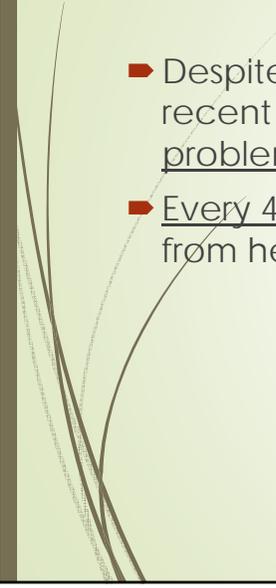


Heart disease reversal diets

Susan Buckley, RDN, CDE
South Denver Cardiology



Heart disease

- Despite all the progress medical science has made in recent decades to combat heart disease, cardiovascular problems remain the nation's No. 1 killer.
- Every 40 seconds someone *somewhere* in the U.S. dies from heart disease.



Heart disease

- Heart disease (which includes Heart Disease, Stroke and other Cardiovascular Diseases) is the No. 1 cause of death in the United States, killing nearly 787,000 people alone in 2011- about 1 of every 3 deaths in America
- Heart disease is the leading cause of death for people of most racial/ethnic groups in the United States, including African Americans, Hispanics and Whites.
- For Asian Americans or Pacific Islanders and American Indians or Alaska Natives, heart disease is second only to cancer



Heart disease

- Cardiovascular diseases claim more lives than all forms of cancer combined.
- Coronary heart disease is the most common type of heart disease, killing nearly 380,000 people annually.
- In the United States, someone has a heart attack every 34 seconds.
- Direct and indirect costs of heart disease total more than \$320.1 billion. That includes health expenditures and lost productivity.



Heart disease

- ▶ Heart disease is the No. 1 killer of women, and is more deadly than all forms of cancer combined.
- ▶ For every woman who dies of breast cancer, 6 women die from heart disease
- ▶ Only 1 in 5 American women believe that heart disease is her greatest health threat.
- ▶ Since 1984, more women than men have died each year from heart disease.

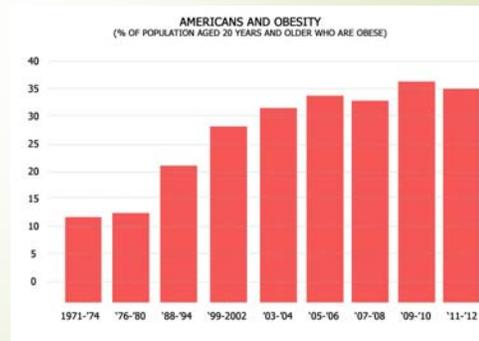


Heart disease

- ▶ An increasing number of doctors are aware that diet plays a crucial role in health, and that nutritional changes can have dramatic effects on the development and progression of disease.
- ▶ But for a number of reasons, current medical practice places little emphasis on primary and secondary prevention.
- ▶ For most physicians, **nutrition is not of significant interest**.
- ▶ It is not an essential component of medical education; each generation of medical students learns about a different set of pills and procedures, but receives almost no training in disease prevention.
- ▶ Doctors have limited time with patients and are not rewarded for educating patients about the merits of truly healthy lifestyles.

Heart disease

- Less than 1% of U.S. adults meet the American Heart Association's definition for "Ideal Healthy Diet."
- Over 159 million U.S. adults – or about 69% – are overweight or obese.



Heart disease

- The role of diet is crucial in the development and prevention of cardiovascular disease.
- Diet is one of the key things you can change that will impact all other cardiovascular risk factors.
- Comparisons between a diet low in saturated fats, with plenty of fresh fruit and vegetables, and the typical diet of someone living in the developed world show that in the former there is a 73% reduction in the risk of new major cardiac events.



