Spotlight on Diabetes  Joel Furhman

Diabetes is a Rapidly Growing Threat to Human Health

Diabetes has been cited as the most challenging health problem in the 21st century. Over 25 million people in the United States have diabetes. Excess weight promotes insulin resistance and is the chief risk factor for type 2 diabetes. Currently 68.8% of adults are overweight or obese. The number of people with this disease has been increasing steadily, largely due to the increasing numbers of overweight people. According to the U.S. Centers for Disease Control and Prevention (CDC), the prevalence of type 2 diabetes has more than tripled in the past 30 years, and if current trends continue unabated, one-fifth to one-third of all Americans will have diabetes by the year 2050.

Diabetes Severely Damages One’s Health and Shortens Life Expectancy

Diabetes is a serious disease, and both type 1 and type 2 accelerate the aging of our bodies. Having type 1 or 2 diabetes greatly speeds up the development of atherosclerosis, or cardiovascular disease; in fact, diabetes doubles the risk of heart attack and stroke. More than 80 percent of adults with Type 2 diabetes die of heart attacks and stroke, and these deaths occur at a younger age compared to people without diabetes. Diabetes also ages the body more rapidly, causing harm to the kidney, nervous system and other body systems. Diabetes is the leading cause of kidney failure and blindness in older adults. Over sixty thousand amputations each year are performed due to complications of diabetes. Diabetes also increases cancer risk, especially colorectal cancer.

Type 2 Diabetes is a Preventable, Reversible Lifestyle Disease

The heavier you are, the greater the risk you will develop type 2 diabetes. Whereas type 1 diabetes is a disease of insulin deficiency, type 2 diabetes typically develops because the body is insulin resistant and requires more insulin than normal. Our body’s cells are fueled by glucose, and insulin acts as a key that allows glucose from the blood to enter our cells. If the pancreas does not produce insulin (as in type 1 diabetes), or the body’s cells no longer respond to insulin (as in type 2 diabetes), glucose remains in the blood instead of being used by the cells, resulting in abnormally high blood glucose, which is harmful to the body. Premature death and the devastating complications of this disease simply do not have to happen. Those with diabetes are told to watch their diet, exercise and use drugs to better control the glucose levels in their bloodstream. My message is that the nutritional advice received from the American Diabetes Association (ADA), and typical dieticians and physicians is inadequate and permits countless of unnecessary premature deaths and much needless suffering. I declare, “Don’t live with your diabetes, don’t simply control your diabetes — get rid of it.”

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The standard American diet (SAD) of processed foods, refined grains, oils, sugars, and animal products is at the root of the obesity and type 2 diabetes epidemics, and keeping glucose under control with drugs in individuals who continue to consume this diet will not prevent diabetes complications. It requires nothing less than nutritional excellence with daily exercise. The SAD and the standard dietary recommendations given to diabetics promote fat storage. Excess fat on the body interferes with insulin’s actions; the body’s cells become less responsive to insulin and it is more difficult for insulin to transport glucose into the cells. The pancreas is then forced to produce more insulin to compensate.

The pancreas is pumping out much more insulin than a thinner person might need, but it’s not enough to compensate for extra body fat. The pancreas’ ability to secrete insulin is diminished further over time as individual remains overweight and the diabetes continues. Total destruction of insulin secreting ability almost never occurs in Type 2 (adult onset diabetes) as it does in Type 1 (childhood onset diabetes). However, the sooner a Type 2 diabetic loses the extra weight causing the stress on the pancreas, the more functional reserve of insulin secreting cells remain. When you give an adult diabetic, who has been suffering from the damaging effects of excess insulin for years, more insulin to drive the sugar down, you create more problems. Insulin increases appetite and can cause significant weight gain, making the patient more diabetic. Usually, they require more and more medication and their condition worsens. Findings from numerous studies also show that high insulin levels promote atherosclerosis, even in non-diabetics. In diabetics, the degree of atherosclerotic blood vessel disease is greatest in those with the highest levels of insulin. The level of insulin in your blood is an indicator of your risk of heart attack – regardless of whether that insulin is produced by your pancreas or injected. High insulin levels are also associated with increased cancer risk. Insulin is not the answer for type 2 diabetes.

**Dean Ornish**

1. Get the Plaque Out of Your Arteries
Trim the fat and overhaul your diet. Under the Reversal Diet, only 10% of your diet comes from fat; 15-20% comes from protein; and 70-75% comes from complex carbohydrates.
Your body can start to heal once you stop doing what’s causing the problem in the first place; if you stop consuming the food that contributed to the blockages in your arteries, your body will have a better chance of rebooting and recovering. Incorporate heart-healthy foods into your diet
that contain protective and preventive nutrients. A plant-based diet of fruits, vegetables, whole grains, legumes and soy products in their natural, unrefined forms not only helps to reverse heart disease, but also possesses anti-cancer and anti-aging properties.

