

Log in

Create Account

The President's Report from George Guthrie

High Protein Diets in Perspective

by: **George Guthrie, MD, MPH, FAAFP, FACLM, CDE**

August 2018

ACLM's Board of Directors recently adopted an official dietary lifestyle position statement—the first step in the effort, led by our RD Working Group, to draft ACLM's dietary lifestyle position paper. What does ACLM's Board recommend as the dietary "North Star" to which humans should strive: *"For the treatment, reversal and prevention of lifestyle-related chronic disease, the ACLM recommends an eating plan based predominantly on a variety of minimally processed vegetables, fruits, whole grains, legumes, nuts and seeds."*

This sentence emphasizes the simplicity of what science shows us to be most efficacious in regard to dietary lifestyle.

While all of the foundational pillars of Lifestyle Medicine are essential and work together synergistically as the optimal prescription for protecting health and fighting disease, none evokes more spirited discussion than the nutrition pillar. For those of you who'll be joining us in October in Indianapolis for **Lifestyle**



Medicine 2018, rest assured that—as always—we’ll have a number of compelling, expert presenters on this very topic.

Let’s take a look at the topic of animal protein: Humans have eaten animal protein for thousands of years. Food historians tell us that, through the years, game has been an important part of the diet of the human race. Usually it was wild game; and, generally, at least for the common man, the large animal kill was reserved for special occasions with larger groups of people who worked together in killing, preparing and eating the catch. Spoilage has always been a problem, addressed by treatments such as smoke drying or salting to allow for longer storage. For most humans, the whole process required hard work and significant calorie expenditure. With the advent of royalty, humanity began to experience the “pleasures” of continuous “holiday feasting” in the context of a much more sedentary environment.

We have now documented in this group of ancient wealthy peoples the same presence of chronic diseases that plague our present Western societies: the diseases of excess calorie intake and sedentary lifestyle; the diseases of increased ingestion of saturated fat, animal protein, cholesterol, and refined calories. The “Western man” of today commonly lives as the kings and queens of millennia past.

The Atkins® Diet

This focus on eating animal products has been popularized under a number of different names. Dr. Atkins popularized a low carbohydrate, high fat, high protein version.^[i] While there is some controversy over the legality of obtaining his autopsy report, he apparently died as a result of his diet.^[ii]

The observed lower serum cholesterol and weight loss that results from the Atkins Diet is not protective; but, rather, results in increased deaths from heart disease.^[iii] Interestingly, after his death, Dr. Atkins’ foundation helped pay for a definitive study to compare the effects of a low-fat diet, the Mediterranean diet, and the Atkins Diet over a two year period. It was performed by the multinational Dietary Intervention Randomized Controlled Trial (DIRECT) Group.^[iv] The study was done on a European population, and the results showed that the Atkins Diet was “the best” of the three for weight loss and lowering cholesterol. This outcome was a surprise for much of the nutrition world *until* they read the “fine print.” The low fat diet had aimed at 30% fat intake. While that may be lower fat, by no means was it low fat that may better be considered 20% or below. And the real surprise was found in the description of the low-carb Atkins Diet: I quote, “. . .

. the participants were counseled to choose vegetarian sources of fat and protein and to avoid trans fat. The diet was based on the Atkins Diet.”

In this study the low-carb Atkins Diet was actually the more plant-based diet. Bottom line, the whole thing has the feel of dishonest reporting.

Paleo Diet

The “Paleo diet” seems to have taken the place of Dr. Atkins’ low-carb diet in the popular psyche – including many of our fellow health practitioners. This concept was arguably brought to popularity by S. Boyd Eaton, a Harvard University radiologist who, along with coauthor Melvin Conner, published his thoughts in the New England Journal of Medicine in 1985.[v] He postulated that early humans ate mostly animal products. His ideas have been leveraged into a popular movement embraced by many who seem to want to silence the persistent voice of their parents to “eat your vegetables.”

Serious scientific analysis has raised considerable evidence that his theory is not valid.[vi] Yet the myth lives on, and proponents don’t want to let it go. I can understand why it has appeal, as it “works well” in the short run. There is considerable evidence that the “Paleo diet” can result in lower cholesterol, weight loss, and improve blood sugars over shorter time frames – three to twelve months. To my knowledge, there is no evidence that it actually prolongs life or decreases heart attacks or strokes. The studies of the Paleo diet focus primarily on markers such as weight, cholesterol numbers, or measures of sugar, and not on disease endpoints such as heart attacks, cancer and deaths.

It is interesting to note that Dr. Eaton himself believes his ideas have been taken way too far by the general public and lay press. In November of 2015, at the Oldways Finding Common Ground Conference, **he presented his understanding** that humans are eating way too much meat.

