

***“A Rigorous Assessment of the Myth That  
Consumption of Saturated Fat Increases Risk  
of Coronary Heart Disease”***

**David Diamond, Ph.D.**

**Department of Psychology  
Cognitive, Neural and Social Division  
University of South Florida  
Tampa, Florida USA**



# American Heart Association Recommendations: 1) Drastic Limits on Consumption of Saturated Fat (Animal/Tropical Oils); 2) Reduce Serum Cholesterol Levels

**THE FACTS ON FAT**

The American Heart Association recommends replacing bad (saturated) fats with good (unsaturated) fats as part of a healthy eating pattern.

**LOVE IT**  
UNSATURATED (POLY & MONO)

**LIMIT IT**  
SATURATED

**LOSE IT**  
ARTIFICIAL TRANS FAT, HYDROGENATED OILS & TROPICAL OILS



- Lowers rates of cardiovascular and all-cause mortality
- Lowers bad cholesterol & triglyceride levels
- Provides essential fats your body needs but can't produce itself



- Increases risk of cardiovascular disease
- Raises bad cholesterol levels



- Increases risk of heart disease
- Raises bad cholesterol levels



EAT SMART | ADD COLOR | MOVE MORE | BE WELL

LEARN MORE AT [HEART.ORG/EATSMART](http://HEART.ORG/EATSMART)

American Heart Association | Healthy For Good™



# ***Dietary Sense and Nonsense in the War on Saturated Fat***

**1 – Historical perspective on excess carbohydrate consumption as the primary cause of obesity**



# ***Dietary Sense and Nonsense in the War on Saturated Fat***

**1 – Historical perspective on excess carbohydrate consumption as the primary cause of obesity**

**2 – How “dietary science” went awry with the demonization of saturated fat (animal/tropical oils)**

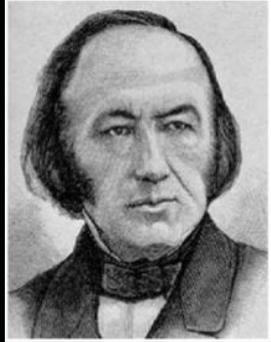


# ***Dietary Sense and Nonsense in the War on Saturated Fat***

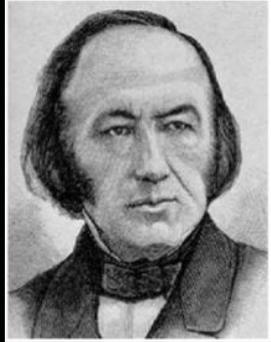
- 1 – Historical perspective on excess carbohydrate consumption as the primary cause of obesity**
- 2 – How “dietary science” went awry with the demonization of saturated fat (animal/tropical oils)**
- 3 – An assessment of ecological and experimental studies on health and saturated fat**



**1862 Lecture in Paris  
By Claude Bernard  
the liver produces sugar  
(glycogen/gluconeogenesis)**



1862 Lecture in Paris  
By Claude Bernard  
the liver produces sugar  
(glycogen/gluconeogenesis)



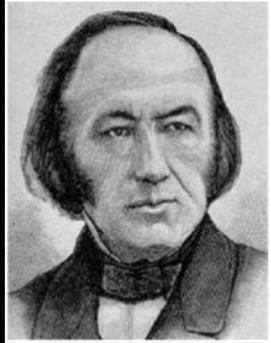
In attendance - Dr. William Harvey  
Dietary sugar is not required



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1862 Lecture in Paris  
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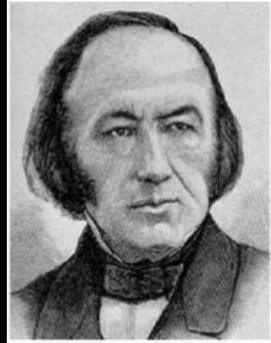
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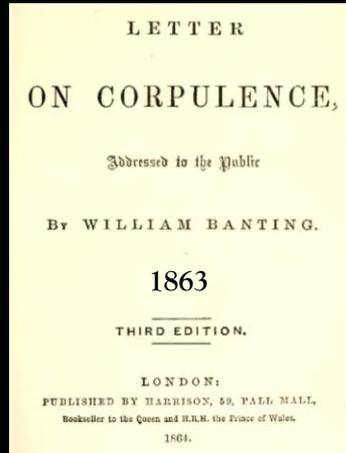
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Dietary sugar is not required



+



William Banting

# Emmet Densmore, M.D. 1892 "The Natural Food of Man"

## HOW NATURE CURES

COMPRISING

A NEW SYSTEM OF HYGIENE;

ALSO

## THE NATURAL FOOD OF MAN

A STATEMENT OF THE PRINCIPAL ARGUMENTS AGAINST THE  
USE OF BREAD, CEREALS, PULSES, POTATOES, AND  
ALL OTHER STARCH FOODS.

BY

EMMET DENSMORE, M. D.

1892

"There is no wealth but life—life, including all its power of love, joy, and admiration. That country is the richest which nourishes the greatest number of noble and happy human beings; that man is richest who, *having perfected the functions of his own life to the utmost*, has also the widest helpful influence."

—RUSKIN.

London:

SWAN SONNENSCHN & CO.  
PATERNOSTER SQUARE.

New York:

STILLMAN & CO.  
1398 BROADWAY.

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A STATEMENT OF THE PRINCIPAL ARGUMENTS AGAINST THE  
USE OF BREAD, CEREALS, PULSES, POTATOES, AND  
ALL OTHER STARCH FOODS.

"An obese person ... may be given a diet of meat, excluding bread and potatoes, and the patient will reduce to his normal weight. As soon as the patient returns to his diet of **bread and potatoes**, he straightaway begins to increase in weight."



# THE JOURNAL

OF THE

American Medical Association

NOVEMBER 16, 1957

**TREATING OVERWEIGHT PATIENTS**

George L. Thorpe, M.D.

## Summary

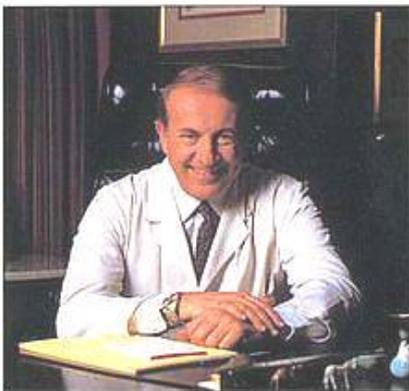
Evidence from widely different sources, when examined in light of recent metabolism studies, seems to justify the use of high-protein, high-fat, low-carbohydrate diets for successful loss of excess weight.



DOUBLEDAY

THE PHENOMENAL NATIONAL BESTSELLER  
MORE THAN SIX MILLION COPIES IN PRINT

# DR. ATKINS' DIET REVOLUTION



**ROBERT C. ATKINS, M.D.**

*Bestselling author of Dr. Atkins' Health Revolution*

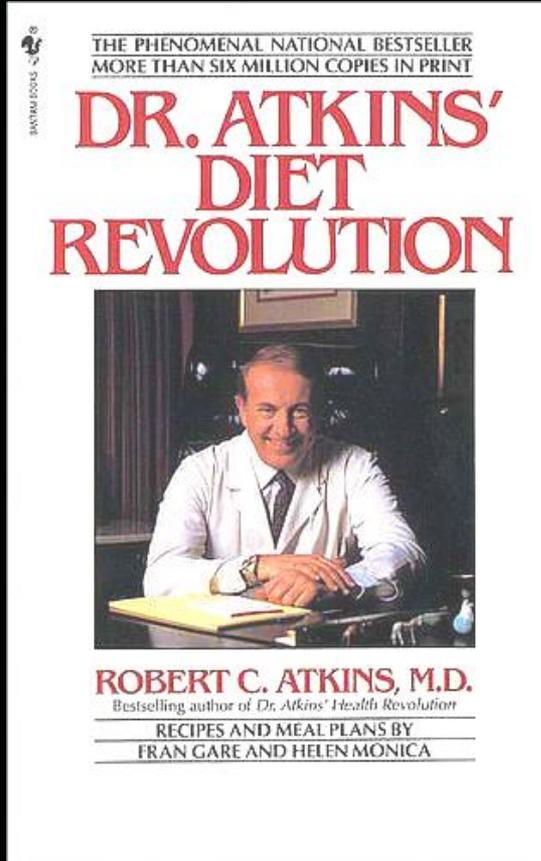
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RECIPES AND MEAL PLANS BY  
FRAN GARE AND HELEN MONICA

