



# A Summary of Nutritional Science

By Cath King

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## Big, Fat Lies

Together we've explored the role that hormones play in weight problems and that a plant based diet will help to balance your hormones.

We've explored some of the psychology of weight loss and I've given you some strategies to bridge the willpower gap.

Your final free gift is a summary of what the research shows about optimal nutrition for health and weight loss.

The reality is that we live in a society that conditions us to eat in a certain way and based on the results we're getting (the high levels of obesity, heart disease, cancer, diabetes, osteoporosis ...) this way of eating isn't working out very well for us. It's time to look in a different direction.

Instead of basing what we eat on what we were taught we should eat by our parents, the media, advertising, the food industry, our friends, neighbours and everyone else who's influencing our dietary choices, it's time to look to the science to discover the truth.

Many dieting programs are created by young, slim males. They have no understanding of the difficulty losing weight when you're a woman going through pregnancy, perimenopause, menopause and beyond. They've never struggled with food addictions or compulsive eating. Their recommendations are often not effective for older women or those who are highly susceptible to addictive foods. These situations call for more powerful measures. In addition, most of their diets are not sustainable long term and so the gains we make using their methods are quickly lost.

This is where plant-based eating as part of the Eat More to Weigh Less program comes in. I understand that it can be hard for people to accept after a lifetime of being lied to about the optimal diet for humans, so I've put together this compilation of what the best nutritional research says about weight loss and our leading killers and diseases.

If you're serious about your weight and your health, it's time to let go of all the misinformation you've been programmed to believe and turn instead to the facts. Let's face it, if it was going to work for you, it would have by now. I can guide you to transition to this new healthier way of eating in an easy, manageable way and in 12 weeks, you will be confidently carving your figure with your fork.

## The Calorie Equation



It's a scientific fact based on the laws of thermodynamics that in order to lose weight you need to consume fewer calories than you burn.

Because 3,500 calories equals about 0.45 kilogram of fat, you need to burn 3,500 calories more than

you take in to lose 0.45 kilograms. So, in general, if you cut 500 calories from your typical diet each day, you'd lose nearly half a kilogram a week (500 calories x 7 days = 3,500 calories).

There are a number of ways you could do this.

1. You could try to increase your exercise to burn 500 extra calories a day. You would need to run for an extra hour a day, every day to burn that number of calories. And, don't forget that exercising will also increase your appetite. Generally speaking only high level athletes ever manage to exercise enough to lose weight and keep slim using exercise. Although exercise is an important part of a healthy lifestyle and can help to increase your resting metabolism, burn some calories and tone muscles to improve your appearance, it's the food we eat that will have the biggest impact on our weight. The Eat More to Weigh Less program includes lessons on exercise each fortnight to help you to integrate the right kinds and amount of exercise into your routine for you.
2. You could try eating less of the same kinds of food you're eating now. This will lead you to feel hungry and unsatisfied causing powerful homeostatic drives to force you to resume eating to satiation. For those people who struggle to stay away from addictive foods, trying to eat in moderation is like an alcoholic trying to drink in moderation. Moderation doesn't work for people with weight issues when it comes to unhealthy foods. On the Eat More to Weigh Less program you don't need to eat under your hunger drive.
3. You could try the low carb/paleo/Atkins style diet plans. This will cause you to lose weight, often without hunger, by causing you to go into a state of ketosis. Ketosis is a disease state that occurs when we aren't consuming enough carbohydrates for the proper functioning of our bodies. This is the state we go into when we're very ill or starving to death. As well as causing you to lose weight, you will also increase your risk for cancer, heart disease, Alzheimer's, osteoporosis, erectile dysfunction (for men) kidney and liver disease, constipation and halitosis (bad breath).
4. You could try the wholefood, plant based diet prescribed in the Eat More to Weigh Less program. Due to the low calorie density and high nutrient density of plant foods, you can eat a lot more of them for fewer calories, meaning that you will feel satisfied on fewer calories naturally. Your hormones will balance, optimising your metabolism

and regulating your hunger correctly. You will break your addiction to processed food-like products. And, as we will see in the pages that follow, your over-all health will improve, you'll have more energy, prevent and even reverse some of our biggest killers – cancer, heart disease, diabetes, and many more. This way of eating will allow you to live a healthy, happy, active life for much longer at your ideal weight and shape.

## Show Me the Science

### Weight Loss

#### Dietary Patterns in Body Mass Index (BMI)

A BMI over 30 is considered obese, between 25 and 30 overweight, and they used to call under 25 “normal” weight, but it is no longer the norm.

In the first study in human history including thousands of vegans, was published in the journal of the American Diabetes Association in 2009. The BMI of thousands of U.S. meat eaters, flexitarians, vegetarians and vegans were studied.

The average BMI in the United States is now 28.8. So that was counted as the BMI of the meat eaters, because the majority of people in the U.S. eat meat. The first question is where do flexitarians fall? A “flexitarian” is a “flexible vegetarian,” meaning someone who eats meat once or twice a month, but is basically vegetarian. Where do they fall?