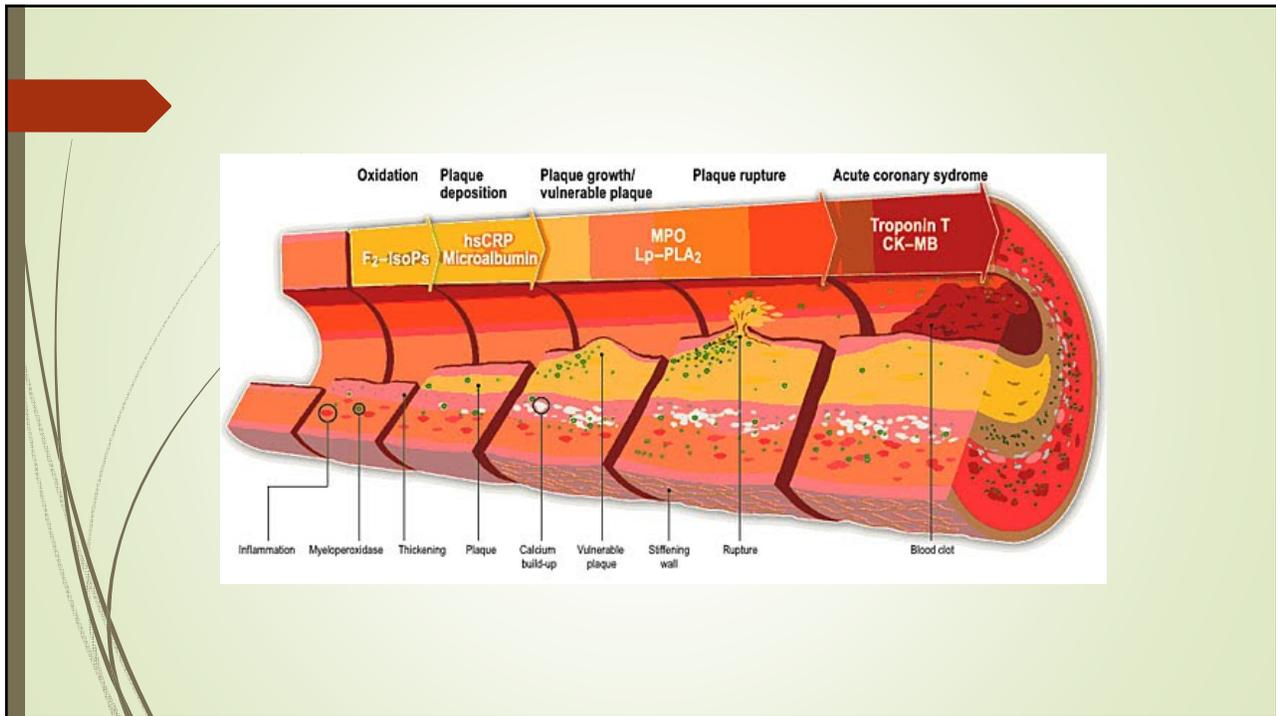
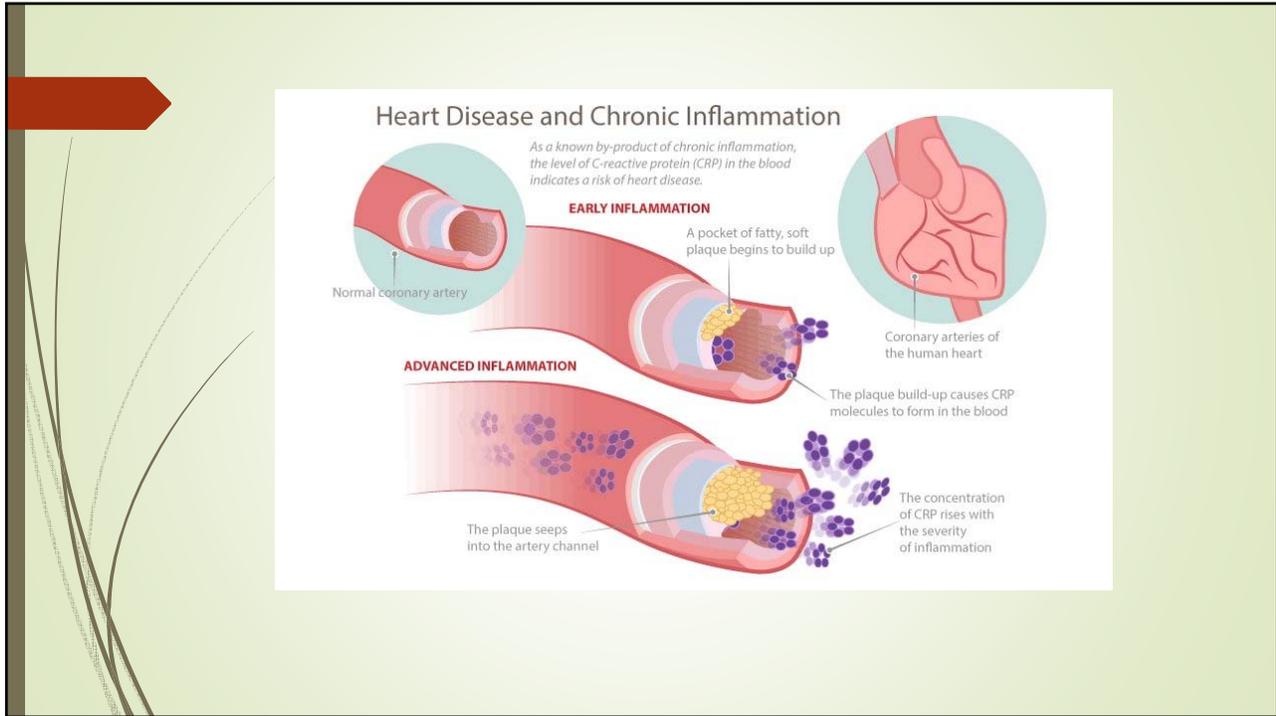
Heart disease

- ▶ Research makes it clear that abnormal blood lipid (fat) levels have a strong correlation with the risk of coronary artery disease, heart attack and coronary death.
- ▶ In turn, abnormal blood lipids are related to what you eat for most people
- ▶ A diet high in saturated fats (e.g. fatty meats and cheese) and trans fats (often used in cakes, cookies and fast food) leads to high levels of cholesterol.



Heart disease

- ▶ Without inflammation being present in the body, cholesterol would not accumulate in the wall of the blood vessel and cause heart disease and strokes.
- ▶ Without inflammation, cholesterol would move freely throughout the body as nature intended.
- ▶ It is inflammation that causes cholesterol to become trapped.
- ▶ If we chronically expose the body to injury by toxins or foods the human body was never designed to process, a condition occurs called chronic inflammation.
- ▶ Chronic inflammation is just as harmful as acute inflammation is beneficial.





Heart disease

- What are the biggest culprits of chronic inflammation?
- The overload of simple, highly processed carbohydrates (sugar, flour and all the products made from them) and the excess consumption of omega-6 vegetable oils like soybean, corn and sunflower that are found in many processed foods, as well as excess saturated fats
- Extra sugar molecules attach to a variety of proteins that in turn injure the blood vessel wall.
- This repeated injury to the blood vessel wall sets off inflammation. When you spike your blood sugar level several times a day, every day, it is exactly like taking sandpaper to the inside of your delicate blood vessels.



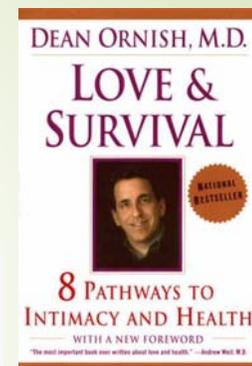
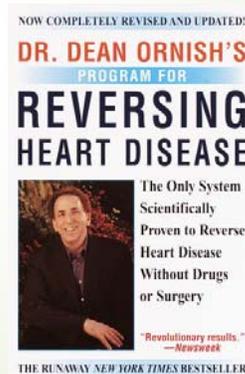
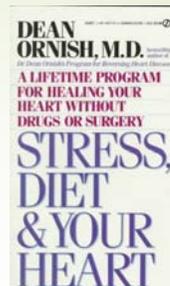
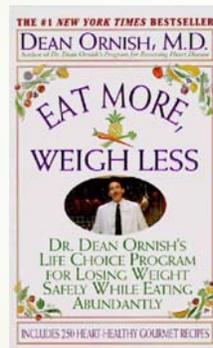
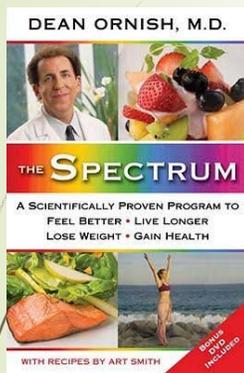
Heart disease

- We eat too much damaged food and not enough heart protecting foods
- Low fruit and vegetable intake accounts for about 20% of cardiovascular disease worldwide.
- Fruit and vegetables contain components that protect against heart disease and stroke.