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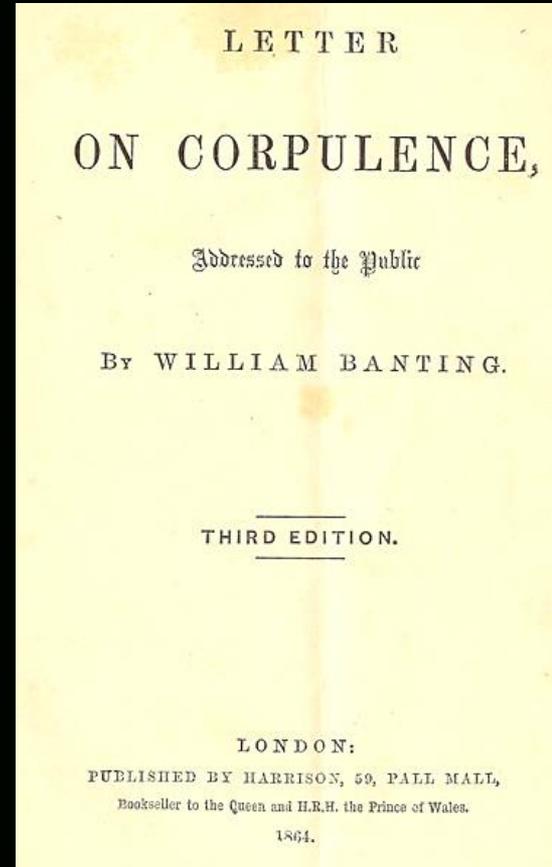
1972





1972

=



1863



# A Critique of Low-Carbohydrate Ketogenic Weight Reduction Regimens

A Review of Dr. Atkins' Diet Revolution

JAMA, June 4, 1973 • Vol 224, No 10

## Potential Hazards

What are the potential hazards of a diet very low in carbohydrate and rich in fat? Perhaps the greatest danger is related to hyperlipidemia, which may be induced by such a regimen. Hypercholesterolemia and hypertriglyceridemia are associated with an increased risk of developing coronary heart disease.<sup>29,30</sup> A diet rich in cholesterol and saturated fat could be responsible for accelerating atherosclerosis, particularly in susceptible persons.



# Restriction of Carbohydrates as the Ideal Treatment for Obesity and T2D

## Long term effects of ketogenic diet in obese subjects with high cholesterol level

Hussein M. Dashti,<sup>1</sup> Naji S. Al-Zaid,<sup>2</sup> Thazhumpal C. Mathew,<sup>3</sup>  
Mahdi Al-Mousawi,<sup>4</sup> Hussain Talib,<sup>4</sup> Sami K. Asfar<sup>1</sup>  
and Abdulla I. Behbahani<sup>1</sup> *Molecular and Cellular Biochemistry* **286**: 1–9, 2006.

Recommended food		
Proteins	Vegetables/Fruits	Oil
<p><i>Fish</i>: Tuna, Sardine Prawns, Shrimps. Lobster</p>   	<p>Spinach, Watercress, Eggplant, Parsley, Mulberry, Coriander, Mint, Artichoke, Okra, Cabbage, Mushroom, Avocado, Leek, Carrot, Radish, Celery, Cauliflower, Green pepper, Lettuce, Cucumber, Tomato, 10–15 olives/day, Lemon</p> <p>Strawberry-6/day, Avocado</p> <p>Berries-10/day</p>	<p>Olive oil (5 tablespoons, added to the salad)</p>  <p>Flax seed oil</p>



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and Abdulla I. Behbahani<sup>1</sup> *Molecular and Cellular Biochemistry* **286**: 1–9, 2006.

### Fully restricted food

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Carbohydrates

Fruits/drinks

---

Flour, Potato, Macaroni Spaghetti,  
Noodles, Bread, Rice, Sugar,  
Sweets, Honey, Cakes

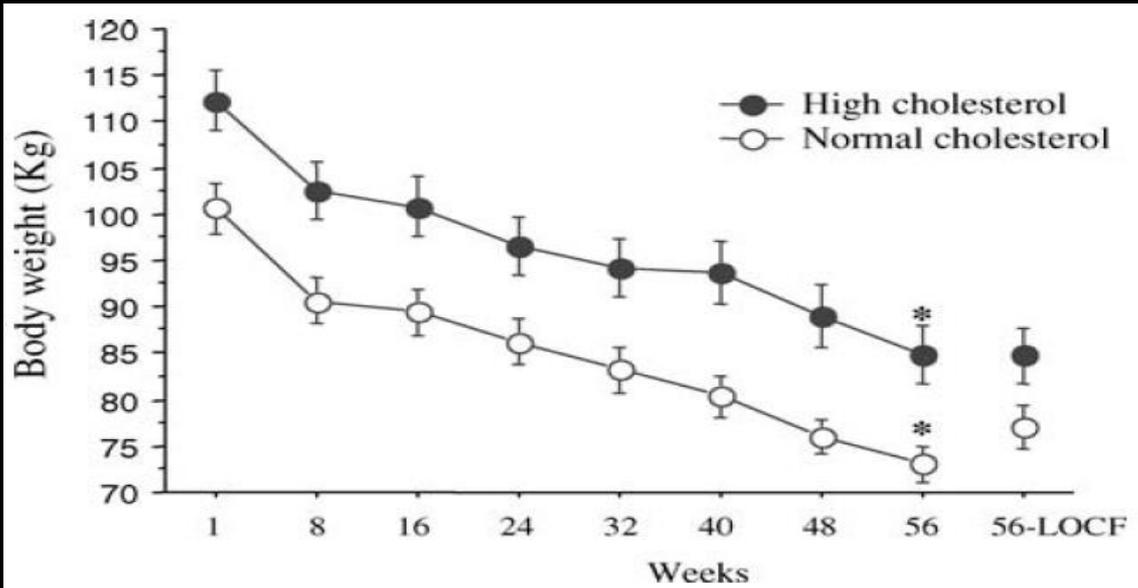
All fruit juices  
All soft drinks



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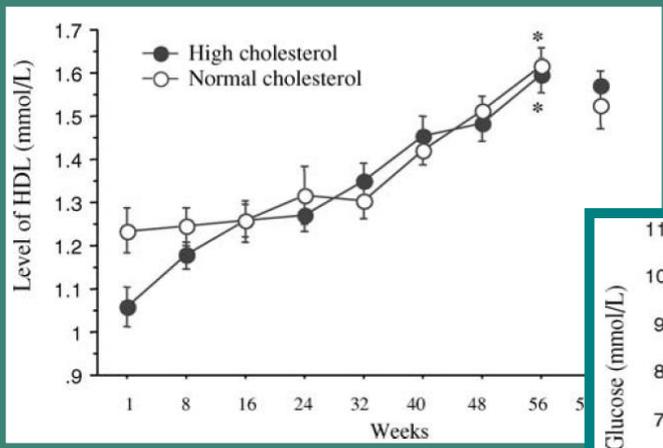


