Reference:

Towards Establishing Dietary Reference Intakes for Eicosapentaenoic and Docosahexaenoic Acids

Harris, WS et al., J. Nutrition, 139: 804S-819S, 2009

Summary:

The present publication reports upon the 2008 workshop wherein the body of evidence from the peer-reviewed literature was evaluated by a wide array on scientific experts with expertise in the omega-3/health area to determine if the cumulative evidence is sufficient to justify the establishing of Dietary Reference Intakes (DRI) for EPA plus DHA. It is noted that, in 2002, the Institute of Medicine concluded that insufficient evidence was then available to define a DRI for EPA/DHA over and above that established for LNA (alpha-linolenic acid). The latter body did indicate that EPA plus DHA could contribute (although not obligatory) up to 10% towards the DRI as set for LNA.

The present report on the 2008 workshop concluded that ‘consistent evidence from multiple research paradigms demonstrates a clear, inverse relation between EPA + DHA intake and risk of fatal (and possibly nonfatal) CHD, providing evidence that supports a nutritionally achievable DRI for EPA+DHA between 250 and 500 mg/day’. The report also indicated that evidence for EPA/DHA having beneficial effects on cognitive decline are emerging but not yet sufficient to recommend an intake of EPA/DHA which is different from the 250-500 mg/day for CHD (coronary heart disease) risk reduction. EPA+DHA were considered not to reduce the risk for cancer. The recommended intakes of EPA+DHA were not considered harmful.
Dr. Holub's Comments:

This report on the 2008 workshop relied heavily on the published inverse relationships between EPA/DHA intakes from fish/fish oils and fatal cardiac events in justifying target intakes of 250-500 mg/day for the general population. Such a recommended intake is approximately 2-3 times current average intakes in North America. It is noted that the dietitians of North America recommended a target intake of 500 mg/day in their 2007 guidelines (J. Am. Dietetic Assoc., 107: 1599 (2007). A major review (meta-analysis) of studies on fish consumption and coronary heart disease mortality (He et al., Circulation, 109: 2705 (2004)) indicated that five or more fish servings per week were considerably more protective than two fish servings per week. Five servings/week would provide an estimated intake (EPA plus DHA) averaging at least 650 mg/day with seven servings/week providing approximately 900 mg/day. It appears that 650-900 mg/day as per 5-7 fish servings /week (or via functional foods/nutraceuticals) may well offer better protection for the general public than 250-500 mg/day.

Finally, DHA omega-3 is well recognized as a physiologically-essential nutrient in the brain and retina for optimal neuronal functioning and visual performance, respectively, and that some sectors of the population (eg., some infants) with very little capacity for converting LNA to DHA may well benefit by consuming DHA as a pre-formed nutrient. Also, various international groups have concluded that pregnant and lactating women need to consume at least 200 mg of DHA/day (Br. J. Nutr., 98: 873 (2007)). A focus on DHA omega-3 as an essential nutrient with specific DRI values for such vulnerable groups is worthy of major attention independent of the focus on EPA/DHA for reducing cardiac mortality (without diminishing the importance of this topic as covered in the present report).