Heart reversal diets:

- The Dean Ornish Plan
- Prevent and Reverse Heart Disease: Caldwell B. Esselstyn, Jr., MD of the Cleveland Clinic
- The McDougall Program
- 30-day Heart Tune-up by Steven Masley, MD

The Ornish plan





The Ornish Plan

- The first program scientifically proven to “undo” (reverse) heart disease by optimizing four areas:
- 1. Diet
- 2. Exercise/Fitness
- 3. Stress Reduction
- 4. Emotional Support



The research

- Dr. Ornish’s 37 years of research has scientifically proven that the integrative lifestyle changes he recommends can:
 - improve chronic conditions – such as heart disease, diabetes and prostate cancer
 - change gene expression, turning on health-promoting genes & turning off disease-promoting genes.
 - lengthen telomeres — the ends of chromosomes — which begins to reverse aging on a cellular level.
 - Medicare is covering "Dr. Dean Ornish's Program for Reversing Heart Disease" in sites that have been trained in the program.

The Ornish plan

- ▶ Diet recommend for preventing and reversing heart disease:
- ▶ Rich in fruits, vegetables, whole grains, legumes, and soy products in their natural, unrefined forms.
- ▶ Low in total fat (<10% fat), saturated fats, and trans fats. For a 1500 calorie/day diet – 17 grams total fat/day (2 Tbsp peanut butter has 16 grams of fat)
- ▶ High in omega-3 fatty acids from supplements (fish oil, flax oil, salmon).
- ▶ Low in refined carbohydrates such as sugar, white flour (bread, pasta), white rice, and sugar-sweetened beverages.
- ▶ Low in processed and refined foods.

Nutrition Guidelines For Reversing Heart Disease:

- ▶ **Fat** — No more than 10% of calories are from fat. This is achieved by not adding any fats, oils, avocados, coconut, etc. to a mostly plant-based diet. The 10% of calories from fat comes from fat that occurs naturally in grains, vegetables, fruit, beans, legumes, small amount of nuts/seeds, and soy foods.
- ▶ **Cholesterol** — No more than 10 mg of cholesterol per day. To meet this goal, non-fat dairy products are limited to 2 servings per day. Non-fat dairy products are optional. Soy products can be used instead of dairy products because they are cholesterol free.
- ▶ **Animal Products** — Meat, poultry, fish and any products made from these foods are eliminated. Non-fat dairy foods (no more than 2 servings/day) and egg whites are included.

- 
 ■ **Calories** — Unrestricted unless weight loss is desired. Small frequent meals spread throughout the day help avoid hunger and keep energy levels constant. Portion control is stressed
- **Sugar** — Permitted in moderation. No more than 2 servings/day including non-fat sweets. A serving is equivalent to 1 tablespoon or 12 grams of sugar.
- **Caffeine** — Small amounts of caffeine including regular and decaffeinated coffees and teas, and cocoa. *Individuals with arrhythmia and elevated stress should still avoid any caffeinated beverage.*

- 
 ■ **Sodium** — Moderate salt use, unless medically indicated otherwise.
- **Alcohol** — Allowed in small amounts but not encouraged. If consumed, enjoy one serving a day: 1.5 ounces liquor, 4 ounces wine or 12 ounces beer.
- **Soy** — One serving per day of a “full-fat” soy food. A full-fat soy food is one that contains greater than 3 grams of fat per serving, with none of the fat coming from added fats or oils.
- **Supplements** — A low dose multivitamin and mineral supplement with B-12 (without iron, if not of childbearing age), fish oil and, possibly upon the advice of a physician, calcium supplements. Antioxidant vitamins and folic acid are optional and are based on health history and nutritional intake of these nutrients.
- Patients take 4 grams/day of fish oil or flax oil to provide the omega-3 fatty acids

Typical day on Ornish plan

Breakfast

- Oatmeal with dried cranberries
- 4oz. of natural vegetable or fruit juice

Morning Snack

- Non-fat granola bar
- Banana
- One cup of tea; green tea, without milk or sugar, is ideal

Lunch

- Stir-fried veggies with low-sodium teriyaki sauce and brown rice
- Green salad with edamame, chickpeas, beans and fat-free raspberry dressing, and one whole wheat roll

Dinner

- Tacos: black beans, brown rice, fat-free sour cream, fat-free cheese and salsa; corn tortillas
- These tacos are low in fat and high in protein.

Night Snack

- Hummus with assorted dipping vegetables

The Ornish plan

- The clinical results obtained by the Ornish Program were based on the entire package, which involves not only a plant-based diet but also:
 - physical exercise
 - stress management techniques including meditation and yoga, and
 - psychological support group sessions.



Cons to the Ornish plan

- ▶ Because the diet is extremely low in fat of all types, it can be challenging to follow long-term
- ▶ The Ornish Diet restricts the amount of unsalted nuts and seeds you eat. Nuts and seeds have been shown in research to be good for heart health. Also, unsalted nuts and nut butters in moderation can improve the taste of meals and help you feel fuller, if used judiciously.
- ▶ If menus are not carefully planned, the diet can be very low in calories, vitamin B12, and iron.



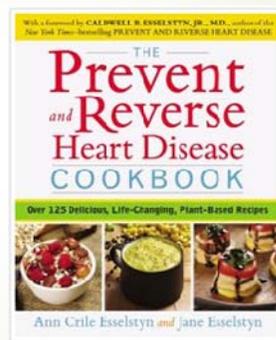
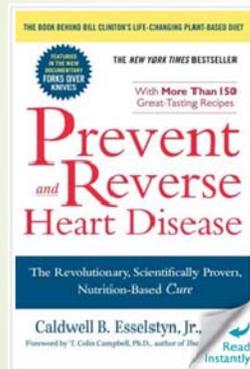
Dr. Esselstyn

- ▶ Many of you have probably heard Dr. Esselstyn's name connected with former President Bill Clinton
- ▶ President Clinton, as a result of his love of fast food and a rich diet, had heart problems and elected to have a quadruple heart by-pass in 2004.
- ▶ Six months after the by-pass he had an additional procedure to eliminate scar tissue and fluid build up.

