Heart Disease Stats

- Despite improvements over the past several decades in cardiovascular mortality rates, CVD remains the leading cause of death in the US
- 1 death every 30 seconds
- 40% of first-time heart attacks are fatal
  - They don’t get a 2nd chance to change their diet

http://www.cdc.gov/nchs/fastats/cvd.htm
THE WHITE MEAT MYTH

"Many clinicians still recommend chicken and fish diets, even though a number of studies have shown that heart patients who make such moderate dietary changes tend to get worse over time."

- Dr. Neal Barnard MD, PCRM

Food – Disease Connection

A diet that is based on:
- minimally processed fruits, vegetables, whole grains, and legumes
- low in saturated fat and calorie density
- low in added sugars, oils, salt

has been documented to prevent and/or reverse heart disease- in many published studies over the last 60 yrs. 1-5
Spectrum of Health

The results from these studies, which use differing specific diets, documents the effectiveness of this overall dietary pattern over any one specific version of this diet.
- Some are vegan/vegetarian
- Some allow small amount of animal protein
- Some allow small amount of non-fat dairy
- Some allow small amount of oil

The “V” Words

Although some of the research cited represents vegetarian or vegan diets, it is likely that any benefits from these diets are from the increased consumption of the whole foods mentioned.

Although vegetarian diets are associated with lower risk of several chronic diseases, different types of vegetarians may not experience the same effects on health.

Ingredients: UNBLEACHED ENRICHED WHEAT FLOUR (FLOUR, NIACIN, REDUCED IRON, THIAMINE MONONITRATE [VITAMIN B1], RIBOFLAVIN [VITAMIN B2], FOLIC ACID), CHEDDAR CHEESE ([CULTURED MILK, SALT, ENZYMES], ANNATTO), VEGETABLE OILS (CANOLA, SUNFLOWER AND/OR SOYBEAN), CONTAINS 2 PERCENT OR LESS OF: SALT, YEAST, SUGAR, AUTOLYZED YEAST, LEAVENING (BAKING SODA, MONOCALCIUM PHOSPHATE, AMMONIUM BICARBONATE), PAPRIKA, SPICES (CONTAINS CELERY) AND DEHYDRATED ONIONS.
READ INGREDIENTS

- Never believe the front of the package!
- EAT REAL FOOD...not chemicals additives, colorings, preservatives.

This is NOT food

Commonality of diets studied

- Increased consumption of plant-based foods
  - Fruits
  - Vegetables
  - Legumes
  - Whole Grains

- Decreased consumption of animal foods and processed foods

Hypertension

- In 2010, the Dietary Guidelines Advisory Committee performed a literature review to identify articles examining the effect of dietary patterns on blood pressure in adults.
  - Vegetarian diets were associated with lower systolic BP and lower diastolic BP.
Hypertension

- 2002 study found that 15% of male meat eaters reported having a diagnosis of hypertension, whereas only 5.8% of their vegan counterparts said the same.\(^6\)
- Some of the difference was due to the fact that the vegans were slimmer.
- However, after statistically eliminated the effect of body weight, vegans STILL had a significantly lower rate of high BP.

Research on BP

- Study on Seventh-Day Adventist in CA
  - Vegans had 75% reduction in the prevalence of hypertension compared to nonvegetarians.\(^7\)
- Dr. McDougall’s study followed 500 pts-after 12 days of eating a plant-based diet, the patients’ BPs dropped by 8%.\(^8\)

Hyperlipidemia

- 2009 Review of 27 randomized, controlled trials and observational studies in the *Am J Cardiol* – people who eat plant-based diets have lower cholesterol levels.\(^9\)
2005 Study - 3 grps for 1 month

1. Control: very low-sat fat, plant-based, dairy rich diet (high protein)
2. Ate control diet + 20mg lovastatin
3. Low dairy, plant-based

*all grps ate a vegetarian diet, but the low-dairy diet contained almost no animal protein

Results of LDL

- Control (high dairy): * 8.5%
- Control + statin: * 33%
- Almost fully plant-based: * 30%

*the almost fully PBD was nearly as effective as a dairy-rich veg diet + meds and was far better than the moderate veg diet alone at lowering LDL. 10

Randomly assigned 125 participants with moderately elevated cholesterol into 2 groups:
1. Plant-based diet - low in sat fat, cho, rich in fiber, nutrients & phytochemical (whole food)
2. Convenience food diet with same sat fat and cho levels.
Results

- After 4 weeks, plant-based group reduced their total and LDL cholesterol significantly more than group consuming a standard low-fat diet.
- Including foods to lower chol may be more successful than merely avoiding sat fat and chol.

