McDougall Newsletter

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When Friends Ask: "Where do you get your protein?"

If you don't know where you get your protein while following a plant-food-based diet, you're in good company. The Nutrition Committee of the American Heart Association, scientists from the Human Nutrition Research Center and Medical School at Tufts University, and registered dietitians, research nutritionists and physicians of Northwestern University, and the Harvard School of Public Health are just a few examples of "experts" you look to for advice who have the protein story wrong.[1-4] Consequences of their shortfall are as grave as a lifetime of sickness and obesity, and premature death, for innocent people. These professionals must be held accountable.

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When Friends Ask: Where Do You Get Your Protein?

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Wrong Statements from the Experts [1-4]

Although plant proteins form a large part of the human diet, most are deficient in 1 or more essential amino acids and are therefore regarded as incomplete proteins. (American Heart Association)

Plant protein sources, although good for certain essential amino acids, do not always offer all nine essential amino acids in a single given food. For example, legumes lack methionine, while grains lack lysine. (Tufts Human Nutrition Research Center)

Single plant protein foods usually are lower in protein quality than most animal proteins because they lack significant amounts of various essential amino acids. (Tufts University Medical School)

Other protein sources lack one or more amino acids that the body can't make from scratch or create by modifying another amino acid. Called incomplete proteins, these usually come from fruits, vegetables, grains, and nuts. (Harvard School of Public Health)

Plant sources of protein (grains, legumes, nuts, and seeds) generally do not contain sufficient amounts of one or more of the essential amino acids. Thus protein synthesis can occur only to the extent that the limiting amino acids are available. (Feinberg School of Medicine, Northwestern University)

Ignorance Sickens and Kills People

Don't think it matters little if our public policy makers and educators remain ignorant about our nutritional needs. Misinformation leads to disastrous outcomes. People have serious health problems like heart disease, type-2 diabetes, multiple sclerosis, and inflammatory arthritis that can be easily resolved by a diet based solely on plant foods. However, advice to make this dietary change may be withheld from you or a family member because of the erroneous fear that such a diet will result in a greater catastrophe, like a nutritional collapse from protein deficiency.

Consider this scenario: Your loving husband of 35 years has a massive heart attack. He recovers and both of you pledge you will do anything—even eat cardboard—in order to avoid a repeat experience. On your first follow-up visit you tell your doctor that your family is going to follow a low-fat, vegan diet (all plant foods) from here on out. Your doctor says, "You can't do that; you will become protein deficient—plant foods are missing essential amino acids—you must eat meat and other high quality animal foods." Even though you vigorously explain meat, dairy, and eggs are the reasons you almost lost your husband, your doctor insists that you would be foolish to embark on such a course and defends that position with the writings of the Nutrition Committee of the American Heart Association.

The Nutrition Committee of the American Heart Association Has It Wrong

In an October 2001 research paper published in the Heart Association's journal, *Circulation*, the Healthcare Professionals from the Nutrition Committee of the Council on Nutrition, Physical Activity, and Metabo-

lism wrote, "Although plant proteins form a large part of the human diet, most are deficient in 1 or more essential amino acids and are therefore regarded as incomplete proteins."[1] My letter to the editor correcting this often quoted, but incorrect information, about the adequacy of amino acids found in plants was published in the June 2002 issue of *Circulation*.[5] Another letter from me in the November 2002 issue of *Circulation* demanded a correction.[6] But, the head of the nutrition committee, Barbara Howard, PhD, would not admit she was wrong and used research from the world's leading expert on protein, Professor Joe Millward, to defend her position.[6]

Joe Millward, PhD, Professor of Human Nutrition, University of Surrey (England), reviewed the published letters of disagreement between the American Heart Association (AHA) and myself, and wrote the following to me on July 10, 2003, "I thought I had made my position quite clear in my published papers. In an article I wrote for Encyclopedia of Nutrition (Millward DJ. 1998 Protein requirements. Encyclopedia of Nutrition. Academic Press pp 1661-1668) I said 'Contrary to general opinion, the distinction between dietary protein sources in terms of the nutritional superiority of animal over plant proteins is much more difficult to demonstrate and less relevant in human nutrition.' This is quite distinct from the AHA position which in my view is wrong."[7]

I informed the American Heart Association about Dr. Millward's position, but so far they have chosen to remain silent—and annually, 1.25 million people in the USA alone suffer with heart attacks—an often fatal condition entirely preventable by following a low-fat diet based solely on plant foods—all of which contain all of the essential amino acids in ideal amounts for humans.

Plants--the Original Sources of Protein and Amino Acids

Proteins are made from chains of 20 different amino acids that connect together in varying sequences—similar to how all the words in a dictionary are made from the same 26 letters. Plants (and microorganisms) can synthesize all of the individual amino acids that are used to build proteins, but animals cannot. There are 8 amino acids that people cannot make and thus, these must be obtained from our diets—they are referred to as "essential."

After we eat our foods, stomach acids and intestinal enzymes digest the proteins into individual amino acids. These components are then absorbed through the intestinal walls into the bloodstream. After entering the body's cells, these amino acids are reassembled into proteins. Proteins function as structural materials which build the scaffoldings that maintain cell shapes, enzymes which catalyze biochemical reactions, and hormones which signal messages between cells—to name only a few of their vital roles.

