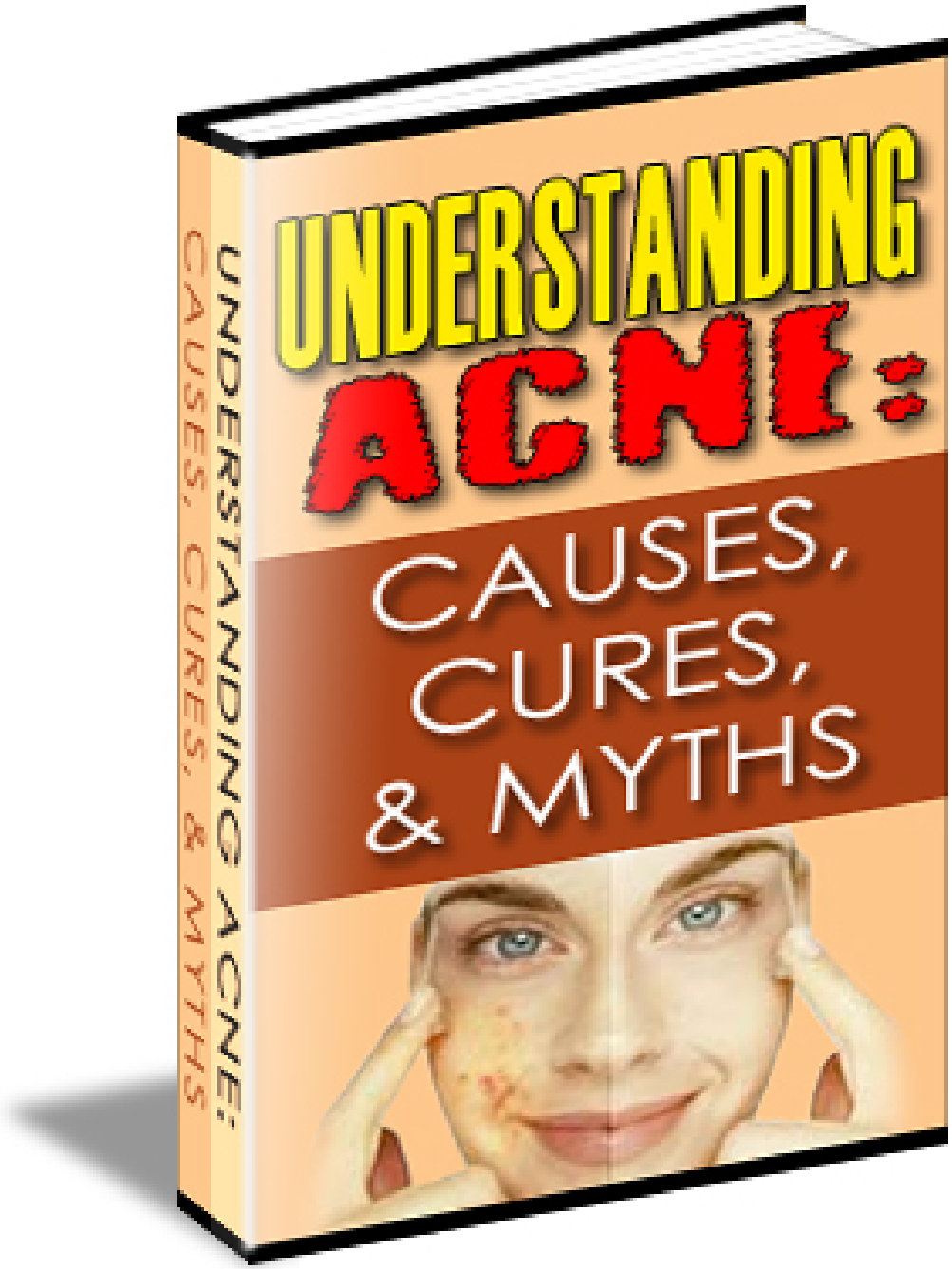


Understanding Acne:
Causes, Cures & Myths

Disclaimer

While this guide is meant to provide you with the information you need to combat acne, it is highly recommend that you consult a physician before you begin any form of treatment for your acne.

If you have any side effects as a result of the following information, consult a physician immediately.

I am not a doctor, and this is provided for informational purposes only.

Table of Contents

Chapter 1: What Is Acne?

What is acne? Certainly, most of us know what it is, simply because we have had to experience it at one time or another in our lives. But, in case a definition is needed, here is a short one. Acne is a dermatological term that includes clogged pores, pimples and lumps or cysts that occur on the face, neck, chest, back, shoulders, and upper arms. Acne occurs most commonly in teenagers, but is not limited to any age group, afflicting even adults in their forties. This disease has many varieties, and although none are life threatening, the more severe cases of acne can be disfiguring, leaving permanent scars on effected areas.

The physical changes in body tissue - or lesions - which acne causes are described in five ways: *comedos, papule, pustule, nodule and cyst.* Further, these terms denote range or severity with comedo (also known as blackheads and whiteheads) at one end and nodules or cysts at the other.

As stated above, acne is most common among teenagers, affecting teens between the ages 12 and 17. Usually, these mild cases are cleared up with over-the-counter treatments and the acne goes away by the early twenties. It also should

be noted that although acne affects both girls and boys equally, there are some distinctions. Young men are more likely to have severe, long-term acne while women can have reoccurring or intermittent acne well into adulthood due to hormonal changes and cosmetics.

Now that we have summarized just *what* acne is, we can move on to the subject of this book. A guide to acne: what types are there, how to treat it, and current myths circulating about it. The hope is that the reader will come away having gained a clearer understanding of acne in its various forms, and how it can be combated against and to reduce its impact upon the lives of those suffering from it. This is by no means an exhaustive guide on the subject nor is it a clinical journal, but is at the very least, an introduction and a source upon which to do further study into the causes and cures of acne in all its forms.

Chapter Two: Acne Myths

Many of the problems facing those who are trying to deal with acne are the pervasive sources of misinformation out there regarding the causes of acne. Despite the numerous valid sources of information on and about acne that are now available, these myths persist and are passed on by word-of-mouth to those unfortunate enough to suffer from the disease. Rather than finding solutions and treatments to alleviate the symptoms, problems are often compounded. Ill-advised treatments based off these myths can have less than effective results and can often do further damage in the case of severe acne.

In light of the influence that these myths can have on both understanding acne in general and the courses of treatment in particular, it would be wise to start with a quick overview of some of the more common myths that are out there, dispelling the misinformation with the truth about them. After this we can move on to the question of what the actual causes of acne might be.

→ ***Myth #1: Acne is caused by poor hygiene.***

It doesn't matter how often, how ritually, you scrub your face and other areas affected by acne; this has no bearing on either the status of current a breakout or the creation of new problems. In fact, this sort of rigorous regimen of washing and scrubbing can actually irritate skin and make the acne worse, not better. Though you may have heard so from well-meaning parents growing up or some other misinformed person, acne is not caused by poor hygiene. This doesn't mean that hygiene isn't important. In fact, good hygiene can help reduce the effects of acne if used in conjunction with acne treatment products. Rather than frequent, harsh washing, it is generally recommended that you wash your face twice to three times a day with mild soap and then pat it dry - don't scrub dry.

→ ***Myth #2: Acne is caused by diet.***

"Don't eat chocolate, it will give you pimples!" "They say that eating greasy foods can give you zits." Most of you have heard these and other similar statements before, right? What they are saying, in effect, is that what you eat can cause acne. But, scientifically speaking, what they are saying isn't true. Extensive scientific research has been conducted, searching for possible correlations between one's diet and a possible cause of acne, and have not found anything conclusive. But just because science has not proved it, doesn't mean diet has no effect. While diet may not be the cause, it can certainly contribute to the condition.

