated by your dermatologist. Your dermatologist may first try the medications described above but if your skin does not improve, s/he may prescribe Isotretinoin, also known as Accutane. Accutane is an oral drug, typically taken for 15 to 20 weeks. It can dramatically reduce the size of oil glands and decrease the growth of bacteria.

Accutane clears acne completely in 90% of all cases, but you should know that some people experience side effects from use of the drug. The drug can cause symptoms of depression such as loss of appetite or trouble concentrating; dry eyes, mouth, lips, nose, or skin; itching; nosebleeds; muscle aches; sensitivity to the sun; poor night vision; change in liver function; and an increase in cholesterol. If you are pregnant, you should not use Accutane because it can cause brain defects in a developing fetus.

Accutane should not be taken with Tetracyclines because it increases the risk of headaches and blurred vision due to cranial pressure. Vitamin A and supplements with high proportions of vitamin A should also be avoided because Accutane has a significant amount of Vitamin A and the two medications together will build up high levels that could increase your chances of developing side effects. You should also alert your doctor if you or your family has a history of alcoholism, excessive alcohol use, sugar diabetes, or obesity. Isotretinoin may cause increased blood sugar levels and triglyceride levels, which may complicate heart or blood vessel problems in the above conditions.

ALTERNATIVE TREATMENTS

Tea Tree Oil, which is derived from the leaves of the Melaleuca tree, has shown some proficiency in reducing the effects of acne. Like benzoyl peroxide, tea tree oil attacks bacteria and limits oil production, but without the adverse side effects such as itching, burning, or peeling. Some people have also seen success with acupuncture to treat their acne. Better results are usually seen when coupled with nutritional and lifestyle changes. Be sure to talk with your medical provider about treatments you are interested in trying.

SKIN CARE

When washing your skin, you should use a mild cleanser once in the morning and once at night. Some people tend to scrub their skin to stop outbreaks, but scrubbing can make your skin worse. Remember that it is important that you thoroughly rinse your skin after washing it. Using an astringent is only recommended when you have oily skin, and even then the astringent should only be applied to oily spots. Dermatologists also recommend that you wash your hair regularly if it is oily, because the oil can get on your forehead and face, and lead to breakouts.

Avoid excessive touching of your face. If you squeeze or pop your blemishes, you run the risk of developing scars because dirt on your hands can infect your acne, and in some cases, squeezing the spot may only spread the bacteria even further. Use cosmetics without oil, including hair care products. Men who shave should do so carefully, as to avoid nicking their blemishes.

PREVENT SCARRING

Early treatment is the best way to prevent acne scars. Some OTC treatments for early scarring include the use of vitamin E, cocoa butter, or more recently, Mederma, which has shown some proficiency in reducing acne scars. Mederma is a topical gel that has been used in the medical field to reduce and soften the appearance of surgical scars.

In more severe cases of acne, Accutane has proven effective for treating scarring. It is important to note that you should not begin to treat scarring until you are no longer experiencing active breakouts. If you have longstanding scars, a dermatologist may opt to perform a medical or surgical procedure to reduce the scars. Procedures could include the use of lasers or chemical peels to lessen the appearance of scars.

MEDICAL ASSISTANCE

If you do not see an improvement after 6 to 8 weeks of using non-prescription medications, you should make an appointment to see your primary care provider (PCP). There are a number of prescription treatments that could help. If your PCP decides you need to see a dermatologist, s/he will refer you.

SCHEDULING AN APPOINTMENT

Call 275-2662 to schedule an appointment at the University Health Service (UHS). UHS offers a full range of services. All visits to UHS are confidential.

LINKS

To learn more about Acne, you can visit:

AcneNET

<http://www.skincarephysicians.com/acnenet/index.html>

MedlinePLUS Acne Tutorial

<http://www.nlm.nih.gov/medlineplus/tutorials/acne/htm/index.htm>