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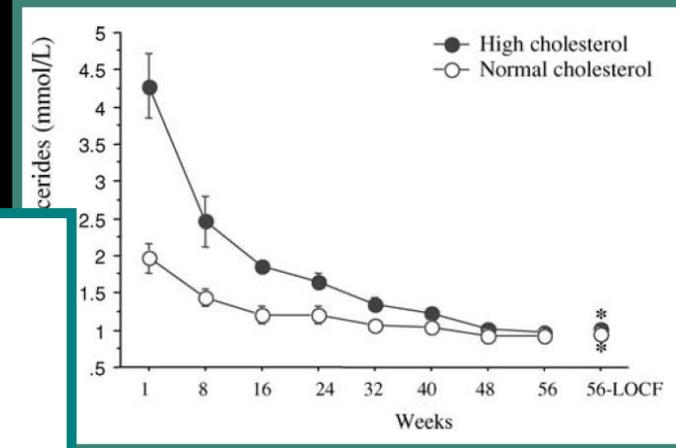
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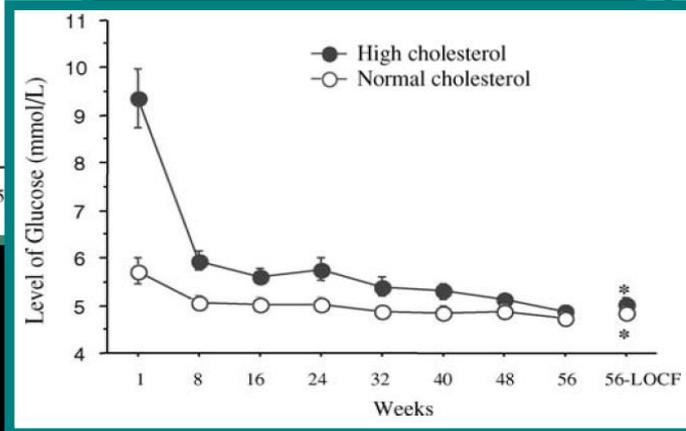
### HDL (good cholesterol)



### Triglycerides



### Fasting Blood Glucose



# Scholarly Review of the Benefits of Carbohydrate Restriction

Critical Review

*Nutrition 31 (2015) 1–13*

Dietary carbohydrate restriction as the first approach in diabetes management: Critical review and evidence base

Richard D. Feinman Ph.D.<sup>a,\*</sup>, Wendy K. Pogozelski Ph.D.<sup>b</sup>, Arne Astrup M.D.<sup>c</sup>,  
Richard K. Bernstein M.D.<sup>d</sup>, Eugene J. Fine M.S., M.D.<sup>e</sup>,  
Eric C. Westman M.D., M.H.S.<sup>f</sup>, Anthony Accurso M.D.<sup>g</sup>, Lynda Frassetto M.D.<sup>h</sup>,  
Barbara A. Gower Ph.D.<sup>i</sup>, Samy I. McFarlane M.D.<sup>j</sup>, Jörgen Vesti Nielsen M.D.<sup>k</sup>,  
Thure Krarup M.D.<sup>l</sup>, Laura Saslow Ph.D.<sup>m</sup>, Karl S. Roth M.D.<sup>n</sup>, Mary C. Vernon M.D.<sup>o</sup>,  
Jeff S. Volek R.D., Ph.D.<sup>p</sup>, Gilbert B. Wilshire M.D.<sup>q</sup>, Annika Dahlqvist M.D.<sup>r</sup>,  
Ralf Sundberg M.D., Ph.D.<sup>s</sup>, Ann Childers M.D.<sup>t</sup>, Katharine Morrison M.R.C.G.P.<sup>u</sup>,  
Anssi H. Manninen M.H.S.<sup>v</sup>, Hussain M. Dashti M.D., Ph.D., F.A.C.S., F.I.C.S.<sup>w</sup>,  
Richard J. Wood Ph.D.<sup>x</sup>, Jay Wortman M.D.<sup>y</sup>, Nicolai Worm Ph.D.<sup>z</sup>

The benefits of carbohydrate restriction in diabetes are immediate and well documented.



# What Happened to the Message: “Reduce Carbohydrate Consumption” to Safely Lose Weight? Why has Fat Been Demonized?



## American Heart Association®

The American Heart Association (AHA) also recommends eating no more than five ounces of lean meat, poultry or fish per day, and using low-fat and skim/fat-free dairy products.



## Ancel Keys

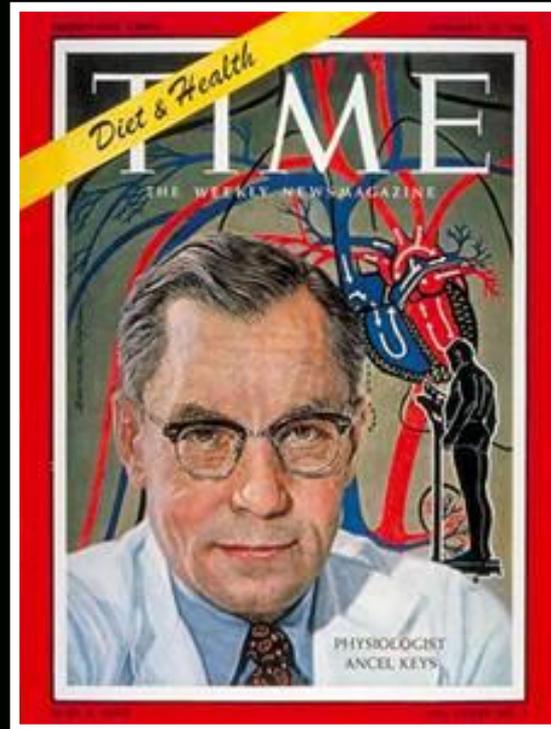
***Member of the Board of Directors of the American Heart Association***

***Controlled Funding for Heart Disease Research***

***Served on the Editorial Board of Cardiovascular Journals***

***Despite Having no Expertise in Heart Disease or Nutrition***

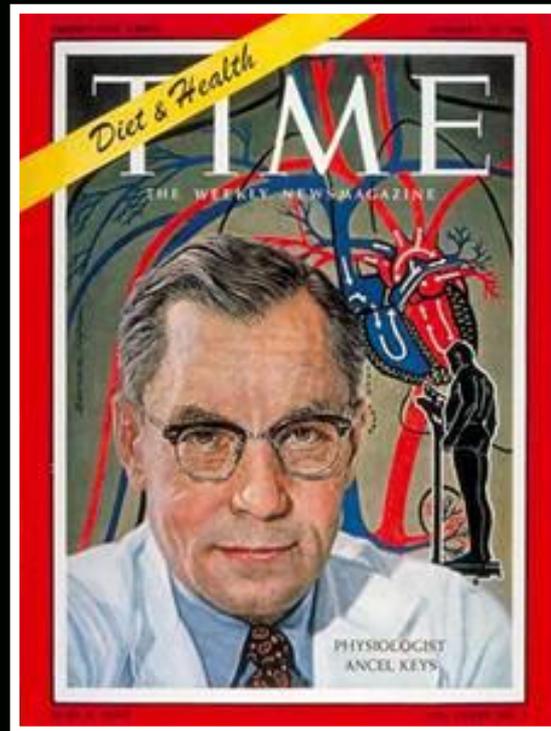
**America's "expert" on  
Diet and Health on the  
cover of Time,  
January, 1961**



**“Americans eat too much fat ... and most of that is saturated fat – the kind that increases blood cholesterol, damages arteries and leads to coronary disease.”**

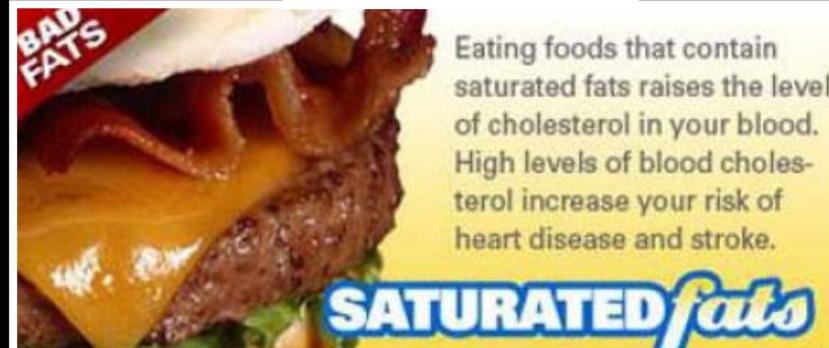
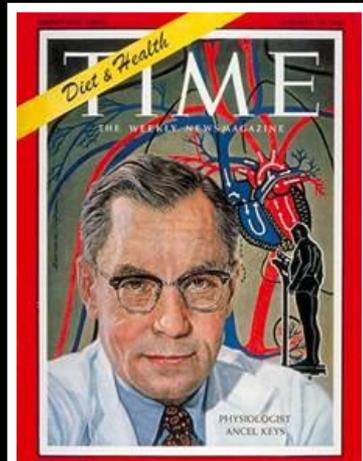
**“The only sure way to control blood cholesterol is to reduce fat in the U.S. diet from 40% to 15% of total calories, and cut saturated fat from 17% to 4% of total calories.”**

**America’s “expert” on Diet and Health on the cover of Time, January, 1961**



**“Americans eat too much fat ... and most of that is saturated fat – the kind that increases blood cholesterol, damages arteries and leads to coronary disease.”**

**“The only sure way to control blood cholesterol is to reduce fat in the U.S. diet from 40% to 15% of total calories, and cut saturated fat from 17% to 4% of total calories.”**



Replacing bad fats (saturated and trans) with healthier fats (monounsaturated and polyunsaturated) is good for your heart.

