The Smoke and Mirrors behind Wheat Belly and Grain Brain

The Atkins Diet lives on in the current bestselling books Wheat Belly by William Davis, MD and Grain Brain by David Perlmutter, MD.

Robert Atkins, MD, creator of the Atkins Diet, was upfront with his recommendations to eat a diet almost exclusively made up of meat, poultry, cheese, butter, fish, and eggs, with very little plant-foods. The first Atkins Diet book was published in 1972; since then well-informed people have come to understand (through their own readings and personal experiences) that eating an animal-based, high-fat, low-carbohydrate diet is wrong. They have learned that following this eating pattern causes epidemic diseases, including type-2 diabetes, coronary heart disease, and common cancers; and that the livestock industry is at the root of climate change. Many people are also wrestling with their conscience as they deal with the moral issues of animals being killed unnecessarily for food, supporting the horrors of factory farming, and depleting our oceans. Therefore, a diet book titled Eat More Animals to Lose Weight would meet a mostly unfriendly audience.

Wheat Belly and Grain Brain take a backdoor approach to the Atkins low-carbohydrate method. As the titles of these books suggest, wheat causes a big belly and grains damage the brain. Within their pages you learn that all starchy foods, including rice, corn, and potatoes—the traditional foods consumed by billions of people throughout human history—are now unhealthy and must be minimized or, better yet, avoided altogether. If you believe these authors, then what is left to eat in order to meet your energy requirements? Meat, dairy, fish, and eggs (the original Atkins Diet).*

In order for the authors of these two books to pull off the monumental task of luring otherwise intelligent people into inherently dangerous diet plans, they have had to (1) ignore the bulk of the science, (2) exaggerate the truth, and (3) make false associations.

Ignoring the Science: Low-Carbohydrate Diets Contribute to a Higher Risk of Death and Disease

Low-carbohydrate diets can cause weight loss, but weight loss should not be the primary goal of individuals, medical doctors, dietitians, insurance companies, or governments. The goal is to live longer and stay healthy. Three major scientific reviews show that low-carbohydrate diets increase the risk of sickness and death.

1) The 2010 Annals of Internal Medicine published the article "Low-Carbohydrate Diets and All-Cause and Cause-Specific Mortality." Their conclusion: A low-carbohydrate diet based on animal sources was associated with higher all-cause mortality in both men and women, whereas a vegetable-based, low-carbohydrate diet was associated with lower all-cause and cardiovascular disease mortality rates.

2) The 2012 British Medical Journal published the article "Low-Carbohydrate, High-Protein Diet and Incidence of Cardiovascular Diseases in Swedish Women: Prospective Cohort Study." Their conclusion: Low-carbohydrate, high-protein diets, used on a regular basis and without consideration of the nature of carbohydrates or the source of proteins, are associated with increased risk of cardiovascular disease.

3) The 2013 Public Library of Science journal published the article "Low-Carbohydrate Diets and All-Cause Mortality: A Systematic Review and Meta-Analysis of Observational Studies." Their conclusion: Low-carbohydrate diets were associated with a significantly higher risk of all-cause mortality and they were not significantly associated with a risk of CVD mortality and incidence.

There are no comparable studies suggesting high-carbohydrate (starch-based) diets increase mortality, cardiovascular disease, or other common diseases. (Any negative references to carbohydrates in these articles apply to simple sugars, not starches.)**

Exaggerating the Truth about Inflammation

Promoters of low-carbohydrate diets, those high in meat, dairy, fish, and eggs, claim dietary carbohydrates are packed with inflammatory ingredients, and that inflammation is at the heart of virtually every disorder and disease. The evidence linking carbohydrates to inflammation is convoluted, theoretical, and largely limited to an uncommon condition, Celiac disease.

Inflammation is the consequence of injury, such as from a cut, burn, or infection. The pain, redness, swelling, and heat that follow are natural, necessary processes for healing. These symptoms and signs of inflammation resolve after the single event. However, with repetitive injury, inflammation can become long-standing, referred to as "chronic inflammation." One common example of chronic inflammation is bronchitis from inhaling cigarette smoke 20 times a day. Stop smoking and the inflammation stops, and the lungs heal (scar tissues and other residuals of the damage can be left behind).