Coronary Artery Disease

- Historically, it has been well known that heart disease strikes populations of Western countries far more commonly than traditional cultures.\textsuperscript{11,12}
- Deaths from heart disease before the age of 65 are very rare in rural China.\textsuperscript{11}
Type 2 Diabetes

- In 2008, Vang et al. reported that nonvegetarians were 74% more likely to develop diabetes over a 17 yr period than vegetarians.

Eating Greens can change Genes

- McGill University-Canada

- Consuming generous amounts of fruit and vegetables (strong focus on greens) modified a gene 9p21, the strongest marker for heart disease.
Endothelial Cell

Normal Function
- Nitric Oxide
- Resolves Inflammation
- Normalizes Angiogenesis
- Prevents atherosclerosis
- Prevents cancer
- Key to diseases

Damage Endothelial Cells
- Sugar most inflammatory
- Saturated Fats
  - Dairy, Animal
  - Alcohol
- Stress-cortisol
- Sleep Deprivation
- Salt
- Low Vit D
- Low B vitamins
- Causes inflammation as NO leaks into the tissue
- Toxins
  - Pesticides, dyes etc
  - Fast Food
  - 2 hours damage to cell
Diseases Related to Damaged Endothelial Cells
- Diabetes
- Atherosclerosis
- Heart disease and Stroke
- Hypertension
- Multiple sclerosis
- Lupus
- Scleroderma
- Rheumatoid arthritis
- Cancer
- ALS
- Parkinson’s
- Hypercoagulation of blood, thrombosis, clotting disorders
- Renal Failure
- Metabolic Syndrome—abdominal obesity, hypertension, insulin resistance
- Sleep Apnea (as a cause of endothelial dysfunction)
- Glaucoma

Plants Protect the Endothelium

Healthy Endothelium
- Plant based foods
- Antioxidants, Phytochemicals
- Exercise
- Vitamin D
- Omega 3 fatty acids
- Healthy fats-walnuts
- Liver detox
- Milk Thistle
- Vegetable protein
Leading Programs

- Dean Ornish, MD- Preventive Medical Research Institute (PMRI)*
- The Pritikin Longevity Center*
- Caldwell Esselstyn, MD- Cleveland Clinic Wellness Institute
- John McDougall, MD- McDougall Program
- Neal Barnard, MD- Physicians Committee for Responsible Medicine (PCRM)
- Hans Diehl- Complete Health Improvement Program (CHIP)

*approved by Medicare for Intensive Cardiac Rehab

Reversal of Heart Disease

- It has been shown that coronary heart disease can be reversed using a dietary approach
  - Dean Ornish
  - Caldwell Esselstyn
- Conducted trials of people with known heart disease
- Interventions centered on WFPB diets to reverse blockages and improve blood flow. 13,14

<table>
<thead>
<tr>
<th></th>
<th>Esselstyn</th>
<th>Ornish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consume</td>
<td>Grains, legumes, veg, fruit</td>
<td>Fruit, veg, grains, legumes, B12 Supplement</td>
</tr>
<tr>
<td>Avoid</td>
<td>Oils, all animal products</td>
<td>All animal products except egg whites, 1 c milk/yogurt</td>
</tr>
<tr>
<td>Moderate</td>
<td>Alcohol, caffeine</td>
<td>Alcohol</td>
</tr>
<tr>
<td>Pharm.</td>
<td>Statin</td>
<td>None</td>
</tr>
<tr>
<td>Clin Relationship</td>
<td>Daily food diaries reviewed with Dr. every 2 wks, recipes were provided. Dr. adhered to same intervention diet</td>
<td>1 wk live-in immersion program, group support meetings twice weekly.</td>
</tr>
<tr>
<td>Stress Manage</td>
<td>None</td>
<td>1 hour per day of meditation/yoga</td>
</tr>
<tr>
<td>Exercise</td>
<td>None</td>
<td>3 hours per wk</td>
</tr>
</tbody>
</table>
12 yr Longitudinal Study  
Caldwell B. Esselstyn, Jr., MD  

- 49 coronary events during 8 yrs prior to study  
- None in compliant patients during 12 years

PET Scan - endothelial cells

TREATING THE CAUSE

- 200 patients  
  - 3.75 yrs follow up  
  - 5+ hr Counseling session  
  - Presentation  
  - Recipes, Grocery List  
  - Cooking Demo, patient testimonial  
  - DVD  
  - Follow up: email/phone  
  - 89% compliant with diet

TREATING THE CAUSE

- Recurrent Events
  - Adherent patients: 0.6%
  - Non-Adherent patients: 62%
- 177 Adherent Patients
  - Angina (baseline): 112
  - Angina (resolution/improvement): 104
  - 93% Improvement!

Ornish Lifestyle Heart Trial 14

- 82% of patients with diagnosed heart disease who followed his program had some level of regression of atherosclerosis.
- 53% of the control group had progression of atherosclerosis.
- 2010- Medicare Covered ICR program
- Overall adherence to Dr. Ornish’s Program after one year in hospitals and clinics that have offered it has been 85-90%. 21

Reversal!