Since plants are made up of structurally sound cells with enzymes and hormones, they are by nature rich sources of proteins. In fact, so rich are plants that they can meet the protein needs of the earth's largest animals: elephants, hippopotamuses, giraffes, and cows. You would be correct to deduce that the protein needs of relatively small humans can easily be met by plants.

People Require Very Little Protein

The World Health Organization (WHO) recommends that men and women obtain 5% of their calories as protein. This would mean 38 grams of protein for a man burning 3000 calories a day and 29 grams for a woman using 2300 calories a day. This quantity of protein is impossible to avoid when daily calorie needs are met by unrefined starches and vegetables. For example, rice alone would provide 71 grams of highly useable protein and white potatoes would provide 64 grams of protein.[8]

Our greatest time of growth—thus, the time of our greatest need for protein—is during our first 2 years of life—we double in size. At this vigorous developmental stage our ideal food is human milk, which is 5% protein. Compare this need to food choices that should be made as adults—when we are not growing. Rice is 8% protein, corn 11%, oatmeal 15%, and beans 27%.[8] Thus protein deficiency is impossible when calorie needs are met by eating unprocessed starches and vegetables.

The healthy active lives of hundreds of millions of people laboring in Asia, Africa, and Central and South America on diets with less than half the amount of protein eaten by Americans and Europeans prove that

WHO Recommendations: (With a wide safety margin)	
Men:	5%
Women:	5%
Pregnant:	6%

Percent of Calories of Proteins[16] (Selected Foods)	
Food	**% Protein**
Grains & Flours:	
Cornmeal	9
Brown Rice	9
Oatmeal	15
White Rice	7
Whole Wheat Flour	16
White Flour	11
Starchy Vegetables	
Black Beans	27
Cassava	10
Corn	11
Kidney Beans	27
Peas	28
Potato	8
Sweet Potato	7
Green Vegetables	
Asparagus	42
Broccoli	42
Carrots	10
Lettuce	40
Onions	32
Mushrooms	12
Spinach	51
Animal Foods	
Beef	53
Chicken	46
Pork	29
Salmon	43
Whole Milk	21
Skim Milk	39
Human Milk	5
Cheddar Cheese	25
Cottage Cheese	68
Egg	32

the popular understanding of our protein needs is seriously flawed.

Faulty Observations Lead to High Protein Recommendations

People commonly believe: the more protein consumed the better. This faulty thinking dates back to the late 1800s, and was established without any real scientific research. An assumption was made that people who could afford to do so would instinctively select a diet containing the right amount of protein. After observing the diets of laborers, soldiers, and workers in Western Europe and the USA, recommendations of 100 and 189 grams of protein a day were established.[9] People's innate ability to select a proper diet is disproved by the present day popularity of burger joints, donut shops, and pizza parlors.

Further confusion about our protein needs came from studies of the nutritional needs of animals. For example, Mendel and Osborne in 1913 reported rats grew better on animal, than on vegetable, sources of protein. A direct consequence of their studies resulted in meat, eggs, and dairy foods being classified as *superior*, or "Class A" protein sources and vegetable proteins designated as *inferior,* or "Class B" proteins.[9] Seems no one considered that rats are not people. One obvious difference in their nutritional needs is rat milk is 11 times more concentrated in protein than is human breast milk. The extra protein supports this animal's rapid growth to adult size in 5 months; while humans take 17 years to fully mature.

The recent popularity of high protein diets has further popularized the fallacy that "more protein is good for you." True, high protein diets, like Atkins, will make you sick enough to lose your appetite and temporarily lose weight, but this fact should not be extrapolated to mean high protein is healthy—in fact, the opposite is true.

The Truth Has Been Known for More than a Century

In 1903, the head of Yale's department of biochemistry, Professor Russell Henry Chittenden, reported profound health benefits gained by cutting popular recommendations for protein held at his time by half to two-thirds (from 150 grams to 50 grams daily). His research included detailed dietary histories and laboratory studies of his subjects.[9]

In the 1940s, William Rose performed experiments on people which found daily minimum protein needs to be about 20 grams a day. Further research on men found single plant foods consumed in an amount sufficient to meet daily needs easily met these human requirements for all 8 essential amino acids.[9] (A more detailed discussion of the history of protein recommendations is found in my December 2003 newsletter article: A Brief History of Protein: Passion, Social Bigotry, and Enlightenment.)