Nutritional science supports a strong association between increased animal product intake and the presence of chronic disease. For years we have recognized the connections between saturated fat and cholesterol in relation to heart disease.[vii] But animal protein has shown higher correlations.[viii] There is a growing amount of evidence that animal protein itself may be primary on the causation of heart disease.[ix] One potential mechanism is the Arginine/Lysine ratio.[x] Arginine tends to be higher in plant proteins and lysine tends to be higher in animal proteins. Arginine is what the body uses to make natural nitric oxide that helps to dilate the blood

vessels and increase blood flow. At present this is just an observed association. A complete understanding of the mechanisms awaits the discovery.

The plant-based, low-carb diet – a better option?

Another “low-carb,” protein-based dietary plan had been researched but has yet to receive much public press: Put forward by a group of nutrition researchers in Toronto, Dr. Jenkins likes to refer to this as the Eco-Adkin’s.^[xi] His group compared high carbohydrate with low-carbohydrate eating patterns with both groups having a very low animal protein intake. The low-carbohydrate group eliminated common starch- containing foods, such as bread, baked goods, potatoes, and rice. While the intervention only lasted a couple of months, it was interesting to note that the weight in both groups dropped about the same amount, although those with the lower intake of more rapidly absorbed carbohydrates had the greater drop in the cholesterol and triglyceride numbers. This dietary option makes a lot more sense to me.

The preponderance of the evidence.

Numerous epidemiologic studies through the years, both prospective and cross sectional—as well as carefully controlled animal studies—have shown that increasing animal protein and fats leads to an increase in disease. We have a growing stream of evidence that animal protein may actually cause or worsen health problems.^[xii] Here is a partial list with some references:

Increased heart disease mortality^[xiii]

Worsening blood sugar control in people with diabetes^[xiv]

Increased risk of kidney stones^[xv]

Increased loss of calcium from bones—osteoporosis^[xvi],^[xvii]

Bone strength in children^[xviii]

Increased cancer risk^[xix],^[xx],^[xxi],^[xxii]

Increased mortality in those less than 65 years old^[xxiii]

Time and space do not allow a full review of this evidence. But we can say with a reasonable amount of certainty that eating animal protein as the primary source of protein is detrimental to health. For further reading I would suggest Garth Davis' recent book, *Proteinaholic (2016)*. Dr. Davis will be a featured Lifestyle Medicine 2018 keynote speaker. Those of us who will be in attendance can look forward to his evidence-based presentation.

What we do know is that ACLM's dietary "North Star" recommendation is rooted in science and delivers the fiber-filled, nutrient-dense, antioxidant-rich, health-protecting, disease fighting properties that our bodies need: *"For the treatment, reversal and prevention of lifestyle-related chronic disease, the ACLM recommends an eating plan based predominantly on a variety of minimally processed vegetables, fruits, whole grains, legumes, nuts and seeds."*

[i] Atkins RC: *Dr. Atkins' New Diet Revolution*. New York, Avon Books Inc, 1999 [ii] Dr. Robert Atkins' Death. Snoops, accessed 7/1/2018 <https://www.snopes.com/fact-check/death-of-a-diet-doctor/>

[iii] Shanshan Li, MD, Msc, ScD; Alan Flint, MD, DrPH; et al. Low Carbohydrate Diet From Plant or Animal Sources and Mortality Among Myocardial Infarction Survivors. *J Am Heart Assoc*. 2014;3:e001169 doi: 10.1161/JAHA.114.001169

[iv] Iris Shai, R.D., Ph.D., Dan Schwarzfuchs, M.D., Yaakov Henkin, M.D et al for the Dietary Intervention Randomized Controlled Trial (DIRECT) Group. Weight Loss with a Low-Carbohydrate, Mediterranean, or Low-Fat Diet. *N Engl J Med* 2008;359:229-41.

[v] Eaton, S. Boyd; Konner, Melvin (1985). "Paleolithic Nutrition". *New England Journal of Medicine*. 312(5): 283–289. doi:10.1056/NEJM198501313120505. ISSN0028-4793. PMID2981409.

[vi] Ken Sayers, C. Owen Lovejoy. BLOOD, BULBS, AND BUNODONTS: ON EVOLUTIONARY ECOLOGY AND THE DIETS OF ARDIPITHECUS, AUSTRALOPITHECUS, AND EARLY HOMO. *Q Rev Biol*. 2014 December ; 89(4): 319–357

[vii] 47 Leitner ZA. Diet and coronary heart disease. *Lancet* 1954 (May 22): 1078–1079.

