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Use ‘Em, Don’t Lose ‘Em! Eating Egg Yolks Adds Nutritious Benefits

New Research Suggests that Consuming Whole Eggs May Improve Blood Lipids

Park Ridge, Ill. (December 12, 2012) – It is estimated that 34% of Americans are affected by an increasingly prevalent condition known as metabolic syndrome which is a combination of at least three of the following risk factors: large waistline, high triglycerides, low HDL cholesterol, high blood pressure and elevated blood sugar.ⁱ These individuals have a variety of risk factors that increase the likelihood of developing diabetes and cardiovascular disease. Decades of mixed messaging regarding dietary cholesterol have led to avoidance of certain foods, such as eggs, particularly among individuals who are faced with health conditions. However, a recent study published in *Metabolism* suggests that including whole eggs as part of a weight loss diet may have positive effects on lipoprotein profiles for individuals with metabolic syndrome.ⁱⁱ

In this study, middle-aged men and women with metabolic syndrome consumed either three whole eggs or an equivalent amount of egg substitute daily as part of a carbohydrate-restricted, weight loss diet.ⁱⁱ Although participants eating the whole eggs were consuming twice as much cholesterol as they had at the beginning of the study, the researchers observed no effects on total blood cholesterol or LDL cholesterol levels after 12 weeks on the diet. All participants, including those consuming whole eggs, had improved lipid profiles with decreases in plasma triglycerides and increases in HDL cholesterol.ⁱⁱ

“Eating egg yolks was actually associated with enhanced health benefits in these high-risk individuals,” explains Dr. Maria Luz Fernandez, lead study author and Professor at the University of Connecticut, “Subjects consuming whole eggs had greater increases in HDL cholesterol and more significant reductions in the LDL/HDL cholesterol ratio than those who ate the cholesterol-free egg substitute.”

A Closer Look at the Incredible Egg

The United States Department of Agriculture's Agricultural Research Service has reported that eggs now have 14 percent less cholesterol (down from 215 mg to 185 mg) and 64 percent more vitamin D than previously thought.ⁱⁱⁱ Naturally nutrient-rich, one large egg provides varying amounts of 13 essential vitamins and minerals, including nutrients that aren't found abundantly in other foods, including vitamin D and choline. Many of these nutrients reside in the yolk, such as lutein and zeaxanthin, which are antioxidants that may prevent macular degeneration and consequent age-related blindness. While eggs contain only small amounts of these nutrients, research shows that lutein and zeaxanthin from eggs may be more bioavailable, or better used by the body, than from more concentrated sources like supplements.^{iv} A recent study published in *Food and Function* found that daily consumption of egg yolks was associated with increases in plasma lutein, zeaxanthin and β -carotene in people with metabolic syndrome, which is typically associated with low levels of these important nutrients.^v

High-Quality Egg Protein and Weight Management

Weight management is a crucial aspect of preventing and managing chronic disease such as metabolic syndrome. All-natural, high-quality protein helps build muscle and allows people to feel fuller longer and

stay energized, which can assist with weight management.^{vi, vii} In fact, an egg breakfast, compared with a bagel breakfast of similar calories, has been shown to lead to greater feelings of fullness and reduced food intake at later meals, resulting in a significant reduction in BMI and waist circumference.^{viii}

Dr. Dixie Harms, a nurse practitioner specializing in diabetes care, suggests starting the day with a protein-rich breakfast as a good weight-management strategy, a first line of defense in preventing chronic disease. “Management of chronic disease takes a coordinated effort with diet and lifestyle,” says Harms, “A balanced breakfast including high-quality protein plus regular physical activity can help put individuals on a path to a healthier lifestyle.”

Luckily, it’s easy to create a healthy breakfast by combining eggs with other nutritious ingredients. Pair them with fruits, vegetables, whole grains, low-fat dairy foods and small amounts of heart healthy oil, as part of an overall healthy diet. For more nutrition and healthy living tips, visit www.EggNutritionCenter.org. The Egg Nutrition Center is a National Strategic Partner of the USDA's MyPlate program which helps Americans follow the Dietary Guidelines by providing resources and tips to build a healthy plate.

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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 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 Park Ridge, IL. Visit www.eggnutritioncenter.org or www.nutritionunscrambled.com for more information.

ⁱ Ervin RB. Prevalence of Metabolic Syndrome Among Adults 20 Years of Age and Over, by Sex, Age, Race and Ethnicity, and Body Mass Index: United States, 2003–2006. *National Health Statistics Reports* 2009;13.

ⁱⁱ Blesso CN, Andersen CJ, Barona J, Volek JS, Fernandez ML. Whole egg consumption improves lipoprotein profiles and insulin sensitivity to a greater extent than yolk-free egg substitute in individuals with metabolic syndrome. *Metabolism*, published online September 2012.

ⁱⁱⁱ US Department of Agriculture, Agricultural Research Service, 2011. USDA National Nutrient Database for Standard Reference, Release 23. Online. Available at: Nutrient Data Laboratory Home Page, http://www.ars.usda.gov/main/site_main.htm?modecode=12-35-45-00. Accessed October 24, 2011.

^{iv} Goodrow, EF et al. Consumption of one egg per day increases serum lutein and zeaxanthin concentrations in older adults without altering serum lipid and lipoprotein cholesterol concentrations. *JN* 2006; 136(25):19-24.

^v Blesso CN, Anderson CJ, Bolling BW, Fernandez ML. Egg intake improves carotenoid status by increasing plasma HDL cholesterol in adults with metabolic syndrome. *Food & Function*, published online October 2012.

^{vi} Leidy HJ, et al. Neural Responses to Visual Food Stimuli After a Normal vs. Higher Protein Breakfast in Breakfast-Skipping Teens: A Pilot fMRI Study. *Obesity*, published online May 5, 2011.

^{vii} Leidy HJ, et al. Increased dietary protein consumed at breakfast leads to an initial and sustained feeling of fullness during energy restriction compared to other meal times. *BJN*, published online September 2, 2008.

^{viii} Vander Wal JS, Gupta A, Khosla P, Dhurandhar NV. Egg breakfast enhances weight loss. *Int J Obes* 2008;32:1545-51.