The results of Dr. Rose's studies are summarized in the following chart, under "minimum requirements". From the chart, it is

clear that vegetable foods contain more than enough of all the amino acids essential for humans.[10]

(grams per day) Amino Acids	*Rose's Minimum Requirement*	*Rose's Recommend Requirement*	*Corn*	Brown rice	Oatmeal flakes	Wheat flour	White beans	Potatoes	Sweet potatoes
Tryptophan	.25	.50	.66	.71	1.4	1.4	1.8	.8	.8
Phenylalaline	.28	.56	6.13	3.1	5.8	5.9	10.9	3.6	2.5
Leucine	1.10	2.20	12.0	5.5	8.1	8.0	17.0	4.1	2.6
Isoleucine	.7	1.4	4.1	3.0	5.6	5.2	11.3	3.6	2.2
Lysine	.8	1.6	4.1	2.5	4.0	3.2	14.7	4.4	2.1
Vailine	.8	1.6	6.8	4.5	6.4	5.5	12.1	4.4	3.4
Methionine	.11	.22	2.1	1.1	1.6	1.8	2.0	1.0	.8
Threonine	.5	1.0	4.5	2.5	3.6	3.5	8.5	3.4	2.1
Total Protein	20	37 (WHO)	109	64	108	120	198	82	45

(grams per day) Amino Acids	*Taro*	*Asparagus*	*Broccoli*	*Tomatoes*	*Pumpkin*	*Beef Club Steak*	*Egg*	*Milk*
Tryptophan	1.0	3.9	3.8	1.4	1.5	3.1	3.8	2.3
Phenylalaline	3.0	10.2	12.2	4.3	3.0	11.2	13.9	7.7
Leucine	5.2	14.6	16.5	6.1	6.0	22.4	21.	15.9
Isoleucine	3.0	11.9	12.8	4.4	4.3	14.3	15.7	10.3
Lysine	3.4	15.5	14.8	6.3	5.5	23.9	15.3	12.5
Vailine	3.5	16.0	17.3	4.2	4.3	15.1	17.7	11.7
Methionine	.6	5.0	5.1	1.1	1.0	6.8	7.4	3.9
Threonine	2.7	9.9	12.5	4.9	2.7	12.1	12.	7.4
Total Protein	58	330	338	150	115	276	238	160

You Don't Need Beans or to "Combine" Your Foods

Many investigators have measured the capacity of plant foods to satisfy protein needs. Their findings show that children and adults thrive on diets based on single or combined starches, and grow healthy and strong.[10] Furthermore, no improvement has been found from mixing plant foods or supplementing them with amino acid mixtures to make the combined amino acid pattern look more like that of flesh, milk, or eggs. In fact, supplementing a food with an amino acid in order to conform to a contrived reference standard can create amino acid imbalances. For example, young children fed diets based on wheat or corn and supplemented with the amino acids tryptophan and methionine in order to conform to the standard requirements set by the Food and Agriculture Organization of the United Nations (FAO) developed negative responses in terms of nitrogen balance (the body's utilization of protein).[10]

People who are worried about getting sufficient protein will sometimes ask me if they can still follow the

McDougall Diet if they do not like beans. From the chart above, you will notice that any single starch or vegetable will provide in excess of our needs for total protein and essential amino acids—thus there is no reason to rely on beans or make any efforts to food combine different plant foods to improve on Nature's own marvelous creations.

Potatoes Alone Suffice

Many populations, for example people in rural Poland and Russia at the turn of the 19th century, have lived in very good health doing extremely hard work with the white potato serving as their primary source of nutrition. One landmark experiment carried out in 1925 on two healthy adults, a man 25 years old and a woman 28 years old had them live on a diet primarily of white potatoes for 6 months. (A few additional items of little nutritional value except for empty calories—pure fats, a few fruits, coffee, and tea—were added to their diet.)[11] The report stated, "They did not tire of the uniform potato diet and there was no craving for change." Even though they were both physically active (especially the man) they were described as, "…in good health on a diet in which the nitrogen (protein) was practically solely derived from the potato."

The potato is such a great source of nutrition that it can supply all of the essential protein and amino acids for young children in times of food shortage. Eleven Peruvian children, ages 8 months to 35 months, recovering from malnutrition, were fed diets where all of the protein and 75% of the calories came from potatoes. (Soybean-cottonseed oils and pure simple sugars, neither of which contains protein, vitamins, or minerals, provided some of the extra calories.)[12] Researchers found that this simple potato diet provided all the protein and essential amino acids to meet the needs of growing and small children.

Excess Protein Causes Diseases of Over-nutrition

Unlike fat, protein cannot be stored. When it is consumed in excess of our needs, protein is broken down mostly by the liver, and partly by the kidneys and muscles. Consumption in excess of our needs overworks the liver and kidneys, and can cause accumulation of toxic protein byproducts.

Proteins are made of amino acids, and are, therefore, acidic by nature. Animal proteins are abundant in sulfur-containing amino acids which break down into very powerful sulfuric acid. These kinds of amino acids are abundant in hard cheese, red meat, poultry, seafood, and eggs, and their acids must be neutralized by buffers found in the bones. The bones dissolve to release the buffering materials; eventually resulting in a condition of weakened bones, known as osteoporosis. Released bone materials often settle and coalesce in the kidney system, causing kidney stones. Fruits and vegetables are largely alkaline, preserving bone health and preventing kidney stones.[13] (A more detailed discussion of the health consequences from excess protein is found in my January 2004 newsletter article: Protein Overload.)

