Low-Carb Animal-Based Diet

vs.

90%+ Plant-Based Diet with No Sugar, Refined Grains or Oils

John Mackey
March 5, 2015
Increasing Obesity in the U.S. (Adults 20-74 Years Old)

National Health and Nutrition Examination Survey, Prevalence and trends in obesity in U.S. adults (Ogden, Carroll, Flegal), CDC
Obesity Is Rapidly Increasing Across the World

Percentage of overweight and obese adults with BMI greater than 25, by country

- China
- India
- Japan
- Mexico
- South Africa
- UK
- US

Source: Overseas Development Institute
Calorie density was rare for most of our evolution.
Salt was also scarce away from sea coasts.

We genetically evolved to crave calorie density through fat, sugar, refined grains & animal foods.
Foods today have been genetically altered to maximize calorie density.
Food addictions are now normal.
25% Increase in Calories Since 1970

Average U.S. Daily Calorie Intake

United States Department of Agriculture, Economic Research Service Food Availability (Per Capita) Data System, Loss-Adjusted Food Availability
Have We Cut Back on Total Fat Consumption?

“The most obvious one today is that the American population slashed its fat and saturated fat consumption by 11% and increased carbohydrates by 25%, according to our nutritional guidelines, but we have clearly not become healthier.”

Nina Teicholz—Interview Medscape February 9, 2015
### In the Last 40 Years...

<table>
<thead>
<tr>
<th>Category</th>
<th>% Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total calories</td>
<td>+25%</td>
</tr>
<tr>
<td>Added sugars</td>
<td>+10%</td>
</tr>
<tr>
<td>Flour &amp; cereal products</td>
<td>+42%</td>
</tr>
<tr>
<td>Added fats &amp; oils</td>
<td>+66%</td>
</tr>
<tr>
<td>Dairy &amp; dairy fats</td>
<td>+18%</td>
</tr>
<tr>
<td>Meat, eggs &amp; nuts</td>
<td>+3%</td>
</tr>
<tr>
<td>Fruits</td>
<td>+25%</td>
</tr>
<tr>
<td>Vegetables</td>
<td>-3%</td>
</tr>
<tr>
<td>Total fat from all sources</td>
<td>+20%</td>
</tr>
</tbody>
</table>

USA Department of Agriculture Economic Research Service
Calories per Macronutrient

Calories per Macronutrient, 1970-2006

- Fat
- Carbohydrate
- Protein
Cardiovascular Disease

- Every year, more than 1.5 million Americans will have a heart attack or stroke.
- More than 800,000 (2,200 each day) will die from heart disease or stroke.
“Indeed, the disturbing story of nutrition science over the course of the last half-century looks something like this: scientists responding to the skyrocketing number of heart disease cases, which had gone from a mere handful in 1900 to being the leading cause of death by 1950, hypothesized that dietary fat, especially of the saturated kind (due to its effect on cholesterol), was to blame.”

-Nina Teicholz, “The Big Fat Surprise”
Does This Look Like Just a Handful?

Deaths per Year per 100,000 People

No. of Deaths/100,000

- Diphtheria, 40.3
- Senility, 50.2
- Cancer, 64.0
- Accidents, 72.3
- Nephropathies, 88.6
- Cerebrovascular disease, 106.9
- Heart disease, 137.4
- Gastrointestinal infections, 142.7
- Tuberculosis, 194.4
- Pneumonia or influenza, 202.2
- Cancer, 185.9
- Heart disease, 192.9

Suicide, 12.2
Pneumonia or influenza, 16.2
Nephropathies, 16.3
Diabetes, 22.3
Alzheimer’s disease, 27.0
Accidents, 38.2
Cerebrovascular disease, 41.8
Noninfectious airways diseases, 44.6

The New England Journal Of Medicine
Death Rates for Cardiovascular Disease
Does This Look Like Just a Handful?
The Case Against Low-Carb, High-Animal Foods Diets
Have We Been Eating a Low-Fat, Near Vegetarian Diet?

“It is possible to think of the low-fat, near-vegetarian diet of the past half-century as an uncontrolled experiment on the entire American population, significantly altering our traditional diet with unintended results.”

-Nina Teicholz, “The Big Fat Surprise”
The Standard American Diet (SAD): Is This a Near Vegetarian Diet?

