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Acne, also known as *acne vulgaris*, is a skin condition that involves the oil glands at the base of hair follicles. During puberty, perimenopause and menopause, sebaceous (oil) glands become more active. Pores can become clogged with sebum, dried skin and bacteria, causing the skin to erupt into pimples, blackheads, whiteheads, and sometimes inflamed and infected abscesses.

Cystic acne, or *acne conglobata*, is a severe form of nodulocystic acne characterized by painful, hard, inflammatory cysts. These cysts are more difficult to heal if a whitehead does

not form to release the pus.

Hormonal acne affects men and women. In women, hormonal acne occurs as a result of impaired ovulation during the menstrual cycle. In men, it is due to elevated testosterone levels.

More than 40 percent of teens seek treatment from a specialist for their acne condition. Attempts to hurry healing by squeezing or erupting the pimple can lead to scarring. Even mild episodes of acne can lead to scarring, and the scars can be both physical and psychological.

Symptoms

The signs and symptoms of acne depend on its severity. Red, cyst-like lumps, or pimples (whitehead or blackhead) can appear on the face, shoulders, scalp, upper arms, upper chest, and back. The skin may have an oily sheen to it.

There are various types of skin lesions:

- **Comedo**—Occurs when an oil follicle becomes plugged with oil, dead skin, tiny hairs, or bacteria. There are two types:
 - **Blackhead**—An open comedo.
 - **Whitehead**—A closed comedo.
- **Papule**—A round bump that may be invisible but makes the skin feel rough like sandpaper.
- **Macule**—The temporary red or pink spot after an acne lesion has healed.
- **Nodules and Cysts**—Dome-shaped lesions similar to a papule, but it extends deeper into the skin, causing the destruction of tissues that leads to scarring. Nodules and cysts can be painful, severely inflamed and also affect deeper skin layers.

Causes

Acne is caused by an increase in the production of androgens (male hormones) stimulating the oil glands beneath the skin to enlarge and increase production of sebum and keratin. Sebum moves along hair follicles to surface on the skin and as it does, cells on the follicle are shed. The cells, keratin, and sebum adhere and plug the pore. When the plug surfaces on the skin, it oxidizes and creates a blackhead; in a blocked pore, bacteria grow, releasing

enzymes to break down the sebum and turning it into pus. Inflammation then occurs, causing whiteheads.

In women, hormonal acne breakouts tend to occur during ovulation or the week before menstruation. When women with hormone induced acne ovulate, the egg is not secreted properly and as a result the body sends out too many male hormones (androgens), which causes acne around the hair, chin, chest, and back. Hormonal acne occurs around ovulation only to fade for a few days and reappear again.

To correct hormonal acne, many doctors prescribe birth control pills to stop ovulation. However, the solution is to correct the underlying hormone problem, which would support normal ovulation, thereby eliminating acne.

Genetics: Genetic factors play a large role in acne. Having an immediate family member with acne will increase chances of suffering from the condition. There may also be a genetic predisposition for conditions that contribute to acne such as high androgens, blood sugar imbalances, or low immunity. It is estimated that 50 to 90 percent of acne is due to genetic predisposition.

Drugs: The following drugs may cause acne

- Anabolic steroids
- Corticosteroids
- Cosmetics that block pores
- DHEA supplements
- Iodides and bromides
- Synthetic progestins and estrogens used for menopausal symptoms

Stress: High stress levels and stressful events have been shown to worsen or aggravate acne. When cortisol levels rise as a result of stress, the sebaceous glands are triggered to produce more oil. A 2003 study involving twenty-two Stanford University students found that those with the highest exam stress suffered the most acne flare-ups.

Diet: While for years food choices have been hotly debated as a cause of acne, research from the University of Colorado is confirming that a diet high in refined carbohydrates permanently boosts insulin and thus promotes acne. According to [Dr. Loren Cordain](#), sustained high insulin levels elevate hormone levels, stimulating the production of oil that leads to clogged pores, bacterial growth and acne. High glycemic foods, such as breads, cakes, sugars, and soda, are major culprits. Anyone with acne should be conscious of foods

that aggravate the condition.

Another study, published in 2007 in the *Journal of the American Academy of Dermatology*, found that when adolescent boys were put on a diet low in carbohydrates and processed foods they enjoyed a noticeable clearing of their acne. High glycemic index carbohydrates convert quickly to glucose (blood sugar), causing the body to produce insulin and male hormones (androgens), the latter of which stimulate oil production by the sebaceous glands.