Each of us is different. Some people notice that breakouts are worse after eating certain foods--and the kinds of food differ with each person. For example, some people may notice breakouts after eating chocolate; while others have no effects with chocolate. Instead, they notice breakouts occurring after they drink too much coffee or caffeine. These are just examples but they are worth heading. If there is

some sort of food or drink that might be affecting your acne, then cut back and see if that helps.

"Clean up your diet. Your skin is your body's largest organ. As such, it needs proper nutrition to function properly. Just as your heart can get clogged up with too much fat, your skin can get polluted with too much animal and saturated fats. Healthy skin requires large amounts of fresh fruits and vegetables, filled with vitamins C, A and E. Healthy skin means limiting meats, sugars and artificial substances that can toxify your skin and clog pores."

American Medical Publishing, Proven Health Tips Encyclopedia

American publishing Company, 1995 Page 164

→ ***Myth #3: Acne is caused by stress.***

Stress is not a direct cause of acne but it is true that some types of stress can cause the body to produce a hormone called *cortisol*, which can irritate existing acne. Indirectly, some medication that we take to alleviate or control extreme stress or emotional problems like depression can be factors in the production of acne. In fact, some medicines have acne listed as a possible side effect. So although stress is not the cause of acne, it can exasperate (make worse) the condition.

→ ***Myth #4: Acne will go away on its own.***

This is generally not true and acne needs treatment in order to be cleared up. With the selection of acne treatment products available today there is no reason not to investigate and find what has the best results for those concerned. In some cases, a dermatologist should be consulted and other forms of treatment can be pursued.

→ ***Myth #5: Tanning clears up skin.***

In fact, this has the reverse effect. At first it may seem that the latest bake in the tanning bed or sunbathing has improved your complexion, but in fact the tan may only have masked or covered the acne. In reality, the sun can make the skin dry and irritated and this can lead to more breakouts. On another note, if you do tan, make sure that you are using a sunscreen that doesn't contain oils and other chemicals that might clog up your pores and cause acne to get worse. (Look for *noncomedogenic* or *nonacnegenic* on the label.)

→ ***Myth #6: Popping Zits Will Make Them Go Away Faster***

Again, though this seems true, it is another myth. Rather than speeding up the process of healing, this action actually prolongs the situation as popping the whitehead caused the bacteria inside to be pushed deeper into the skin, which allows more infection to grow, and ultimately leads to scarring.

→ ***Myth #7: Only Teenagers get acne.***

The truth is that about 25% to 30% of *all* people between the ages 25- 44 have active acne. So the idea that acne is only a problem for teens is yet another myth.

After covering these myths, it is important to note, that these are not all of the myths that are out there, circulating in the popular health magazines and on the Internet. No, not by a long shot. There are dozens more where these came from. The reason for their inclusion in this book is to help you, the reader, understand that the topic of acne has grown more complicated as new sources of information, both good and bad, have become available and that one must be very careful about researching the topic and deciding what sources to trust.

Chapter 3: For the Parents of Teens with Acne

Acne has affected all of us at one time or another. If you are a parent with teenage children you will be reminded of what a toll dealing with acne can have on their lives. Acne can affect your child's self image as well as overall social life and in severe cases can lead to depression and withdrawal. You should let your teenager know that you are available and that you are willing to help him or her with their acne. Talking about your own experiences may help them relate and quite possibly, give them a broader perspective on the condition. Even if they don't want to talk about it, dealing with acne is one of their major concerns. Consequently, your teenager is trying everything he or she can to control the acne.

As adults, we know that acne will not last forever, that it will usually clear up in time if given attention and treated appropriately. Yet this is only a small comfort to teenagers who are currently suffering from embarrassment and discomfort from breakouts of acne. Talking with your teenager about acne can be difficult because they might be

embarrassed by their appearance and would sooner just pretend it wasn't an issue. The key is to be supportive and understanding. At the same time, parents must be more than moral support to their children. They need to be a source of information and advice about how to treat acne as well.

One of the most effective ways is to learn as much as possible about the various types of acne and how it can be treated. Simply doing this can go a long way in providing more effective guidance for your children when confronted with decisions related to their acne treatment. You will be able to help them in the selection of acne medications and perhaps determine whether or not it is an appropriate time to consult with a dermatologist.

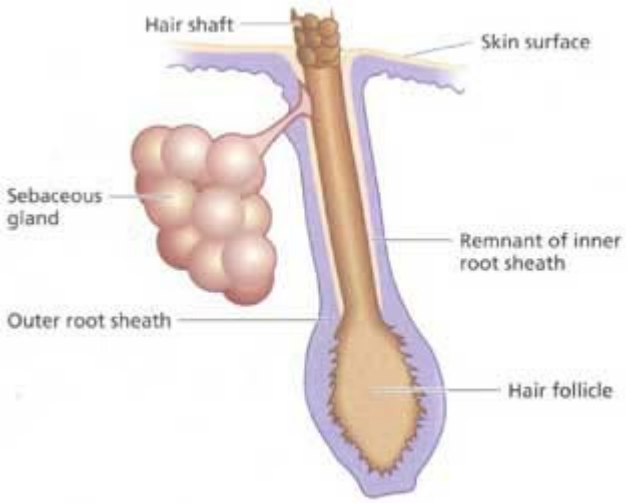
Do not assume that just because you happened to have acne as a teen that you know everything about it. Things have changed since then. Advances in scientific research on acne related matters continually unearth new information. Also, new medications as well as new methods of acne treatment have been developed so that the most common acne conditions can be remedied quickly. Because there are such a variety of approaches, knowing what is available will aid you in deciding what the best option may be for your child.

Chapter 4: What Really Causes Acne?

It must be stated at the beginning that an exact cause of acne is unknown. Despite the endless research that has been done to date, nothing has ever been isolated as a primary cause for the development of acne. Keeping this in mind though, doctors and researchers have at least come to some conclusions as to what sort of risk factors are involved and ultimately contribute to acne's development. According to some researchers, the primary causes are hormones and genetics, but this cannot account for every case. No, in some instances, factors like medication, types of cosmetics, and certain aspects of personal hygiene (i.e. methods of cleansing skin) are more likely to create the conditions for acne's formation. Environment, too, can be a catalyst. Those working with chemicals or who are exposed to oils and greases, have a greater chance of getting acne because the materials themselves can clog pores.

→ Hormones

With the onset of puberty, the human body starts to produce hormones called androgens or male sex hormones, increasing in both boys and girls. These androgens cause the enlargement and over stimulation of the *sebaceous glands* which are found in the hair follicles or pores of the skin. The extra sebum or oil that the sebaceous glands produce mixes with dead skin cells and bacteria on the skin's surface and this blocks pores. Within the blocked pore, the bacteria multiply and cause inflammation. All of this leads to the lesions that are associated with acne.



Teenagers are the most common sufferers of acne, purely because of the hormonal shifts that are associated with puberty. Current figures indicate nearly 85% of people will develop acne at some point between the ages of 12 and 25.

It is also important to note that the hormonal changes associated with both the menstrual cycle, pregnancy, and

even menopause have been shown to be culprits in the creation of acne. Also, when women are either beginning or ending their usage of birth control, the hormonal fluctuations that can occur at this time can cause acne in some women.