Source: Economic Research Service, United States Department of Agriculture: Loss-Adjusted Food Availability
Is the Consumption of Animal Foods Declining?

“So, what did we eat before the 1940’s? There’s a common misconception that we were primarily a plant-eating people. This theory was based on really bad data. In fact, we ate:

3-4 times more red meat
3-4 times more butter
5-6 times more lard

-Nina Teicholz, Interview Abel James September 12, 2014
Per Capita Meat Consumption Has Increased 70% Since 1940!

U.S. Meat Consumption per Person, 1909-2012

Source: EPI from USDA, U.S. Census

Earth Policy Institute - www.earth-policy.org
Worldwide Animal Food Consumption Is Exploding

World Animal Protein Production by Type, 1950-2010

- Pork
- Poultry
- Wild Fish
- Eggs
- Farmed Fish
- Beef
- Mutton

Source: Worldwatch, FAO
U.S. Annual Cheese Consumption (pounds per person)


Consumption: 33.5 lbs
“Moreover, we now know that there are many good reasons to eat animal foods like red meat, cheese, eggs, and whole milk: they are particularly dense in nutrients – far more so than fruits and vegetables.”

-Nina Teicholz, “The Big Fat Surprise”
Micro Nutrient Density per Calorie

Eat to Live by Dr. Joel Fuhrman based on USDA figures
All Major Studies Show an Increase in All Cause Disease and Death from Low-Carbohydrate Diets

No Studies of High-Carbohydrate Diets Show Similar Effects
Low-Carbohydrate Diets and All-Cause Mortality: A Systematic Review and Meta-Analysis of Observational Studies

Hiroshi Noto¹,²*, Atsushi Goto¹,², Tetsuro Tsujimoto¹,², Mitsuhiro Noda¹,²

17 studies with over 700,000 people
Low carbohydrate diets associated with a 31% increase in deaths from all causes

“Our systematic review and meta-analyses of worldwide reports suggested that low-carbohydrate diets were associated with a significantly higher risk of all-cause mortality in the long run. These findings support the hypothesis that the short-term benefits of low carbohydrate diets for weight loss are potentially irrelevant.”

Low Carb Diets with Increased Amounts of Animal Products Associated with Premature Death

- Scientists followed over 85,000 women and 44,000 men for more than 20 years, none with prior diabetes, heart disease or cancer. Over 12,500 deaths were recorded.

- Low-carbohydrate, animal-based: 23% increased death rate from all causes

- Low-carbohydrate, high-vegetable: 20% lower death rate from all causes

Red Meat Consumption and Mortality
Results from Two Prospective Cohort Studies

The Harvard School of Public Health completed the largest, longest study ever on meat and survival in 2012. They followed 120,000 people for 22-28 years and found a 13% increased risk of dying for each serving (2 to 3 oz) of unprocessed red meat eaten per day and 20% for processed red meat.

An Pan, PhD; Qi Sun, MD, ScD; Adam M. Bernstein, MD, ScD; Matthias B. Schulze, DrPH; JoAnn E. Manson, MD, DrPH; Meir J. Stampfer, MD, DrPH; Walter C. Willett, MD, DrPH; Frank B. Hu, MD, PhD; Arch Intern Med. 2012;172(7):555-563. doi:10.1001/archinternmed.2011.2287.
Over 43,000 women, 30 - 49 years old were followed for more than 15 years. The researchers gave the subjects a diet score from 1 to 20 based on how closely they adhered to a low carb, high protein dietary pattern.

Researchers tracked cardiovascular events (per 10,000 woman-years) and found a dose-dependent increase in risk: 5% increase in risk of cardiovascular events per 2 point increase in the low-carb, high-protein diet score. **Overall a 60 percent increased risk of cardiovascular events occurred in those adhering better (score above 16) to a low carb, high protein diet.**

The results showed a gradual and consistent increased risk of developing cardiovascular disease and cardiovascular death the higher the consumption of animal products and reduction in carbohydrates.