Esselstyn

- In 2010, when the by-pass failed to work properly, two stents were added to help relieve the situation.
- At this point President Clinton looked for another way to return to reasonable health and his search led him to Dr. Esselstyn's book, "Prevent and Reverse Heart Disease" and Dr. Campbell's book, "The China Study".
- President Clinton has lost 24 pounds by pursuing Dr. Esselstyn's plant based diet and he plans to reverse heart disease by following this new heart healthy diet and lifestyle.

Dr. Esselstyn





Dr. Esselstyn

- He was trained as a surgeon at the Cleveland Clinic
- In 1995 he published his bench mark long-term nutritional research arresting and reversing coronary artery disease in severely ill patients.
- That same study was updated at 12 years and reviewed beyond 20 years in his book, Prevent and Reverse Heart Disease, making it one of the longest longitudinal studies of its type.
- Dr. Esselstyn presently directs the cardiovascular prevention and reversal program at The Cleveland Clinic Wellness Institute.



Dr. Esselstyn

- The program is a nutrition-based therapy that has been scientifically-proven to reverse heart disease.
- Coronary angiograms (X-Rays) of the patients show an actual reversal of heart disease.
- Strick plant-based diet - no foods of animal origin whatsoever



Dr. Esselstyn

- ▶ You may not eat anything with a mother or a face (no meat, poultry, or fish).
- ▶ You cannot eat dairy products.
- ▶ You must not consume oil of any kind—not a drop. (Yes, you devotees of the Mediterranean Diet, that includes olive oil)
- ▶ Generally, you cannot eat nuts or avocados.

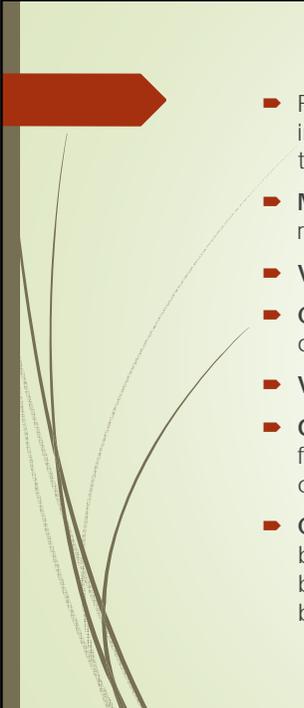


Dr. Esselstyn

- ▶ You can eat a variety of delicious, nutrient-dense foods :
- ▶ All vegetables except avocado. Leafy green vegetables, root vegetables, veggies that are red, green, purple, orange, and yellow and everything in between
- ▶ All legumes—beans, peas, and lentils of all varieties.
- ▶ All whole grains and products, such as bread and pasta, that are made from them—as long as they do not contain added fats.
- ▶ All fruits



- ▶ **Vegetables** - Just about all vegetables are permitted on this plan with the exception of avocados. If you are a cardiac patient avocados have a very high fat content. Those that do not have heart disease may eat avocados as long as blood lipids are not elevated.
- ▶ **Legumes** - Beans, peas, and lentils of all kinds.
- ▶ **Whole Grains** - Just about any grain as long as it is "whole" grain. "Whole" means that it has not been polished or processed to eliminate much of the nutritional value. You should eat breakfast cereals that do not contain added oil and sugar. Breads should be whole grain without added oil. Whole grain pastas are allowed. You should be careful of restaurant pastas that almost always contain eggs, white flour and some oil.
- ▶ **Fruit** - Fruit of all kinds are permitted. It's best to limit fruit consumption to three servings a day. Also, avoid consuming pure fruit juices since you get excessive amounts of sugar that will elevate your triglycerides. Be careful of all desserts for the same reason.
- ▶ **Beverages** - The heart healthy diet allows the following beverages. Water, seltzer water, oat milk, no-fat soy milk, coffee, and tea. Alcohol is okay in moderation.



- ▶ For those who have heart disease, a heart healthy diet includes supplements and Dr. Esselstyn recommends the following:
 - ▶ **Multivitamin** - One a day that covers all the basic requirements.
 - ▶ **Vitamin B12** - 1000 mcg (micrograms) daily.
 - ▶ **Calcium** - People over 50 should take 1000 milligrams daily...over 60 take 1200 mg daily.
 - ▶ **Vitamin D** - Those over 50 should take 1000 IU daily.
 - ▶ **Omega Fatty Acids** - Consume one tablespoon of flaxseed meal each day. Perhaps sprinkling on your cereal.
 - ▶ **Cholesterol** - lowering drugs (if necessary). These must be taken under supervision of a physician. Drugs may be needed if you cannot get your total cholesterol below 150mg/dL.



Dr. Esselstyn

- ▶ In the first continuous 12 year study of the effects of nutrition in severely ill patients, those who complied with this program achieved total arrest of clinical progression and significant selective reversal of coronary artery disease.
- ▶ In fully compliant patients, angina can disappear in a few weeks and abnormal stress test results can return to normal.