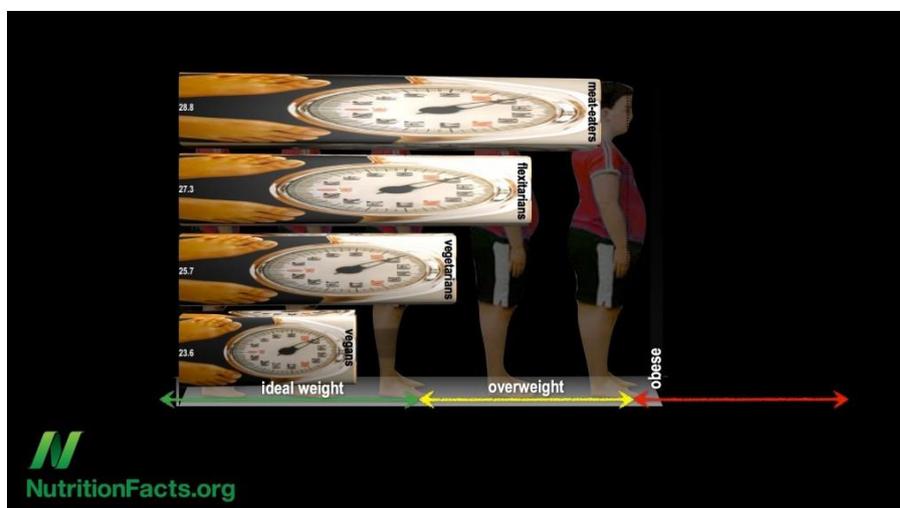
This was America—even the flexitarians were overweight with an average BMI of 27.5.

What about the full-time vegetarians, though? This was America—even the vegetarians were overweight—but, they are a healthier weight than those who eat meat even only a few times a month with an average BMI of 26.

You can see where the trend is going. What if those vegetarians cut out dairy and eggs? Would they lose enough weight to become the only dietary group in North America that’s actually not overweight? What about the vegans?

This was America, and that means, only the vegans are, on average, a healthy weight with an average BMI of 23.5. And that’s like a 40 pound spread between vegans and meateaters, which is pretty dramatic.

But maybe it’s not their diet; maybe vegans just tend to exercise more? No. They carefully measured activity levels, and if anything, the vegans in this study exercised less than the meateaters. Lazy vegans... but still on average 40 pounds lighter.



## **The Healthiest Diet for Weight Control**

We know that vegetarians tend to be slimmer, but there's a perception that veg diets may somehow be deficient in nutrients. So how's this for a simple study: an analysis of the diets of 13,000 people, comparing the nutrient intake of those eating meat to those eating meat-free.

They found that those eating vegetarian were getting higher intakes of nearly every nutrient: more fiber, more vitamin A, more vitamin C, more vitamin E, more of the B vitamins (thiamin, riboflavin, & folate), more calcium, more magnesium, more iron, and more potassium. At the same time, they were also eating less of the harmful stuff like saturated fat and cholesterol. And yes, they got enough protein.

And some of those nutrients are the ones we really struggle to get enough of—like fiber, vitamins A, C, and E, calcium, magnesium, potassium—and those eating vegetarian got more of all of them.

In terms of weight management, the vegetarians were consuming, on average, 363 fewer calories every day. That's what people do when they go on a diet and restrict their food intake—but it seemed like that is how vegetarians just ate normally.

How sustainable are more plant-based diets long term? They are among the only type of diet that has been shown to be sustainable long-term, perhaps because not only do people lose weight but they often feel so much better.

And there's no calorie counting or portion control. In fact, vegetarians may burn more calories in their sleep. Those eating more plant-based diets appear to have an 11% higher resting metabolic rate. Both vegetarians and vegans seem to have a naturally revved up metabolism compared to those eating meat.

Having said that, the vegetarians in the first study mentioned were also eating eggs and dairy, so while they were significantly slimmer than those eating meat, they were still, on average, overweight. As the study above showed, the only dietary pattern associated on average with an ideal body weight was a strictly plant-based one. But at least the study helps to dispel the myth that meat-free diets are somehow nutrient-deficient. In fact, the editor-in-chief of the *Journal of the American Dietetic Association* asked, "What could be more nutrient dense than a vegetarian diet?"

Anyone can lose weight in the short term on nearly any diet, but diets don't seem to work in the long-term. That's because we don't need a "diet"; we need a new way of eating that we can comfortably stick with throughout our lives. If that's the case, then we better choose to eat in a way that will most healthfully sustain us. That's why a plant-based diet may offer the best of both worlds. It's the only diet, for example, shown to reverse heart disease—our number one killer—in the majority of patients.

## Meat and Weight Gain in the PANACEA Study

Mainly because of its high energy density and fat content, meat consumption has been considered a determinant of weight gain. Yeah, but nuts, which are also dense in calories and fat, don't appear to contribute to weight gain at all. So let's not presume. In the EPIC-PANACEA study hundreds of thousands of men and women across 10 countries, had their weight gain measured over a five year period.

What did they find? Total meat consumption was positively associated with weight gain in men and women, in normal-weight and overweight subjects, and in smokers and non-smokers. Their conclusion: "Our results suggest that a decrease in meat consumption may improve weight management." And this was after adjusting for initial weight, physical activity, educational level, smoking status, and total energy intake. Wait-a-second—what? That's the kicker. The link between meat and weight gain remained even after controlling for calories.

One would assume that, meat is associated with weight gain because it's so packed with calories, and so you'd just get more calories in your daily diet compared to those eating vegetarian, and so more weight gain. But no—it's even more than that. This was after controlling for caloric intake, meaning if we have two people eating the same amount of calories—the person eating meat will gain more weight. In fact they even calculated how much more.