Furthermore, fluctuations in the hormones of adults, both men and women, can cause spikes in the production of sebum in the sebaceous glands. This opens wide the range of those susceptible to acne, due to hormonal changes.

→ **Genetics**

Another factor is heredity or genetics. Many researchers now believe that the tendency to develop acne can be inherited from parents. In studies conducted by a number of scientists, links have been found between those presently suffering from acne and the presence of acne in their family history. Strictly speaking though, acne is not an inherited disease, at least not in the medical sense of the word. However, it is also true that acne is much more common in children of parents who have had or still have acne than those who do not. While the research is still ongoing, there is no doubt the research will continue to yield new results and perhaps, deeper genetic causes might be unearthed.

→ Other Factors

Medication

As was stated before, the side effects of certain drugs can cause acne. Examples can include: barbiturates, anti-depressants, anti-anxiety medication, lithium and certain forms of steroids.

Heavy or oily costmetics

In the case of certain cosmetics, their ingredients can affect the structure of hair follicles and lead to over-production of sebum, which in turn clogs the pores.

Over-abrasive cleansing

Astringent facial products can dry the skin out and also causes the body to overproduce sebum to compensate. The use of harsh exfoliators can damage existing spots and spread infection.

→ Flare Up Factors

There are also a number of other factors which can cause existent acne to flare up and create more problems. A small

list of some of these factors is included in the following pages so that our picture of acne becomes clearer and we shall, hopefully, obtain a greater understanding of the causes and elements that make this disorder such an inconvenient and uncomfortable thing to endure.

Pressure from helmets or hats, backpacks, tight clothing

If there is pressure against the skin, as is the case when wearing hats, and helmets, or when a backpack is pressing down against shoulders, then the potential for irritation and acne breakouts are real. Either friction, as is true when someone is wearing tight clothing, or pressure as in the aforementioned hat or helmet, can go a long way towards affecting the pores and causing acne to flare up.

Environmental irritants

If a person works in a garage or in a factory, certain chemicals present in such environments can actually cause acne flare-ups, if not lead to its appearance. Oils, for instance, when brought in contact with skin over a long period can clog up pores, or at least irritate the skin.

Pollution can have much the same effect upon the skin, clogging pores and creating infections.

Heavy scrubbing of skin

Picking or squeezing blackheads and/or whiteheads can cause the infection to move deeper into the skin and which will lead to scarring.

Diet

While no foods actually have been linked to the cause of acne, it is proven that certain foods can be responsible for acne flare-ups.

Chapter 5: Types of Acne

→ Acne Vulgaris

Acne vulgaris is another name for common acne. This is the type of acne that mainly affects adolescents but may persist and become more severe as one reaches adulthood. The picture of the man's back to the right is an example of a severe case of Acne Vulgaris.

Mild to Moderate acne vulgaris is characterized by the following lesions:

Mild acne on the chin

Moderate acne on the chin

Whiteheads

Whiteheads result when a pore is completely blocked, trapping sebum, bacteria, and dead skin cells, causing a white appearance on the surface. Whiteheads have a shorter life span than blackheads.

Blackheads

Blackheads result when a pore is only partially blocked, allowing some of the trapped sebum, bacteria, and dead skin cells to slowly drain to the surface. The dark color associated with its appearance is not caused by dirt. Rather, it is a reaction of the skin's own pigment, *melanin*, reacting with the oxygen in the air. As a whitehead has a short life cycle, a blackhead is a firmer structure, and can often take a long time to clear.

Papules

Papules are inflamed, red, tender bumps with no head.

Pustules

A pustule is similar to a whitehead, but is inflamed, and appears as a red circle with a white or yellow center. (This is what is commonly called a “zit.”)

Severe acne vulgaris can be distinguished by the presence of nodules and cysts:

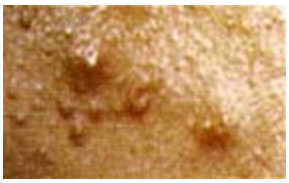
Nodules

As opposed to the lesions mentioned above, nodular acne consists of acne spots which are much larger, can be quite painful and can sometimes last for months. Nodules are large, hard bumps under the skin's surface. Scarring is common. Absolutely do not attempt to squeeze such a lesion. You may cause severe

trauma to the skin and the lesion may last for months longer than it normally would have left untouched.

Cysts

An acne cyst is often similar in appearance to a nodule, but it is pus-filled, and has been described as having a diameter of 2 inches or more across and is often very painful. Again, scarring is common with cystic acne. Squeezing an acne cyst may cause a deeper infection and more painful inflammation which will last much longer than if you had left it alone.



→ Adult Acne

Adult acne is a form of acne vulgaris that can affect adults over 30 years of age. Those who had no problems with acne as a teenager have found that they are having breakouts. But because acne is normally associated with the hormonal fluctuations that occur during puberty, its appearance in an adult should be investigated to determine the underlying causes--especially if it appears for the first time in adulthood.

The following are at least three reasons why acne appears after 30 years of age:

- Often the acne that one had as an adolescent resurfaces later in adulthood. It is not always clear why this happens, but it is one reason for its presence in adults.

- In women, acne often reappears during pregnancy where there had been no activity for months, if not years. This could also be true in the case of woman during their menstrual period.

- Thirdly, acne can appear in adults for the first time who have never had it before. Now with this third reason, it might be more obvious that something unusual is going on and it might be wise to talk to a dermatologist or at least your family physician.

With some reasons established, we can now mention some of the possible causes of adult acne:

- *Medication.* As has been stated previously, some medications can induce acne. Anabolic steroids, anti-epileptic medications, anti-tuberculosis drugs *rifampin* and *isoniazid*, lithium and medications that contain iodine.

- *Chronic physical pressure on the skin.* Whether chaffing from wearing a helmet or carrying a backpack, such pressure against the skin can lead breakouts. (See acne mechanica)

- *Chlorinated industrial chemicals.* Working in certain types of industrial environments can cause acne-like symptoms or even *chloracne,* an occupational skin disorder caused by prolonged exposure to chemicals like chlorinated dioxins.

- *Metabolic changes.* With changes in the body's hormonal balance, such as those present during pregnancy or menstruation can produce acne in adults.

Rosacea (ro-ZAY-she-ah)

Sometimes called "Adult Acne" occurs in people of all ages, especially older women when they go through the menopause. Two famous men with the affliction are W.C. Fields

and former United States President Bill Clinton. The disorder is characterized by redness, pimples, and, in advanced stages, thickened skin. People who suffer from flushing or blush easily are most at risk of developing rosacea.

Though often misdiagnosed as acne, *rosacea* is, in fact, not acne. Rosacea affects thousands of people in the U.S. alone, mostly those over the age of 30. It generally appears as a red rash confined to the cheeks, nose, forehead and chin. This redness is often accompanied by bumps, pimples, and skin blemishes--the reason it is so commonly mistaken for acne. Further, this redness is also linked to the fact that blood vessels may become more visible on the skin. Rosacea has been shown to be more prevalent in women than in men, but often if found in men it tends to be more severe. If you are seeking treatment and you think it may actually be rosacea, you need to be aware that most of the treatments differ quite a bit from those used in the care of acne vulgaris. Acne does not cause rosacea, but many of the medications used in the treatment of acne can contribute to the onset and/or aggravation of rosacea symptoms.

These products are frequently used to open the pores (exfolients, various acid-based products, and retinoids) but can be very drying and irritating to the skin.

