

# USANA Technical Bulletin

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## Acne Vulgaris

### Description

- Acne vulgaris, the most common form of acne, is an inflammatory disease of the sebaceous (oil secreting) glands and hair follicles of the skin. It is characterized by comedones (blackheads), papules (pimples), and pustules.<sup>1</sup>

### Causes

- Many factors can cause acne. Research has centered on hormonal dysfunction and oversecretion of sebum as possible primary causes.<sup>1</sup> A diet high in fat can contribute to acne vulgaris. Acne is associated with oily skin due to an excess of sebum, the fatty secretion of the sebaceous glands. Eating fat increases sebum production.<sup>3,4</sup>
- The Western diet has been associated with an increased incidence of acne.<sup>2</sup> A diet low in fiber may be a contributing factor. Far less acne is found among the black population in Zambia eating their traditional diets, than among young blacks in the United States.<sup>3</sup>
- One new theory is that a deficiency of pantothenic acid may play a role in some cases.<sup>4</sup>

### At Risk

- This disease is most common in adolescence. Acne activity is primarily dependent on the genetic sensitivity of the hair follicle and oil gland to androgenic (male) hormones circulating in the blood stream.

### Prevention and Management

- Most teenage acne will clear as the follicles mature and become less sensitive to the hormone induced changes, however in some, it will persist well into adulthood, especially those with strong genetic tendencies toward acne. The most important method of prevention is to keep the skin clean and free from dirt and oil.<sup>5</sup>
- A low-fat, high-fiber, nutrient-dense diet that is adequate in vitamins and minerals and low in sugar, refined foods, and convenience foods should be consumed.
- In one experimental study, patients experienced a rapid clearing of acne following supplementation with one ounce of bran cereal daily.<sup>6</sup> More studies are needed to determine if a high fiber diet is useful in treating acne.
- Blood zinc levels are often lower in people who suffer from acne.<sup>7</sup>

- Studies have shown that selenium is beneficial for treating acne pustules, possibly because one of the functions of selenium is to help fight infections. Patients with low RBC glutathione peroxidase levels and pustular acne responded best to selenium supplementation.<sup>8</sup>
- Vitamin E works closely with selenium. Syndromes caused by selenium deficiency overlap those caused by a vitamin E deficiency; because of the close relationship, vitamin E and selenium are often combined to make treatment more effective.<sup>9</sup>
- Vitamin A and its synthetic derivatives appear to be beneficial; high doses are needed, however. Because of the potential for toxicity, vitamin A and vitamin A derivatives should be used only under medical supervision.
- Vitamin E affects the biologic utilization of vitamin A. The absorption of vitamin A is markedly impaired in vitamin E deficient animals.<sup>9, 10</sup>
- Excess supplementation of iodine may cause or exacerbate acneiform eruptions.<sup>11</sup> Kelp as a dietary supplement<sup>12</sup> or fast foods<sup>13</sup> may contain sufficient iodine for this adverse effect.
- A deficiency of omega-6 essential fatty acids in the pilosebaceous epithelium might account for follicular hyperkeratosis in acne.<sup>14</sup>

## Abstracts

**Leung LH. Pantothenic acid deficiency as the pathogenesis of acne vulgaris. Med Hypotheses 1995 Jun;44(6):490-2.** For years, the pathogenesis of acne vulgaris has been known to be strongly influenced by hormonal factors. However, the exact role of and the interrelationship among the various hormones in question have not been well elucidated. Here, I wish to suggest a radically different theory for its pathogenesis and relate its basic pathology to a deficiency in pantothenic acid, a vitamin hitherto not known to cause any deficiency syndrome in humans. Hence, the effect of hormonal factors in this disease entity becomes secondary to that of the availability of pantothenic acid. A complete cure of this condition is effected by a very liberal replacement therapy with the vitamin.

## References

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