An intake of 250 g meat/day—like a steak, would lead to an annual weight gain 422 g higher than the weight gain experienced with the same calorie diet with lower meat content. After five years, the weight gain would be about five pounds more. Same calories, yet five pounds more eating meat. And steak was nothing. The strongest relation with annual weight change—weight gain—was observed for poultry.

The authors stated: “In conclusion, our results indicate that meat intake is positively associated with weight gain and this association persisted after adjustment for total energy intake and underlying dietary patterns. Our results are therefore in favor of the public health recommendation to decrease meat consumption for health improvement.”

## Diabetes

### Why Meat is a Risk Factor for Diabetes

We've known that being overweight and obese are important risk factors for type 2 diabetes, but until recently, not much attention has been paid to the role of specific foods.

A 2013 meta-analysis of all the cohorts looking at meat and diabetes found significantly higher risk associated with total meat consumption, and especially processed meat, particularly poultry. But why?

There's a whole list of potential culprits in meat. Maybe it's the saturated fat and animal fat. Maybe it's the trans-fats that are naturally found in meat. Maybe it's the cholesterol, or the animal protein. The heme iron in meat can lead to free radicals, and this iron-induced oxidative stress may lead to chronic inflammation, type 2 diabetes. Advanced glycation end products are another problem. They promote oxidative stress and inflammation, and food analyses show that the highest levels of these so-called glycotoxins are found in meat, particularly roasted, fried, or broiled meat, though any foods from animal sources can be potent sources of these pro-oxidant chemicals. In this study, they fed diabetics foods packed with glycotoxins, like chicken, fish, and eggs, and their inflammatory markers shot up, such as tumor necrosis factor, C-reactive protein, and vascular adhesion molecules. Thus, in diabetes, dietary AGEs promote inflammatory mediators, leading to tissue injury. The good news, though, is that restriction of these kinds of foods may suppress these inflammatory effects. Appropriate measures to limit AGE intake, such as eliminating these foods, or sticking with just steaming and boiling meat, may greatly reduce the already heavy burden of these toxins in the diabetic patient. These glycotoxins may be the missing link between the increased consumption of animal fat and meats, and the development of type 2 diabetes in the first place.

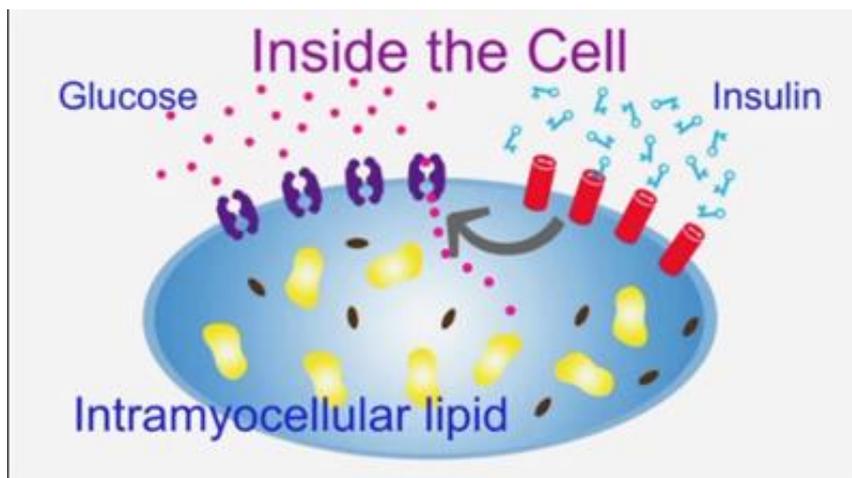
Since the 2013 meta-analysis was published, a study came out, in which about 17,000 people were followed for about a dozen years. They found an 8% increased risk for every 50 grams of daily meat consumption. So, that's just like a quarter of a chicken breast worth of meat for the entire day may significantly increase the risk of diabetes. Yes, it could be the glycotoxins in meat, or the saturated fat, or the trans-fat in meat, or the heme iron, which could actually promote the formation of carcinogens called nitrosamines (though they could also just be produced in the cooking process itself), but this is new. There appears to be a clear excess of diabetes in those that handle meat for a living, maybe there's some kind of diabetes causing zoonotic infective agents, like viruses present in fresh cuts of meat, including poultry.

Overstimulation of the aging enzyme TOR pathway, by excess food consumption, may be a crucial factor underlying the diabetes epidemic, but not just any food. Animal proteins not only stimulate IGF-1, but provide high amounts of leucine, which stimulates TOR activation, and appears to burn out the insulin-producing beta cells on the pancreas and contribute to type 2 diabetes. So, it's not just the high fat and added sugars; critical attention has to be paid to the daily intake of animal proteins.

In general, lower leucine levels are only really reached by the restriction of animal proteins. As I noted before, to reach the leucine intake provided by dairy or meat, we'd have to eat nine pounds of cabbage or 100 apples. These calculations exemplify the extreme differences in leucine amounts provided by a more standard diet in comparison to a more plant-based diet.

We now have experimental evidence that exposure to industrial toxins alone induces weight gain and insulin resistance, and therefore may be an underappreciated cause of obesity and diabetes. Consider what's happening to our infants: obesity in a six-month old is not related to diet or lack of exercise. They're now exposed to hundreds of chemicals from their moms, straight through the umbilical cord, some of which may be obesogenic. The millions of pounds of chemicals and heavy metals released every year into our environment should make us all stop and think about how we live, and the choices we make every day in the food we eat. As a 2014 review of the evidence on pollutants and diabetes noted, yes, we can be exposed through some toxic spill, but most of the human exposure nowadays is from the ingestion of contaminated food as a result of bioaccumulation up the food chain. The main source (around 95%) of persistent pollutant intake is through dietary intake of animal fat.