Use these oils instead of solid fats (including butter, shortening, lard and hard stick margarine) and tropical oils (including palm and coconut oil), which can have a lot of saturated fat.





## FOOD

## HEALTH CARE

## RETAIL

<div style="background-color: red; color: white; padding: 10px; text-align: center;"> <p><b>Soybean oil, Corn oil (margarine), Grains, Cereal manufacturers</b></p> </div>		



\*Denotes pharmaceutical company that manufactures cardiovascular and/or diabetes medications, medical devices, or diagnostic equipment.

### Sources:

American Diabetes Association Annual Report, 2016

American Heart Association Annual Report, 2013-2014

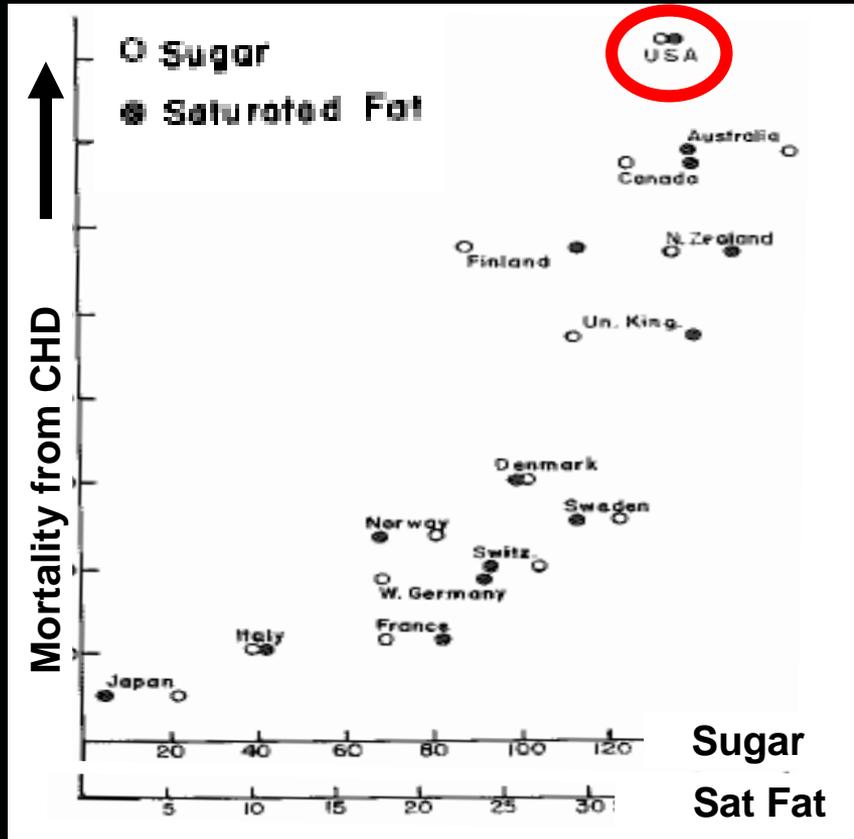
"Our Corporate Supporters," American Diabetes Association Website, <http://www.diabetes.org/about-us/corporate-support/our-corporate-supporters.html>

"Bayer and LibertyLink Soybeans Help Protect Hearts in America's Heartland," Crop Science, 3/2/2017, <https://www.cropscience.bayer.us/news/press-releases/2017/03022017-bayer-and-libertylink-soybeans-help-protect-hearts-in-americas-heartland>



THE NEW ENGLAND JOURNAL OF MEDICINE  
DIETARY FATS, CARBOHYDRATES AND ATHEROSCLEROTIC VASCULAR  
DISEASE\*

ROBERT B. MCGANDY, M.D.,† D. M. HEGSTED, PH.D.,‡ AND F. J. STARE, M.D.§



1967: NEJM Review  
(Harvard)  
Extraordinary Correlation  
Between Saturated Fat and  
Sugar Consumption ( $r=0.9$ )  
Across Countries

More important:  
Saturated Fat + Sugar  
linked to CHD ( $r=0.8$ )

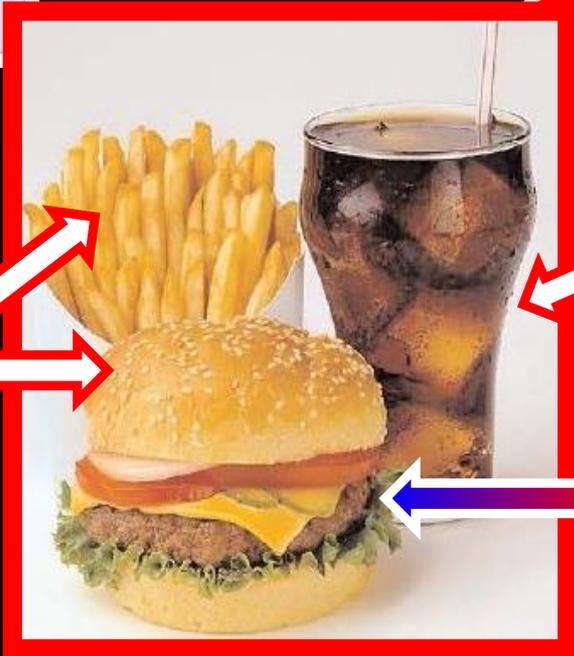




**Obesogenic and  
Atherosclerotic  
Components of the  
“Western Diet”**



**Carbohydrates +  
Partially-  
Hydrogenated  
(Trans) Fats**



**Sugar  
(Fructose/Glucose)**

**Meat and Cheese:  
Healthful Mixture  
of Fats and Protein  
– but with sugar  
contributes to  
Western Diseases**



DIETARY FATS, CARBOHYDRATES AND ATHEROSCLEROTIC VASCULAR DISEASE\*

ROBERT B. MCGANDY, M.D.,† D. M. HEGSTED, PH.D.,‡ AND F. J. STARE, M.D.§

CONCLUSIONS

There can be no doubt that levels of serum cholesterol can be substantially modified by manipulation of the fat and cholesterol of the diet. We conclude, on the basis of epidemiologic, experimental and clinical evidence, that a lowering of the proportion of dietary saturated fatty acids, increasing the proportion of polyunsaturated acids and reducing the level of dietary cholesterol are the dietary changes most likely to be of benefit.

**What Happened to the Message: Fat+Sugar = Obesity/CHD?  
(and all diseases common to Western Civilization)**



DIETARY FATS, CARBOHYDRATES AND ATHEROSCLEROTIC VASCULAR DISEASE\*

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## The Sugar Industry Paid for the Bad Press Against Saturated Fat

The New York Times

# How the Sugar Industry Shifted Blame to Fat

By ANAHAD O'CONNOR SEPT. 12, 2016

The sugar industry paid scientists in the 1960s to play down the link between sugar and heart disease and promote [saturated fat](#) as the culprit instead, newly released historical documents show.

