



communicating Food for Health

Could Paleo Diets Promote Heart Disease?

Up until about 20,000 years ago, all humans existed on foods derived almost entirely from hunting and gathering. Over the last 20,000 years, hunting and gathering has largely given way to farming and increasingly various forms of food processing that has drastically altered the diet of most people worldwide. According to S. Boyd Eaton, MD, "we are the heirs of inherited characteristics accrued over millions of years; the vast majority of our biochemistry and physiology are tuned to life conditions that existed before the advent of agriculture some 10,000 years ago. Genetically, our bodies are virtually the same as they were at the end of the Paleolithic era some 20,000 years ago." [Eaton SB, Eaton SB 3rd, Konner SJ. Paleolithic nutrition re-visited: a twelve year retrospective on its nature and implications. *Euro J Clin Nutr.* 1997;51: 207–16]. Certainly it is true that human beings adapted to their environments in part by evolving their physiology and biochemical "machinery" to meet their nutritional requirements more efficiently. Clearly the scientific evidence increasingly shows that

many aspects of the typical modern diet and lifestyle promote the very diseases that increasingly account for more and more of the diseases seen in modern societies. Promoters of the Paleo diet (aka "caveman diet") suggest that such diseases could be prevented in large part by returning to a diet that is more in sync with metabolic machinery than the typical, modern, Western-style diet. Clinical data does increasingly indicate that many aspects of the modern diet do contribute to the development of cardiovascular disease (CVD), obesity, type 2 diabetes, and numerous other modern diseases. The high sodium to potassium content of a modern diet certainly contributes to elevated blood pressure and CVD. The intake of calorie dense foods loaded with refined carbohydrates and/or refined fats and oils certainly contributes to the development of obesity and type 2 diabetes mellitus. Where paleo diet proponents seem out of sync with research data is their claim that diets high in animal products, and especially those not fattened up on grains, do not promote atherosclerosis and coronary artery disease, arguing

(continued on next page)

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Research

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“This data suggests that the consumption of meat and other animal foods are largely responsible for promoting atherosclerosis”

that this disease was rare before people started farming and started consuming grains and animals fattened on grains. Many paleo diets advocate foods high in saturated fat (like coconuts) and cholesterol (like eggs from range fed chickens), arguing that such foods do not promote atherosclerosis. Like Atkins and other proponents of low carb diets, many paleo dieters blame atherosclerosis on too little omega-3 and too much carbohydrate.

An article published in the March 10th Lancet seriously undermines the popular mythology that a diet high in hunted and gathered foods will prevent coronary artery disease. Researchers examined mummified human remains, including some from hunter-gatherer cultures whose diets were devoid of grains. They also looked at the mummies of ancient Egyptians who consumed whole grains but no refined grains or sugars. The 138 mummified bodies all came from cultures where plenty of animal products were consumed, so their intake of saturated fat and cholesterol was likely rather high. Unfortunately for the paleo diet advocates, the mummies from all cultures studied showed evidence of calcified arteries (indicative of advanced atherosclerotic lesions) at an estimated age of death of only 43. In fact, if such remains were representative of human populations many years ago, this data seems inconsistent with the belief that grains and refined carbs were the main cause of atherosclerosis during

the Paleolithic period. Instead, this data suggests that the consumption of meat and other animal foods are largely responsible for promoting atherosclerosis. [Thompson RC, et al. Atherosclerosis across 4000 years of human history: the Horus study of four ancient populations.

[http://dx.doi.org/10.1016/S0140-6736\(13\)60598-X](http://dx.doi.org/10.1016/S0140-6736(13)60598-X)

The paleo diet promoters most often point to Eskimos as an example of a population that consumes a diet high in saturated fat and cholesterol and yet experiences little or no atherosclerotic disease. However, the notion that the incidence of CVD was low among Eskimos subsisting on a traditional diet composed largely of marine animals while achieving almost axiomatic status among paleo dieters is suspect. Indeed, the scientific evidence for this is weak and rests on early clinical observation and very uncertain mortality statistics. Autopsy data has clearly shown atherosclerosis is very common among Inuit and other Eskimo cultures.. However, the now decreasing trend in mortality from CVD among Inuit populations who are undergoing rapid westernization of their diet with increasing amounts of grain and sugar-rich foods suggests that the replacement of fatty animal products with even refined grains and sugars is lowering their LDL-C levels and reducing deaths from CVD. [Bjerregaard P, et al. Low incidence of CVD among the Inuit - what is the evidence? Atherosclerosis. 2003;166:351-7]. The scientific

evidence for the most part appears to support the current prevailing theory about what aspects of the diet are largely responsible for promoting atherosclerosis. The now widely accepted lipid hypothesis postulates that the primary cause of atherosclerosis is a diet high in saturated fat and cholesterol, which come primarily from animal products [http://www.nhlbi.nih.gov/guidelines/cholesterol/atp3_rpt.htm].

Bottom Line: While some aspects of the paleo diet (like the low sodium/potassium ratio) have credible scientific support, the now widespread belief among paleo dieters that CVD is largely promoted by the intake of even whole grains and not by the intake of saturated fat and cholesterol, even if derived almost entirely from omega-3 rich seafood, is simply not supported by credible scientific evidence.

By James J. Kenney, PhD, FACN

Shop Smart with Fooducate

It seems like every time we turn around, there is a new app that facilitates healthful diets and lifestyles. Fooducate is one of our latest favorites and it's perfect for crafting interactive presentations.

One great way to start is by gathering a bunch of different foods that have some element in common. For example, grab a few different grain foods -- some healthful, some not. A combination of bread, whole grain pasta, regular pasta, white rice, brown rice, muffins, crackers, and cookies is a great place to start.

Lay out your varied items in a display before your participants arrive. Begin the session by helping everyone download Fooducate's free app, which

works on iPhones and Android devices. You can get Fooducate at <http://www.fooducate.com/>.

Explain Fooducate's grading system and help participants navigate the mobile app. Once they have a handle on how it works, you can begin the activity, either in small groups or as a class.

To start, participants should look up the Fooducate grades for each item in your display, then rearrange those objects in order of healthfulness. For example, the spectrum might run (in order of highest to lowest grades): brown rice, whole grain pasta, 100% whole wheat bread, regular pasta, white rice, wheat crackers, white bread, blueberry muffin, chocolate chip cookies.

If you have the actual items, participants can scan the barcodes or look up the foods by name in the app. Otherwise they can just look up the names of each food.

Once everyone is finished, discuss the results of the rankings. What elements of these foods earned them good and bad grades? Why?

We recommend doing this activity with small groups. That way, people without smartphones can still participate. You can also use Fooducate's website to evaluate foods if phone access is an issue and internet access is not.

It is wise to have a selection of foods for each group. If you do this, participants can spend more time working and less time waiting.

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