

NEWS UPDATES



NOVEMBER – DECEMBER 2015

Eggs And Cholesterol

I am sure most everyone has heard from national news programs that consumption of eggs will no longer be on government dietary guidelines list to be avoided. They state that cholesterol found in foods such as eggs is no longer listed as a “nutrient of concern.” The proposed changes are now in line with recommendations from the American Heart Association and the American College of Cardiology who stated “there wasn’t definitive evidence to tell the average person to reduce how much cholesterol they consume.” Steven Nissen, chairman of cardiovascular medicine at the Cleveland Clinic stated, “It’s the right decision. We got the dietary guidelines wrong. They’ve been wrong for decades.” He further stated that only twenty percent of a person’s cholesterol comes from food and that the suggestion to avoid eggs was never based upon good science. Szabo, L. *USA Today* Feb.12, 2015

Comment: This supports our views as well as those of others over the past several decades. See [Cholesterol - Fat - Protein 1991](#)

High Protein Intake Aids Weight Loss and Reduces Cardio-Metabolic Disease

Studies are showing that high protein intake aids in healthy weight regulation and sustains lean body mass during weight loss. Diets high in protein and lower carbohydrates are known to reduce blood pressure, improve glucose regulation as well as blood lipid profiles. This study cites that in individuals consuming higher protein diets had a lower body mass index, waist circumference and higher HDL cholesterol levels compared with individuals consuming protein at RDA levels. The authors concluded, “our findings strongly suggest that consuming protein well above the RDA is safe and may be considered a valid nutritional strategy to improve cardiometabolic health.” Pasiakos, SM, et al. *Higher-Protein Diets are Associated with Higher HDL Cholesterol and Lower BMI and Waist Circumference in US Adults. J of Nutr. Nutr. Epidem.* Jan, 21, 2015.

Sugar and Heart Disease

The journal Open Heart suggests that sugar, especially fructose may have more of an impact on heart disease risk than the consumption of salt. Even though a reduction in salt intake has received the most attention for reducing heart disease risk, the authors state that the current recommendations may do more harm than good and that reducing salt in processed foods may actually promote higher intakes. The WHO recommends that sugars should make up less than ten percent of the total energy intake per day. Guiang, AKA. *Sci. Times. ASN Highlights@INFOINC.COM.* 12, 2014.

Under-Nutrition and Infection

In developing countries where under-nutrition exists, infections are prevalent and each promotes the other. Poor nutrition impacts the cellular and humoral immune system adversely. Infection decreases absorption of nutrients and produces a loss of nutrients as well. The nutritional losses include iron, zinc, vitamin A and others. Protein losses lead to the permeability of the intestine to pathogens and abnormal immune cell populations. However, blood levels of nutrients are altered during the acute phase response to infections and may not accurately show nutritional deficiencies in populations with a high or unknown existence of infection. The acute phase response becomes active during infections and enhances the hepatic production of acute phase protein. The authors suggest that assessment of acute phase proteins in the blood may indicate the timing and severity of infections. *Bresnahan, KA, et.al. Undernutrition, the Acute Phase Response to Infection, and Its Effects on Micronutrient Status Indicators. Adv. In Nutr. 5, 2014.*

Antimony (Sb) Toxicity

A case study was presented of Sb toxicity in the New England Journal of Medicine. The case involved a thirty-four year old male who was admitted to the hospital due to the development of acute abdominal pain and vomiting. Eight hours before entering the hospital the patient experienced diarrhea and more than fifty episodes of vomiting. Laboratory results revealed abnormal renal and liver function. Nephro and hepato-toxicity were clues to a toxicological profile. The patient's history revealed that before the episodes of vomiting and abdominal pain began he took a packet of powder with orange juice. The packet of powder was from Central America where it is commonly used as an emetic for alcohol abuse. The product contained high levels of antimony potassium tartrate. Urine analysis showed Sb levels of 4314, (ref. range 0.39-0.56 ug/liter). The patient was treated with BAL (dimercaprol) chelation therapy initially and then switched to DMSA (succimer) and activated charcoal. The DMSA was then discontinued and therapy with vitamin K, N-acetylcysteine (NAC), potassium and phosphorus was begun. The patient recovered and was released from the hospital eleven days later. *Konstantopoulos, WM, et al. Case 22-2012: A 34-Year-Old Man with Intractable Vomiting after Ingestion of an Unknown Substance. NEJM 367;3 2012.*

Hair Zinc, Copper and Iron in HIV Patients

Nutritional deficiencies have been associated with increased risk of HIV-1 disease progression and mortality. Hair tissue mineral analysis (HTMA) was performed on hospitalized patients with acquired immune deficiency syndromes (AIDS) to see if an association existed between hair and blood levels of zinc, copper and iron and development of opportunistic infections. The study included sixty-two HIV-1 patients who were divided into two groups. One group consisted of those with secondary infections including tuberculosis, high fever and diarrhea. Tests were performed on a healthy group of one hundred-twenty subjects of the same age, socio-economic status, localities and dietary habits. Results revealed a significant reduction of iron and zinc and high levels of copper in the both the blood and scalp hair of HIV-1 patients compared to the control group. *Afridi, HI, et al. Evaluation of zinc, copper and iron in biological samples (scalp hair, blood and urine) of tuberculosis and diarrhea male human immunodeficiency virus patients. Clin. Lab., 57, 9-10, 2011.*

Prenatal Programming and Adult Mineral Patterns

Evidence is suggesting that health conditions that develop during adulthood may be influenced during prenatal development. This study using University students explores the impact of prenatal hormones on specific health conditions and their impact on mineral metabolism in adults. The second-to-fourth digit length ratio of the index to ring finger (2D:4D) on the right hand were measured. A relatively longer ring finger – lower 2D:4D – indicates higher prenatal testosterone exposure levels. Men typically have scores below 1, women above 1. Therefore the measurement is a reflection of sex steroid action and compared with hair sodium, potassium magnesium and calcium concentrations. Results of the study suggested that variation in mineral metabolism reflected in hair samples could be predicted by the digit length measurements. Men showing more masculine characteristics had higher sodium to potassium, sodium to magnesium and sodium to potassium ratios compared to their counterparts. Sodium levels and sodium to potassium ratios also correlated with systolic blood pressure findings. *Schulter, G, et al. Prenatal Programming of Adult Mineral Metabolism: Relevance to Blood Pressure, Dietary Prevention Strategies, and Cardio Vascular Disease. Am.J.Hum.Biol. 24,1, 2011.*

Comment: This is an interesting study in that it supports many findings from HTMA tests of families that show that health conditions that may develop later in life can be influenced during prenatal development. Here at TEI, we have performed thousands of tests on entire families, as well as having performed twin studies. Typically we find that children will have a similar mineral pattern as one of their parents. It can be similar to either the father or mother. For instance, the charts below show the HTMA nutritional minerals and heavy metal results on one set of identical twins. As can be seen, the twins show a very similar metabolic pattern and mineral balance. In reviewing the HTMA patterns of both parents it can be noted that the children show a predominant mineral pattern as the father. Even the heavy metals are similar to those levels found in the father's HTMA profile.