### What Causes Diabetes?



After about age 20, we may have all the insulin producing beta cells we're ever going to have in our pancreas, and so if we lose them we may lose them for good. Autopsy studies show that by the time type 2 diabetes is diagnosed we may have already killed off half of our beta cells.

You can do it right in a petri dish. Expose human beta cells to fat, they suck it up, and then start dying off. A chronic increase in blood fat levels is harmful as shown by the important effects in pancreatic beta cell lipotoxicity. Fat breakdown products can interfere with the function of these cells and ultimately lead to their death.

And not just any fat, saturated fat. The predominant fat in olives, nuts, and avocados gives you a tiny bump in death protein 5, but saturated fat really ramps up this contributor to beta cell death. Saturated fats are harmful to beta cells, harmful to the insulin producing cells in our pancreas. Cholesterol too. The uptake of bad cholesterol, LDL, can cause beta cell death as a result of free radical formation.

So diets rich in saturated fats not only cause obesity and insulin resistance, but the increased levels of circulating free fats in the blood, called NEFAs, non-esterified fatty acids, cause

beta cell death and may thus contribute to progressive beta cell loss in type 2 diabetes. And this isn't just based on test tube studies. If you infuse fat into people's bloodstream you can directly impair pancreatic beta cell function, and the same when we ingest it.

Type 2 diabetes is characterized by defects in both insulin secretion and insulin action, and saturated fat appears to impair both. Researchers showed saturated fat ingestion reduces insulin sensitivity within hours, but these were non-diabetics, so their pancreas should have just been able to boost insulin secretion to match, but insulin secretion failed to compensate for insulin resistance in subjects who ingested the saturated fat. This implies the saturated fat impaired beta cell function as well, again within just hours after going into our mouth.

So increased consumption of saturated fats has a powerful short- and long-term effect on insulin action, contributing to the dysfunction and death of pancreatic beta cells in diabetes.

And saturated fat isn't just toxic to the pancreas. The fats found predominantly in meat and dairy—chicken and cheese are the two main sources in our diet—are almost universally toxic, whereas the fats found in olives, nuts, and avocados are not. Saturated fat has been found to be particularly toxic to liver cells in the formation of fatty liver disease. You expose human liver cells to plant fat, and nothing happens. Expose liver cells to animal fat, and a third of them die. This may explain why higher intake of saturated fat and cholesterol are associated with non-alcoholic fatty liver disease.

By cutting down on saturated fat consumption we may be able to help interrupt this process. Decreasing saturated fat intake may help bring down the need for all that excess insulin. So either being fat, or eating saturated fat can both cause that excess insulin in the blood. The effect of reducing dietary saturated fat intake on insulin levels is substantial regardless of how much belly fat we have. And it's not just that by eating fat we may be more likely to store it as fat. Saturated fats, independently of any role they have of making us fat, may contribute to the development of insulin resistance and all its clinical consequences. After controlling for weight, and alcohol, and smoking, and exercise, and family history, diabetes incidence was significantly associated with the proportion of saturated fat in our blood.

So what causes diabetes? The consumption of too many calories rich in saturated fats. Now just like everyone who smokes doesn't develop lung cancer; everyone that eats a lot of saturated fat doesn't develop diabetes—there's a genetic component. But just like smoking can be said to cause lung cancer, high-calorie diets rich in saturated fats are currently considered the cause of type 2 diabetes.

## **Heart Disease**

### **Eliminating 90% of Heart Disease Risk**

Medical myths and dogmas die hard. Researchers creating a new body of knowledge for prevention and control of heart disease had to disprove and displace a bunch of doozies, like we used to think that heart disease was just an inevitable consequence of aging, or that cholesterol and blood pressure just naturally go up as we age. All these are now bygone notions, refuted by massive data, but other long-standing myths and dogmas about our #1

killer epidemic persist, for example this notion that major risk factors like cholesterol account for a minority of risk and that many people have heart attacks with no risk factors, so it's just kind of a crap shoot - not much you can do about it.

There are rare genetic conditions that give people high cholesterol no matter what they eat, but such genetic defects occur in no more than 1 in 200 people. This means, of course, that most persons with atherosclerosis acquire it by what they put in their mouth.

The INTERHEART study showed that for men and women, old and young, and in all areas of the world, 9 potentially modifiable factors like diet, exercise and smoking, accounted for >90% of the proportion of the risk of having a heart attack. And this has been confirmed in prospective studies.