Diseases of over-nutrition are directly connected to planet health, too. Recommendations to eat animal foods for protein have resulted in an environmental catastrophe. Livestock produces 18% of the greenhouse gases; these food-animals occupy 26 percent of the ice-free surface of the Earth and 33 percent of the total arable land is used to produce their food. One telling tragedy is they account for the deforestation of 70 percent of Amazon rainforests, which act as the "lungs of the Earth."[14] (A more detailed discussion of the environmental damage from livestock is found in my December 2006 newsletter article: An Inconvenient Truth: We Are Eating Our Planet To Death.)

Protein Deficiency Is Really Food Deficiency

How many cases of the so-called "protein deficiency state," kwashiorkor, have you seen? I have never seen a case, even though I have known thousands of people on a plant-food based diet. How about those starving children in Africa? The picture one often sees of stick-thin children with swollen bellies in famine areas of Asia or Africa is actually one of starvation and is more accurately described as "calorie deficiency."[10] When these children come under medical supervision, they are nourished back to health with their local diets of corn, wheat, rice, and/or beans. Children recovering from starvation grow up to l8 times faster than usual and require a higher protein content to provide for their catch-up in develop-

ment—and plant foods easily provide this extra amount of protein.[10] Even very-low protein starchy root crops, such as cassava root, are sufficient enough in nutrients, including protein, to keep people healthy.[15]

Starving People Die of Fat, Not Protein, Deficiency

In 1981, 10 Irish prisoners from the Republican Army (IRA) went on a hunger strike. Nine out of 10 of these men died between 57 and 73 days (mean of 61.6 days) of starvation after losing about 40% of their body weights (the remaining striker died of complications of a gunshot wound).[16,17] This experience gave doctors a chance to observe first hand the metabolic changes that occur during starvation. Protein stores were generally protected during starvation, with most of the energy to stay alive being derived from the men's fat stores. It was estimated that the hunger strikers had lost up to 94% of their body-fat levels, but only 19% of their body-protein levels at the time of death.[16] They died when they ran out of fat. Since fat is more critical than protein, people should be asking, "Where do you get your fat (on any diet)?

Since Nature designed her plant foods complete, with abundant amounts of fat, protein, carbohydrates, vitamins and minerals, "Where you get a specific nutrient?" is almost never a relevant question, as long as there is enough to eat. So, why have scientists, dietitians, medical doctors, diet-book authors, and the lay public become fixated on a non-existent problem? Protein is synonymous with eating meat, poultry, fish, dairy, and eggs—the foods traditionally consumed by the wealthier people in a society—thus, protein-eating means higher social status. High-protein foods are also high-profit foods. Therefore, propagating the protein myth is motivated by egos and money—and the usual consequences of pain and suffering follow closely behind these two human frailties.

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My Favorite Five Articles from Recent Medical Journals

People Don't Lose Weight on Diets Because They Cheat

Why do obese patients not lose more weight when treated with low-calorie diets? A mechanistic perspective by Steven D Heymsfield in the February 2007 issue of the *American Journal of Clinical Nutrition* concluded, "The small maximal weight loss observed with LCD (low calories diet) treatments thus is likely not due to gastrointestinal adaptations but may be attributed, by deduction, to difficulties with patient adherence or, to a lesser degree, to metabolic adaptations induced by negative energy balance that are not captured by the current models." They consider three possible reasons for diet failures: "Less-than-expected weight loss with LCDs can arise from an increase in fractional energy absorption (FEA), adaptations in energy expenditure, or incomplete patient diet adherence." Lack of adherence was the final verdict.

Comments:

People cheat on their diets and that is why they fail to lose all the extra weight. Last month's discussion of the A TO Z Weight Loss Study, comparing the diets of Atkins, Ornish, and the Zone, found the same thing—overweight people failed to comply with their prescribed diets and lost only 5 to 10 pounds over a year. There are many reasons people fail to comply with recommended weight loss programs, including: 1) Many diets cause people to suffer painful hunger (portion-controlled diets, like Weight Watchers); 2) Some diets make the dieter sick (like Atkins); 3) Diet foods may not taste good (most of them); 4) Diet foods are not readily available; 5) Pressure from friends and family to go off the diet; and 6) Self-destructive feelings sabotage the dieter's efforts.

The McDougall Diet also has problems with getting people to comply. However, we have some advantages over other programs, and these enable many people to adopt our principles for a lifetime—and be happy about it. You never have to be hungry and you feel great (never sick) on the all-you-can-eat McDougall Diet. The biggest bonus is Mary, who has provided over 2500 recipes, with food that is easy to prepare and delicious. If we could only get "McDougall's" fast food restaurants all over the world then the food would be readily available. If more people would learn about and follow our program then there would be even more support from friends and family. I believe our program has the greatest chance for lifetime success for more people than any other program. As people learn about the additional advantages for the environment from following our diet then compliance will be greatly enhanced—doing something for someone else (saving the Earth) is a higher reward for many people than is even self-improvement.

Heymsfield SB, Harp JB, Reitman ML, Beetsch JW, Schoeller DA, Erondu N, Pietrobelli A. Why do obese patients not lose more weight when treated with low-calorie diets? A mechanistic perspective. *Am J Clin Nutr.* 2007 Feb;85(2):346-54.

