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October 7, 2015

The Honorable Sylvia Mathews Burwell
Secretary of Health and Human Services
200 Independence Avenue SW
Washington, DC 20201

The Honorable Thomas J. Vilsack
Secretary of Agriculture
1400 Independence Avenue SW
Washington, DC 20250

Dear Secretaries Burwell and Vilsack:

On behalf of the American College of Cardiology, we ask that the forthcoming Dietary Guidelines for Americans include clear guidance regarding the importance of limiting dietary cholesterol, as has been done in every Dietary Guidelines Report since 1980. In light of new research findings, as well as a robust body of prior research, we ask that the cholesterol intake guidance in the previous Guidelines not be lowered. Specifically, we would like to see the following language retained: "Consuming less than 300 mg per day of cholesterol can help maintain normal blood cholesterol levels. Consuming less than 200 mg per day can further help individuals at high risk of cardiovascular disease."

The Dietary Guidelines Advisory Committee report of February 19, 2015[1], did not reflect our organization's stance on this issue or the article referenced, leading to misunderstandings in the media and the general public. Left uncorrected, these misunderstandings are likely to encourage dietary choices that could prove risky for many Americans.

The Dietary Guidelines Advisory Committee reported[1] that there is "no appreciable relationship between consumption of dietary cholesterol and serum cholesterol, consistent with the conclusions of the AHA/ACC report," referring to a recent report from the American Heart Association (AHA) and American College of Cardiology (ACC).[2]

However, the AHA/ACC report did not reach that conclusion. Rather, it simply called for more research on certain aspects of this issue. The AHA/ACC report covered selected randomized studies published between 1998 and 2009, and the four meta-analyses that were available on this issue were not included. All four, as well as a fifth meta-analysis published later, reported significant positive relationships between dietary cholesterol and blood cholesterol concentrations.[3-7]

In 2001, the Institute of Medicine reviewed the evidence in detail and concluded, in its publication on Dietary Reference Intakes, that "serum cholesterol concentrations increase with increased dietary cholesterol, and the relationship of serum cholesterol to CHD risk or mortality increases progressively….increased risk may occur at a very low intake level and at a level this is exceeded by usual diets."[8]

It is now well established that dietary cholesterol elevates blood cholesterol concentrations; this effect is higher at lower levels of baseline cholesterol intake and less pronounced when baseline cholesterol intake is high. However, even a small

increase in LDL cholesterol, if experienced population-wide, could lead to coronary complications that would not otherwise occur.

The most recent meta-analysis was published in July 2015 in the *American Journal of Clinical Nutrition*.[7] Like previous studies, it showed that dietary cholesterol has harmful effects on serum total and LDL cholesterol concentrations and worsens the LDL:HDL ratio. In an accompanying editorial, the AHA/ACC report's lead author advocated for reduction or avoidance of dietary cholesterol.[9]

Widespread press coverage of the mistaken notion that "cholesterol does not matter" may have led many members of the public to conclude that dietary factors in general are not important for health. A Gallup poll of 1,009 American adults conducted July 8-12, 2015 (five months after the report's release) showed that the number of Americans seeking to avoid dietary fat has dropped from 56% in 2014 to the current figure of 47%, and the number avoiding excess salt dropped from 46% to 39% during the same time frame. Most Americans do not have the expertise to differentiate dietary cholesterol from dietary fat or dietary cholesterol from blood cholesterol, and many may have adopted a dismissive attitude about healthful diets in general in response to recent media reports.

As such, removing this guidance could redirect American diet choices toward foods that are higher in calories and saturated fat, which could have devastating effects on efforts to control obesity and cardiovascular risk factors, especially in children.

In discussions about dietary cholesterol, egg consumption is often in particular focus, because eggs are the leading source of dietary cholesterol in Americans' diets. In a 2013 meta-analysis, frequent egg consumption was associated with a 42% increased risk of developing diabetes, and, among individuals with diabetes, consumption of one or more eggs per day was associated with a 69% higher risk of cardiovascular complications, compared with consumption of less than one egg per week.[10] Because the Dietary Guidelines are intended for all Americans, the 115 million Americans currently living with prediabetes or diabetes (one-third of the U.S. population) may be at heightened risk for cardiovascular disease if they are encouraged to believe that high-cholesterol foods, particularly eggs, can be consumed without limit.

There is no requirement for dietary cholesterol. The 2010 Dietary Guidelines for Americans called for limiting dietary cholesterol to less than 300 milligrams per day, with further reductions of dietary cholesterol to less than 200 milligrams per day for persons with or at high risk for cardiovascular disease or type 2 diabetes.[11] There is no scientific basis for liberalizing this guidance; doing so may lead to confusion among the public, further erosion of Americans' eating habits, and adverse and preventable public-health consequences. It is important that the Dietary Guidelines remain appropriately cautious and continue to recommend that dietary cholesterol be limited.

Thank you for your consideration.

Sincerely,

Kim Allan Williams Sr., MD, FACC, FAHA, FASNC
President

Literature cited:

1. Scientific Report of the 2015 Dietary Guidelines Advisory Committee.

2. Eckel RH, Jakicic JM, Ard JD, et al. 2013 AHA/ACC guideline on lifestyle management to reduce cardiovascular risk: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. Circulation. 2014;129(25 Suppl 2):S76-99.

3. Hopkins PN. Effects of dietary cholesterol on serum cholesterol: a meta-analysis and review. Am J Clin Nutr. 1992;55:1060-1070.

4. Clarke R, Frost C, Collins R, Appleby P, Peto R. Dietary lipids and blood cholesterol: quantitative meta-analysis of metabolic ward studies. BMJ. 1997;314:112-117.

5. Howell WH, McNamara DJ, Tosca MA, Smith BT, Gaines JA. Plasma lipid and lipoprotein responses to dietary fat and cholesterol: a meta-analysis. Am J Clin Nutr. 1997;65:1747-1764.

6. Weggemans RM, Zock PL, Katan MB. Dietary cholesterol from eggs increases the ratio of total cholesterol to high-density lipoprotein cholesterol in humans: a meta-analysis. Am J Clin Nutr. 2001;73:885–91.

7. Berger S, Raman G, Vishwanathan R, Jacques PF, Johnson EJ. Dietary cholesterol and cardiovascular disease: a systematic review and meta-analysis. 2015. Am J Clin Nutr doi:10.3945/ajcn.114.100305.

8. Food and Nutrition Board, Institute of Medicine. *Dietary Reference Intakes for Energy, Carbohydrate, Fiber, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids*. Washington, DC: National Academies Press; 2002/2005.

9. Eckel RH. Eggs and beyond: is dietary cholesterol no longer important? 2015. Am J Clin Nutr. doi: 10.3945/ajcn.115.116905.

10. Shin JY, Xun P, Nakamura Y, He K. Egg consumption in relation to risk of cardiovascular disease and diabetes: a systematic review and meta-analysis. Am J Clin Nutr. 2013;98:146–159.

11. Dietary Guidelines for Americans, 2010.