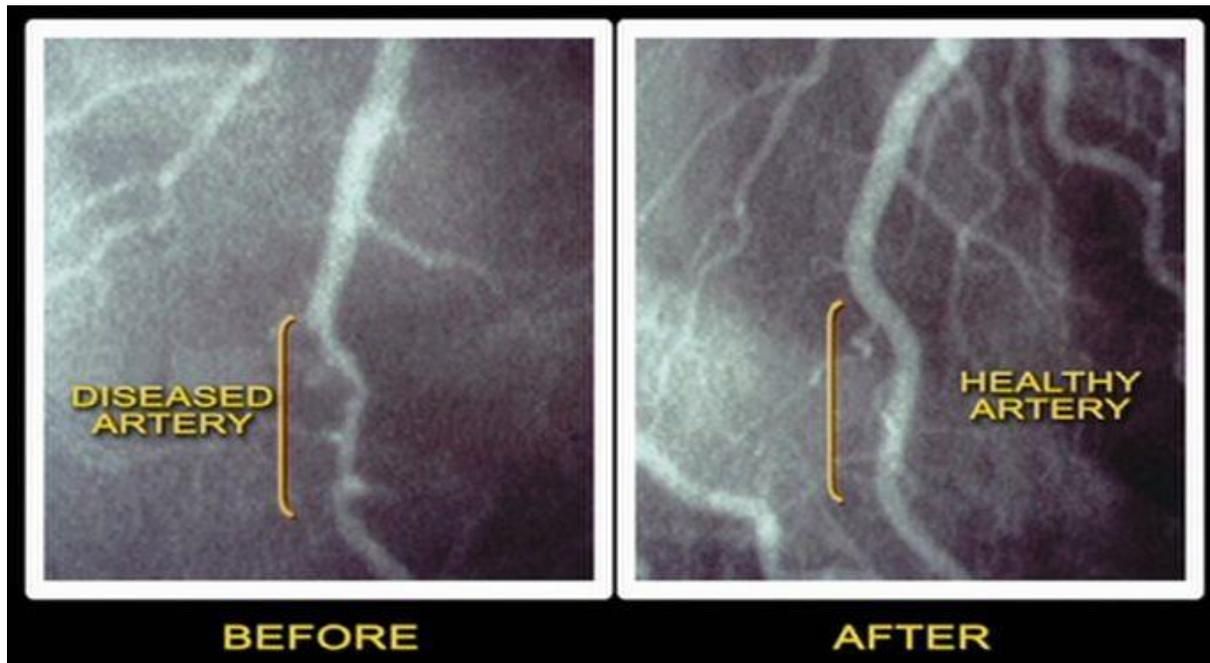
Follow men over time and those making healthy lifestyle choices are associated with a 90% drop in risk. Same with women, 92% of the risk gone. Same with diabetes—91% of cases could be contributed to bad habits and behaviors. And the same healthy lifestyle, which includes not smoking, eating a plant based diet, exercising, and maintaining an optimal body weight, may reduce the risk of multiple chronic diseases—not just heart disease and diabetes but stroke as well. Up to 80% of strokes avoidable with simple lifestyle changes.

How does this all compare to drugs? Why change our diet, lose weight, start exercising if we can just pop some pills? Pharmacological therapies, including cholesterol lowering statin drugs and blood pressure pills typically only reduce cardiovascular disease risk not by 90% but only by 20% to 30%. So even on drugs, 70 to 80% of heart attacks still occur.

One of the great things about this study, the Harvard Health Professional's Follow-up, is that they also looked at the effect of lifestyle changes on people already on medications. Even those on cholesterol and blood pressure lowering drugs may be able to get a further 78% drop in risk by eating and living healthfully. So the choice isn't diet or drugs. Cardiovascular medications should be used as an adjunct to, not just a replacement for, healthy lifestyle practices.

It takes time for new science to trickle down into mainstream medical practice. The practice of cardiology and medicine in general may correspond, on average, to what was being published 10 or 20 years before. So it's important to know if your doctor is still stuck back practicing 20th century medicine.

## Evidence-Based Medicine or Evidence-Biased?



Dr. Esselstyn’s landmark study showing even advanced triple vessel coronary artery disease could be reversed with a plant-based diet has been criticized for being such a small study, but the reason we’re used to seeing such large studies is they typically show such small effects. Drug manufacturers may need to study 7,000 people in order to show a barely statistically significant 15% drop in ischemic events in a subsample of patients, whereas Esselstyn got a 100% drop in those who stuck to his diet, all the more compelling considering that those 18 participants experienced 49 coronary events, meaning like heart attacks, in the eight years before they went on the diet. And these were the worst of the worst, most of whom having already failed surgical intervention. When the effects are so dramatic how many people do you need?

Before 1885, symptomatic rabies was a death sentence until July 6th, when little Joseph Meister became the first to receive Pasteur’s experimental rabies vaccine. The results of this and one other case were so dramatic compared with previous experience that the new treatment was accepted with a sample size of two. So dramatic compared with previous experience, no randomized controlled trial was necessary. Would you—having been infected by a rabid dog—be willing to participate in a randomized controlled trial (RCT) when being in the control group had a certainty of a “most awful death”? Sadly, such a question is not entirely rhetorical.

In the 1970s, a revolutionary treatment for babies with immature lungs called ECMO, extracorporeal membranous oxygenation, transformed mortality in these patients from 80% to 20% nearly overnight, from 80% dead to 80% alive. Despite this dramatic success, they felt forced to perform a randomized controlled trial. They didn’t want to. They knew they’d be condemning babies to death. They felt compelled to perform such a trial because their

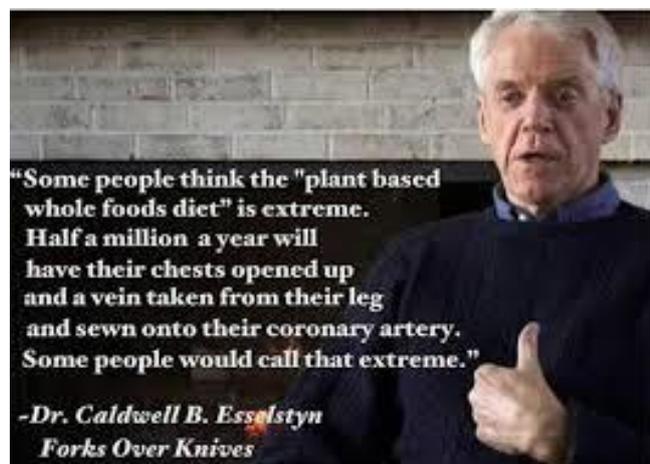
claim that ECMO worked would, they judged, carry little weight amongst their medical colleagues unless supported by a randomized controlled trial.