Angioplasty Fails Again and Again (8 out of 8 times)

Optimal Medical Therapy with or without PCI for Stable Coronary Disease by William Boden in the April 12, 2007 issue of the *New England Journal of Medicine* found after studying 2287 patients, "As an initial management strategy in patients with stable coronary artery disease, PCI (angioplasty) did not reduce the risk of death, myocardial infarction, or other major cardiovascular events when added to optimal medical ther-

apy."[1] In 2004, more than 1 million coronary stent procedures were performed in the United States, and recent registry data indicate that approximately 85% of all PCI procedures are undertaken electively in patients with stable coronary artery disease.

Why Angioplasty Must Fail—The Explanation

If the following explanation proves too complicated and the language too medical then read my September 2006 newsletter article, "The Angioplasty Debacle," first.

The authors explain why angioplasty does not save lives:[1] "Vulnerable plaques (precursors of acute coronary syndromes) tend to have thin fibrous caps, large lipid cores, fewer smooth-muscle cells, more macrophages, and less collagen, as compared with stable plaques, and are associated with outward (expansive) remodeling of the coronary-artery wall, causing less stenosis of the coronary lumen. As a result, vulnerable plaques do not usually cause significant stenosis before rupture and the precipitation of an acute coronary syndrome. By contrast, stable plaques tend to have thick fibrous caps, small lipid cores, more smooth-muscle cells, fewer macrophages, and more collagen and are ultimately associated with inward (constrictive) remodeling that narrows the coronary lumen. These lesions produce ischemia and anginal symptoms and are easily detected by coronary angiography but are less likely to result in an acute coronary syndrome… Thus, unstable coronary lesions that lead to myocardial infarction are not necessarily severely stenotic, and severely stenotic lesions are not necessarily unstable… presumably because the treated stenoses were not likely to trigger an acute coronary event." The authors finally conclude: "PCI can be safely deferred in patients with stable coronary artery disease, even in those with extensive, multivessel involvement and inducible ischemia, provided that intensive, multifaceted medical therapy is instituted and maintained. As an initial management approach, optimal medical therapy without routine PCI can be implemented safely in the majority of patients with stable coronary artery disease."[1]

Comments:

Present day heart surgery will go down in history as one of the greatest hoaxes ever perpetrated on the ailing public. And that is not just my assessment—consider the words from this editorial in the April 7, 2007 *British Medical Journal*, "It's easy to feel contempt for deluded practitioners of the past who advocated bloodletting and tonsillectomies for all. Easy, that is, until one considers emerging evidence that coronary stenting and postmenopausal hormone replacement therapy may well be the contemporary equivalents of those now discredited practices."[2]

Angioplasty and stent placement does work in the setting of an acute heart attack—like within the first few hours—these surgeries reduce the incidence of death and myocardial infarction in patients, but similar benefit has not been shown in patients with stable coronary artery disease. Stable disease is what the bulk of this business is all about. My September 2006 newsletter article, "The Angioplasty Debacle," thoroughly reviews this subject of angioplasty. At the time of this writing all six studies looking at a survival advantage for angioplasty, with or without stents, showed no benefits. Since then, there was a study published in the *New England Journal of Medicine* in December 2006 issue, which showed that this form of invasive heart surgery for high risk heart patients did not reduce the occurrence of death, reinfarction, or heart failure.[3] The study I am now writing about in this newsletter brings the total to 8 studies reported to date that show angioplasty fails to save lives—there are no others showing otherwise. The reason angioplasty fails is the treatment does not address the killing part of the disease—the tiny volatile plaques.

How about bypass surgery versus medical treatment? An editorial in the same April 12, 2007 issue of the *New England Journal of Medicine* said, "As for PCI (angioplasty) versus surgery (bypass), guidelines summarize the trial evidence as suggesting that for most patients either procedure is an effective option for the treatment of symptoms, and both are associated with similar long-term outcomes."

Unfortunately, the more than $100 billion generated annually from this business (in the USA alone) appears to be far more important than doing the right thing—which would be to not do the surgery and give the patient a few marginally effective pills (aspirin and statins). If doctors really took patients' lives seriously then they would take one bolder step forward and prescribe a serious change in their diets, which would stop the chest pains and heal the underlying sick arteries. But, where's the fun and profit in that simple approach?

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Vitamin Supplements Kill

Trials of Antioxidant Supplements for Primary and Secondary Prevention: Systematic Review and Meta-analysis by Goran Bjelakovic in the February 28, 2007 issue of the *Journal of the American Medical Association* reported, "We did not find convincing evidence that antioxidant supplements have beneficial effects on mortality. Even more, beta carotene, vitamin A, and vitamin E seem to increase the risk of death. Further randomized trials are needed to establish the effects of vitamin C and selenium."

A total of 226,606 people in 68 trials were examined. All supplements were administered orally. Beta carotene, vitamin A and vitamin E singly or in combinations increased mortality. The meta-analysis indicated that the synthetic form of Vitamin A increased death risk by 16%, beta carotene by 7% and Vitamin E by 4%. Vitamin C singly or in combination did not increase mortality. It is likely cancer and cardiovascular death were the reason for an increase in all-cause mortality. Selenium used singly or in combination with other supplements seemed to be of benefit and reduced all-cause mortality. Ten to 20% of the adult populations of North America and Europe (80-160 million people) consume antioxidant supplements.