Natural Treatments for Rosacea

A 12 week double-blind study comprising of 246 participants found that a cream containing 1% Chrysanthellum indicum significantly improved rosacea symptoms as compared to placebo. Rigopoulos D, Kalogeromitros D, Gregoriou S et al. Randomized placebo-controlled trial of a flavonoid-rich plant extract-based cream in the treatment of rosacea. J Eur Acad Dermatol Venereol. 2005;19:564-568.

There is also evidence that indicates that cream containing niacinamide might be helpful also. Draelos ZD, Ertel K, Berge C et al. Niacinamide-containing facial moisturizer improves skin barrier and benefits subjects with rosacea. Cutis. 2005;76:135-41.

One preliminary study found some evidence that a cream made from green tea may provide benefits as well. Syed A, AAD 63rd Annual Meeting: Poster 19. Presented February 20, 2005.

Although not supported by meaningful scientific evidence, some alternative health practitioners believe that rosacea is caused by poor digestion, and recommend use of apple cider vinegar or betaine hydrochloride to increase stomach

aciditity. Additionally, they may recommend digestive enzymes, such as bromelain from pineapple.
Other natural treatments sometimes recommended for rosacea, but that also lack scientific support, include burdock, aloe vera, chamomile, red clover, yellow dock, rose hips, zinc, selenium, vitamins B, C, D, and E, aromatherapy, Chinese herbal medicine and food allergen avoidance.
For more info visit National Rosacea Society. http://www.rosacea.org.

→ **Acne Mechanica**

This form of acne is caused by external mechanical forces like constant pressure, constant and repeated friction, covered skin, and heat. For those involved in sports, in the military or in high-activity jobs, this is nothing new as the condition is common with many athletes and in professions where factors like tight-fitting, even restrictive clothing is worn for extended periods of time. These sort of jobs may include certain kinds of factory work where an

employee may be busy with repetitive tasks that may irritate the skin and lead to break outs.

For soldiers who must wear uniforms much of the time and may be carrying backpacks with straps that bite into the skin and cause friction with each step or straps on weapons that can also rub again the body this can become a real issue. Operating in the extremes of temperatures that these soldiers often do can also often complicate existent acne by causing inflammation and further breakouts.

Further examples of possible causes may include:

- Wearing head bands that can rub the forehead and irritate the skin
- The kind of friction caused by physical contact with musical instruments for extended periods of time
- Wearing tight clothing period; whether it is blue jeans or types of undergarments made with synthetic materials
- Even bra straps if they happen to fit snuggly against the skin

→ **Acne Cosmetica**

Often women who regularly wear make up or cosmetics find that they are getting breakouts on the forehead or cheeks. It may be what is called **acne cosmetica**. This form of acne is generally caused by the type of cosmetics that a person is using.

Pomade Acne

When hairstyles change, it is not uncommon for teenagers and young adults to adopt new styles. But, sometimes a new style requires the use of a thick, oily hair cosmetic called pomade. Pomade is generally used when a hairstyle requires that curly hair be straightened or hair be molded into various shapes.

One of the undesired effects of pomade use may be pomade acne. Pomade acne occurs on the scalp, forehead, and temples where pomade comes into contact with the skin.

Most, if not all, pomades fall into the category of comedogenic – or pore clogging - cosmetics. The heavy oils used in pomades can clog skin, setting the stage for the formation of comedones. In addition, some of the other

chemicals in pomades may irritate the skin, contributing to inflammation.

→ Excoriated Acne

The term *excoriated* means to scratch or abrade the skin. Now when we bring this term into the context of acne we have what is called *excoriated acne*. This type of acne is defined by the behavior of the person suffering from it. When such a person obsessively picks and scrapes at every pimple and blemish on their skin, they are said to have excoriated acne. Because of the excessive nature of the attention given to the sufferer's skin, deep irritation can result as well as scarring.

Though it may appear to others as a mild form of acne, without pustules or nodules, to the person dealing with it, this condition may be intolerable. This almost psychological urge to get rid of one's skin lesions or blemish can become very damaging. As such, it is recommended that a dermatologist be sought for treatment.

→ Infantile Acne

This form of acne occurs in newborns and is concentrated on the nose and cheeks. It is caused by the hormonal changes that have occurred will the fetus was developing in the womb. Typically, the acne clears up in matter of weeks without treatment.

However, infantile acne has a serious aspect that must be considered. If simple cleansing with mild soap and water will not clear the acne up then a mild topical agent (such as a prescription form of benzoyl peroxide for infants) helps both the current situation and prevents scarring. If this does not help, then a dermatologist may need to be consulted.
Things to note:

- *Family History.* Genetics might be a factor in the development of acne in the infant. Do the child's parents or siblings have acne or did they have it in the past?

- *Early hormone production.* It may be that the infant has a condition that causes early production of sex hormones--especially androgen which is linked to acne. If this is the case, then medical help should be sought to avoid problems with the child's development.

- *Growth and developmental abnormalities.* Acne at such an early stage in the child's life could indicate developmental problems that might not show up until later. A pediatrician should be consulted to find out if this might be a possibility.

- *Drug-induced acne or acneiform eruption.* It could be that the child has been exposed to certain medications that can cause acne or *acneiform* lesions. Examples of such drugs include *corticosteroids* and those that contain iodine.

Chapter 6: Severe Acne

There are at least four types of acne that are recognized by many dermatologists and others in the medical field as severe regarding both the type of lesions that it produces on the body and long term effects it can have for the sufferer including scarring. This extreme acne affects more than just the body; it can affect every aspect of a person's life. The pain and heartache of dealing with these potentially disfiguring forms of acne cannot be overemphasized but this does not take into account the emotional and psychological aspects that can lower quality of life and permanently destroy self-esteem.

→ **Acne conglobata**

Acne Conglobata is the most severe form of acne vulgaris. This form of extreme acne, generally characterized by the appearance of large and numerous nodules,

often interconnected, along with widespread blackheads. Because theses lesions can become ulcerated, they can cause severe, irrevocable damage--even disfiguring scarring--to the skin. Acne conglobata is commonly found on the face, chest, back, buttocks, upper arms, and thighs.

The age of onset for acne conglobata is usually between 18 and 30 years of age and it is more likely for males to get the condition than it is for females. It should also be noted that acne conglobata can stay active for many years, lying dormant until something causes it to resurface. As is true with all types of acne, the cause of acne conglobata is not known.

→ **Acne fulminans**

This type of severe acne is actually an abrupt onset of acne conglobata that typically afflicts young men. The symptoms of the severe *nodulocystic*, often ulcerating acne, are readily apparent. As with normal cases of acne conglobata the lesions cover large portions of the extremities and the facial region,

including the disfiguring scars that can eventually develop. Yet what makes acne fulminans unique in that it also includes fever symptoms, aching of the joints, particularly the knees and hips, and varying degrees of weight loss that depend upon the individual. Often it is brought on by the use of Testosterone.

→ Gram-negative folliculitis

Gram-negative folliculitis is a form of extreme acne caused by an inflammation of the follicles that is caused by bacterial infection: This condition is characterized by pustules and cysts. It has been determined in some cases of the disorder that its development is caused by a complication resulting from a long-term antibiotic treatment of acne vulgaris.

The reason that this form of acne is called “gram-negative” relates to the fact that gram is a type of blue stain used for

laboratory testing for microscopic organism. Bacteria that do not stain blue are referred to as “gram-negative.”

Like other forms of extreme or severe acne, gram-negative folliculitis is a rare condition, and we do not know whether it is more common in males or females as it has been documented in both.