Typical day

- ▶ **Breakfast:** Cereal, plant milk (your choice), and banana and berries
- ▶ **Lunch:** Hummus and Sundried Tomato Wrap and cup of Curried Tomato Lentil Soup
- ▶ **Snack/Dessert:** Ginger Banana Smoothie
- ▶ **Dinner:** Moroccan Bean Stew with Sweet Potatoes with side of Couscous



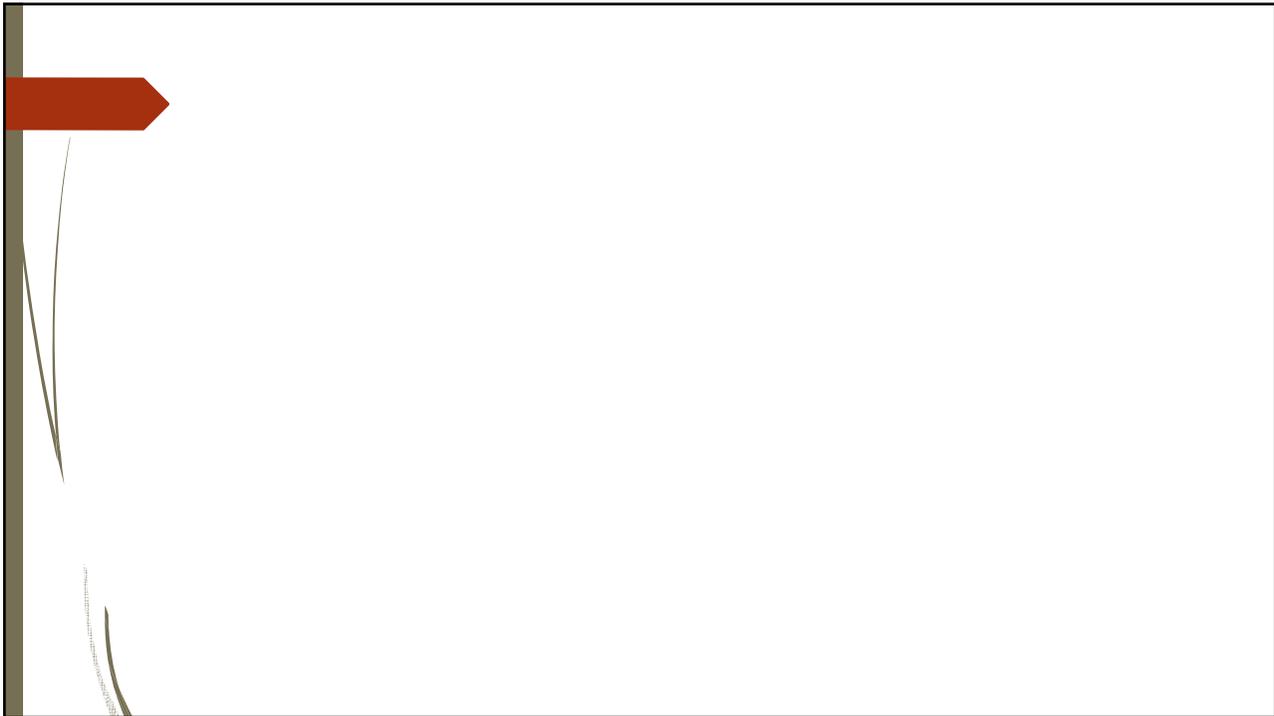
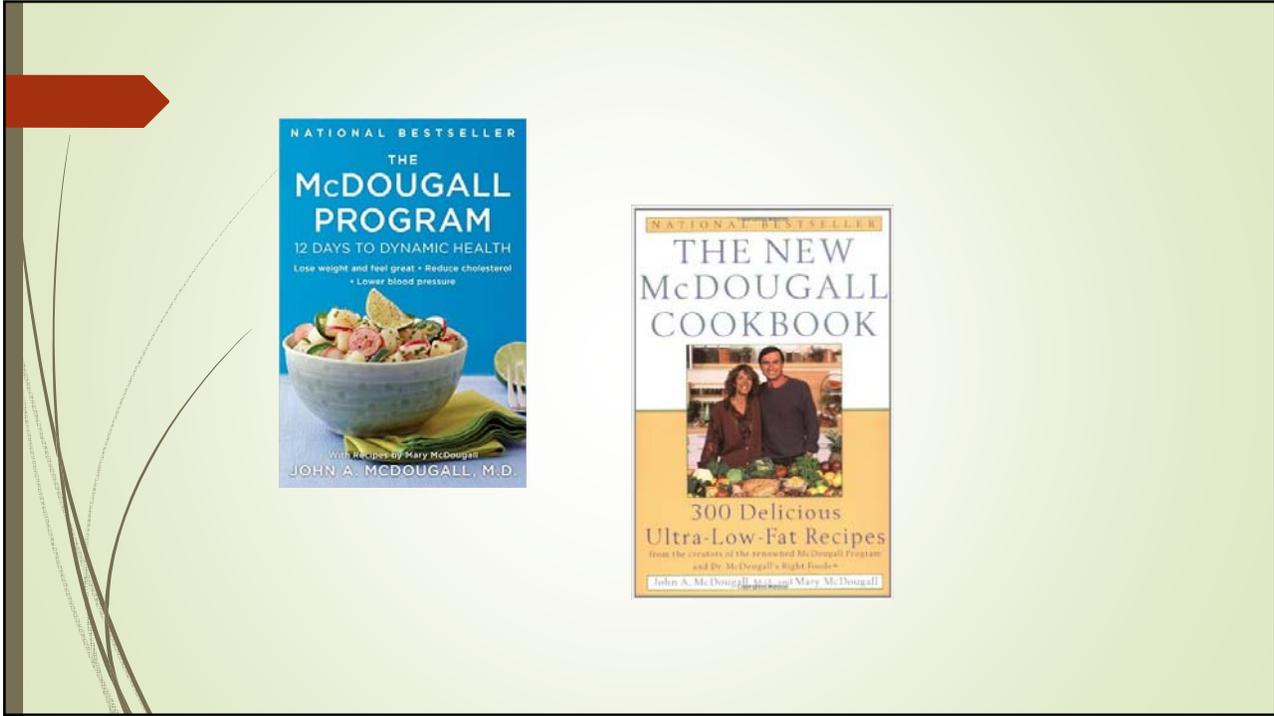
The McDougall plan

- Dr. McDougall is the founder and director of the nationally renowned McDougall Program: a ten-day residential program that he and wife Mary McDougall host at a luxury resort in Santa Rosa, CA
- John A. McDougall, MD has been studying, writing, and speaking out about the effects of nutrition on disease for over 30 years
- His program has been shown to reverse serious illnesses including high blood pressure, heart disease, diabetes and others, all without the use of drugs.



The McDougall program

- A diet of plant foods, including whole grains and whole-grain products (such as pasta, tortillas, and whole-grain bread), and a wide assortment of vegetables and fruit.
- Plenty of spices and usually small amounts of sugar and salt to enhance the flavor of food.
- Exercise as simple as a daily walk.
- The exclusion of animal foods, including red meat, poultry, dairy products, eggs, and fish –
- The exclusion of all oils including olive oil, safflower oil, and corn oil.