2. **Reduce Inflammation of the Artery Walls**
   Exercise your arteries. Exercise helps to strip away the irritating materials that contribute to artery ruptures. Start with 30 minutes throughout your day. You don't necessarily have to do all 30 minutes at once with a trip to the gym, though working up a sweat is encouraged. You can exercise by making simple modifications to your daily routine. Walk more. Take the stairs. Park your car further away from the entrance. Play with your kids or grandkids.

3. **Stop the Heart from Spasming and Make the Arteries More Elastic**
   Change your arteries to change your heart. Take up to one hour a day to meditate or to engage in meditative exercises, like yoga. Calming yourself and taking control of your stress will actually serve to relax the arteries and reduce the buildup of blockages in them.

4. **Open Your Heart**
   Involve your family and friends; their support will reinforce your efforts. Love and support are powerful factors in healing heart disease. For his book "Love &Survival," Dr. Ornish surveyed hundreds of studies showing that people who feel loved and supported are many times less likely to get sick and die prematurely than those who are lonely and depressed. Open your eyes to a new approach to wellness and open up your arteries.
   When you make these lifestyle changes, you're likely to feel so much better so quickly, it reframes the reason for making these changes, as explained in Dr. Ornish's "The Spectrum," from the "fear of dying" to the "joy of living." Remember that it's less about sacrifice as it is more about achieving a rewarding and sustainable new healthy lifestyle for the long haul.
   To learn more about heart disease, visit Dr. Ornish’s Preventative Medicine Research Institute and the American Heart Association.

**Caldwell Esselstyn**

Here, Dr. Esselstyn convincingly argues that a plant-based, oil-free diet can not only prevent and stop the progression of heart disease, but also reverse its effects.

The proof is in the results. The patients in Dr. Esselstyn’s initial study came to him with advanced coronary artery disease. Despite the aggressive treatment they received, among them bypasses and angioplasties, 5 of the original group were told by their cardiologists they had less than a year to live. Within months on Dr. Esselstyn’s program, their cholesterol levels, angina symptoms, and blood flow improved dramatically. Twelve years later 17 compliant patients had no further cardiac events. Adherent patients survived beyond twenty years free of symptoms.

**Drop in cholesterol levels:** After 5 years on Dr. Esselstyn’s plant-based diet, the average total cholesterol levels of his research group dropped from 246 milligrams per deciliter to 137 mg/dL.
(Above 240 mg/dL is considered “high risk,” below 150 mg/dL is the total cholesterol level seen in cultures where heart disease is essentially nonexistent.) This is the most profound drop in cholesterol ever documented in the medical literature in a study of this type.

**Cardiac events:** The 17 patients in the study had 49 cardiac events in the years leading up to the study, and had undergone aggressive treatment procedures. Several had multiple bypass operations. After beginning the eating plan, there were no more cardiac events in the group within a 12-year period.

**Angiogram evidence:** Angiograms taken of the participants in the study show a widening of the coronary arteries, and thus a reversal of the disease.

**PREVENT AND REVERSE HEART DISEASE** offers readers the same simple, nutrition-based plan that dramatically changed the lives of his patients forever. With this eating plan, sufferers of heart disease will maintain cholesterol levels low enough to ensure that they will never have a heart attack. Best of all, the book offers more than 150 delicious recipes that Dr. Esselstyn and his wife, Ann Crile Esselstyn, have developed over the years—showing readers how easy it is to enjoy their new way of eating.

**T Colin Campbell**

Before I get to the research findings, however, it's important to remember where we were 10 years ago. Doctors believed that by the time chest pains or a heart attack had occurred due to the blocking of vital blood vessels by cholesterol deposits, patients had absolutely no hope of ever again having a healthy heart. Their options: open-heart surgery, a lifetime of cholesterol-lowering drugs, or death. Scientific consensus held that diet could, at best, decrease blood cholesterol by only about 10-20%, an effect not considered substantial enough for disease prevention.

It was precisely at this extremely critical moment in science and medicine when Drs. Esselstyn and Ornish, at opposite ends of the country, stepped in and showed considerable courage. They asked not only whether heart attacks might be prevented by low-fat, plant-food diets, but whether this disease might actually be reversed.

**Spotlighting Plant Foods**

Where Dr. Esselstyn departs from the Ornish work is in his approach. As Dr. Esselstyn told me, he simply wanted to see if he could "get inside his patients' heads." To do this, he was first willing to get inside his own head by adopting a plant-based diet. Today, he is a total "vegan," eating no dairy products. His aim was to let his patients know that if they could reduce their blood cholesterol levels, they might also reduce their heart problems. He kept careful records on his patients during these past 10 years and has just now reported his findings. Unlike Dr. Ornish, who combined meditation and exercise with his dietary restrictions, Dr. Esselstyn placed more emphasis on the effects of a plant-based diet.
Let's look at the main results. He enrolled 21 patients in his study between 1985 and 1988, a number similar to that in the Ornish experimental group. These patients were asked to consume on a regular basis a very low-fat, plant-food diet while maintaining their use of cholesterol-lowering drugs. A modest regimen of cholesterol-lowering drugs was believed necessary because these were at-risk patients and Dr. Esselstyn wanted to be sure to reduce their cholesterol levels below 150 mg/dL. Five patients dropped out of the study, 17 maintained the diet, and 11 of these had frequent cholesterol measurements and a follow-up angiogram.

