

## Egg Media Hotline

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### **Nutrients Found in Eggs Including Cholesterol May Provide Unexpected Benefits** ***A Snapshot of Major Findings from Recent Research***

#### **Improve Heart Health with Choline and Betaine**

Research shows that eating foods rich in choline (koh-leen) and betaine (bee-tuh-een) may help reduce the risk of inflammation associated with chronic diseases such as cardiovascular disease, bone loss, dementia and Alzheimers disease.<sup>1</sup> Choline and betaine are found in foods such as eggs, liver, beef, salmon, broccoli and cauliflower. Visit [www.CholineInfo.org](http://www.CholineInfo.org) to learn more about choline and other food sources of this essential nutrient.

- **Study Background:** Researchers studying the Mediterranean diet investigated 3,043 people with no history of cardiovascular disease in Athens, Greece. The researchers collected blood samples to measure inflammatory markers and collected dietary intake data via food questionnaire.
- **Results:** People who consumed the most choline and betaine had significantly lower levels of chronic inflammatory markers including homocysteine and C-reactive protein compared to those who consumed the least. The major sources of dietary choline and betaine for study participants were beef, pork, eggs and poultry.

**TIP!** Make a batch of hard-cooked eggs to have on hand for snacks: Follow these [step by step instructions](#) for perfectly hard-cooked eggs.

<sup>1</sup>Detopoulou, P et al. Dietary choline and betaine intakes in relation to concentrations of inflammation markers in healthy adults: the ATTICA study. *American Journal of Clinical Nutrition*. 2008; 87:424-30.

#### **Enjoy Eggs Without Fear of Cholesterol**

Eating two eggs a day as a part of a weight loss diet does not significantly increase total blood cholesterol according to researchers at the University of Surrey in England.<sup>2</sup> This finding supports 30 years of evidence which shows that eating eggs daily does not have a significant impact on blood cholesterol of healthy adults.<sup>3</sup> Additional research has also shown that eggs may help promote weight loss by helping people feel more satisfied and preventing snacking between meals thereby reducing overall caloric intake.<sup>4</sup>

- **Study Background:** The 12-week study, published in the European Journal of Nutrition, followed two groups of free-living volunteers who ate energy-restricted diets: one group was instructed to consume two eggs a day, the other excluded eggs from their diet. Both groups consumed 500 calories less per day than their normal diet which helped promote weight loss of 7 to 9 pounds.
- **Results:** Results showed that the energy restriction and/or the resulting weight loss countered any potential blood cholesterol-raising effects of increased dietary cholesterol. The researchers concluded that cholesterol-rich foods should not be excluded from dietary advice for weight loss.

**TIP!** Include eggs at any meal: Eggs are not only a breakfast food try making [Confetti Egg Salad Sandwiches](#) for a quick lunch or dinner.

<sup>2</sup>Harman, N et al. Increased dietary cholesterol does not increase plasma low density lipoprotein when accompanied by an energy-restricted diet and weight loss. *European Journal of Nutrition*. 2008; 47:287-293.

<sup>3</sup>Lee A and Griffen B. Dietary cholesterol, eggs and coronary heart disease risk in perspective. *Nutrition Bulletin* (British

Nutrition Foundation). 2006; 31:21-27.

<sup>4</sup>Vander Wal, J et al. Egg breakfast enhances weight loss. *International Journal of Obesity*. Published on Aug. 5, 2008.

### **Build Muscle with Dietary Cholesterol**

A new study shows that increased dietary cholesterol intake may help promote a greater response to weight training and an increase in lean muscle mass.<sup>5</sup> The increase in dietary cholesterol was not associated with an increase in any markers of cardiovascular risk.

- **Study Background:** Texas A&M University researchers studied 49 community-dwelling 60 to 69 year-old men and women who completed nutrition education for two weeks followed by 12 weeks of high intensity resistance exercise training.
- **Results:** The researchers found that the highest average dietary cholesterol intake was significantly associated with an increase in lean mass after strength training. Results also showed that gains in lean mass were observed regardless of how much protein the men ate.

**TIP!** The high-quality protein in eggs is also an excellent value: At just 17 cents each, eggs are incredibly affordable.<sup>6</sup>

<sup>5</sup>Riechman, S et al. Statins and dietary and serum cholesterol are associated with increase lean mass following resistance training. *Journal of Gerontology*. 2007; 62:1164-1171.

<sup>6</sup>U.S. Department of Agriculture Economic Research Service data as of September 16, 2008.

### **Prevent Muscle Loss with Protein**

Older adults who consume the most high-quality protein lose significantly less lean muscle mass than those who consume the lowest amount according to researchers at Wake Forest University School of Medicine.<sup>6</sup> This is important because many older adults do not consume sufficient high-quality protein, which may contribute to the age-related loss of lean body mass, sarcopenia. These results indicate that increasing dietary protein intake can prevent lean muscle mass loss with aging, which can strengthen bones and decrease the risk of injury.

- **Study Background:** Subjects in this study were part of the three-year Health, Aging, and Body Composition Study which included more than 2,000 participants. Researchers measured changes in lean body mass composition and dietary intake at intervals throughout the three year study period.
- **Results:** Participants who consumed the most protein lost significantly less lean muscle mass than those consuming the least. Even with the same protein intake, those individuals who consumed more animal protein, from sources such as eggs, had smaller changes in lean muscle mass compared with those consuming more vegetable protein.

**TIP!** Incredibly Edible: Eggs are the high-quality protein solution for people of all ages. Make original Scrambled Eggs or follow the tips to make them with a twist.

<sup>7</sup>Houston D, et al. Dietary protein intake is associated with lean mass change in older, community-dwelling adults: the Health, Aging, and Body Composition (Health ABC) Study. *The American Journal of Clinical Nutrition*. 2008; 87:150-5.

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#### **About the American Egg Board (AEB)**

AEB is the U.S. egg producer's link to the consumer in communicating the value of The incredible edible egg™ and is funded from a national legislative checkoff on all egg production from companies with greater than 75,000 layers, in the continental United States. The board consists of 18 members and 18 alternates from all regions of the country who are appointed by the Secretary of Agriculture. The AEB staff carries out the programs under the board direction. AEB is located in Park Ridge, Ill. Visit [www.incredibleegg.org](http://www.incredibleegg.org) for more information.

#### **About the Egg Nutrition Center (ENC)**

The Egg Nutrition Center (ENC) is the health education and research center of the American Egg Board. Established in 1979, ENC provides science-based information to health promotion agencies, physicians, dietitians, nutritional scientists, media and consumers on issues related to egg nutrition and the role of eggs in the American diet. ENC is located in Washington, DC. Visit [www.enc-online.org](http://www.enc-online.org) for more information.