→ **Pyoderma Faciale**

This type of severe acne affects only females, usually between the ages of 20 to 40 years of age. It is characterized by large painful nodules, pustules and sores that may leave scarring. Forming abruptly, pyoderma faciale may occur on the skin of a woman who has never had acne before. Generally, this type of extreme acne is confined to the face, and though it usually does not last longer than a year, it can cause a great deal of damage in a very short time.

Chapter 7: Natural Acne Remedies

The subject of natural or homegrown acne remedies is a broad one to cover as one must be able to separate the effective options from those that really amount to little more than old wives' tales. Yet, with this said, someone searching for successful remedies for acne would be foolish to overlook the benefits of those natural remedies that have been passed on in families. These sorts of remedies based upon common sense practices or herbs are typically successful for most mild cases of acne. It is when these cases grow more severe that one should consult a physician or dermatologist.

For centuries, civilizations relied exclusively upon herbal and natural remedies for the treatment of every ailment. No, there were no convenient drive-up pharmacies to get a prescription for manufactured medications. In order to find ways to help treat sickness one had to venture into the woods and search for cures there. And for the most part, nature provided for these needs through the various herbs that were found to have medicinal value.

The earliest physicians were nothing more than what we today call herbalists or at a certain point in time, apothecaries. Either way, the natural remedies they discovered were the basis for scientists who later found ways to create synthetic substitutes for these herbs and distill the innate properties down into a form that can be amplified or augmented by other elements.

→ A List of Common Natural Remedies

Hot/Cold Compresses - A chief natural remedy that is recommended more often than not is the usage of hot and cold wet towel compresses to reduce swelling and eliminate clogged pores--the major culprit in the production of acne.

Drinking Water - This natural remedy for acne is simple enough. The premise behind it the idea that if you drink a sufficient amount of water per day, typically 7-8 glasses of water a day, your body is cleansed of elements of toxicity that can actually contribute to the development and spread of acne. It also should be noted, that many natural remedies not only recommend to merely drink plain old ordinary water, but actually adding herbal ingredients by boiling fenugreek seeds and corn into the water.

Oils and Juices - Though it can seem odd, the benefits of using natural substances like almond oil - which can actually help with the removal of acne scars - cannot be ignored. Apricot juice helps to alleviate the presence of cysts by cutting through them.

- Cucumber juice - Used as a topical application, either alone or combined with carrot juice, alfalfa or lettuce.
- Citric fruit juices - These types of juices, such as lemon juice, serve as a natural exfoliate, removing dead skin cells which might cause clogging of the pores. You should allow it to dry on the face for approximately 10 minutes before rinsing it away with cool water.
- 

been recognized as a potent antiseptic in Australia anecdotally for much longer than there has been solid scientific evidence. However, studies have recently been conducted which support the role of tea tree oil in skin care and the treatment of various ailments. In the treatment of moderate acne, topical application of 5% tea tree oil has shown a significant effect comparable to 5% benzoyl peroxide with less observed side effects; although, it does

display a slower onset of action. This is definitely a natural treatment worth trying. Bassett I, Pannowitz D, Barnetson R (1990). "A comparative study of tea-tree oil versus benzoylperoxide in the treatment of acne.". Med J Aust 153 (8): 455-8. PMID 2145499.

Fenugreek leaves - This remedy provides great prevention of breakouts and involves taking the fenugreek leaves, crushing them, and making a paste out of them. You should then apply it to infected areas every night, then wash it away the following morning with warm water.

Honey Mask - Because honey has naturally occurring anti-bacterial qualities it is often applied to the face as a mask, killing surface bacteria. Typically, the mask should be applied once or twice weekly depending upon the results of usage.

Distilled white vinegar - Apply the vinegar as a topical solution, letting it sit on the infected area for at least 5-10 minutes. Then rinse it thoroughly with cool water. Often the vinegar can be a little too strong so it is recommended that you dilute it, though not too much.

Make-up or Cosmetic Usage - Simply put, this is a common sense remedy for acne. Just avoid using these products because more than likely the chemicals and oils used to

manufacture them will clog the pores, which, in turn, leads to more breakouts.

→ **Further Remedies**

Beyond the common natural remedies for acne, there are a few other interesting options available and worth mentioning at this time.

Diet and vitamin supplements - Unlike former days, when the diets of civilizations included only naturally occurring food from the ground, the usage of fertilizers and pesticides has taken a toll on the nutrient content of much of the food that we eat. Add to this the fact that our food is further manipulated by chemical preservatives and you have some further explanations for the occurrences of some acne breakout. To combat this, observing a proper and balanced diet and taking a hearty multi-vitamin can actually go a long way towards preventing certain bio-chemical conditions which provide fertile ground for acne.

Echinacea and Oregon grape - These herbs are both useful for boosting the body's immune system and also combating many forms of acne-causing bacteria.

Vitamin A - Used in large quantities, vitamin A has actually been used to successfully treat some severe forms of acne. But it must be clear that if you plan to use vitamin A as a possible remedy you should consult a physician because, if used in large enough doses, it can be toxic.

Vitamin B5 - Following from the discoveries in mouse trials, in the late 1990s, a small study was published promoting the use of pantothenic acid to treat acne vulgaris.

According to the study, published in 1997 by Dr. Lit-Hung Leung, high doses of Vitamin B5 resolved acne and decreased pore size. Dr. Leung also proposes a mechanism, stating that CoA regulates both hormones and fatty-acids, and without sufficient quantities of pantothenic acid, CoA will preferentially produce androgens. This causes fatty acids to build up and be excreted through sebaceous glands, causing acne. Leung's study gave 45 Asian males and 55 Asian females varying doses of 10-20g of pantothenic acid (100,000%-200,000% of the US Daily Value), 80% orally and 20% through topical cream. Leung noted improvement of acne within one week to one month of the start of the treatment.

Today, many companies offer Vitamin B5 supplements aimed at reducing acne. The recommend treatment course, however, is difficult and expensive to maintain. Many sites suggest starting off the first three days with 5g and then moving up to 10g a day for three months. Since the largest pill available is 500mg (a 1g pill of B5 has been made, but is extremely difficult to swallow), this can result in as many as 20 pills a day. Even if powder is used for convenience in place of capsules or tablets, many people report feeling nauseas with such a high dose…and dislike the taste. The average cost for a bottle of 200 B5 500mg tablets is $10, so the cost can be steep. However, after three months many users suggest decreasing to 3-5g a day, with some claiming 1 g/day is sufficient.

Critics are quick to point out the flaws in Dr. Leung's study, however. Dr. Leung's study was not a double-blind placebo controlled trial. To date, the only study looking at the effect of Vitamin B5 on acne is Dr. Leung's, and few if any dermatologists prescribe high-dose pantothenic acid. Furthermore, there is no evidence documenting acetyl-CoA regulation of androgens instead of fatty acids in times of stress or limited availablity, since fatty acids are also necessary for life.

Zinc - This vitamin, if added to one's diet, can actually aid in the healing of acne lesions and help in the prevention of scarring. Orally administered zinc gluconate has been shown to be effective in the treatment of inflammatory acne, although less so than tetracyclines. Dreno B, Amblard P, Agache P, Sirot S, Litoux P (1989). "Low doses of zinc gluconate for inflammatory acne". Acta Derm Venereol 69 (6): 541-3. PMID 2575335. ^ Dreno B, Moyse D, Alirezai M, Amblard P, Auffret N, Beylot C, Bodokh I, Chivot M, Daniel F, Humbert P, Meynadier J, Poli F (2001). "Multicenter randomized comparative double-blind controlled clinical trial of the safety and efficacy of zinc gluconate versus minocycline hydrochloride in the treatment of inflammatory acne vulgaris". Dermatology 203 (2): 135-40. PMID 11586012.