And so at Harvard's Children's Hospital 39 infants were randomized to either get ECMO or conventional medical therapy. They decided to stop the trial after the 4th death so as not to kill too many babies. And that's what they did. The study was halted after the fourth conventional medical therapy death, at which point nine out of nine of the ECMO babies had survived. Imagine being a parent to one of those four children. Just as one can imagine being the child of a parent who died from conventional medical or surgical therapy for heart disease.

Medical students in the United States and New Zealand are taught little about nutrition. Worse yet, their training actually biases them against the studies that show the power of dietary approaches to managing disease, by encouraging them to ignore any information that does not come from a double-blind, randomized controlled trial. Yet human beings cannot be blinded to a dietary intervention—they tend to notice. As a result, physicians are biased in favor of drug treatments and against dietary interventions for the management of chronic disease.

Evidence is a good thing, especially in medicine. However, the medical profession is focusing too much on one kind of evidence, to the exclusion of all others. Unfortunately, this approach can easily degenerate into ignoring-most-of-the-truly-important evidence-based medicine.

And heart disease, is the perfect example. On healthy enough plant based diets, our #1 cause of death may simply cease to exist. The Cornell-Oxford-China Study showed that even small amounts of animal-based food was associated with a small, but measurable increase in risk of some of these chronic diseases. In other words, the causal relationship between dietary patterns and coronary artery disease was already well established before Ornish and Esselstyn undertook their clinical studies. The value of their studies was not so much in providing evidence that such a dietary change would be effective, but in showing that physicians can persuade their patients to make such changes, and also provided interesting data on the speed and magnitude of the change in severe atherosclerotic lesions as a result of dietary therapy. So any complaints that these studies were small or unblinded are simply irrelevant. Because the evidence of the role of diet in causing atherosclerosis is already so overwhelming, assigning a patient to a control group eating the standard American diet could be considered a violation of research ethics.



Evidence of the value of plant-based diets for managing chronic disease has been available in the medical literature for decades. Kempner at Duke, John McDougall, The Physician's Committee for Responsible Medicine. Denis Burkitt warned us that the standard Western diet is the standard cause of death and disability in the Western world for decades. Yet physicians, are still busily manning the ambulances at the bottom of the cliff instead of building fences at the top.

## Cancer

We know from the largest forward-looking study on diet and cancer ever, that “the incidence of all cancers combined is lower among vegetarians,” especially some of the fastest growing tumors, lymphomas and leukemias. and for that the worst meat was actually chicken....

Up to triple the rates for every, 50 grams of daily poultry consumption. That's just a quarter of a chicken breast may triple your risk.

The link between meat and cancer is such that even the journal Meat Science asked last year “Should we become vegetarians, or... can we make meat safer. There's a bunch of additives, for example, that “can suppress the toxic effects of heme iron,” the blood iron that's found in meat. These additives are still under study, but “could provide an acceptable way to prevent colon cancer,” because evidently avoiding meat is just out of the question.

They fear that if the National Cancer Institute recommendations to reduce meat consumption “were adhered to, sure, cancer incidence may be reduced, but famers and the meat industry would suffer important economical problems.....”

For those of us more concerned about the suffering caused **by** the meat industry, than the suffering **of** the meat industry, what happens if you put cancer on a vegan diet? The Pritikin Research Foundation just completed an elegant series of experiments that I want to spend a bit of time on them. Simple experiments. They put people on different diets, drew their blood and dripped their blood on cancer cells growing in petri dish and just stood back to see whose blood was better at suppressing cancer growth.



They were the ones that published that study showing the blood of those on a vegan diet was dramatically less hospitable to cancer. Even the blood of those on a standard American diet fights cancer; if it didn't everyone would be dead. It's just that the blood of those eating vegan fights about 8 times better.

The blood of those on the standard American/Aotearoa/Australian diet slows cancer growth rate down about 9%. Put people on a plant-based diet for a year, though, and their blood just tears it up. The blood circulating within the bodies of vegans has nearly 8 times the stopping power when it comes to cancer cell growth.

Now this was for prostate cancer, the most common cancer of men, In women, it's breast cancer, so the Pritikin researchers tried duplicating the study with women using breast cancer cells instead. They didn't want to wait a whole year to get the results, though. So they figured they'd see what a plant-based diet could do in just two weeks, against three different types of human breast cancer.

After getting the women to eat a vegan diet for two weeks, their blood cleaned up the cancer in the petri dish. The same blood that was now coursing through these women's bodies gained the power to significantly slow down, and stop breast cancer cell growth thanks to just two weeks of eating a plant-based diet.

What kind of blood do we want in our body, what kind of immune system? Do we want blood that just kind of rolls over when cancer cells pop up, or do we want blood circulating to every nook and cranny of our body that has the power to slow down and stop them?