The researchers' gave an explanation for these negative findings: "Although oxidative stress has a hypothesized role in the pathogenesis of many chronic diseases, it may be the consequence of pathological conditions. By eliminating free radicals from our organism, we interfere with some essential defensive mechanisms like apoptosis, phagocytosis, and detoxification. Antioxidant supplements are synthetic and not subjected to the same rigorous toxicity studies as other pharmaceutical agents."

They also emphasized this important point: "Because we examined only the influence of synthetic antioxidants, our findings should not be translated to potential effects of fruits and vegetables."

Comment: Nutrients, such as vitamins and minerals, are present in natural packages (grains, legumes, vegetables, and fruits) that have developed through 400 million years of evolution (and/or by Divine Creation). Obviously they are perfect and interact with our bodies in a beneficial manner—all of the individual nutrients interacting within our cells to insure that we remain healthy. When a single concentrated nutrient is ingested in isolation, chemical imbalances are created within the cells—the end result, as this and many other studies have shown, is an increased risk of disease and earlier death.

This kind of publicity should be devastating for supplement manufacturers—if the public would only listen. Unfortunately, most people are looking for the easy way out—rather than give up their bacon and eggs for breakfast they put their hopes for salvation in vitamin pills. Supplements create multibillion dollar businesses—at best their concoctions are medicines (with side effects) and at worst, they are toxins causing sickness and premature death.

Further information can be obtained from these previous McDougall newsletter articles:

October 2005: Folic Acid Supplements are a Health Hazard

August 2003: Plants, not Pills, for Vitamins and Minerals

November 2004: Vitamins Do Not Prevent Cancer and May Increase Likelihood of Death: How Supplements Can Make You Sicker

July 2005: Neither Aspirin Nor Vitamin E Will Save Women

February 2004: Treating Homocysteine with Vitamins Fails

Bjelakovic G, Nikolova D, Gluud LL, Simonetti RG, Gluud C. Mortality in Randomized Trials of Antioxidant Supplements for Primary and Secondary Prevention: Systematic Review and Meta-analysis. *JAMA.* 2007 Feb 28;297(8):842-57.

Salt Restriction May Be Good for the Heart

Long term effects of dietary sodium reduction on cardiovascular disease outcomes: observational follow-up of the trials of hypertension prevention (TOHP) by Nancy R. Cook in the April 2007 on-line edition of the *British Medical Journal* found, "Sodium reduction, previously shown to lower blood pressure, may also reduce long term risk of cardiovascular events (strokes and heart attacks)." This paper looks at the results of the two Trials of Hypertension Prevention studies. People were asked to lower their sodium intake and they did by about 2 to 2.6 grams a day. In the groups that were instructed to lower their sodium intake (compared to control groups) there were approximately 25% reductions in strokes and heart attacks—even though their blood pressures were reduced by little (-1.7/-.08 mmHg), or not at all, by the salt reduction.

Comment: People love the taste of salt—that attraction is naturally built into us by the taste buds on the tips of our tongues. Industry knows this, and as a result, it dumps loads of salt into almost every food we consume. Even Dr. McDougall's Rightfoods Soup Cups have added salt—because "No Salt means No Sale." The food company is at this moment formulating a lower salt line for Dr. McDougall's cups, but has been warned by the grocery market that the products are doomed to failure (because the buying public loves salt).

The food at the McDougall 10-day Live-in Program in Santa Rosa, CA is made low in sodium, but salt shakers are on every dining room table in order to make the foods more enjoyable for those unaccustomed to a low-sodium taste. Even with this added salt, our participants are able to get off their blood pressure medications in almost every case and their blood pressures decrease, on average, by 15/13 mmHg (when elevated initially to 140/90 mmHg or greater). Note that in the two Trials of Hypertension Prevention studies there was no meaningful reduction in blood pressure even with sodium reduction. So something besides salt must be accounting for any observed benefits.

The biggest problem with salt is that it is consumed mostly in packaged and prepared foods (not from the salt shaker). In these forms it is mixed with animal fats, vegetable oils, cholesterol, animal proteins, sugars, refined flours, and chemicals. Because these prepared products deliver a multitude of sins, it is impossible to determine if the benefit seen in studies that reduce salt intake are really due to lowering the sodium, or simply eliminating other known toxins. I believe it is the latter.

The basic McDougall Diet contains (daily) about 500 mg of sodium that is naturally present in the starches, vegetables, and fruits. If a half teaspoon of salt (about 1100 mg of sodium) is added to the surface of the dishes, then the salt intake is increased to about 1600 mg a day. If a person has a heart attack and is placed in the CCU of their local hospital on a low-sodium diet, they get 2000 mg of sodium a day. Thus, the McDougall Diet as served at our clinic is actually low sodium even with added salt.