The following treatments are based on a theory that acne is often caused by an imbalance or shortage of certain essential elements (most commonly sulfur, magnesium, and zinc).

Sulphur - MSM
Magnesium supplements
Special electrolyte (salt) solutions
Chromium - Chromium supplementation appeared to work in a small study.
Insulin treatment - insulin treatment has been reported to work, although no big studies have been performed

Chapter 8: Over-the-Counter Acne Remedies

There are many types of over-the-counter treatments for acne. When dealing with acne, most people run to the local pharmacy and buy some sort of over-the-counter medication on the basis of recommendations from their friends or perhaps even television ads. Yet despite friendly suggestions, it is a good idea to consult with a physician before using any kind of over-the-counter medication. Even though acne is generally a benign condition, a doctor or dermatologist can advise you on what the best course of treatment might be as well as provide further suggestions based on the particular kind of acne you may be suffering from.

Considering the fact that a large number of acne treatment products are available, it can be hard to choose which one to try. You should not rely strictly upon the advice of friends or family because what may work for one person may not work for another. Further, you should have some background knowledge about the active ingredients in various acne medications, so you can make a better-informed choice.

One of the most popular ingredients in acne medications is *benzoyl peroxide*. Found in gels and ointments, it helps by combating the bacteria that generally help cause acne. It is also useful for removing dead skin cells that accumulate on the surface of the skin. It is these dead skin cells which combine with sebum to create blackheads and whiteheads.

Benzoyl peroxide cream. Care must be taken when using Benzoyl peroxide, as it can very easily bleach any fabric or hair it comes in contact with.

Benzoyl peroxide has been proven to be safe and effective in combating lesions. It can also be used as a means of acne prevention once a breakout has cleared up by keeping the skin free from acne causing bacteria. The only side effect associated with this ingredient is dry skin, and this can be avoided by decreasing the frequency that it is applied on the skin, and using a good moisturizer.

Another ingredient commonly found in a majority of acne medications is *salicylic acid*. Another name for salicylic acid is Aspirin. This prevents acne by clearing up dead skin cells that are accumulating too quickly and clogging the pores. If

the medication you are using contains salicylic acid you should continue to use it after the skin has cleared up to prevent future outbreaks of acne. The only side effects associated with salicylic acid are dry, irritated skin.

Exfoliating the skin

This can be done either mechanically, using a cloth or a liquid scrub, or chemically.

Cotton pads soaked in salicylic acid solution can be used to exfoliate the skin.

Common chemical exfoliating agents include salicylic acid and glycolic acid, which encourage the peeling of the top layer of skin to prevent a build-up of dead skin cells which combine with skin oil to block pores. It also helps to unblock already clogged pores. Note that the word "peeling" is not meant in the visible sense of shedding, but rather as the destruction of the top layer of skin cells at the microscopic level. Depending on the type of exfoliation used, some visible flaking is possible. Moisturizers and anti-acne topicals containing chemical exfoliating agents are commonly available over-the-counter.

IMPORTANT NOTE

Choose skin products carefully - Don't use harsh or abrasive scrubs that can tear the skin and further aggravate the acne.

→ **Other ingredients**

Besides the more common ones, there are other ingredients you may see in acne medication such as *resorcinol* and *sulphur*. Resorcinol causes the top layer of skin to peel and the dead skin cells that clog the pores are similarly affected. It is often combined with sulphur. Although it is not known how exactly sulphur affects acne conditions, it has continued to be used effectively even after more than 50 years. (Sulphur is often combined with other ingredients besides resorcinol like salicylic acid and benzoyl peroxide.)

Of all the ingredients that have been listed which are effective in fighting acne or preventing its outbreak, benzoyl peroxide is probably the most versatile. It can be used in cleansing liquids or bars, as well as lotion, cream, and gels which are applied directly on the skin. The cleansing products are used once or twice a day, while the creams and lotions can be used as needed. They should be applied on the skin around the acne as well as the pimples themselves for overall effectiveness. Also, you should try to avoid getting benzoyl

peroxide in the eyes, mouth or nose, as it will cause irritation or inflammation.
However, although the most versatile, as noted earlier, benzoyl peroxide is also extremely drying to the skin. Many people find this a real drawback (as the excessively dry skin becomes another problem), and a good quality moisturizer is an essential adjunct.

One treatment which for many people is more effective, and convenient is a 4% Niacinamide cream or gel. Niacinamide is also known as Nicotinamide, and is a form of Niacin or vitamin B3. The advantage for many with using this treatment is its speed of action, and it doesn't leave the skin dry. Often a moisturizing base is used to carry the active, so additional creams are unnecessary. This makes this type of treatment extremely convenient because you are not constantly lugging around and applying a whole bunch of different skin treatments. Many people report their acne being cleared up in under a week with 4% Niacinamide gel or cream. Topical application of niacinamide will decrease pruritus (Pruritus is an itch or a sensation that makes a person want to scratch) and inflammation, decrease oiliness, alleviate atopic dermatitis (eczema), and help decrease facial pigmentation...as well as get rid of the acne. For unknown reasons, niacinamide seems to lighten the color of Asian

skin, brightening dull and sallow skin. Not only does topical Niacinamide clear acne, it has anti-aging effects making the skin appear younger. The effectiveness in treating acne is demonstrated by a university study which found 4% Niacinamide just as effective as a prescription medication, and a more desirable alternative. A summary of the study is in the following table.

Topical Nicotinamide Compared With Clindamycin Gel In The Treatment Of Inflammatory Acne Vulgaris

Alan R. Shalita, M.D., J. Graham Smith, M.D., Lawrence Charles Parish, M.D., Michael S. Sofman, M.D., Dan K. Chalker, M.D.

International Journal of Dermatology, Vol. 34, No. 6, June 1995

Department of Dermatology, State University of New York, College of Medicine, Brooklyn, USA.

BACKGROUND. Systemic and topical antimicrobials are effective in the treatment of inflammatory acne vulgaris; however, widespread use of these agents is becoming increasingly associated with the emergence of resistant pathogens raising concerns about microorganism resistance and highlighting the need for alternative nonantimicrobial agents for the treatment of acne. Nicotinamide gel provides potent antiinflammatory activity without the risk of inducing bacterial resistance.

METHODS. In our double-blind investigation, the safety and efficacy of topically applied 4% nicotinamide gel was compared to 1% clindamycin gel for the treatment of moderate inflammatory acne vulgaris. Seventy-six patients were randomly assigned to apply either 4% nicotinamide gel (n = 38) or 1% clindamycin gel (n = 38) twice daily for eight weeks. Efficacy was evaluated at four and eight weeks using a Physician's Global Evaluation, Acne Lesion Counts, and an Acne Severity rating.

RESULTS. After eight weeks, both treatments produced comparable (P = 0.19) beneficial results in the Physician's Global Evaluation of Inflammatory acne; 82% of the patients treated with nicotinamide gel and 68% treated with clindamycin gel were improved. Both treatments produced statistically similar reductions in acne lesions (papules/pustules; -60%, nicotinamide vs. –43%, clindamycin, P = 0.168), and acne severity (-52% nicotinamide group vs. –38%

clindamycin group, P = 0.161).

