



The Pathophysiology of Acne

Acne, otherwise known as acne vulgaris, is a chronic skin condition typically affecting the face, neck, back, upper arms, and chest. It is characterized by the presence of comedones (open, closed, or both). Comedones may occur due to blocked hair follicles resulting from excess sebum production. Keratinocytes may also accumulate and cause obstruction of the pilosebaceous unit.¹ Acne may be noninflammatory or it may involve inflammatory lesions that may be a result of the proliferation of *Cutibacterium acnes*.¹

Acne is typical in adolescent populations, affecting approximately 85% of teenagers. Prevalence typically decreases with age. Into adulthood, the incidence of acne is typically higher in women; approximately 12% of adult women may be affected.¹ Contributing factors to flares or worsening of acne may include androgenic hormone changes, emotional stress, pregnancy, and intake of certain

foods or medications.¹ Certain endocrine disorders may be associated with the incidence of acne including polycystic ovary syndrome and Cushing syndrome.¹ Some vitamin and mineral deficiencies have been associated with acne including vitamin D and zinc.^{2,3} Potential sequelae of acne includes scarring and dyspigmentation.⁴

Natural therapeutics and lifestyle changes may support skin health in the presence of acne and prevention. This clinical protocol is designed to support skin health and includes evidence-based lifestyle and dietary interventions for acne.*

Diagnostic Biomarkers and Clinical Indicators of Acne

Diagnosis of acne is typically made in the clinical setting and is based on skin examination. Severity is typically classified as mild, moderate, or severe.¹ Testing is typically not needed, except to rule out underlying conditions.¹ Microbiological testing is generally not recommended, except in cases of acne-like lesions suggestive of gram-negative folliculitis.¹

Therapeutic Diet and Nutritional Considerations

- Advise patients on the intake of polyunsaturated fatty acids, particularly those rich in omega 3, which may play a protective role. Also advise the minimization of trans fats and saturated fats, which have been positively associated with the incidence of acne.⁵
- Recommend supplementation with probiotics and intake of probiotic-rich foods, which may promote healthy skin and help ease irritation related to acne.^{5*}
- Suggest a Mediterranean diet for patients. Some evidence suggests that high-glycemic foods and certain milk products may contribute to the incidence of acne.^{5,6}

Lifestyle Interventions

- Recommend patients apply stress management techniques, such as meditation or similar mindfulness practices, as stress has been associated with acne.⁷
- Encourage patients to engage in low-impact movement practices. A sedentary lifestyle has been associated with a higher incidence of acne. However, sweating has also been linked to a higher incidence of acne.^{1,8,9}
- Advise patients in proper hygiene practices with oil-free products. Some oil-based products and some clothing may increase the incidence of acne.⁹



Supplement Protocol

Primary Support:



Acnutrol™ Capsules

Dose	6 capsules per day
Duration	Ongoing Note: It is important to monitor patients for hypervitaminosis A and liver function in the presence of high doses of vitamin A. Those who are pregnant or are considering pregnancy should not take high doses of vitamin A.
Formula Highlights	Acnutrol™ is formulated to provide comprehensive support for healthy skin by focusing on the internal repair process and overall skin health.* The key ingredients are pantothenic acid and carnitine. Pantothenic acid plays a role in maintaining keratinocytes, the predominant cell type in the skin's epidermis. It also promotes normal lipid metabolism and may affect the skin's balance of oils.* Carnitine helps pantothenic acid work more efficiently in lipid metabolism and is necessary for normal cellular repair.* Additional skin-supportive nutrients include zinc, copper, selenium, chromium, niacin, biotin, and vitamins B6, A, D, and E.*

ProbioMed™ 50

Dose	1 capsule per day with a meal
Duration	Ongoing
Formula Highlights	ProbioMed™ 50 is a highly potent, shelf-stable, dairy-free probiotic formulation containing 50 billion CFU per serving. It consists of 10 of the most highly researched probiotic strains, with each strain and specific CFU count being fully disclosed. These are robust strains that are capable of surviving the harsh journey to the intestines and are able to attach to the intestinal walls, where they can grow and function effectively to support gastrointestinal health.* The survivability of the strains is further assisted by delayed-release technology and unique moisture-resistant, desiccant-lined packaging. This novel packaging removes the need for refrigeration, making ProbioMed™ 50 convenient for travelers and anyone on the go.

OmegAvail™ Synergy

Dose	2 softgels per day with meals
Duration	Ongoing
Formula Highlights	OmegAvail™ Synergy is a unique blend of omega 3-6-7-9 fatty acids. This synergistic formula contains omega-3 fats (eicosapentaenoic acid [EPA]/docosahexaenoic acid [DHA]) in the TruTG™ form, omega-6 gamma-linoleic acid (GLA) from borage oil, omega-7 palmitoleic acid, and omega-9 oleic acid from certified-virgin/organic macadamia nut oil.

For a list of references cited in this document, please visit:

<https://www.designsforhealth.com/api/library-assets/literature-reference---acne-protocol-references>

Dosing recommendations are given for typical use based on an average 150 pound healthy adult. Health-care practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage. Any product containing botanical substances has the potential for causing individual sensitivities, appropriate monitoring, including liver function tests (LFT) is recommended.

For considerations regarding herb-drug and nutrient-drug interactions, please refer to reliable, evidence-based resources such as the Natural Medicine Database or Stargrove MB, Treasure J, McKee DL. *Herb, Nutrient, and Drug Interactions: Clinical Implications and Therapeutic Strategies*. St. Louis, MO: Mosby-Elsevier; 2008.

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