I believe a small amount of salt (say a half teaspoon a day added to the surface of the foods daily) causes no negative health consequence for most people. On the other hand, this added salt has a very positive consequence—it makes our starch-based meal plan so much more delicious—as a direct result, people stick with our recommended diet. Their general health is dramatically improved as is shown by the numbers—reductions in blood pressures, cholesterol, triglycerides, body weight, and numbers of medications taken. People who focus on salt to the exclusion of the other qualities of the foods they eat are doomed to failure—they will not improve their overall health. I am not encouraging people to be unconscious of their salt intake; since there are no known negative consequences to eating less sodium—and for a few people this restriction may make a real difference.

Cook NR, Cutler JA, Obarzanek E, Buring JE, Rexrode KM, Kumanyika SK, Appel LJ, Whelton PK. Long term effects of dietary sodium reduction on cardiovascular disease outcomes: observational follow-up of the trials

of hypertension prevention (TOHP). *BMJ.* 2007 Apr 20;

Cured Meat Hurts the Lungs

Cured Meat Consumption, Lung Function, and Chronic Obstructive Pulmonary Disease among United States Adults by Rui Jiang in the April 15, 2007 issue of the *American Journal of Respiratory and Critical Care Medicine* found, "Frequent cured meat consumption was associated independently with an obstructive pattern of lung function and increased odds of COPD." People who ate cured meats 14 times or more a month had twice the risk of COPD as those who did not eat these meats. COPD is chronic obstructive pulmonary disease, commonly known as emphysema.

Comments: Cured meats, such as bacon, sausage, ham, and luncheon meats, are high in nitrites, used as preservatives, antibacterial agents, and for color fixation. Nitrites generate reactive nitrogen compounds that may damage the lungs, producing emphysema. Therefore, in addition to obvious lung toxins, like cigarette smoke, what people eat can also cause debilitating lung disease. At the other end of the spectrum of food choices, eating fruits and vegetables is associated with healthier lung function.

Foods can be an important part of lung disease prevention, and a healthy diet can also help people with lung disease in three ways:

1) A low-fat diet will improve the flow of blood to the lungs. A high-fat diet has been shown to reduce the oxygen in the blood by 20%.

2) Removal of dairy products, and sometimes wheat products, will decrease the amount of thick mucous produced in the airways.

3) Losing excess weight will reduce the compression on the lungs caused by an obese abdomen.

Jiang R, Paik DC, Hankinson JL, Barr RG. Cured Meat Consumption, Lung Function, and Chronic Obstructive Pulmonary Disease among United States Adults.
Am J Respir Crit Care Med. 2007 Apr 15;175(8):798-804.

Featured Recipes

Chili with Yams

I have been using a lot of red lentils lately because they cook quickly and thicken soups and stews very nicely. I am also very fond of yams and they go together very well in this dish. This is delicious served with fresh, warm corn tortillas or pita bread.

Preparation Time: 20 minutes
Cooking time: 55 minutes
Servings: 6-8

1 large onion, chopped
3 stalks celery, chopped
1 teaspoon minced garlic
2 ¾ cups water
3 teaspoons chili powder
1 ½ teaspoons smoked paprika
½ teaspoon ground cumin
1 teaspoon ground cinnamon
½ teaspoon crushed red pepper

4 cups peeled and chopped yams
1 cup red lentils
2 15 ounce cans diced tomatoes
1 15 ounce can black beans, drained and rinsed
2 tablespoon peanut butter (optional)
2 tablespoons lime juice (optional)

Place ¼ cup of the water in a large soup pot. Add onion, celery and garlic. Cook, stirring occasionally until softened, about 5 minutes. Stir in the chili powder, paprika, cumin, cinnamon and crushed pepper. Mix well, then add the remaining water, yams, lentils, tomatoes, and beans. Stir to combine, bring to a boil, reduce heat, cover and cook for 50 minutes, stirring occasionally. Stir in the peanut butter, one tablespoon at a time, if using. Season with lime juice and a bit of sea salt, if desired.

Deviled Beans and Greens

The addition of mustard gives food a "deviled" flavor. This is a healthy, hearty stew, best served in a bowl, with a loaf of fresh baked bread.

Preparation Time: 15 minutes
Cooking time: 45 minutes
Servings: 4

1 onion, chopped
2 cups vegetable broth
2 cans black beans, drained and rinsed
2 cups sliced fingerling potatoes
1 4 ounce can chopped green chilies
2 teaspoons prepared mustard
1 teaspoon red pepper flakes
2 cups chopped kale

Place the onion in a large pot with ¼ cup of the broth. Coo, stirring occasionally until onion is very tender, about 4-5 minutes. Add the remaining broth, the beans, potatoes, chilies, mustard and pepper flakes. Mix well, bring to a boil, reduce heat, cover and cook for 30 minutes, until potatoes are tender, stirring occasionally. Add the kale and continue to cook about another 10 minutes until kale is tender.