The internal sugar industry documents, recently discovered by a researcher at the University of California, San Francisco, and [published Monday in JAMA Internal Medicine](#), suggest that five decades of research into the role of nutrition and heart disease, including many of today's dietary recommendations, may have been largely shaped by the sugar industry.

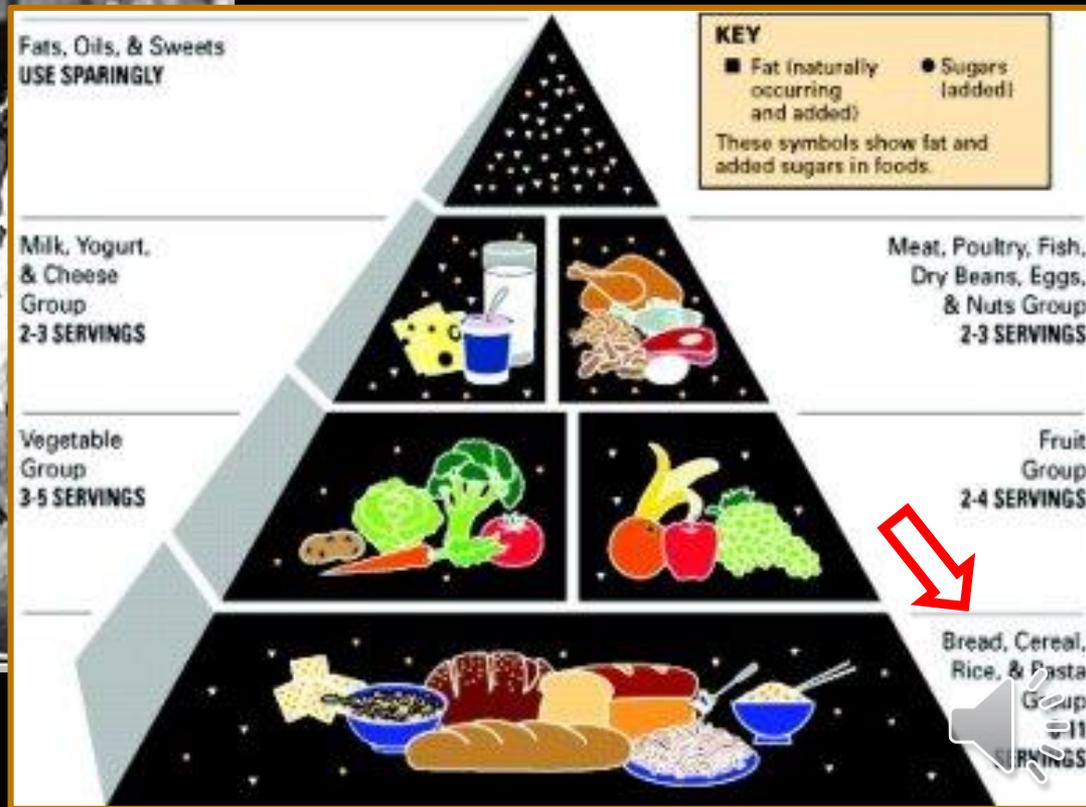
"They were able to derail the discussion about sugar for decades," said Stanton Glantz, a professor of medicine at U.C.S.F. and an author of the JAMA Internal Medicine paper.



In 1977, Senator George McGovern's Committee released its "Dietary Goals for the United States", which identified fat as the culprit for the high rate of heart disease in the US



In 1977, Senator George McGovern's Committee released its "Dietary Goals for the United States", which identified fat as the culprit for the high rate of heart disease in the US – which led to the development of the Food Pyramid