CONCLUSIONS. These data demonstrate that 4% nicotinamide gel is of comparable efficacy to 1% clindamycin gel in the treatment of acne vulgaris. Because topical clindamycin, like other antimicrobials, is associated with emergence of resistant microorganisms, nicotinamide gel is a desirable alternative treatment for acne vulgaris.

UPDATE

Despite it being a natural vitamin, in some places a prescription is now necessary to buy topical 4% Niacinamide or Nicotinamide gel or cream. However, at the present time it may be purchased under the name "AcAttack!" online from http://ironpower.biz without a script.

Chapter 9: Turning to Prescriptions

Generally, mild and moderate forms of acne can be treated with over-the-counter medications, but with severe cases the only recourse is to seek treatment from a dermatologist. In many cases, the doctor will recommend a prescription medicine to deal with the condition. It also should be noted that these kinds of medication can be more effective even when dealing with moderate acne than what is typically available over-the-counter.

There are two types of prescription acne medications - oral and topical.

→ **Antibiotics**

Commonly used to fight acne, antibiotics can be taken orally or as a lotion (topical).

Topical antibiotics

Externally applied antibiotics such as erythromycin, clindamycin, Stiemycin or tetracycline aim to kill the bacteria that are harbored in the blocked follicles. Whilst topical use of antibiotics is equally as effective as oral, this method avoids possible side effects of stomach upset or drug interactions (e.g. it will not affect the oral contraceptive pill), but may prove awkward to apply over larger areas than just the face alone. Topical prescription medications may include ingredients such as zinc or retinoids. The most common antibiotic used for treating acne is *tetracycline*. It is used to kill the bacteria responsible for acne and also reduces inflammation. Treatment may take several weeks or even months to be effective and it is important to continue using antibiotics even after the acne has cleared up. A common side effect associated with tetracycline is increased sensitivity to sun light resulting in bad sunburns if the patient stays in the sun too long. Further side effects may include dizziness, hives, and upset stomach.

Women who are taking tetracycline may be susceptible to an increase in incidences of vaginal yeast.

Oral antibiotics

Oral antibiotics used to treat acne include erythromycin or one of the tetracycline antibiotics (tetracycline, the better absorbed oxytetracycline, or one of the once daily doxycycline, minocycline or lymecycline). Trimethoprim is also sometimes used (off-label use in UK). However, reducing the P. acnes bacteria will not, in itself, do anything to reduce the oil secretion and abnormal cell behaviour that is the initial cause of the blocked follicles. Additionally the antibiotics are becoming less and less useful as resistant P. acnes are becoming more common. Acne will generally reappear quite soon after the end of treatment—days later in the case of topical applications, and weeks later in the case of oral antibiotics.

Tetracycline antibiotics, such as Lymecycline, are used to treat acne.

→ **Ointments and topical solutions**

Antibiotic ointments actually have fewer complications than oral antibiotics. Like oral antibiotics, topical treatments are rather effective in killing bacteria that cause acne. If you use these ointments with other topical treatments like benzoyl peroxide the bacteria may not develop resistance to the antibiotics. This increases the level of prevention that you will experience.

→ **Retinoids**

Retinoids are a form of acne medication that is derived from vitamin A and can be applied directly to the skin typically in the form of lotions or creams. Topical retinoid medications are useful for treating blackheads and whiteheads by helping to open clogged pores. Examples of these are tretinoin (brand name Retin-A), adapalene (brand name Differin) and tazarotene (brand name Tazorac).

Oral retinoids (such as isotretinoin--marketed as Accutane, Sotret) are used to treat the more severe forms of acne, because they have a better chance of dealing breakouts and lesions which don't respond to other treatments. Oral retinoids cause the upper layer of the skin to peel thereby

opening pores. They also cause the body to produce less sebum – the substance which causes oily skin.

As with many other types of prescription strength medication, a number of serious side effects are associated with oral retinoids. They can also cause liver damage and depression, so regular medical attention is needed to make sure the patient is not being adversely affected by retinoid treatment. It is not unheard of for this kind of medication to cause birth defects if mothers are taking them when pregnant, so females should consult their doctor if pregnant, or suspect pregnancy.

→ **Other medications**

Azelaic acid (brand names Azelex, Finevin, Skinoren) is suitable for mild, comedonal acne. "Azelaic Acid (Topical)" MedlinePlus, Revised: 07/24/2001

Birth control pills are sometimes effective in treating acne in women. They change hormone levels in the body and can reduce the acne causing effects of testosterone.

Hormonal treatments

In females, acne can be improved with hormonal treatments. The normal combined oestrogen/progestogen contraceptive pills have some effect, but the anti-testosterone Cyproterone in combination with an oestrogen (Diane 35) is particularly effective at reducing androgenic hormone levels. Diane-35 is not available in the USA, but a newer oral contraceptive containing the progestin drospirenone is now available with fewer side effects than Diane 35 / Dianette. Both can be used where blood tests show abnormally high levels of androgens, but are effective even when this is not the case.

If a pimple is large and/or does not seem to be affected by other treatments, a dermatologist may administer an injection of cortisone directly into it, which will usually reduce redness and inflammation almost immediately. This has the effect of flattening the pimple, thereby making it easier to cover up with makeup, and can also aid in the healing process. Side effects are minimal, but may include a temporary whitening of the skin around the injection point. This method also carries a much smaller risk of scarring than surgical removal.

Chapter 10: Surgical & Alternative Options

Often, when every avenue of medicinal treatment is exhausted, it becomes time for sufferers of persistent acne or more severe acne to seek alternative treatment methods. A dermatologist can help discuss the different treatments currently available including treating acne with laser therapy or acne surgery.

If you are considering the possibility of treating acne with laser therapy or surgery, you must take care to fully evaluate each of the processes, including the number of required treatments, the consequent costs, and the potential side effects of the treatment. It's also important that you select a process that is designed to deal with reducing the presence of acne - and not acne scarring.

→ **Acne Surgery**

Acne surgery involves making an incision into the affected area and draining the clogged matter. The process for blackheads and whiteheads doesn't actually involve surgery, but is often performed by a nurse, esthetician or

dermatologist. A small, pointed blade is used to first open the comedone and then gently work the material out using a comedone extractor.

Severe cysts can be drained and removed by a procedure known as *excisional surgery*. The procedure should be performed in a sterile environment to reduce the risk of spreading bacterial infection and should only be performed by trained professional. If the cysts are not carefully extracted, they can develop serious infection and create scarring.

→ **Forms of Physical Treatment**

Exfoliation

This form or treatments involves removing the top layer of skin either chemically or with some sort of abrasive. Chemical peels are usually done with salicylic acid or glycolic acid. These work by destroying a microscopic layer of skin cells to unclog pores and remove the build-up of dead cells. The same effect can be achieved by using an abrasive cloth or liquid scrub.

Comedo Extraction

In this procedure, an anesthetic cream is applied to the immediate area of breakout. Then the comedones (blackheads and white heads) are extracted using a pen-like instrument which opens the top to allow the removal of dead skin cells and sebum from the follicle. The procedure is usually followed by an application of antibiotic cream.

Drainage

With many forms of severe acne, cysts can form under the skin and become very painful--even disfiguring. Often, the smaller cysts can be treated with cortisone injections which will flatten the lesion in a few days. But for larger cysts the only alternative available might be to have them drained and then surgically removed. Drainage can help relieve the pain associated with cysts and also reduce the chance of scarring. It is important not to try to drain cysts by yourself because of the risk of infection, which could lead to permanent scarring.