Average age of these 11 patients was 56 years.

All patients had severe, progressive triple-vessel coronary heart disease as documented by angiography. For most physicians, these would be considered very sick people. During the eight preceding years, despite having received "state-of-the-art" treatment, these 11 patients had experienced a total of 39 cardiovascular disorders. All were non-diabetic, had normal blood pressure, and did not smoke.

With most patients completing a decade of follow-up examinations, disease progression was stopped in all those who kept to the diet. Significantly, disease did not just stop but was actually reversed in approximately 70% of those having follow-up angiograms. Angina was improved or eliminated in every patient who had experienced this problem. And get this: no new cardiac disorders or other evidence of disease progression occurred during the study, compared with 37 incidents prior to the study! Of the five patients who left the diet program and returned to their regular diet, there were 10 new cardiac incidents, including one death. Really extraordinary findings!

Blood cholesterol was measured every other week, resulting in a total of 126 times per patient (what record keeping!). At the beginning of the study, average total cholesterol was 246 mg/dL; at follow-up, the mean level dropped to 132 mg/dL (every patient was under 150 mg/dL). This is a remarkable 46% drop. The "bad" or LDL cholesterol dropped by 58%. These are unprecedented cholesterol reductions.

So how did Dr. Esselstyn do this? Most importantly, he set an example by going on the diet himself. He also showed real interest in his patients; he was a very positive role model. After explaining the scientific evidence to the patient's spouses, he met with each patient bimonthly for their check-up, and the entire group met quarterly on a more social basis to exchange favorite recipes. His presence was authoritative, yet caring and uncompromising.

You Can Change Your Taste Preferences

I see several very significant findings in Dr. Esselstyn's study. First, remember that these patients consumed a very low-fat diet quite comfortably for a very long period of time. How so? Primarily, by changing their taste preferences. This is a very important point seldom mentioned when speaking about these diets. Namely, if you switch from a high-fat diet to a low-fat diet, your initial response may at first be "Yuk!" However, if you exercise a little patience for, perhaps, three to four months, your taste preferences will change. You'll then prefer your new low-fat diet
over your old high-fat diet. When, in addition, your health improves and you start feeling better, you're on your way to a lifetime of healthier eating habits. If you're like most people, you'll begin to wonder how you could possibly have eaten that greasy stuff in the past. Dr. Esselstyn reported that his patients lost their craving for meat and fat, and "can now travel away from home for weeks at a time while still adhering to the diet."

Dr. Esselstyn says that the use of the cholesterol-lowering drugs in this study may not have been necessary to achieve the results because the same reversal of disease most likely would have been achieved with diet alone and without any side effects. But, if there had been deaths among his patients from disease progression, the results would have been devastating.

The Bottom Line

The Esselstyn study adds to Dr. Ornish's work in several important ways. First, he was able to show that if disease is to be reversed by diet therapy, fat should be less than 10% of calories rather than the present 30% advocated by the American Heart Association. Second, these results were achieved without advice on meditation and exercise. Let me point out, however, that neither Dr. Esselstyn nor I recommend that you limit yourself to dietary changes alone. Regular exercise and stress management are extremely valuable health-promoting tools. Dr. Esselstyn's results do seem to say, quite emphatically, that consuming a low-fat, all-plant-foods diet is a very powerful way to promote good health and to heal the body of heart disease. Isn't it interesting to note that, when the Esselstyn and Ornish methods are compared, they both give virtually the same results? And isn't it also interesting to note that their most common feature is consumption of a low-fat, plant-foods diet?

Neal Barnard

Barnard is especially proud of a National Institutes of Health-supported study that showed how a plant-based diet reduced weight, boosted resting metabolism and reversed insulin resistance in patients with Type 2 diabetes. PCRM's dietary strategy is now acknowledged in the American Diabetes Association’s guidelines for clinicians.

“Today, I find diabetes the most exciting condition,” he says. “People come in and they’re terrified, because they know someone who has lost their eyesight or their right foot because of this disease. They come in with these terrible worries and what we can do is turn it all around.” Barnard attributes the country’s diabetes epidemic – along with heart disease, obesity and colorectal cancer – to America’s increased intake of sugar and animal proteins. He cites medical research that shows how animal fats and even some vegetable fats permeate muscle and liver cells, making them resistant to the action of insulin.

“Our diet is the worst on the globe,” he says. “The average American eats 75 pounds more meat per year than we did a century ago. We’re eating more meat, more cheese and more sugar, and that’s why we’re obese.”