Typical day on mcdougall plan

- Breakfast: Swiss Chard and Mushroom Tofu Scramble
- Lunch: Vegan Chickpea Quinoa Burgers with Lemon and Thyme
- Snack: Sweet Potato Hummus with veggies
- Dinner: Mexican Black Bean Corn Tacos & Cabbage
- Dessert: Oil-Free Vegan Fudgey Blackberry Brownies



The 30-day heart tune up Steven Masley

- Steven Masley, M.D. is a physician, nutritionist, author, speaker, award-winning patient educator, and a fellow with the American Heart Association.
- Dr. Masley is a Clinical Assistant Professor at the University of South Florida, and he teaches programs at Eckerd College and the University of Tampa.
- Dr. Masley has published several health books, including The 30-Day Heart Tune-Up, Ten Years Younger, and numerous scientific articles.



The 30-day heart tune up

- Steven Masley, M.D., has a five-point plan for preventing and reversing the progression of heart disease, based on his own clinical studies.
- In his book, "The 30-Day Heart Tune-Up," he details how to effectively boost your heart health in as little as a few weeks.



The 30-day heart tune up

- He believes you have to look beyond cholesterol and do more than simply take statin drugs to keep your arteries clear to lower your risk for heart attack.
- More important to adopt healthy lifestyle habits. "Without lifestyle, I don't believe statins work," he says.
- "There is quite a bit more to it than cholesterol and there's a lot of controversy as well," he says. "In our research we've shown that cholesterol was not a very good predictor if you're growing plaque in your arteries or not."
- Although statins can be helpful for some, especially men, Dr. Masley notes, studies have not shown them to be helpful for women in studies.

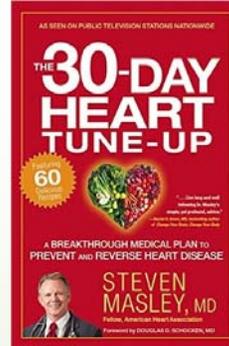
- ▶ “Half the people who die of heart disease have normal cholesterol. How helpful is that?” says Steven Masley, MD, author of *The 30-Day Heart Tune-Up: A Breakthrough Medical Plan to Prevent and Reverse Heart Disease*.
- ▶ More importantly, he says, “Plaque is what causes heart disease.” Plaque constricts arteries, reducing the flow of oxygen and nutrients, and can trigger clots that lead to heart attacks and strokes.
- ▶ Plaque levels can be tested with a non-invasive Carotid Intima Media Thickness (CIMT) ultrasound scan, but few doctors use it and insurance plans don’t cover the cost. But even without the test, plaque can be controlled and even reversed.
- ▶ Masley’s heart tune-up plan is based on his research, in which more than 100 patients were able to reduce and reverse plaque with a strategy that includes eating the right foods and taking heart-healthy supplements.

The 30-day heart tune up

- ▶ “Dean Ornish was one of my mentors,” states Dr. Masley. “We were the first two people publishing data to show that you can shrink arterial growth through diet and lifestyle changes.”
- ▶ Masley’s program follows the same basic principles of diet, exercise, and stress management, but also incorporates advances in diagnostic testing, measured fitness programs, heart nutrients and a broader nutritional plan.
- ▶ “I believe that you can add more healthy protein and fats (for greater patient compliance) and still achieve success.”

The 30-day heart tune up

- ▶ Dr. Masley has come up with a five-point plan — what he calls the "Five Fs" — for lowering the risk of heart disease:
- ▶ Fiber
- ▶ Fitness
- ▶ Body Fat
- ▶ Fish and fish oil
- ▶ Food nutrients



Fiber

- ▶ Making sure you're getting enough natural fiber in your diet — from vegetables, fruit, beans, and nuts — is the single best thing you can do to boost your heart health.
- ▶ "They're awesome, they do so many things," he says. "They help us lose weight, they suppress appetite, they're good for our blood sugar, blood pressure, they slow aging."



Fitness

- The standard minimum guideline — 30 minutes of moderate exercise most days of the week — is a good rule of thumb to follow.
- But what's most important is determining your fitness level.
- You can do this by measuring metabolic equivalents — METs — that gauge the intensity of physical activity and the amount of oxygen consumed in your workouts.
- "It's not about how many minutes you work out; it's about how fit you are," he says



What is a met?

- One metabolic equivalent (MET) is defined as the amount of oxygen consumed while sitting at rest
- The more your physical exertion, the more METs.
- Most healthy people should be able to achieve 10 to 12 METs on a treadmill fitness test lasting 12 to 18 minutes.
- For every single MET increase in fitness, your risk of heart attack and stroke decrease by 12.5%.



Body fat

- High body fat is a primary predictor of heart health, which is why most Americans need to adopt sensible diets and exercise regularly to burn it off.
- Body fat really does make a difference in heart risk he says. "And the two best predictors of losing weight are to eat your fiber and get fit. So if you do those, the body fat is less important and usually goes away on its own," says Masley



Fish and fish oils

- Dr. Masley recommends 1,000 milligrams per day of healthy fish oils, from food or supplements.
- They found actual fish [salmon, trout, sole] to be better than the supplement ... but they were both clearly beneficial

food Nutrients

- ▶ Most Americans don't consume enough healthy nutrients, putting them at risk for heart disease, Dr. Masley says.
- ▶ Among the nutrients he recommends: 2,000 IUs a day of vitamin D, 400 milligrams of magnesium, and vitamin K from green leafy vegetables.
- ▶ If you're deficient in vitamin K—and most Americans are, says Masley—calcium will shift from your bones to your arteries, where it's harmful.
- ▶ Eating a daily cup of cooked green vegetables, such as broccoli, kale, or spinach, will give you between 250 and 1,000 mcg of vitamin K, but most people don't get enough.
- ▶ In a supplement, take 250 mcg daily of vitamin K₂. "They are powerful and 70 to 80% of Americans are grossly deficient" in these vitamins and nutrients, he notes.

