



## **ACNE**

Acne is a skin condition that affects all ethnic groups and ages. It is most common in adolescents and young adults, affecting at least 85% of individuals between 12 and 24 years of age. Patients usually see gradual improvement in their 20's and 30's; however acne can persist into middle age and beyond.

### **CAUSES**

All acne is a disorder of the pilosebaceous unit, which is made of a hair follicle and an oil gland. Oil glands produce sebum, or skin oil. During adolescence, oil glands enlarge and produce more sebum under the influence of hormones, also called androgens (male hormones that are normally present in both men and women, but at lower levels in women).

Acne does not result from poor hygiene, inadequate cleansing, or eating chocolate. It results from:

- **excessive production of sebum**
- **excessive "stickiness" of the skin cells lining the hair follicle**
- **and abnormal shedding or "stickiness" of superficial skin cells**

\*\*\*\*\* These factors, when combined, result in blocked pores, known as COMEDONES (whiteheads and blackheads) behind which sebum accumulates. If bacteria, especially *Propionibacterium acnes* (*P. acnes*), are trapped behind the blockage, inflammation and infection can result. These infected pores can then develop into PIMPLES or PUSTULES and eventually into deep painful NODULES and CYSTS. \*\*\*\*\*

Hormonal disturbances, especially an increase in androgens, can cause changes in sebum production that lead to acne. Levels of androgens are higher during adolescence and to a smaller extent during the perimenopause, which may account for the higher rate of acne during the teen years and the mid- to late forties.

There are several life-style factors that can worsen acne and which can be controlled. Acne can be exacerbated by blocking pores with cosmetics, hair products, helmets, backpacks, shoulder pads, swim caps, and cell phones. Sports equipment and electronics that come into frequent contact with the face should be cleaned with antibacterial soap or wiped frequently with rubbing alcohol. Cosmetics and skin-care products should be oil-free, non-comedogenic, and/or non-acneigenic. Hair care products should be oil-free. Hair products and hair oils can extend or transfer onto the forehead, jaw line, neck or back, worsening acne in these areas. It is important to position your hair off the face and back prior to sleep; and pillow cases should be washed several times per week.

### **TREATMENT**

Acne is a chronic condition. It is unrealistic to expect a complete cure from acne; however, acne can be controlled so that you experience a significant decrease in lesions. Any treatment requires time to work. You **MUST** adhere to the treatment plan in order to have success.

The following are common recommendations for treatment of acne and suggestions to help you through some of the initial challenges associated with various treatments:

### **ALL ACNE**

**Follow the guidelines for an anti-inflammatory diet**, i.e. foods that are low-fat, high-fiber, high in vitamins and minerals, not refined, not processed, not fried, and low in sugar. Meats should be hormone-free. Consumption of dairy products should be eliminated or at least reduced; or you should switch to organic, skim dairy products due to the hormones administered and fed to dairy cattle. If you eliminate dairy from your diet, you can easily get adequate calcium from other sources such as fortified orange juice and cereals, nuts, dried fruit, greens, or calcium supplements.

**Supplements to consider:** High quality fish oil (stored in the refrigerator at the store) and then stored in the refrigerator at home, 3 capsules each morning for its anti-inflammatory effects; Nature's Bounty Hair, Skin & Nails, 3 capsules per day (which contains Vitamins A, C, D, E, eight B vitamins including folate, Zinc, and Selenium, all of which are good anti-inflammatories which assist the immune system in fighting infection.

**Gentle cleansing no more than twice per day:** This helps remove excess oil, however does not clear up acne that is already present. We strongly recommend using the Clarisonic Pro brush. There is no technologically superior brush available on the market with more scientific studies showing its effectiveness in cleaning out the pores in acneic skin.

## WHITEHEADS & BLACKHEADS

**Glycolic acid:** This is an alpha hydroxy acid (AHA), a superficial exfoliant that helps speed the cell turnover rate on the skin's surface and allows better and faster penetration of acne medications.

**Salicylic acid:** This is a beta hydroxy acid (BHA), an exfoliant that penetrates the follicle and helps speed the cell turnover rate on the skin's surface; slows the shedding of cells inside the follicle to prevent clogging; and breaks down blackheads and whiteheads. You should see the effects of salicylic acid by 4-6 weeks of consistent use. The benefits of salicylic acid last only as long as you use the product regularly. *One challenge with salicylic acid is skin dryness. It is best to use only one product containing salicylic acid at first in order to avoid dryness and irritation. Make sure you use a non-comedogenic moisturizer to prevent peeling. Aloe vera is also helpful.*

**Topical retinoids** (e.g. Retinal; Retin-A; Tazorac; Differin; Adapalene): Retinoids reverse the "stickiness" of the skin cells allowing them to slough normally; increase skin cell turn-over, actually promoting the extrusion of the plugged material in the follicle; and prevent the formation of new comedones. Thus retinoids are very effective against comedones (whiteheads and blackheads). You should see the effects of retinoids by 6-8 weeks of consistent use.