- [viii] Connor WE, Connor SL. The key role of nutritional factors in the prevention of coronary heart disease. *Prev Med* 1972; 1: 49–83.
- [ix] Campbell TC. A plant-based diet and animal protein: questioning dietary fat and considering animal protein as the main cause of heart disease. *J Geriatr Cardiol* 2017; 14: 331–337. doi:10.11909/j.issn.1671-5411.2017.05.011
- [x] Sanchez A, Hubbard RW. Plasma amino acids and the insulin/glucagons ratio as an explanation for the dietary protein modulation of atherosclerosis. *Med Hypotheses*. 1991 Sep;36(1):27-32.
- [xi] David J. A. Jenkins, MD; Julia M. W. Wong, RD; Cyril W. C. Kendall, PhD; et al. The Effect of a Plant-Based Low-Carbohydrate (“Eco-Atkins”) Diet on Body Weight and Blood Lipid Concentrations in Hyperlipidemic Subjects. *Arch Intern Med*. 2009;169(11):1046-1054
- [xii] Ioannis Delimaris. “Adverse Effects Associated with Protein Intake above the Recommended Dietary Allowance for Adults,” *ISRN Nutrition* 2013, <http://dx.doi.org/10.5402/2013/126929>.
- [xiii] Marion Tharrey, François Mariotti et al, “Patterns of Plant and Animal Protein Intake Are Strongly Associated with Cardiovascular Mortality: The Adventist Health Study-2 Cohort,” *International Journal of Epidemiology* (April 2, 2018), <https://doi.org/10.1093/ije/dyy030>.
- [xiv] Effie Vigiullouk, Sarah E. Stewart et al, “Effect of Replacing Animal Protein with Plant Protein on Glycemic Control in Diabetes: A Systematic Review and Meta-Analysis of Randomized Controlled Trials,” *Nutrients* 2015, no. 7: 9804–24, <https://doi.org/10.3390/nu7125509>.
- [xv] L. **Borghi**, T. **Schianchi** et al, “Comparison of Two Diets for the Prevention of Recurrent Stones in Idiopathic Hypercalciuria,” *New England Journal of Medicine* 346, no. 2 (Jan. 10, 2002): 77-84.
- [xvi] U. S. Barzel, “Excess Dietary Protein Can Adversely Affect Bone,” *Journal of Nutrition* 128, no. 6 (June 1998): 1051–53.
- [xvii] J. E. Kerstetter, M. E. Mitnick et al, “Changes in Bone Turnover in Young Women Consuming Different Levels of Dietary Protein,” *Journal of Clinical Endocrinology and Metabolism* 84, no. 3 (1999), 1052–55.

[xviii] Ute Alexy, Thomas Remer et al, “Long-Term Protein Intake and Dietary Potential Renal Acid Load Are Associated with Bone Modeling and Remodeling at the Proximal Radius in Healthy Children,” *American Journal of Clinical Nutrition* 82 (2005): 1107–14.

[xix] S. A. Bingham, “Meat or Wheat for the Next Millennium? Plenary lecture. High-Meat Diets and Cancer Risk,” *Proceedings of the Nutrition Society* 58, no. 2 (1999): 243–48.

[xx] T. Norat and E. Riboli, “Meat Consumption and Colorectal Cancer: A Review of Epidemiologic Evidence,” *Nutrition Reviews* 59, no. 2 (2001): 37–47.

[xxi] E. Giovannucci, E. B. Rimm et al, “Intake of Fat, Meat, and Fiber in Relation to Risk of Colon Cancer in Men,” *Cancer Research* 54, no. 9 (1994): 2390–97.

[xxii] A. Tavani, C. La Vecchia et al, “Red Meat Intake and Cancer Risk: A Study in Italy,” *International Journal of Cancer* 89, no. 2 (2000): 425–28.

[xxiii] Morgan E. Levine, Jorge A. Suarez et al “Low Protein Intake Is Associated with a Major Reduction in IGF-1, Cancer, and Overall Mortality in the 65 and Younger but Not Older Population,” *Cell Metabolism* 19 (March 4, 2014): 407–17.

[ACLM Newsletter](#)

[President's Desk](#)

[Spotlight Article](#)

[Newsletter Archive](#)

[News & Announcements](#)

[In the News](#)

[American Journal of Lifestyle Medicine](#)

[Featured Practices](#)

[Case Studies](#)

[Story Project](#)

Home

About

Education

Newsworthy Items

Events & Awards

We're Global

Partners

Membership

Join Today

AMERICAN COLLEGE OF LIFESTYLE MEDICINE

The American College of Lifestyle Medicine (ACLM) is the world's flagship professional medical association for physicians, clinicians and allied health professionals, as well as those in professions devoted to advancing the mission of lifestyle medicine.

CONTACT US

© 2015 American College of Lifestyle
Medicine

[Become a Member](#)

[Signup for News](#)