30-day heart tune up

- ▶ **Healthy Fats:** Olive oil, fish and other types of seafood, almonds, pecans, pistachios, walnuts, and hazelnuts, including nut butters and oils.
- ▶ **Clean, Lean Protein:** Organic, grass-fed lean poultry and beef, and organic, grass-fed, low-fat dairy.
- ▶ **Whole Grains:** Oats, barley, quinoa, wheat, millet
- ▶ **Beneficial Beverages:** Green tea, cocoa, and dark chocolate, and if you drink alcoholic beverages, red wine in moderation (no more than 1–2 glasses daily).
- ▶ **Flavor:** Use chili; curry powder (a blend including turmeric, coriander, and cumin); Italian herbs and spices such as oregano, rosemary, and thyme; and other seasonings to make food taste great.



30-day heart tune up

- On the flip side, foods such as sugar and flour increase the odds of prediabetes, inflammation, and plaque production. Most people should avoid them.
- But healthy, fit people may benefit from nutrients found in whole-grain flour, says Masley.

- 
- **CoQ10** CoQ10 is another important nutrient for heart health.
 - The body's levels of CoQ10 decline naturally with age, so supplements are essential, especially if you are taking a statin medication for high cholesterol.
 - Even modest dosages of various statins have been shown to lower blood levels of CoQ10 considerably.
 - Researchers have concluded that inhibition of CoQ10 synthesis by statin drugs could explain the most commonly reported side effects, especially fatigue and muscle pain, as well as the more serious side effects such as severe muscle damage (rhabdomyolysis).
 - CoQ10 supplementation in subjects on statin drugs has been shown to reduce markers of oxidative damage and improve tolerance to these drugs. The recommended dosage is 100 mg twice daily if taking a statin.



The 30-day heart tune up

- ▶ In addition to incorporating the "Five Fs", Dr. Masley advises steering clear of trans fats — which he refers to as "embalming fluid" — and processed foods high in refined carbohydrates, sugar, and flour.
- ▶ "Those are the two biggest risk factors for getting cardiovascular disease today...I would put [those] right up there with tobacco use," he argues. "The difference is a lot more people use sugar and flour and embalming fluid trans fats than use tobacco."



The 30-day heart tune up

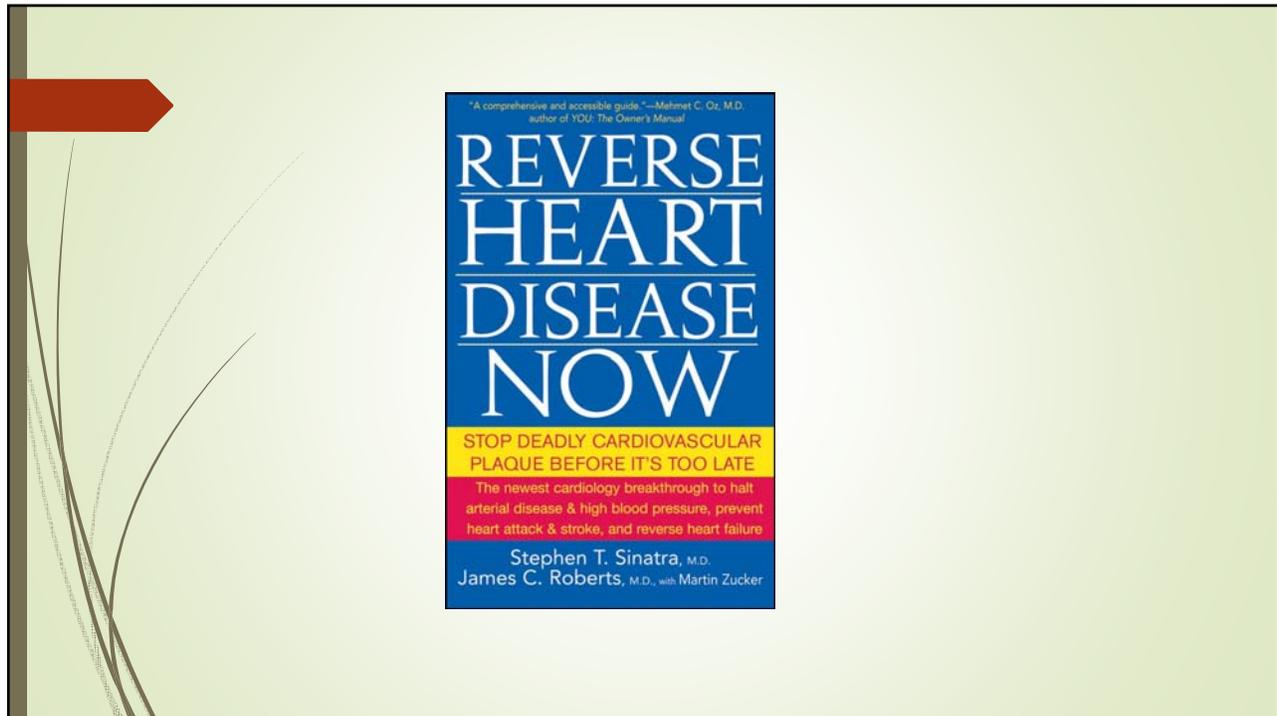
- ▶ Eat 4-5 cups of fruits and vegetables per day to decrease your risk of heart attacks and stroke by 35%
- ▶ Each cup of leafy greens per day cuts risk of heart attack or stroke by 25%
- ▶ Bean/legumes: ½-1cup per day
- ▶ Whole grains – 2 cups per day
- ▶ Nuts – 1 oz per day
- ▶ Avocados – part of healthy fats

The 30-day heart tune up

- ▶ While he doesn't demonize saturated fat, he notes that excess intakes of saturated meat and dairy fats can be bad.
- ▶ Why? He says that excess consumption of saturated animal-source fats raise total cholesterol levels and (perhaps more importantly) speed formation of plaque ... especially if you have diabetes or the cluster of symptoms known as metabolic syndrome, linked to cardiovascular disease and diabetes.
- ▶ However, he points out that the dominant saturated fat in chocolate and coconut (stearic acid) is not unhealthful, and praises dark chocolate (in moderation) for its artery benefits.