*The challenge with retinoids is that they can cause irritation, redness, and peeling. These side effects usually last about 2-4 weeks, and can be minimized by making sure your skin is thoroughly dried before applying the retinoid. If the initial irritation is troublesome, try spacing the treatment out to every other night or every third night rather than every night. You have to get past the initial irritation to get the long term benefit from the retinoid. Retinoids also cause significant sun-sensitivity. Always use a good sunscreen with both UV-A and UV-B protection.*

**Medicated Acne Facials:** These combine AHA's and BHA's and are administered under a physician's direction to accelerate the improvement that can be seen from using these products at home.

## PIMPLES & PUSTULES

**Benzoyl peroxide:** Benzoyl peroxide reduces the bacterial count on the skin, helps prevent *P. acnes* from overgrowing, and dries up existing blemishes. You should see the effects of BP by 6-8 weeks of regular use. The effects stop as soon as you discontinue using the product.

*One challenge with BP is skin dryness. Make sure you use a non-comedogenic moisturizer to prevent peeling. Another challenge with BP is that it can bleach fabrics. We recommend you buy white washcloths and hand towels and use these for washing and drying your face. You might also want to invest in a couple of white sleep T's.*

**Medicated Acne Facials:** These combine AHA's and BHA's and are administered under a physician's direction to accelerate the improvement that can be seen from using these products at home.

**Topical antibiotics** (Cleocin-T): These fight bacteria and decrease inflammation in superficial acne but do not penetrate deeply enough to help with cystic acne.

**Birth Control Pills:** Oral contraceptives cause an overall decrease in androgens circulating in the blood stream thus decreasing sebum production. Therefore, combination birth control pills can be very effective in the treatment of pimples.

**Spirolactone** is particularly effective in the treatment of acne localized to the jaw line or "beard distribution." Spirolactone is a mild diuretic that has the side-effect of preventing the production of androgens and thus decreasing the production of sebum. Spirolactone is best taken in the morning.

**Oral antibiotics** (Doxycycline; Minocycline): These kill bacteria and are effective against deeper acne, however have more side effects than topical antibiotics and require 4-8 weeks to see results. They do not affect oil production or clogged pores, so are usually prescribed in combination with other treatments.

## **CYSTIC ACNE**

**Isotretinoin** (Accutane): This pill decreases sebum production; decreases the "stickiness" of the skin cells; and decreases the bacteria in the sebaceous gland and on the skin surface. Isotretinoin can often clear even severe acne; however, this powerful medication can cause severe drying of the skin, headaches, depression, dry eyes, decreased night vision, impaired liver function; and more importantly, it can cause severe birth defects if taken by a woman who is pregnant or becomes pregnant while taking it.

**Photodynamic Therapy, PDT:** PDT kills bacteria and shrinks the oil glands and is an excellent option for patients who do not tolerate the side effects of Accutane or are unwilling to try Accutane because of the side effects. In PDT, Levulan, a substance that occurs naturally in the body in small amounts and is concentrated into the oil glands of the skin, is applied to the affected area. One hour later, the skin is treated with IPL, a light-based treatment offered at Timeless Laser & Skin Care.

*The challenges with PDT are an appearance and a feeling of having a sun burn which typically lasts from 2-4 hours. Patients are also usually very sensitive to the sun for 3 days after treatment and we recommend Glytone 40 sunscreen with both UV-A and UV-B protection.*

## **TREATMENT OF ACNE SCARS**

**Glytone and Avène products:** Specific Glytone and Avène products, available at Timeless Laser & Skin Care, help speed up the skin's remodeling process and heal the post-inflammatory redness that occurs following an acne lesion and protect against additional inflammation.

**Chemical Peels:** This technique removes a thin layer from the surface of the skin, which can help minimize the appearance of very mild acne scars.

**Laser Genesis:** Laser Genesis, which is offered at Timeless Laser & Skin Care, rejuvenates skin and helps smooth the appearance of mild to moderate acne scars. The specific and directed warming of the superficial dermis, the layer of skin immediately under the epidermis, causes an increase in collagen production, elevating the deep portions of the scar. Laser Genesis is not effective for "ice pick" type scars. Patients usually need 5-10 treatments scheduled 2-4 weeks apart, but often see effects after just a few treatments.

**Injectable fillers** (Juvederm): Injectable forms of hyaluronic acid, a substance that occurs naturally in the skin, are available at Timeless Laser & Skin Care and can help smooth out box scars and linear scars. They plump the skin under the base of the scar, raising it to be more even with the surrounding skin. The effects of fillers last for 9-12 months.

## **DR. STEFANIE CHRISTIAN OFFERS THE FOLLOWING SERVICES FOR THE TREATMENT OF ACNE:**

- 1. Physician-grade skin care products**, such as cleansers, retinoids, AHA's, BHA's, non-comedogenic sunscreens.
- 2. Prescriptions** for antibiotics and Spironolactone.
- 3. Medicated Acne Facials and Peels**
- 4. PDT**
- 5. Laser Genesis**
- 6. Injectable Fillers**

## **DR. JEFFREY CHRISTIAN OFFERS THE FOLLOWING SERVICES FOR THE TREATMENT OF ACNE:**

Prescriptions for Birth Control Pills and Accutane

**[www.timelesslaserskin.com](http://www.timelesslaserskin.com)**

**440-779-1000**

12/5/2010