- Diets in both of these trials eliminated meat and oil and minimized dairy foods.
- No other diet-based trials, including those utilizing more moderate interventions have ever reversed heart disease so substantially.
Mediterranean Diet

- As described in the Lyon Diet Heart Trial, the diet is composed of:
  - Increased bread, green and root vegetables, fruit, fish
  - Decreased meat and dairy
  - Emphasis on unsaturated fats (canola/olive oil)
- A moderate plant-based diet will yield moderate benefits.

CLAIM: Mediterranean diet is much more effective than a "low-fat diet" in preventing cardiovascular disease.

- A careful reading of the study reveals that this is simply not true.
- The control group did not follow a low-fat diet. As the authors wrote, "We acknowledge that, even though participants in the control group received advice to reduce fat intake, changes in total fat were small."
- In the "low-fat" group, total fat consumption decreased insignificantly, from 39% to 37%.

The authors should have concluded- the Med diet reduced cardiovascular risk when compared to whatever diet they were eating before, not when compared to a low-fat diet, since patients in the control group were not consuming a low-fat diet.

- There was no significant reduction in heart attacks (myocardial infarction) or death from cardiovascular causes.
- They only found a significant reduction in death from stroke.
Responsible Conclusion

- The authors wrote, "Only the comparison of stroke risk reached statistical significance." They only found a reduction in cardiovascular causes when these were pooled with deaths from stroke, because the reduction in strokes was sufficiently high that it "carried along" the average of the other conditions.
- In summary, the most responsible conclusion should be, "We found a significant reduction in stroke in those consuming a Mediterranean diet high in omega-3 fatty acids when compared to those who were not making significant changes in their diet."

Don’t water down the facts

A Mediterranean diet may be more palatable and acceptable to many people at first, but with the goal of halting or reversing disease, discussing the Ornish or Esselstyn diets, will likely be more effective for adherent patients/clients.

KAISER PERMANENTE thrive

- In 2013, Kaiser Permanente endorsed a plant-based diet. Why does this matter?
- "Kaiser Permanente is the largest HMO in the United States with 182,000 employees, including 17,000 physicians"
Kaiser’s Advice to Docs

“Healthy eating may be best achieved with a plant-based diet, which we define as a regimen that encourages whole, plant-based foods and discourages meats, dairy products, and eggs as well as all refined and processed foods. We present a case study as an example of the potential health benefits of such a diet. Research shows that plant-based diets are cost-effective, low-risk interventions that may lower body mass index, blood pressure, HbA1C, and cholesterol levels. They may also reduce the number of medications needed to treat chronic diseases and lower ischemic heart disease mortality rates. Physicians should consider recommending a plant-based diet to all their patients, especially those with high blood pressure, diabetes, cardiovascular disease, or obesity.”

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3662288/

WFPBD

Health Professionals should advocate that it is time to get away from terms like low carb, low fat, vegan and vegetarian and start talking about eating FOOD:

- Dietary patterns based on
  - Unrefined whole grains
  - Fruits
  - Vegetables
  - Legumes and nuts

- Reduced intake of
  - Highly refined plant food (SOS, refined flours)
  - Animal foods (meat, dairy, eggs)
First Steps...

- Watch *Forks Over Knives*
- Add fruits/veggies/leafy greens
- Try a new plant-based recipe
- Buy a plant-based cookbook
- Meatless Monday
- No Fried Friday

“I don’t understand why asking people to eat a well-balanced vegetarian diet is considered drastic, while it is medically conservative to cut people open and put them on cholesterol-lowering drugs for the rest of their lives.”

-Dr. Dean Ornish

I hope the future of health care will involve an evolution toward a paradigm where the prevention and treatment of disease is centered, not on a pill or surgical procedure, but on another serving of fruits and vegetables.
For more information:

WEBSITES
- Center for Nutrition Studies – www.nutritionstudies.org
- Nutrition M.D. – www.nutritionmd.org
- Physicians Committee for Responsible Medicine – www.pcrm.org

BOOKS
- Prevent and Reverse Heart Disease by Caldwell B. Esselstyn, Jr., MD
- Food Over Medicine by Pamela Popper & Glen Merzer
- The Spectrum by Dean Ornish, MD
- Whole by T. Colin Campbell, PhD
- Power Foods for the Brain by Neal Barnard, MD
- The China Study Cookbook by LeAnne Campbell
- Forks over Knives Cookbook

References
17. Forks over Knives: refering to Esselstyn patients 12 min (Monica Beach Productions, Santa Monica, CA, 2011).
References

20. http://care.diabetesjournals.org/content/27/suppl_1/S3.full