# Ancel Keys + Govt guidelines+ AHA Misinformation + Food Pyramid: Message: Eat Carbs, Fear Fat and Cholesterol

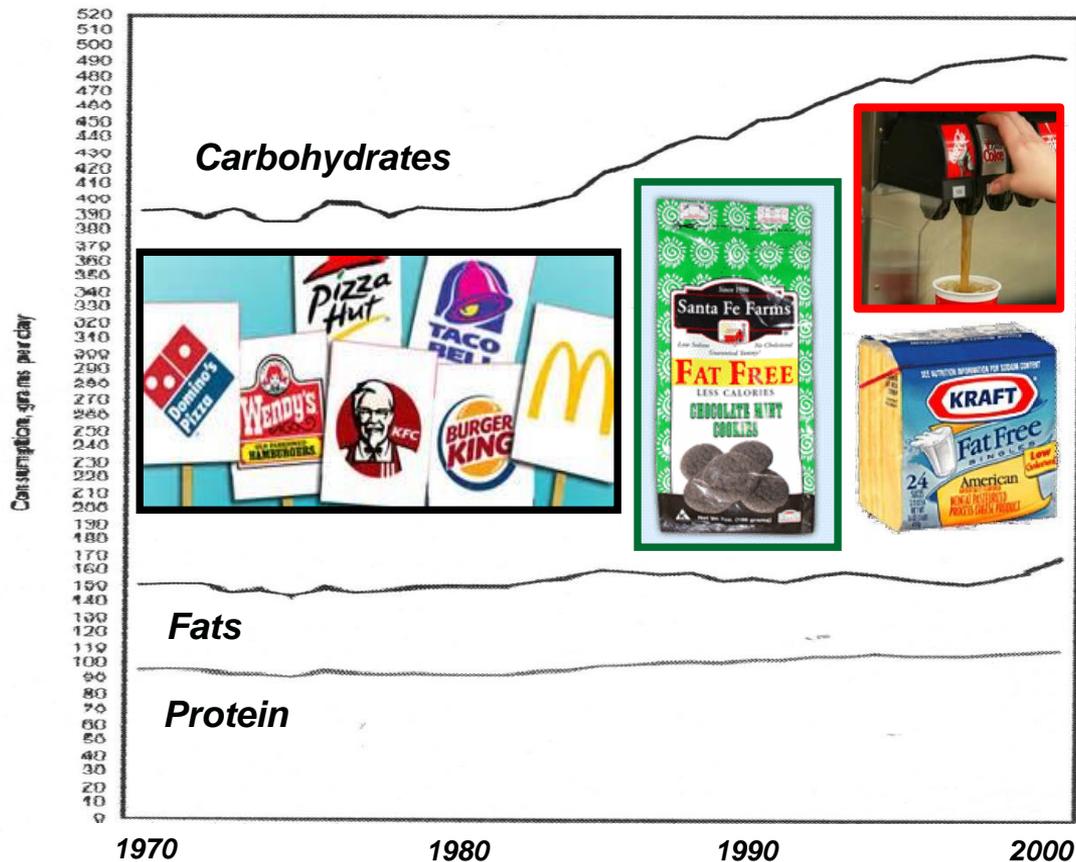


## American Heart Association®

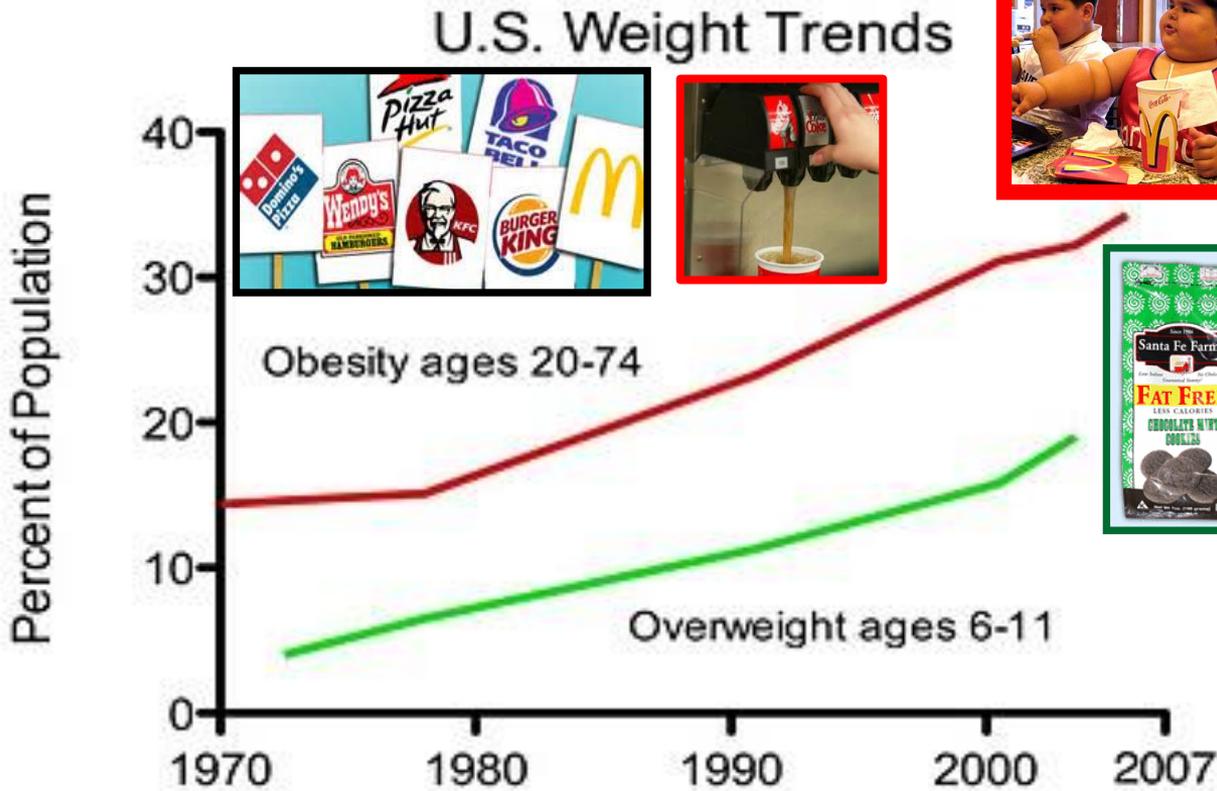
The American Heart Association (AHA) also recommends eating no more than five ounces of lean meat, poultry or fish per day, and using low-fat and skim/fat-free dairy products.



# Obesity Generating Perfect Storm: Anti-Saturated Fat Science for Hire, Proliferation of Fast-Food, Promotion of Low Fat Foods, and High Fructose Corn Syrup (Free Refills)



# Obesity Generating Perfect Storm: Anti-Saturated Fat Science for Hire, Proliferation of Fast-Food, Promotion of Low Fat Foods, and High Fructose Corn Syrup (Free Refills)





**Ancel Keys advocated the Mediterranean Diet:  
Fruit, Vegetables, Grains, Fish, Lean Meat and  
Olive Oil The Ideal Heart-Healthy Diet Based  
on the Low Incidence of Obesity and Heart  
Disease in Italians**

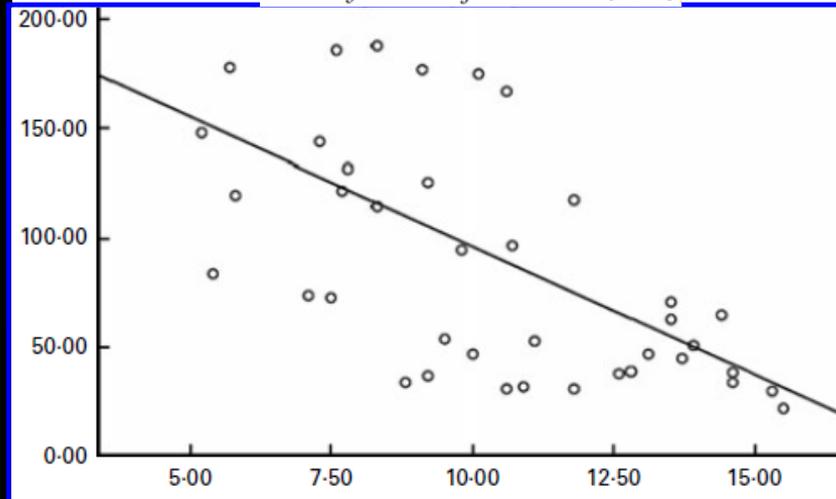


**Keys as The Father of the Mediterranean Diet:  
Recommended 15% of Overall Calories as Fat and 4% as Saturated Fat**



*British Journal of Nutrition (2012)*

**Death  
from  
Heart  
Disease**



**% of Calories from Saturated Fat**

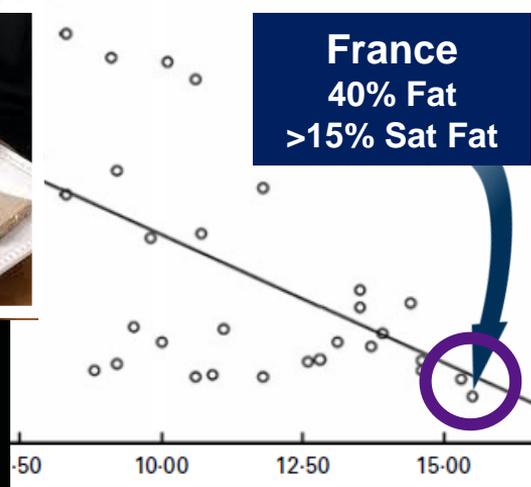


“The great tragedy of science is the slaying of a beautiful hypothesis by an ugly fact.”  
Recommended 15% of Omega-6, 10% of Omega-3, 4% as Saturated Fat

## The French Paradox



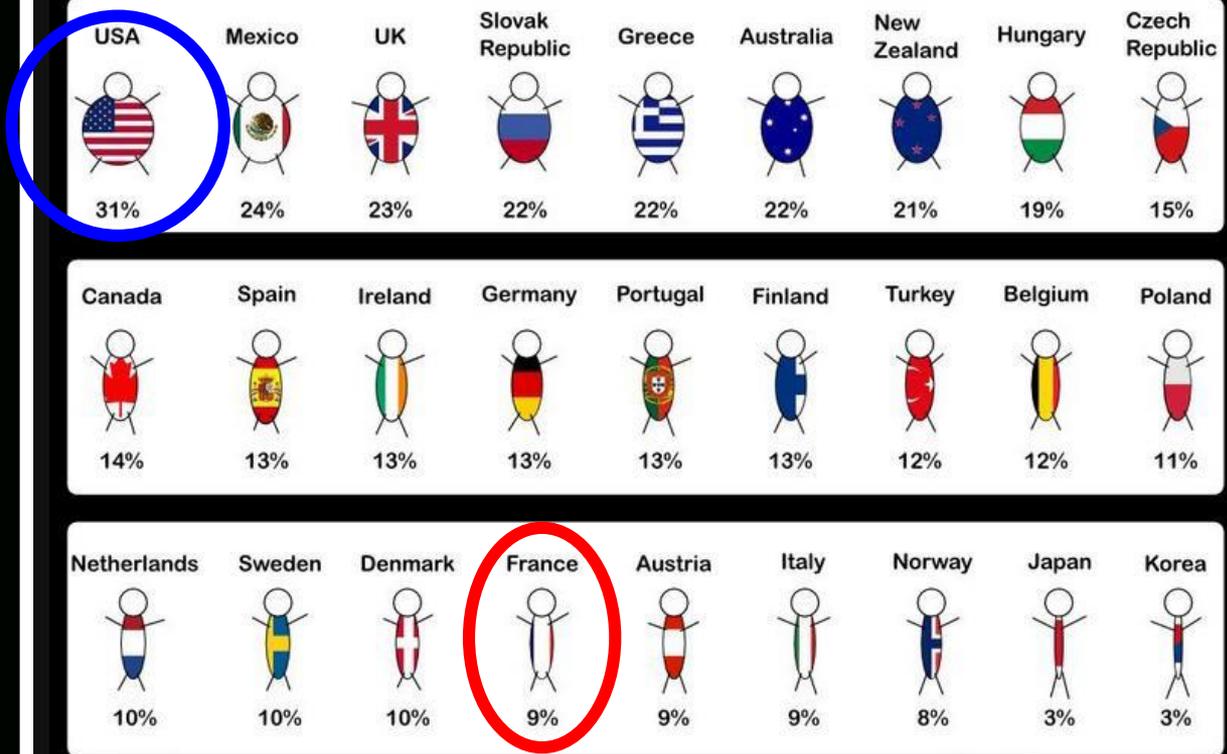
Journal of Nutrition (2012)



Correlates from Saturated Fat



**OBESITY:** The percentage of the population older than 15 with a body-mass index greater than 30.



Data taken from:  
<http://en.wikipedia.org/w/index.php?title=Image:Bmi30chart.png&oldid=107854217>

Drawing by:  
<http://www.WellingtonGrey.net>





Polynesia





American  
Heart  
Association  
*Learn and Live*

**BAD  
FATS**



Eating foods that contain saturated fats raises the level of cholesterol in your blood. High levels of blood cholesterol increase your risk of heart disease and stroke.