→ **Using A Laser to Treat Acne**

Laser treatments involve the use of varying wavelengths that are aimed directly at the affected area of the skin. These wavelengths pulsate against the skin and destroy overly-large sebaceous glands and acne lesions. Laser treatments remove the damaged outer layers of skin so that new cell growth can be initiated. The laser technician varies the intensity of the laser as necessary to effectively treat the area.

Despite all of the benefits, there is still considerable debate surrounding the effectiveness of laser therapy. Yes, it has been shown to be effective in improving the skin's appearance, but as with most of the other available acne treatments, there are some side effects. For example, patients can experience red, burned skin after treatment that can last for weeks. Individuals with dark-colored skin can end up with skin discoloration after laser treatments. Finally, the skin's appearance can be uneven if the laser is applied inconsistently.

Phototherapy

It has long been known that short term improvement can be achieved with sunlight. However studies have shown that sunlight worsens acne long-term, presumably due to UV damage. More recently, visible light has been successfully

employed to treat acne (Phototherapy) - in particular intense blue light generated by purpose-built fluorescent lighting, dichroic bulbs, LEDs or lasers. Used twice weekly, this has been shown to reduce the number of acne lesions by about 64%;[10] and is even more effective when applied daily. The mechanism appears to be that porphyrins produced within P. acnes generate free radicals when irradiated by blue light.[11] Particularly when applied over several days, these free radicals ultimately kill the bacteria.[12] Since porphyrins are not otherwise present in skin, and no UV light is employed, it appears to be safe, and has been licensed by the U.S. FDA.[13] The treatment apparently works even better if used with red visible light (660 nanometer) resulting in a 76% reduction of lesions after 3 months of daily treatment;[14] and overall clearance was similar or better than benzoyl peroxide. Unlike most of the other treatments few if any negative side effects are typically experienced, and the development of bacterial resistance to the treatment seems very unlikely. After treatment, clearance can be longer lived than is typical with topical or oral antibiotic treatments, several months is not uncommon. However, the equipment or treatment is expensive, although portable home use equipment costs can be very much comparable to Benzoyl Peroxide/moisturiser/cleanser costs over a few years.

In addition, basic science and clinical work by dermatologists Yoram Harth and Alan Shalita and others have shown that intense blue/violet light (405-425 nanometer) can decrease the number of inflammatory acne lesion by 60-70% in 4 weeks of therapy, particularly when the P.acnes is pretreated with delta-aminolevulinic acid (ALA), which increases the production of porphyrins.

10 Kawada A, Aragane Y, Kameyama H, Sangen Y, Tezuka T (2002). "Acne phototherapy with a high-intensity, enhanced, narrow-band, blue light source: an open study and in vitro investigation". J Dermatol Sci 30 (2): 129-35. PMID 12413768.
11 Kjeldstad B (1984). "Photoinactivation of Propionibacterium acnes by near-ultraviolet light". Z Naturforsch [C] 39 (3-4): 300-2. PMID 6730638.
12 Ashkenazi H, Malik Z, Harth Y, Nitzan Y (2003). "Eradication of Propionibacterium acnes by its endogenic porphyrins after illumination with high intensity blue light". FEMS Immunol Med Microbiol 35 (1): 17-24. PMID 12589953.
13 "New Light Therapy for Acne" U.S. Food and Drug Administration, FDA Consumer magazine, November-December 2002 Notice
14 Papageorgiou P, Katsambas A, Chu A (2000). "Phototherapy with blue (415 nm) and red (660 nm) light in the treatment of acne vulgaris." (PDF). Br J Dermatol 142 (5): 973-8. PMID 10809858.

Treating Acne scars

Severe acne often leaves small scars where the skin gets a "volcanic" shape. Acne scars are very difficult (and expensive) to treat and it is unusual for the scars to be

successfully removed completely. In those cases, scar treatment may be appropriate. The most commonly used forms of scar treatments are:

Dermabrasion. The top layer of the skin is removed with a high-speed rotary wire brush or diamond-coated fraise (a grinding wheel) to make the scar look less pitted. It makes the scar less visible but does not remove it completely. Multiple treatments may be necessary to get the desired results. This procedure is usually performed by a dermatologist or cosmetic surgeon and is less commonly done now because of the risk of blood-borne diseases.

Microdermabrasion is a newer technique that has a similar effect to traditional dermabrasion, but is less radical. While dermabrasion is a surgical procedure, microdermabrasion is performed by blasting tiny crystals at the skin or rubbing the skin with a rough tool under suction. Many dermatologists and cosmetic surgeons offer this procedure.

Laser resurfacing. A laser is used to burn off the top layer of the skin. This procedure is commonly known by the brand names of the machines used to perform it, including SmoothBeam. Many dermatologists and cosmetic surgeons offer this procedure.

Punch excision. The scar is excised with a punch tool and the edges are sutured together. This procedure is usually performed by a dermatologist or cosmetic surgeon.

Chemical peels (also known as acid peels). A type of organic acid, most commonly glycolic, salicylic, or lactic, is applied to the skin so that a smoother layer can surface. Despite its unpleasant name, superficial peels are painless if performed properly and require no anaesthetic. Peels are typically performed several times over a period of weeks or months. The procedure can also be beneficial for active acne. Many dermatologists and cosmetologists offer this procedure, although the peels given by dermatologists are generally of a higher concentration and therefore potentially more effective. Deep peels are more aggressive and painful and require significant expertise.

Subcision. The scar is detached from deeper tissue, allowing a pool of blood to form under the scar which helps form a connective tissue under the scar, levelling it with the surface. This procedure is usually performed by a dermatologist or cosmetic surgeon.

Dermal filler. The scar is filled with an injectable dermal filler. There are several trade names.

Chapter 11: Acne Prevention

Here is a final checklist of valuable acne prevention methods:

- *Find a regimen and stick with it* - Pick your medication and treatment method and do not deviate from it unless you achieve measurable results or find that the condition is worsening.

- *Don't use alcohol* - Do not use products, like toners, if they contain heavy concentrations of isopropyl alcohol. This can do more damage than good.

- *Don't over-wash* - With the myth of dirt being a cause of blemishes or acne, cut down the times you wash. Two should be the limit each day. Anymore, and you risk increasing the breakouts you have.

- *Choose skin products carefully* - Don't get harsh or abrasive scrubs that can tear the skin and further aggravate the acne.

- *Wash after exercising* - Don't forget to hit shower after you've had a workout. The friction and moisture caused by clothing rubbing against the skin can create the perfect conditions for acne production.

- *Avoid constant touching or picking at your face* - This is pretty self-explanatory. These activities can cause bacteria to get into pores and create acne.

Chapter 12: Final Recommendations

Preferred treatments by types of acne vulgaris
Comedonal (non-inflammatory) acne: local treatment with azelaic acid, salicylic acid, topical retinoids, benzoyl peroxide.
Mild papulo-pustular (inflammatory) acne: benzoyl peroxide or topical retinoids, topical antibiotics (such as erythromycin).
Moderate inflammatory acne: benzoyl peroxide or topical retinoids combined with oral antibiotics (tetracyclines). Isotretinoin is an option.
Severe inflammatory acne, nodular acne, acne resistant to the above treatments: isotretinoin, or contraceptive pills with cyproterone for females with virilization or drospirenone.

Preferred treatment by location
Acne occurring on the upper back, often referred to by the term “bacne”, may prove harder to treat than acne on the face. The greater thickness of the skin over the back may require the use of stronger topical agents. Sometimes oral medication is preferred because an individual may not be able to apply a topical cream to their own back.