Sherried Rice

Preparation Time: 30 minutes (cooked rice needed)
Cooking Time: 20 minutes
Servings: 4

2 onions, cut in half and sliced
½ pound mushrooms, sliced
2 cloves garlic, crushed
¼ cup white wine
1 stalk broccoli, coarsely chopped
½ head cauliflower, coarsely chopped
1 zucchini, cut in half and sliced
½ cup snow peas
¼ cup sherry
¼ teaspoon curry powder
¼ teaspoon allspice
¼ teaspoon nutmeg
¼ teaspoon herb seasoning mix
3 cups cooked brown rice

Place onions, mushrooms, and garlic in a large non-stick frying pan with the wine and cook, stirring frequently for 5 minutes. Add broccoli, cauliflower, zucchini, snow peas, the sherry and the seasonings. Cook and stir over medium heat until vegetables are tender, about 10 minutes. Add the cooked rice. Heat through and serve.

Hearty Dal Soup

This is a variation of the Festive Dal Soup from last month's newsletter. This creative addition was suggested by Tiffany Hobson, executive assistant to the McDougall's, who thought the soup would be a bit more filling by adding some potatoes and chard. We agree, so give it a try and see what you think.

Preparation Time: 10 minutes
Cooking Time: 60 minutes
Servings: 4

3 ¼ cups water
1 onion, chopped
2 cloves garlic, crushed
1 ½ teaspoons grated fresh ginger
1 teaspoon smoked paprika
¼ teaspoon ground cumin
freshly ground black pepper
1 cup red lentils
1 15 ounce can garbanzos, drained and rinsed
1 14.5 ounce can diced tomatoes
2 cups chunked Yukon Gold potatoes
1 tablespoon lemon juice
1-2 teaspoons chili paste (Sambal Oelek)
2 cups fresh chopped chard

Place ¼ cup of the water in a large soup pot. Add the onion and garlic. Cook, stirring occasionally for 3-4 minutes, until softened. Add the ginger, paprika, cumin and several twists of freshly ground pepper. Mix in well, then add the remaining water, the lentils, garbanzos, tomatoes and potatoes. Bring to a boil, reduce heat, cover and simmer for 50 minutes, until lentils are tender. Add lemon juice, chili paste (start with 1 teaspoon and add more to taste) and chard. Cook for an additional 5-7 minutes, until chard is tender. Season with a bit of sea salt, if desired. Serve hot.

Curried Split Pea Soup

I really love curried food. I have been making a variation of this soup for over 30 years and whenever I feel the urge for a simple curried dish, this is what I choose. I used to keep this really easy and just use the curry powder for seasoning, but I find the additional spices add even more flavor so it is worth the small amount of extra time it takes to add them. We like this best served in a bowl over some cooked brown rice.

Preparation time: 10 minutes
Cooking Time: 60 minutes
Servings: 6-8

1/4 cup water
1 onion, chopped
1 carrot, chopped
2-3 cloves garlic, minced
2 tablespoons fresh ginger, grated
8 cups water
2 cups split peas (green or yellow)
2 teaspoons curry powder
1 teaspoon ground cumin
¼ teaspoon ground coriander
¼ teaspoon cardamom
1/8 teaspoon ground cinnamon
¼ cup chopped fresh cilantro

Place the ¼ cup water in a large soup pot with the onion, carrot, garlic and ginger. Cook, stirring frequently until onion softens slightly, about 3 minutes. Add the 8 cups water, the split peas and all the seasonings except the cilantro. Mix well, bring to a boil, reduce heat, cover and cook for about 1 hour until peas are tender. Stir in the cilantro just before serving and season with a bit of sea salt, if desired.

Quick (No-Quesa) Quesadillas
By Colleen Patrick-Goudreau

Colleen is one of the McDougall Program cooking instructors. She usually prepares this during one of her classes and it is such a popular dish that I wanted to share it with you.
If the combination of Middle Eastern hummus and Mexican tortillas seems strange, just give it a chance. The result is absolutely delicious and is an incredibly fast meal or snack.

Preparation Time: 10 minutes
Cooking Time: 15 minutes
Servings: Makes 8 quesadillas

Hummus (store-bought or made from scratch – see below)
8 corn or flour tortillas
½ cup chopped green onions
½ to 1 cup salsa

Spread a tortilla with 2 to 3 tablespoons of hummus and place in a large non-stick skillet over medium heat. Sprinkle with chopped green onions and salsa. (You could also eliminate the salsa here and instead top the finished quesadilla with it.) Top with a second tortilla, and cook until the bottom tortilla is warm and turning golden brown, about 3-5 minutes, depending on how high you have your flame. Turn and cook the second side for another few minutes, until it, too, is golden brown. Remove from pan and cut in half. Repeat with remaining tortillas.

Basic Hummus

1 15-ounce can garbanzo beans, drained and rinsed
½ cup water-packed, roasted red peppers
3 tablespoons lemon juice
1 tablespoon tahini (sesame seed butter)
1-2 garlic cloves, peeled
¼ teaspoon cumin
Salt, to taste

Place the beans in a food processor or blender with roasted peppers, lemon juice, tahini, garlic, and cumin. Process until very smooth, 1 to 2 minutes. You may add a little water to thin it out. Salt to taste.

Hints: Serve with a side of rice and beans. Great for breakfast, brunch, lunch, or dinner – or just as a snack. For some extra spice, add minced jalapeno peppers to the hummus, or add a pinch of cayenne.