**Their conclusion:** Low-carbohydrate, high-protein diets, are associated with increased risk of cardiovascular disease.
Low-carb, High-protein Diet: Cardiovascular Disease Risk

Incidence of cardiovascular events

Low-carbohydrate, high-protein diet score (0-20)

<6  7-9  10-12  13-15  >/=16

http://www.bmj.com/highwire/filestream/591596/field_highwire_article_pdf/0/bmj.e4026
Low Carbohydrate Diet From Plant or Animal Sources and Mortality Among Myocardial Infarction Survivors

Shanshan Li, MD, Msc, ScD; Alan Flint, MD, DrPH; Jennifer K. Pai, ScD; John P. Forman, MD, Msc; Frank B. Hu, MD, PhD; Walter C. Willett, MD, DrPH; Kathryn M. Rexrode, MD, MPH; Kenneth J. Mukamal, MD, MPH; Eric B. Rimm, ScD

Adherence to an LCD high in animal sources of protein and fat was associated with 33% higher all-cause mortality and 51% higher cardiovascular mortality among this cohort.  

*J Am Heart Assoc*. 2014 Sep 22;3(5)
1000+
Studies Confirm:

- Red meat & processed meat increases risk of colon cancer
- Plant-based diet consisting of whole grains, fruits, vegetables and beans decreases risk of colon cancer
- As a result, the World Cancer Research Fund/American Institute for Cancer Research recommend eating a plant-based diet

PUBLICATION OF THE SUPERIOR HEALTH COUNCIL No. 8858
High Protein Diets Low in Sugar

- 6000 people in the 50-65 age range followed for 18 years
- 4-fold increased risk in cancer deaths, compared to those with lower animal protein intake
- 75% increase in overall mortality over the 18-year period
- 73-fold increased risk of developing diabetes in the higher protein group, and 23-fold increased risk in the moderate protein group compared to the lower protein. This increased risk of diabetes with higher protein held consistent at all ages.

Animal Protein Intake and Risk of Cancer Mortality

% animal protein: 4.1% 9.5% 18.3%

Animal Protein and Breast Cancer Relationship Confirmed by IARC

87 countries with high quality data from the GLOBOCAN project of the International Agency for Research on Cancer:

Animal product consumption was correlated with 12 types of cancer with a lag of 15-25 years. The overwhelming majority of countries used pasture-raised, not feedlot animal products.

The Case for Whole Foods
90%+ Plant-Based Diets
The Whole Foods Plant-Based Diet

- 100% whole foods
- 90% to 100% plant-based
- Whole food starches are the main calorie source
- No refined sugars, grains or oils
- Nutrient density--unlimited vegetables & fruits
- Healthy fats primarily from nuts, seeds & avocados
The Whole Foods Plant-Based Diet

Animal foods
0-10%

Whole grains, vegetables, fruit, beans, nuts, seeds
90-100%

Processed foods
Starches – Not Animal Foods – Have Been the Main Calorie Source for Humanity for Over 10,000 Years and Probably Much Longer
# Societies with No Coronary Artery Disease Are 90%+ Plant-Based

<table>
<thead>
<tr>
<th>Society</th>
<th>Diet Description</th>
<th>Average Cholesterol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tarahumara Indians</td>
<td>90% of calories from corn and beans; average cholesterol 125</td>
<td></td>
</tr>
<tr>
<td>Rural China</td>
<td>90% of calories from rice, vegetables and soybeans; average cholesterol 125</td>
<td></td>
</tr>
<tr>
<td>Uganda</td>
<td>90% of calories come from sweet potatoes, plantains, corn, millet, vegetables and legumes</td>
<td></td>
</tr>
<tr>
<td>Papua New Guinea Highlanders</td>
<td>90% of calories from sweet potatoes, vegetables and legumes</td>
<td></td>
</tr>
</tbody>
</table>
All Documented Longest-Lived Societies Have Been Whole Foods 90%+ Plant-Based
“I think it’s very hard to be healthy on a vegan diet—it just doesn’t have the nutrients that you need to sustain human health”

Nina Teicholz—Interview with Tricia Ward on Feb. 9, 2015
Seventh Day Adventist Health Study

12-year study, 34,000 people

- BMI: Vegan 23.6, vegetarians 25.7, omnivores 28.8
- Vegan Adventists who ate nuts and seeds, exercised and did not smoke were the longest lived cohort ever discovered in modern times
- Males lived 14 years longer than average Caucasian American
- Females lived 10 years longer than average Caucasian American
- Men: 60% lower risk of cancer, 76% lower risk of heart disease
- Women: 66% lower risk of cancer, 98% lower risk of heart disease

Dean Ornish Lifestyle Heart Trial

- Patients all had Coronary Heart Disease
- Experimental group followed a vegetarian diet: 10% of calories from fat, 15-20% protein, 70-75% starches
- Total cholesterol fell 24.3%; LDL cholesterol fell 37.4%; HDL did not change
- After one year, 82% of patients in the experimental group showed significant reversal of heart disease

198 patients with CAD were tracked for 3+ years.

