

### **GROWING EVIDENCE SUGGESTS POSSIBLE LINK BETWEEN DIET AND ACNE**

*Dermatologists stress any dietary changes need to be combined with proven medical treatments to fight acne*

Schaumburg, Ill.  
February 5, 2013

#### **OVERVIEW:**

Myths about acne are almost as common as the skin problem. While the exact cause of acne is unknown, there are a number of factors that can bring on acne or make it worse, including hormones, genetics and emotional stress. Recently, dermatologists have taken another look at whether diet's role in acne is a myth.

Several new studies have examined the possible link between diet and acne – particularly carbohydrates and dairy products.<sup>1</sup> The emerging evidence has prompted dermatologists to re-examine the possibility that certain foods can worsen or trigger acne. However, dermatologists agree that diet should not be used as a sole treatment for acne but rather as a complement to proven acne treatments.

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Information provided by Whitney P. Bowe MD, FAAD, a board-certified dermatologist and clinical assistant professor of dermatology at State University of New York (SUNY) Downstate College of Medicine in Brooklyn, and lead author of the article, "Diet and Acne," published in the *Journal of the American Academy of Dermatology*.

#### **HIGH GLYCEMIC INDEX FOODS COULD WORSEN ACNE**

The glycemic index (GI) is a ranking of carbohydrate-rich foods based on their potential to increase blood sugar levels. Foods with higher glycemic index values raise blood sugar levels much quicker than foods with lower glycemic index values. The glycemic load (GL) takes into account both the quality and quantity of carbohydrates being consumed in a serving of food. For example, high GI foods include white bread, chips and white potatoes; low GI foods include multi-grain bread, peanuts, vegetables and beans. For years, there has been speculation that high GI foods could contribute to acne. Recent research includes:

- A study of 23 Australian males ages 15-25 who followed a strict, low-glycemic load (LGL) diet provides the strongest evidence available of an association between glycemic load and acne. Specifically, this group of males experienced significant improvement in acne severity by adhering to a LGL diet. However, the participants in the LGL group also lost weight, which means the LGL diet may not solely be attributed to the outcome.
- Other evidence of the link between diet and acne stems from patients with polycystic ovarian syndrome – as acne is a common symptom of this condition. Specifically, studies have shown that acne improves when these patients are treated with medications that improve their body's ability to regulate or control blood sugar, and a low-carbohydrate diet also has been shown to stabilize these patients' hormones, which can cause breakouts.
- A web-based survey assessing the role of a low-glycemic diet in the treatment of acne found that 86.7 percent of the 2,528 dieters who completed this online survey reported improvements in their skin while following this diet. Based on some of the flaws in the design of the study, the results must be interpreted with cautious optimism.

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“The strongest evidence we have to date of a link between diet and acne comes from the glycemic index studies,” said Dr. Bowe. “These studies show that low-glycemic index diets may improve acne. The consumption of high-glycemic index foods appears to trigger a cascade of responses, which can lead to acne through effects on growth hormones and sex hormones.”

**DAIRY PRODUCTS SHOW WEAK, BUT POSSIBLE, ASSOCIATION WITH ACNE**

Although early studies dating as far back as 1949 have raised the possibility that an association between dairy consumption and acne may exist, the evidence supporting this theory has been weak. However, studies conducted in recent years have continued to examine the influence of dairy products – particularly milk – on acne severity.

- In 2005, a retrospective study was conducted in which 47,355 adult women were asked to recall their high school diet and if they ever had “physician-diagnosed severe acne.” The study found that acne was positively associated with the reported quantity of milk ingested – particularly skim milk.
- In 2006, a study examined the self-reported food consumption as well as the frequency and amount of pimples experienced by 6,094 girls aged 9 to 15 over three years. The study found positive associations between the prevalence of acne and the intake of total milk, whole milk, low-fat milk and skim milk.
- A similarly designed follow-up study conducted in 2008 demonstrated similar results among a group of 4,237 boys who were asked questions about their food intake and severity of acne. In this study, acne was associated with consumption of skim milk, but not total milk consumption (which included whole milk or low-fat milk).

Dr. Bowe noted that while there were several flaws in each of these studies, dairy does appear to be weakly associated with acne, with the strongest association being skim milk. While the exact mechanism behind this association is unclear, Dr. Bowe suspects that hormones and growth factors in milk might play a role.

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“While more clinical research is needed to determine dairy’s impact on acne severity, I advise patients to talk with their dermatologist if they believe certain dairy products aggravate their acne,” said Dr. Bowe. “Given the benefits of calcium and vitamin D – especially in a growing adolescent population – patients who choose to limit or avoid dairy products should supplement their diet with appropriate levels of calcium and vitamin D.”

**DR. BOWE’S DIET AND ACNE TIPS**

- Watch for food triggers that may seem to aggravate acne.
- Keep a food diary and share it with your dermatologist.
- Be patient. It may take up to 12 weeks of a diet change to determine if certain foods are contributing to acne.
- Continue following your regular acne treatment routine. Diet changes are only a small part of an acne treatment plan and are meant to be used in conjunction with proven medical therapies for acne.

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“Based on the studies we now have available, the evidence suggests that diet does play a role in acne,” said Dr. Bowe. “More studies are definitely needed in this area, but they are not easy studies to execute. Patients can be their own best detectives in determining possible food triggers for acne, and I encourage them to make an appointment with a dermatologist if they have any acne concerns.”

For more information on acne, visit the Acne section of Dermatology A-Z on the Academy’s website at [www.aad.org](http://www.aad.org).

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<sup>1</sup>Bowe, Whitney P., Joshi, Smita S., Shalita, Alan R. Diet and Acne. *Journal of the American Academy of Dermatology* 2010; 63: 124-41.