Stephen Sinatra reverse heart disease now

- ▶ Cardiologist Stephen Sinatra has more than 35 years of clinical practice, research, and study beginning as an attending physician at Manchester Memorial Hospital (Eastern Connecticut Health Network).
- ▶ His career there included nine years as Chief of Cardiology, 18 years as director of medical education, seven years as director of echocardiography, three years as director of cardiac rehabilitation, and one year as director of the weight reducing program.
- ▶ In 1987, Dr. Sinatra founded the New England Heart Center. Through it, he became a well-known advocate of combining conventional medical treatments for heart disease with complementary nutritional, anti-aging, and psychological therapies.



Stephen Sinatra reverse heart disease now

- 45% of calories come from low-glycemic carbohydrates.
- Protein makes up about another 25%: High quality, organic, lean meat and poultry, organic tofu, and free-range eggs are highly recommended, as is nonfarm-raised fish at the low end of the mercury level scale.
- Remaining 30% of calories come from healthy fats such as organic avocado, extra virgin olive oil, and organic nuts-particularly almonds and walnuts.

Stephen Sinatra reverse heart disease now

- ▶ He recommends the **Pan-Asian Modified Mediterranean (PAMM) diet**—a combination of the heart-healthy diet plan followed by the people on the Greek island of Crete (also known as the Mediterranean diet) and a diet common among people living on the Asian side of the Pacific Rim
- ▶ It includes fresh fruits and vegetables in season, fish and nuts.
- ▶ Meat is used sparingly, often just enough for flavoring.
- ▶ Meals are based on numerous small portions for lots of variety, and the lightest meal is at the end of the day, when the body is quieter and the metabolism slower.

Foods to include

- ▶ Steel cut oatmeal
- ▶ Vegetables, such as asparagus, broccoli, kale, Brussels sprouts, and spinach
- ▶ Legumes, such as lentils, soybeans, and chickpeas
- ▶ Onions and garlic (these contain sulfur derivatives and allicin, which help lower lipids and blood pressure)
- ▶ Fresh herbs, such as rosemary, thyme, and basil
- ▶ Fruits, such as berries, apples, etc.
- ▶ Sources of essential fatty acids (EFAs) and protein, such as wild cold-water fish and organic eggs
- ▶ Fermented soy products, such as tempeh
- ▶ Fish, especially fatty ones like wild salmon
- ▶ Healthy fats, such as olive, sesame, walnut, avocado, and flax oils
- ▶ Nuts and seeds, including walnuts, almonds, chestnuts, and flaxseed
- ▶ Cottage cheese, feta cheese, and grated Parmesan

Limit/Eliminate

- Foods containing refined white flour or sugar, such as breads, pastas, and bagels
- Partially hydrogenated oils, found in commercially prepared crackers, cookies, chips, and other snacks
- Saturated Fats
- Starchy vegetables such as corn, peas, and carrots
- Canned vegetables, because they're usually very high in sodium
- Processed fruit juices, which are often loaded with sugars
- Omega-6 oils, such as corn, safflower, soy, and canola

Focus on Omega 3 fats on Sinatra Plan

- Dr Sinatra focuses on omega 3 fats due to research showing that in the Lyon France trial, 605 **heart attack survivors** were assigned to eat either a Mediterranean-style diet or a diet then recommended by the American Heart Association (AHA).
- Four years later, participants following the Mediterranean-style heart-healthy diet plan were 50 percent to 70 percent less likely to have had repeat heart attacks.
- Best of all, there had been no sudden deaths in this group.



Sinatra Plan

- A separate analysis of the Lyon study found that deaths from all causes were also significantly lower among those following the Mediterranean diet (there were 14 deaths in the Mediterranean group compared with 24 among those following the AHA diet).
- When researchers looked at cancer development in the third and fourth years of the study, they found similar advantages to the Mediterranean-style heart-healthy diet plan: Only two people on the Mediterranean diet had developed cancer, compared with 12 in the AHA diet group.



Sinatra Plan

- The key appeared to be essential fatty acids (EFAs).
- A separate study of EFAs published in 1995 supported this assumption.
- People who ate two meals of fatty fish per month—such as salmon, anchovy and mackerel—experienced a 30% reduction in cardiac arrest; four fatty-fish meals a month were associated with a 50% reduction in cardiac arrest!

- ▶ EFAs, which cannot be manufactured by the body (hence the name "essential"), penetrate layers of cholesterol-laden plaque, soothing inflammation in blood vessels and preventing blood-clotting deposits from lining coronary arteries.
- ▶ EFAs can also prevent spasms of the coronary blood vessels
- ▶ The Med. Diet along with the diet favored along the Pacific Rim, is rich in the omega-3 fatty acids that include two particularly important EFAs, docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA).
- ▶ The typical Western diet, by contrast, is rife with refined carbohydrates and animal proteins, and includes few, if any, inflammation-reducing omega-3s

Supplements recommended

- ▶ A good, daily multivitamin/multimineral nutritional supplement
- ▶ 75–150 mg of **CoQ10**
- ▶ 400–800 mg of magnesium
- ▶ 1–2 g of fish or squid oil for omega-3 fatty acids
- ▶ 2–3 ounces of pomegranate juice daily
- ▶ 1 cup of organic green tea a day
- ▶ 500–1,000 mg of L-carnitine
- ▶ 5 g of **D-Ribose** twice daily
- ▶ 1 gram garlic (preferably the high allicin form)
- ▶ 1 gram of vitamin C
- ▶ B-complex vitamins
- ▶ 200–400 units of vitamin E in a mixed tocopherol that includes gamma tocopherol (don't buy vitamin E if it says "DL" on the label)
- ▶ 150 mcg of vitamin K2 menaquinone-7 (MK-7) twice daily



Summary

- ▶ Different diets have been shown to reverse heart disease
- ▶ May be some genetic factors
- ▶ Some are vegan and very low fat
- ▶ Some include animal protein and have more good fats
- ▶ **All are high in plants and fiber: vegetables, fruits, whole grains**
- ▶ All severely restrict processed foods: white flour, sugar, pasta, omega 6 fats like corn, sunflower, safflower oils
- ▶ Some include supplements
- ▶ Exercise, stress management and social support are also very important for reversing heart disease according to the studies