Dairy: A 2011 study by Nestle Nutrition Workshop Program found that milk and other insulin-promoting dairy products induced acne. Acne, which affects 85 percent of adolescents, can be regarded as an exaggeration of an insulin-disrupting diet. Milk products contribute to elevations of insulin-like growth factor-I, which then stimulates acne formation. Milk proteins are involved in increased male hormone production, clogging of the pores and blackheads, inflammation of the hair follicles and increased oil production. The researchers stated that restricting milk consumption would have an enormous impact on the prevention of diseases like obesity, type 2 diabetes, cancer, neurodegenerative diseases, and acne.

Essential fatty acids deficiency can cause an overproduction of sebum, resulting in acne. Research has shown that when the Inuit changed to Western diets, they developed acne. Eating too many of the wrong fats has also been shown to cause excess sebum production. People with specific food allergies will be susceptible to flare-ups brought on by eating the offending foods.

A deficiency in the fatty acid gamma linolenic acid (GLA) can contribute to inflammatory skin conditions. There is evidence that GLA has healing results when taken both orally and applied topically to treat all skin conditions, such as acne. GLA has also been found to inhibit male hormones in the skin that cause acne.

Gut Health: Acne is also associated with low stomach acidity, suggesting incomplete food breakdown and imbalances in the digestive tract. In addition, an imbalance of good bacteria in the gut can also contribute to acne.

Excess Toxins: The skin is the final means for detoxification. Acne arises when the body has no other way to rid itself of excess toxins. If the liver is sluggish, it can't break down the androgen hormones causing acne. A sluggish liver also burdens the immune system. If the digestive system is not functioning efficiently, waste is left to decompose, forming toxins in the intestines instead of being eliminated at a proper pace. If toxins are left in the blood, they will be excreted through the skin. Acne, a recurring bacterial infection, can be

associated with immune deficiency diseases (such as chronic fatigue syndrome).

Insulin and PCOS: High androgen levels due to excess insulin levels contribute to acne in women with [polycystic ovarian syndrome \(PCOS\)](#).

For Men: Young men often experience acne when testosterone levels surge.

Fungal overgrowth: While not technically acne, pityrosporum folliculitis can cause an itchy, acne-like breakout if a fungal yeast normally found on the skin grows in excess in the hair follicles. It is more common on the upper back and chest but can also occur on the face. Those with oily skin types may be more prone. Some other factors that may cause an overgrowth are clothing that does not breathe, sweat and heat, some oils, greasy sunscreens, lowered immunity, stress, and oral contraceptives. If acne is itchy, and treatments for regular acne have not worked, speak with a doctor to rule out pityrosporum folliculitis.

Prescription for Healing

Standard treatments for acne may be harmful. Over 150 acne drugs exist: topical creams (such as Retin-A), antibacterial creams, antibiotics such as tetracycline, anti-inflammatory medications (corticosteroids), low dose birth control pills and Accutane. Some of these treatments come with serious side effects. Treating acne may be much simpler than taking hit-or-miss, over-the-counter remedies, or harmful prescription drugs. Avoid the use of antibiotics which can cause Candida yeast overgrowth and vaginal infections that will worsen acne symptoms in the long term, and which may have little effect on the acne.

Nutritional supplements can normalize hormones and ovulation to eliminate the problem at the source. To prevent acne and maintain healthy skin, proper nutrition, gut health and circulation are vital. Healthy skin depends upon a consistent dietary intake of certain vitamins and minerals, as well as the right kinds of fatty acids. Acne is less common in those who eat traditional diets versus the Standard North American diet, which is high in bad fats and refined carbohydrates such as white rice, bread, pasta, and sugar.

Diet

As discussed above, some dietary choices can aggravate acne.

Foods to Avoid or Limit:

Carbohydrates:

- Sugar, sugar-containing foods and drinks, syrups
- White flour (cookies, crackers, cakes, bread, pasta, etc.)
- White rice

Dairy:

- Cheese
- Ice cream
- Low-fat, fruit-flavoured yogurt
- Milk, especially skim

Fats:

- Canola, safflower, sunflower, peanut and soy oils
- Deep-fried foods (chips, crackers, doughnuts, fries, etc.)
- Hydrogenated and trans fats

Proteins:

- Burnt or fried meats
- Excess red meats
- Processed deli meats

Foods to Include:

Grains:

Grains in their whole form make great breakfast porridges and work well in savoury meals as a rice replacement.