Diet was 100% whole foods, plant-based with no oils, sugars or refined carbohydrates. Total fat was under 10%.

89% of patients adhered to the diet, and only 0.6% (one person) experienced a coronary event.

11% of patents were non-adherent, and 62% experienced a coronary event.
# Other Plant-Based Medical Doctors Reversing Diseases

<table>
<thead>
<tr>
<th>Doctor</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pritikin Center</td>
<td>90%+ plant-based reversing obesity, diabetes, and heart disease</td>
</tr>
<tr>
<td>John McDougall</td>
<td>100% plant-based reversing obesity, diabetes, heart disease, and autoimmune diseases</td>
</tr>
<tr>
<td>Joel Fuhrman</td>
<td>95%+ plant based reversing obesity, diabetes, heart disease, and autoimmune diseases</td>
</tr>
<tr>
<td>Neal Barnard</td>
<td>100% plant-based reversing obesity, diabetes, and heart disease</td>
</tr>
</tbody>
</table>
Where are the studies and who are the doctors curing heart disease, diabetes, and auto-immune diseases on low-carb meat-centered diets?
Total Health Immersion Program

- Available for free to all unhealthy Whole Foods team members
- One week of medically supervised healthy eating transformation
- Over 3,000 team members have participated
- Obesity, diabetes, heart disease all reversed quickly
- Saving Whole Foods Market many millions of dollars in health care costs each year

<table>
<thead>
<tr>
<th>Biometrics</th>
<th>End of Immersion Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>-3.5 lbs</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>-10.1 mmHg</td>
</tr>
<tr>
<td>BMI</td>
<td>-1.5 kg/m²</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>-24.3 mg/dL</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>-24.6 mg/dL</td>
</tr>
</tbody>
</table>
“I am the same happy man I was before, just much healthier and in control of my life. I was a Type 2 diabetic when I began the Immersion. In only 6 months, I’ve lost over 70 pounds, my blood pressure dropped from 156/96 to 115/75, and I’m no longer diabetic with my blood sugar regularly testing between 70-80.”

-Marty Jenkins, Roseville, CA Store Team Leader
“The immersion has not only changed my life, it has changed the lives of everyone I come in contact with. When I arrived, my BP was on average 145/95. It is now 100/65. My weight was 315 lbs. It’s now 240. I have lost a total of 75 pounds in only 4 months. My waist went from a 58 inches to 40 inches. Today at 42 years old, I am healthier than I have been in 20 years. I have not felt this amazing in decades.”

10-month update:
“I have lost well over 100 pounds in the past 10 months. I am not on any medication!”

Milan Ross,
Highlands Ranch, CO Front End Supervisor
2015 Immersions - Now Accepting Applications

Dr. McDougall
October 3-10
Santa Rosa, CA

Dr. Stoll
October 26-November 1
Naples, FL

Dr. Fuhrman
April 26-May 2
Basking Ridge, NJ

Engine 2
May 16-22
Sedona, AZ

patricia.petty@wholefoods.com
Low-Carb Animal-Based Diet

vs.

90%+ Plant-Based Diet with No Sugar, Refined Grains or Oils

John Mackey
March 5, 2015
Meat Consumption Past 100 Years

A Century of Meat

American consumption of chicken and beef rose substantially after World War II, aided by the development of intensive farming methods, the proliferation of fast-food restaurant chains and supermarkets and the adoption of reliable home refrigeration. Beef consumption peaked in 1976 but then declined, in part because of the publication of new dietary guidelines and studies that associated saturated fats and cholesterol with heart disease.

Sources: U.S. Department of Agriculture (data); news and company reports; “Putting Meat on the American Table,” by Roger Horowitz

*Note: per capita availability of boneless meat is a proxy for human consumption, and is lower than retail weight or carcass weight. Bones, offal and game are excluded.
The Standard American Diet

1970
2077 Calories

1990
2343 Calories

2010
2590 Calories

United States Department of Agriculture, Economic Research Service
Food Availability (Per Capita) Data System, Loss-adjusted food availability