**SATURATED** *fats*

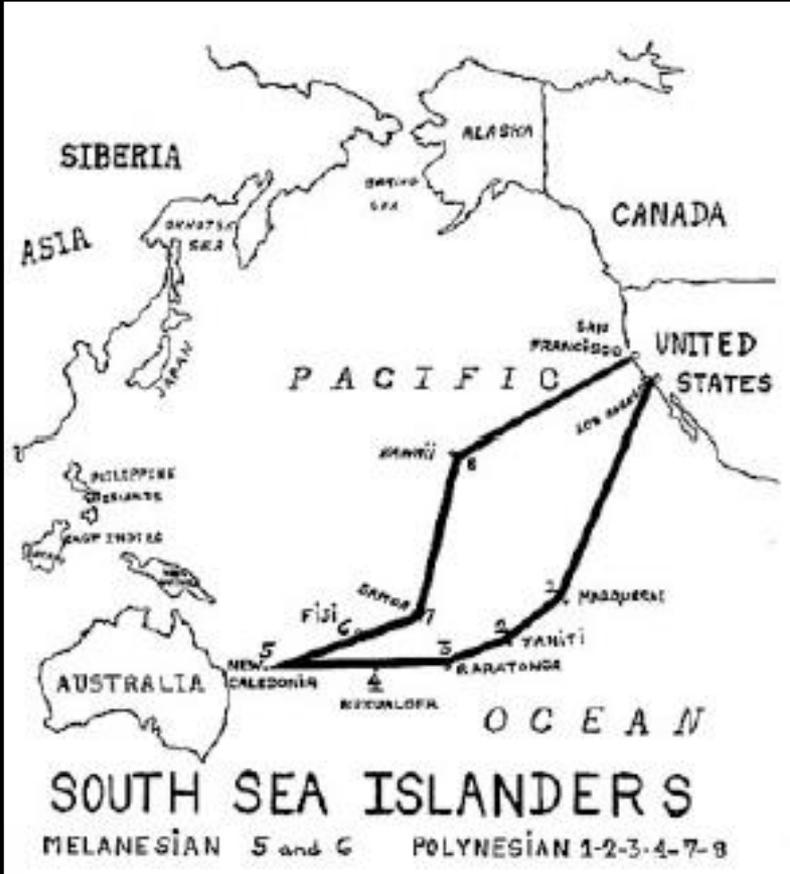
You should replace foods high in saturated fats with foods high in monounsaturated and/or polyunsaturated fats. This means eating foods made with liquid vegetable oil but not tropical oils.

# Nutrition and Physical Degeneration

A Comparison of Primitive and Modern Diets and Their Effects



Weston Price, DDS  
1870-1948



**... natives of the Fiji Islands illustrate the effect of changing from the native food (seafood, plants, copra, local fruit) to imported foods (white-flour products, sugar, canned foods and polished rice).  
Tooth decay becomes rampant ...**



**Consumers of native food  
(copra, seafood, local plants)**



**... natives of the Fiji Islands illustrate the effect of changing from the native food (seafood, plants, copra, local fruit) to imported foods (white-flour products, sugar, canned foods and polished rice).**

**Tooth decay becomes rampant ...**



**Consumers of native food  
(copra, seafood, local plants)**

**Consumers of imported food  
(white-flour, sugar, polished rice)**



# Cholesterol, coconuts, and diet on Polynesian atolls: a natural experiment: the Pukapuka and Tokelau Island studies<sup>1-3</sup>

*Ian A. Prior, M.D., F.R.C.P., F.R.A.C.P., Flora Davidson,<sup>4</sup> B.H.Sc.,  
Clare E. Salmond,<sup>5</sup> M.Sc., and Z. Czochanska,<sup>6</sup> DIP. AG.*

Vascular disease is uncommon in both populations and there is no evidence of the high saturated fat intake having a harmful effect in these populations. *Am. J. Clin. Nutr.* 34: 1552-1561, 1981.



**Contemporary Study on Diet and Heart Disease in Indonesia:  
No Relation of Coconut Consumption to Heart Disease Incidence**

**Dietary intake and the risk of coronary heart disease  
among the coconut-consuming Minangkabau in  
West Sumatra, Indonesia**

*Asia Pac J Clin Nutr 2004*

In the present study, both the cases and the controls had a similar total SFA intake of about 27 g/d, equivalent to 129 g coconut milk or 31.5 g coconut oil. The results do not support an association between total SFA intake and CHD events.



# Dietary Fat and Coronary Heart Disease: Summary of Evidence from Prospective Cohort and Randomised Controlled Trials

C. Murray Skeaff Jody Miller

Ann Nutr Metab 2009;55:173–201

**Intake of total fat was not significantly associated with coronary events (heart attacks) or mortality**

**Intake of saturated fat (animal fat) was not significantly associated with coronary events or mortality**

**Fatal heart disease was not reduced by low-fat diets or by replacing saturated (animal) fats with polyunsaturated (vegetable) fats**



# No Evidence to Support Original Dietary Guidelines Demonizing Saturated Fat

Evidence from randomised controlled trials did not support the introduction of dietary fat guidelines in 1977 and 1983: a systematic review and meta-analysis

*Open Heart* 2015

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Zoë Harcombe,<sup>1</sup> Julien S Baker,<sup>1</sup> Stephen Mark Cooper,<sup>2</sup> Bruce Davies,<sup>3</sup> Nicholas Sculthorpe,<sup>1</sup> James J DiNicolantonio,<sup>4</sup> Fergal Grace<sup>1</sup>

Two recent publications have questioned the alleged relationship between saturated fat and CHD and called for dietary guidelines to be reconsidered.<sup>31 32</sup>

The present review concludes that dietary advice not merely needs review; it should not have been introduced.



# Cancer Prevention Research

Thermally processed oil exaggerates colonic inflammation and colitis-associated colon tumorigenesis in mice

Published Online August 23, 2019

Cooking with vegetable oils releases toxic cancer-causing chemicals, say experts

Scientists warn against the dangers of frying food in sunflower oil and corn oil over claims they release toxic chemicals linked to cancer

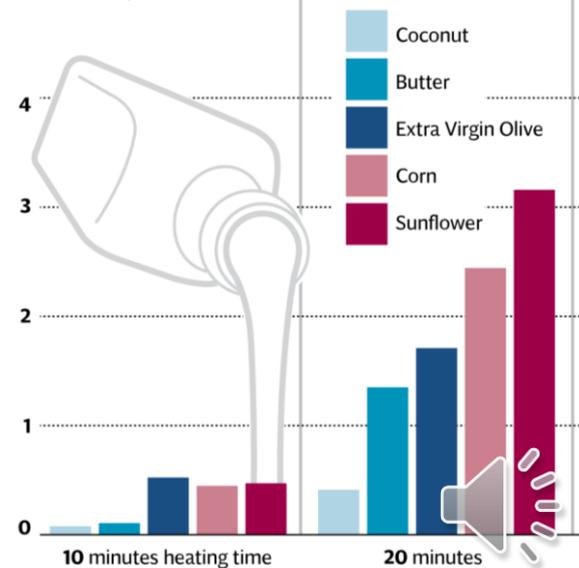
Cooking with vegetable oils releases toxic chemicals linked to **cancer and other diseases**, according to leading scientists, who are now recommending food be fried in olive oil, **coconut oil**, butter or even lard.