- Amaranth
- Brown rice
- Buckwheat
- Millet
- Quinoa
- Steel cut oats or whole oat grouts

Dairy:

For those who are not sensitive to dairy. The following organic, grass-fed items are okay in moderation:

- Butter or ghee
- Goat's milk, cheese, or butter
- Plain, sugar-free, whole milk yogurt

Fats:

- Avocado oil
- Borage oil (do not heat)
- Coconut oil
- Extra virgin olive oil
- Flax oil (do not heat)
- Grass-fed butter

Proteins:

- Nut, seeds, beans
- Organic, free range chicken and eggs
- Organic, pasture raised beef in small quantities
- Wild fish (Mackerel, sardines, anchovies, salmon)

In addition, be sure to include lots of vegetables, especially the cruciferous vegetables (cauliflower, cabbage, broccoli, Brussel sprouts) and vegetables/fruits that encourage healthy liver function such as artichokes, rhubarb, garlic, Chinese white radish, black radish, and apples.

Lifestyle

- Get seven to eight hours of sleep a night. Lack of sleep will increase physical stress and can aggravate acne.
- Avoid using cosmetics or heavy moisturizers. Wash face with natural soaps or cleansers, avoiding ones with perfumes and scents. Dr. Hauschka and Weleda cleansing lotions and moisturizers are excellent for acne and sensitive skin. Reference [EWG's Skin Deep](#) cosmetic data base for the cleanest skin products.
- Keep hair clean and wash out hair product each night. Hair products such as gel and hairspray can clog pores.
- Exercise regularly to stimulate circulation and the release of toxins for proper

functioning of the organs. Exercise will also help to combat stress as well as help to manage insulin levels. Be sure to shower after as toxins released in sweat can aggravate skin.

- Clean cell phones daily with white vinegar or hand sanitizer. Bacteria builds up on phones and can transfer to cheeks. Use a headset instead of resting phone on face.

Nutrient	Dosage	Action
Indole-3-carbinol*	150 mg	Eliminates excess toxic and cancer causing estrogens, halts acne, reduces inflammation
Curcumin (95% curcumin)*	50 mg	Prevents abnormal cell growth, detoxifies cancer-causing forms of estrogen
Sulforaphane*	200 mcg	Stops abnormal cell growth
D-glucarate*	150 mg	Important for healthy metabolism of estrogen
Di-indolylmethane (DIM)*	50 mg	Hormone balancing
Borage Oil	1000 mg	Helps heal skin
Vitamin A	2500 IU	Reduces sebum production, promotes smooth, clear skin
Zinc	15 mg daily	Promotes skin healing In one study 135 mg of zinc daily was as effective as 750 mg of tetracycline daily without side effects
Probiotic and Prebiotic fiber	One scoop - 6 grams 5 grams guar fiber 8 billion CFUs	Improves intestinal flora (important for those who have taken antibiotics, especially tetracycline for acne) Improves intestinal and bowel regularity in adults and children

*Can be found in one formula

Health Tips to Enhance Healing

- Aim for 25 g of fiber daily to help naturally eliminate estrogen.
- Avoid foods high in sugars, trans fatty acids, dairy, processed and refined foods, hydrogenated oils, and fried food.
- Avoid foods to which one is known to be allergic or sensitive.
- Avoid foods with iodized salt (aggravates acne).
- Avoid heavy moisturizers.

- Do not pick at acne, as this can lead to infection.
- Do not use make-up that will clog pores.
- Drink plenty of pure, filtered water.
- Exercise regularly to stimulate the circulation, the release of toxins, and proper functioning of the organs.
- Follow a diet of natural whole foods that includes fresh fruits and vegetables, vegetable proteins as found in legumes and seeds, grains, and healthy fats to ease the burden on the digestive system.
- Start the day with a cup of dandelion tea or a glass of purified water with 1 tsp (5 mL) of organic apple cider vinegar or fresh-squeezed lemon juice.
- Take digestive enzymes before a meal. Do not drink while eating or the enzymes will be diluted.
- Take regular saunas; can be found at local fitness centres or public swimming pools. The skin is the body's largest detoxification organ and saunas improve elimination through the skin by sweating.
- Treat [constipation](#)
- Use tea tree oil topical ointments to fight bacteria on the skin and reduce redness of blemishes.
- Wash gently with warm water and an irritant-free cleanser. Avoid scrubbing, which can stimulate sebum production.
- Wash pillowcases regularly in detergents free of colors or fragrances, and rinse twice.