Now this strengthening of cancer defences was after 14 days of a plant-based diet and exercise, they were out walking 30 to 60 minutes a day. Maybe the only reason their blood started becoming so effective at suppressing cancer growth was because of the exercise—maybe the diet had nothing to do with it. So they put it do the test.

And... Exercise helped—no question, but literally 5,000 hours in the gym, was no match for a plant-based diet.

Why, though? Some people don't care why, but I'm always curious. How does a simple dietary change make one's bloodstream so inhospitable to cancer in just a matter of days? We didn't know until last year, when "[they] sought to determine the underlying mechanisms for these anticancer effects."

It's a wild story. But the bottom-line—the answer to the Pritikin puzzle is IGF-1.

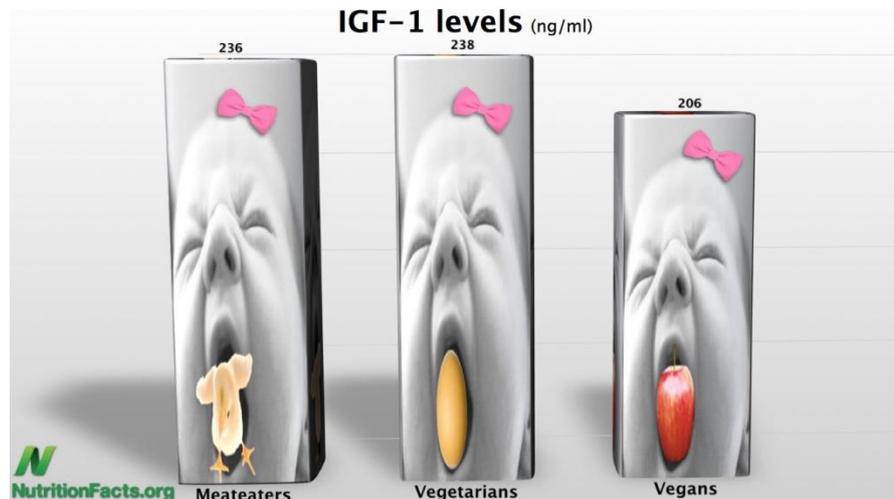
Insulin-like Growth Factor One is a cancer-promoting growth hormone involved in every stage of cancer growth, proliferation, metastasis, and invasion. But you put people on a plant-based diet and their IGF-1 levels go down, and if they stay on a plant-based diets their levels drop even further.

And their IGF-1 binding protein levels go up. That's one way our body tries to protect itself from cancer—from excessive growth—by releasing a binding protein into our bloodstream to tie up IGF-1. It's like our body's emergency brake. Yes, in as little as 11 days, a plant-based diet can reprogram your body to bring down IGF-1 production, but you still have all that IGF-1 circulating in your bloodstream from the bacon and eggs you had the week before. So, your liver releases a snatch squad of binding proteins to take it out of circulation, and it just gets better and better the longer you eat healthy.

Here's the experiment that nailed IGF-1 as the villain. Same as last time. Go on a plant-based diet; Cancer cell growth drops; and cancer cell death, shoots up. But then here's the kicker. What if you added back to the cancer the exact same amount of IGF-1 banished from your

body because you were eating healthy? ... It erases the diet and exercise effect. It's like you never started eating healthy at all.

So that's how we know that lowering animal product consumption leads to lower IGF-1, which leads to lower cancer growth. But how low does animal-product-consumption have to go? How plant-based does our diet need to get? Well, let's look at IGF1 levels in



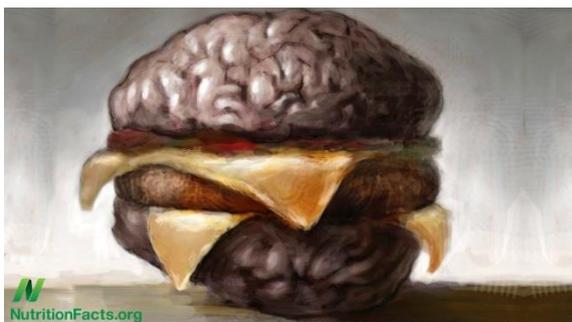
meateaters, versus vegetarians, versus vegans. Does a plant-based diet work better at lower the circulating level of IGF-1 compared with a meat-eating or lacto-ovo-vegetarian diet, and this is what they found. Only the vegans had significantly lower levels. And the same relationship found with IGF-binding capacity. Only the vegans were significantly able to bind up excess IGF-1 in their blood streams.

This was a study done on women..., What about vegan men? They found the same thing... So even though vegan men tend to have significantly higher testosterone levels, than both vegetarians and meateaters—which can be a risk factor for prostate cancer, the reason plant-based diets appear to reverse the progression of prostate cancer, may be due to how low their IGF-1 drops. High testosterone, yet low cancer.

The bottom line... is that male or female, just eating vegetarian did not seem to cut it—didn't do their body many favors. It looks like to get a significant drop in cancer-promoting growth hormone levels one really has to move towards eliminating animal products altogether. The good news is that given what we now know about IGF-1, we can predict “that a...vegan diet may be profoundly protective with respect to, for example, risk for breast cancer in older women.”

## Alzheimer's

### Alzheimer's Disease: Grain Brain or Meathead?



The rates of dementia differ greatly around the world, from the lowest rates in Africa, India, and South Asia, to the highest rates in Western Europe and especially North America. Is it all just genetics?

Well the incidence of dementia and Alzheimer's disease is significantly lower for

Africans in Nigeria than for African Americans in Indianapolis, for example. Up to five times lower.