For dietary diseases, including atherosclerosis, primary sources of repetitive injury are meat, cheese, and eggs. Once the injury is stopped, then healing occurs and the inflammation resolves. Reversal of coronary heart disease is seen on follow up examinations.

Research does not support the theory that carbohydrates from wheat, other grains, or starchy vegetables are the source of injury that leads to chronic inflammation. In contrast, scientific research does solidly support that the source of injury leading to chronic inflammation is animal foods.

Animal Foods, Not Plant Foods, Cause Inflammation

Animal Foods Increase Inflammation

The 2013 European Journal of Nutrition published the article "Consumption of Red Meat and Whole-Grain Bread in Relation to Biomarkers of Obesity, Inflammation, Glucose Metabolism, and Oxidative Stress." Their conclusion: The results of this study suggest that high consumption of whole-grain bread is related to lower levels of GGT, ALT, and hs-CRP, whereas high consumption of red meat is associated with higher circulating levels of GGT and hs-CRP. (Lower inflammatory markers, like CRP, are associated with better health.)

The 2013 Nutrition Reviews published the article "Dietary Pattern Analysis and Biomarkers of Low-Grade Inflammation: a Systematic Literature Review." A major conclusion: Patterns identified by reduced rank regression as being statistically and significantly associated with biomarkers of inflammation were almost all meat-based or due to "Western" eating patterns.

The 2014 American Journal of Clinical Nutrition published the article "Associations Between Red Meat Intake and Biomarkers of Inflammation and Glucose Metabolism in Women." Their conclusion: Greater red meat intake is associated with unfavorable plasma concentrations of inflammatory and glucose metabolic biomarkers in diabetes-free women.

Grains (Including Wheat) Do Not Increase Inflammation

The 2010 Journal of Nutrition published the article "Whole Grains Are Associated with Serum Concentrations of High Sensitivity C-reactive Protein among Premenopausal Women." Their conclusion: Women who consumed >or= 1 serving/d of whole grains had a lower probability of having moderate (P = 0.008) or elevated (P = 0.001) hs-CRP, according to the AHA criteria, compared with non-consumers.

The 2012 Nutrition Reviews published the article "Effect of Whole grains on Markers of Subclinical Inflammation." Their findings: Epidemiological studies provide reasonable support for an association between diets high in whole grains and lower C-reactive protein (CRP) concentrations. After adjusting for other dietary factors, each serving of whole grains is estimated to reduce CRP concentrations by approximately 7%.

The 2013 Nutrition Journal published the article "The Potential Role of Phytochemicals in Whole-Grain Cereals for the Prevention of Type-2 Diabetes." Their findings: Diets high in whole grains are associated with a 20-30% reduction in risk of developing type-2 diabetes... biomarkers of systemic inflammation tend to be reduced in people consuming high intakes of whole grains.

There are no comparable studies suggesting meat decreases inflammation or that whole grains, including wheat, increase inflammation. (CRP is a reliable marker of inflammation.)

Several mechanisms have been proposed to explain how animal foods injure our bodies. For example, atherosclerosis (chronic inflammatory artery disease) has been explained by the "cholesterol hypothesis" and by the "TMAO hypothesis." Another sound mechanism identifies cow's milk as the culprit. Most important for the consumer to understand is that these mechanisms consistently blame meat, dairy, and/or eggs as the source of the repeated injury and chronic inflammation. No debate here.

Relevant to the argument that inflammation is not the underlying cause of obesity and disease is the fact that treating inflammation with powerful anti-inflammatory medications does not favorably change the course and progression of the disease. To quote respected researchers, "In fact, to our knowledge, no anti-inflammatory therapy cures the majority of patients with a disease in which inflammation plays a major contributory role..." To repeat, inflammation is the result of injury, not the cause of disease.

