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ACNE

The sebum, which is produced in the follicle normally, flows to the skin surface via a canal. The canal is also used to remove dead cells shed by the walls of the follicle. In acne the canal becomes plugged with increased amounts of sebum and cellular debris. Within the plugged area, high levels of bacteria, Proprionibacterium Acnes (P. acnes), are found. Enzymes from the bacteria split the sebum into free fatty acids that are highly irritating to the skin. When a break in the cell wall occurs, the free fatty acid and cellular debris cause inflammatory reactions of varying degrees.

Factors Affecting Acne:

- **Heat and moisture**: Dry heat may improve the skin. Moist heat, friction, and sweating aggravate acne. Although acne may benefit from the dry heat of sunbathing, care should be taken to avoid prolonged exposure to the sun's cancer causing rays. A non-comedogenic sunscreen of SPF 15 or more should be applied whenever in the sun and especially between the hours of 10 am-3 pm.
- **Occupation**: Acne may worsen in people who work in the kitchens of restaurants. The heat and moisture are probably causative and not the grease. Occupational exposure to tars and certain organic solvents may aggravate or initiate acne.
- **Diet**: Although eating a balanced diet is conducive to good health and healthy skin, diet does not ordinarily cause acne. Chocolate, french fries, hamburgers, and other rich, greasy foods do not cause acne. However, beer, wine, and liquor in large amounts can worsen acne. Iodized salt, shellfish, and iodine-containing vitamins can also occasionally aggravate acne. Rarely, a true reaction to a food may cause skin eruptions, a rash or blotchy hives.
- **Skin care**: Washing twice daily using lukewarm water and a mild, nonabrasive, antibacterial soap, such as Lever 2000, Dial or Phisoderm, cleans the skin adequately. Avoid using oily, heavy cosmetics, and creams.

Common Symptoms

- **Mild** (Grade I): Blackheads or whiteheads, either a few or many in number. No inflammation.
- **Moderate** (Grade II): Blackheads, whiteheads, and pimples. Slight inflammation. Chest and shoulders may be involved.
- **Severe** (Grade III): Blackheads, whiteheads, and pimples with deeper inflammation. Usually involves face, shoulders, and chest.
- **Very Severe** (Grade IV): Called cystic acne. Extensive eruptions. Highly inflamed, pus-filled nodule. May include entire upper body.

How Long it Will Last

Blemishes will be present as long as the ducts remain clogged with debris and excess sebum. Some people have a very short course of acne, lasting only a couple of months, while others may have to treat the condition for years. There is not a single cure for acne. Patients with Grades II-IV should be seen by a health care provider for evaluation.

Treatment

Acne is generally treated by decreasing the number of bacteria present, slowing down secretions of sebum, and keeping the pores open. The complexity of the disease in moderate to severe cases may require multiple approaches to treatment. Your health care provider may use one or a combination of the following treatments.

Peeling Agents: Acne appears in conjunction with disordered cell shedding in the follicles. Peeling agents promote shedding of follicular epithelial cells. Two commonly used agents are salicylic acid and topical vitamin A acid. They appear to cause drying, but in fact cause an inflammatory response from the skin. In response to the irritation, the skin cells flake and peel. The sebum is absorbed by skin flakes; however, sebum production is not decreased. The amount of skin irritation can limit the use of the agents.

Benzoyl Peroxide: The effectiveness of benzoyl peroxide is primarily attributed to antibacterial activity. It is especially effective against P. acnes, the dominant organism in acne blemishes. The reduction of P. acnes coincides with a decreased formation of fatty acids. Benzoyl peroxide is a mild irritant, leading to scaling and drying.

Sebostatic Agents: Another therapeutic approach is to reduce the production of sebum. Currently, the oral medication 12-cis-retinoic acid (Accutane) is the only medication approved for this usage. Accutane should be reserved for severe cystic acne as the treatment may have significant adverse effects.

Oral Medications: Oral antibiotics decrease the number of P.acnes bacteria and thereby, reduce the amount of free acids in surface lipids. Tetracycline, minocycline, and erythromycin are the most commonly used antibiotics. The effect may not be noted for weeks. Benzoyl peroxide and oral antibiotics have different sites of action in decreasing the P. acnes population; therefore, your health care provider may prescribe both oral and topical agents. Additionally, some women find that acne improves when they are taking the oral contraceptive pill (OCP). A physician may prescribe an OCP for control of acne.

Topical Antibiotics: These preparations work directly on the skin to decrease bacteria. Free fatty acids decrease on the skin surface and a gradual improvement may be noted. Often the therapy for acne may take a multiple medication approach. Several agents may be used concurrently to effect an improvement in the skin. Any of the medications can cause side effects. They may even cause a

temporary increase in the acne. Working with a health care provider will ensure the best response.

Can Acne be Prevented?

Acne can't be prevented. The goals in treating acne are to reduce the symptoms and to prevent permanent scarring of the skin.

What Else Can You Do?

- Keep your hands away from your face and don't pick at the pimples.
- Avoid use of oily cosmetics and creams.
- Always remove makeup at night.
- Use a sunscreen without an oily base.
- Shampoo regularly. If hair is oily, you may want to wear a cap at night to keep oil off the forehead and change your pillow cases daily.
- Eat a balanced diet by choosing a wide variety of foods from each of the food groups (fruits, vegetables, grains, meat/protein, and dairy).
- Don't be upset if the acne gets worse before it gets better.
- Use medications as directed.
- Be sure to tell your health care provider about any reactions you have to medications, and return for ALL your follow up visits.