Alzheimer's rates of Japanese-Americans living in the U.S. are closer to that of Americans than to Japanese. So when people of one ethnic group move from their homeland to the United States, Australia, New Zealand or Great Britain, Alzheimer's rates can increase dramatically. Therefore, when Africans or Asians live in the United States and adopt a Western diet, their increase in Alzheimer's risk suggests that it's not the genetics.

Unfortunately one doesn't have to move to the West to adopt a Western diet. The prevalence of dementia in Japan has shot up over the last few decades. Mechanisms to explain this in Japan include increases in cholesterol, saturated fat, and iron from increases in the consumption of animal products. Traditional diets generally are weighted toward vegetable products such as grains and away from animal products, but since 1960, the diet in Japan has changed from a more traditional rice-based diet to one with a preponderance of meat.

From 1961 to 2008, meat and animal fat increased considerably, whereas the rice supply dropped.

The dietary factor most strongly associated with the rise in Alzheimer's disease in Japan was the increased consumption of animal fat.

A similar analysis in China arrived at the same conclusion. On the basis of these findings, the rate of Alzheimer's disease and dementia will continue to rise unless dietary patterns change to those with less reliance on animal products.

This is consistent with data showing those who eat vegetarian appear two to three times less likely to become demented, and the longer one eats meat-free, the lower the associated risk of dementia.

Globally, the lowest validated rates of Alzheimer's in the world are rural India, where they eat low meat, high grain, high bean, high carb diets. Now it's possible that the apparent protective association between rice and Alzheimer's is more likely due to the fact that the drop of rice consumption was accompanied by a rise in meat consumption, but other population studies have found that dietary grains appear strongly protective in relation to Alzheimer's disease.

## **Osteoporosis**

### **Is Milk Good for Our Bones?**



Milk is touted to build strong bones, but a compilation of all the best studies found no association between milk consumption and hip fracture risk, so drinking milk as an adult might not help bones, but what

about in adolescence? Harvard researchers decided to put it to the test.

Studies have shown that greater milk consumption during childhood and adolescence contributes to peak bone mass and is therefore expected to help avoid osteoporosis and bone fractures in later life. But that's not what they found. Milk consumption during teenage years was not associated with a lower risk of hip fracture and if anything milk consumption was associated with a borderline increase in fracture risk in men.

It appears that the extra boost in total body bone mineral density you get from getting extra calcium is lost within a few years even if you keep the calcium supplementation up, this suggests a partial explanation for the long-standing enigma that hip fracture rates are highest in populations with the greatest milk consumption. Maybe an explanation why they're not lower, but why higher?

This enigma irked a Swedish research team, puzzled because studies again and again had shown a tendency of a higher risk of fracture with a higher intake of milk. Well there is a rare birth defect called galactosemia, where babies are born without the enzymes needed to detoxify the galactose found in milk so they end up with elevated levels of galactose in their blood, which can cause bone loss even as kids, so maybe, the Swedish researchers figured, even in normal people that can detoxify the stuff, it might not be good for the bones to be drinking it every day. And galactose doesn't just hurt the bones. That's what scientists use to cause premature aging in lab animals They slip them a little galactose and you can shorten their lifespan, cause oxidative stress, inflammation, brain degeneration, just with the equivalent of like 1-2 glasses of milks worth of galactose a day. We're not rats, though—but given the high amount of galactose in milk recommendations to increase milk intake for prevention of fractures could be a conceivable contradiction, so they decided to put it to the test, looking at milk intake and mortality as well as fracture risk to test their theory.

A hundred thousand men and women followed for up to 20 years; what did they find? Milk drinking women had higher rates of death, more heart disease, and significantly more cancer for each glass of milk. Three glasses a day was associated with nearly twice the risk of death. And they had significantly more bone and hip fractures too.

Men in a separate study also had a higher rate of death with higher milk consumption but at least they didn't have higher fracture rates. So a dose dependent higher rate of both mortality and fracture in women and a higher rate of mortality in men with milk intake. To prove it though, we need a randomized controlled trial to examine the effect of milk intake on mortality and fractures. So, we better find this out soon as milk consumption is on the rise around the world.

## Here's the Thing



Of the many ways to lose weight, one stands out as by far the most healthful. When you build your meals from a generous array of vegetables, fruits, whole grains, and beans—that is, healthy plant based choices—weight loss is remarkably easy. And along with it come major improvements in cholesterol, blood pressure, blood sugar, and many other aspects of health.

The message is simple: Cut out the foods that are high in fat and devoid of fiber, and increase the foods that are low in fat and full of fiber. This low-fat, vegan diet approach is safe and easy—once you get the hang of it.

Getting started can seem a bit daunting. It is often hard to imagine doing anything—be it a diet, new exercise regimen, or any other new, healthy habit—forever. But with the Eat More to Weigh Less online program you will receive all the information and support you need to make the transition in the easiest way possible.

Register today to start your journey to health and weight loss.

<http://www.ckinghealth.co.nz/weight-loss>

If you missed out on any of the other free gifts – Taming the Hunger Hormone, The Three Huge Mistakes Almost Everyone Makes When Trying to Lose Weight, or the Balance Your Hormones to Master Your Weight webinar and the two free downloads from the webinar – Master Your Hormones Self-Assessment Questionnaire and Bridging the Willpower Gap – you can access those at: <http://www.ckinghealth.weebly.com/nutritional-summary>

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