Making False Associations: Using Celiac Disease to Demonize All Carbohydrates for All People

The main take-away that readers will get from Wheat Belly is that wheat is the major cause of obesity, heart disease, diabetes, and almost all other major health problems that people suffer from. Wheat can be very troublesome for a small percentage of the population. Celiac disease is a condition that affects fewer than one in one hundred people following the Western diet. These people must avoid gluten, found in high concentrations in wheat, barley, and rye. However, to put this real concern into a global, historical perspective, consider the importance of these three grains: they have served to fuel the development of civilizations throughout human history and still are a major source of calories, protein, vitamins, and minerals for billions of people. People without celiac disease, or the few other conditions that warrant elimination of these three specific grains, will find them an excellent source of nutrition.

Whole Grains Are Consistently Found to Be Healthy

A recent review of 45 prospective cohort studies and 21 randomized-controlled trials (RCT) compared people who rarely or never consume whole grains with those reporting an average consumption of three to five servings per day and found by comprehensive meta-analysis that those consuming the grains had a 26% reduction in the risk of type-2 diabetes and a 21% reduction in the risk of heart disease (independent of known CVD risk factors). Furthermore, there is an inverse relationship between whole grain intake and weight gain. Examples of whole grains included whole wheat, dark bread, oats, brown rice, rye, barley, and bulgur.

Even those few people intolerant of gluten (wheat, barley, and rye) can healthfully consume non-gluten rice, corn, oats, and other grains. Low-carbohydrate promoters enthusiastically demonize these grains too.

Making False Associations about Diabetes and Carbohydrates

The main take-away that readers will get from Grain Brain is that grains and other starchy foods are the cause of type-2 diabetes, Alzheimer's disease, obesity, and most of the other chronic health problems suffered in the Western world. The truth is that people with type-2 diabetes are ill with many disorders of the body and brain. But grains and other starchy vegetables do not cause type-2 diabetes. The Western diet, loaded with meat, fat, and empty calories, makes people overweight and diabetic.

Type-2 diabetes is cured by a starch-based, high-carbohydrate diet. To take this point to the extreme, the Rice Diet, consisting of white rice, fruit, fruit juice, and table sugar (more than 90% of the calories are from carbohydrate) has been shown to cause profound weight losses in the severely obese, cure type-2 diabetes, and reverse heart disease. Dietary fat increases blood sugar levels and causes people with type-1 diabetes to require more insulin.

Regardless of the effects on blood sugar, the underlying animal-based, low-grain, low-starchy-vegetable diet consisting of those very foods recommended in the books Wheat Belly and Grain Brain, is the major reason people with type-2 diabetes are so sick with heart and other diseases.

Looking Beyond the Smoke and Mirrors

The truth is that the rich Western diet makes people fat and sick. Steering people away from the few healthy components of our diet (grains and other starchy vegetables) and toward the unhealthy foods (meat, dairy, fish, and eggs) makes matters worse. People are desperate for a solution to their weight and health problems, and many of them are easily deceived. Especially when told that prime rib and cheddar cheese are good for them—people love to hear good news about their bad habits. Just as important for the rising popularity of low-carbohydrate diets, books like Wheat Belly and Grain Brain enhance the profits of the meat, dairy, egg, and fish industries.

Although these industries spend hundreds of millions of US dollars advertising "their science" and influencing national nutrition and health policies, the truth is simple and easy to understand: All large successful trim healthy populations of people throughout human history have obtained the bulk of their calories from grains and other starchy vegetables. Consumption of meats along with other rich foods in any significant quantity has been limited to the diets of fat, sick aristocrats (kings and queens)—until recently. To regain our lost health and save planet Earth, the smoke and mirrors behind popular diet books must be exposed.

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*In an effort to partially compensate for important nutritional deficiencies, like dietary fiber, vitamin C, and thousands of other phytochemicals found only in plants, non-starchy green, red, and yellow vegetables (for example, broccoli, Brussels sprouts, celery, kale, lettuce, parsley, peppers, and zucchini), and a few fruits are commonly added to these low-carbohydrate diets, including newer versions of the Atkins Diet. Only plants make carbohydrates, thus "low-carbohydrate" is in practical terms synonymous with meat, poultry, cheese, butter, fish, and eggs.

** Simple sugars, like glucose and fructose, are refined ingredients found in sodas, cakes, cookies, and table sugar. Starches (sometimes referred to as complex carbohydrates) are foods with "natural sugars," such as, barley, corn, millet, oats, potatoes, sweet potatoes, rice, and wheat.