The results of a series of experiments threaten to turn on its head official advice that oils rich in polyunsaturated fats – such as corn oil and sunflower oil – are better for the health than the saturated fats in animal products.

## How the oils turn toxic

Concentrations of toxic aldehyde per litre of oil when heated at 180°C

5 (millimoles per litre of oil)



**Influence of composition on degradation during repeated deep-fat frying of binary and ternary blends of palm, sunflower and soybean oils with health-optimised saturated-to-unsaturated fatty acid ratios**

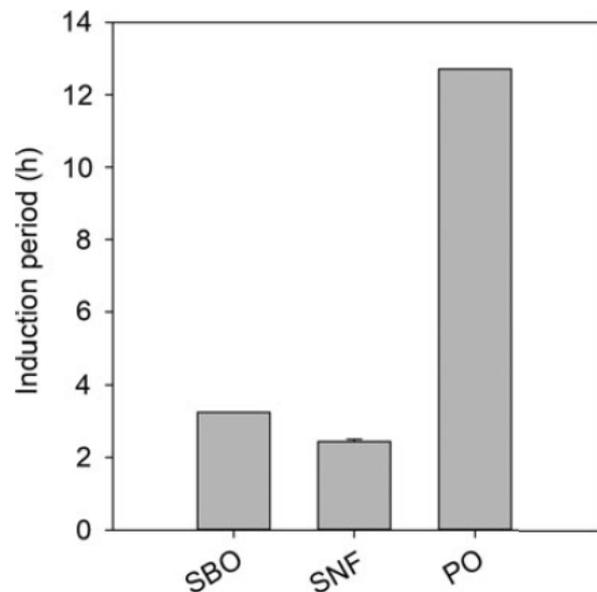
International Journal of Food Science and Technology 2018, 53, 1021–1029

Three individual oils: palm oil (PO), soybean oil (SBO) and sunflower oil (SNF) were prepared and used for repeated deep-fat frying of French fries



# Influence of composition on degradation during repeated deep-fat frying of binary and ternary blends of palm, sunflower and soybean oils with health-optimised saturated-to-unsaturated fatty acid ratios

International Journal of Food Science and Technology 2018, 53, 1021–1029



## Conclusions

Soybean oil and sunflower oil are extremely liable to oxidation during the frying process. PO was found to be more stable

Because of the negative health effects of hydrogenated fats, a good alternative is provided by palm oil (PO) or its fractions – palm stearin or palm olein, it is the most widely preferred option for food frying.



# Biochemical properties, nutritional values, health benefits and sustainability of palm oil

Monde Aké Absalome <sup>a,\*</sup>, Cisse-Camara Massara <sup>a</sup>, Ake Aké Alexandre <sup>a</sup>, Koffi Gervais <sup>a</sup>, Gauze Gnagne-Agnero Chantal <sup>a</sup>, Djohan Ferdinand <sup>a</sup>, Abodo Jacko Rhedoor <sup>b</sup>, Iklo Coulibaly <sup>c</sup>, Tiahou G. George <sup>d</sup>, Thomasset Brigitte <sup>e</sup>, Morena Marion <sup>f</sup>, Cristol Jean-Paul <sup>f</sup>

*Biochimie 178 (2020) 81–95*

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<sup>d</sup> *Laboratory of Biochemistry, Faculty of Medical Sciences, Alassane OUATTARA University, Bouaké, Côte d'Ivoire*

<sup>e</sup> *UMR-CNRS 7025, Génie Enzymatique et Cellulaire, Centre de Recherche de Royallieu, Université de Technologie de Compiègne, France*

<sup>f</sup> *Laboratory of Biochemistry, Lapeyronie Hospital, Montpellier, France*

The use and consumption of PO in normal or moderate amounts in a varied, balanced and adequate diet does not present any known health risk. Education campaigns on the nutritional benefits of PO should be promoted.



### Distribution of unsaponifiable compounds in crude palm oil [3].

Compounds	
Carotenoids	$\alpha$ carotene $\beta$ carotene $\gamma$ -carotene Lycopene
Oxygenated carotenoids	Xanthophylls
Vitamin E	$\alpha$ -tocopherol $\alpha$ -tocotrienol $\gamma$ -tocotrienol $\delta$ -tocotrienol
Sterols	Cholesterol Campesterol Stigmasterols $\beta$ -sitosterols



### Distribution of unsaponifiable compounds in crude palm oil [3].

Thus, PO produced in Côte d'Ivoire is characterized by its particular richness in carotenoides, vitamin E (tocotrienols and tocopherols), as well as polyphenols [48]. These polyphenols extracted from the palm fruit extracts have been extensively studied by several works [18,62,66–68], and associated with carotenoids and vitamin E, give palm oil its antioxidant properties.

Vitamin E	$\alpha$ -tocopherol $\alpha$ -tocotrienol $\gamma$ -tocotrienol $\delta$ -tocotrienol
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Sterols	Cholesterol Campesterol Stigmasterols $\beta$ -sitosterols
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# Effect of palm oil consumption on plasma lipid concentrations related to cardiovascular disease: a systematic review and meta-analysis

*Asia Pac J Clin Nutr 2019;28(3):495-506*

Fengling Wang PhD<sup>1</sup>, Dacheng Zhao MM<sup>2</sup>, Yuexin Yang Prof<sup>3</sup>, Lishi Zhang Prof<sup>4</sup>

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In conclusion, our meta-analysis confirmed that PO consumption has no negative effect on TC, LDL-c and TG concentrations. In addition, PO consumption results in the elevation of HDL-c concentrations related to CVD relative to the consumption of UFAs.



# LDL-C Does Not Cause Cardiovascular Disease: a comprehensive review of current literature

Uffe Ravnskov , Michel de Lorgeril, David M Diamond, Rokuro Hama, Tomohito Hamazaki, Björn Hammarskjöld,

Received 11 Jan 2018, Accepted 31 Aug 2018, Accepted author version posted online: 10 Sep 2018

## **No connection between LDL cholesterol levels and heart disease, according to researchers**

"There have been decades of research designed to deceive the public and physicians into believing that LDL causes heart disease, when in fact, it doesn't," said David Diamond, Ph.D., a professor in USF's Departments of Psychology and Molecular Pharmacology & Physiology, and a co-author of the article.



# Effects of palm oil on cardiovascular risk

Med. J. Malaysia Vol. 46 No. 1 March 1991

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Institute for Medical Research, 50588 Kuala Lumpur*

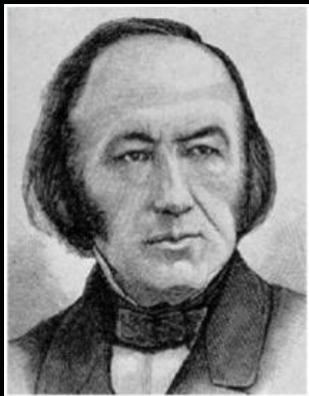
tropical oils and palm oil in particular, have been cast as major villains in the U.S.A., despite the fact that palm oil consumption there is negligible. The unsuspecting public may not realise that the call to avoid palm oil is nothing more than a trade ploy since in recent years palm oil has been very competitive and has gained a major share of the world's edible oils and fats market. Many also lose sight of the fact that, palm oil, like other edible oils and fats, is an important component of the diet.



# Summary: Dietary Sense and Nonsense in the War on Saturated Fat

## 1 – Historical perspective on excess carbohydrate consumption as the primary cause of obesity

1862 Lecture in Paris  
By Claude Bernard  
the liver produces sugar  
(glycogen/gluconeogenesis)



# Summary: Dietary Sense and Nonsense in the War on Saturated Fat

1 – Historical perspective on excess carbohydrate consumption as the primary cause of obesity

2 – How “dietary science” went awry with the demonization of saturated fat (animal/tropical oils)

Financial Interests in the USA were more important than good science



The image displays the American Heart Association logo, which consists of a red heart with a white caduceus symbol inside. To the right of the logo, the text 'American Heart Association' is written in black. Below the logo and text is a graphic of a close-up of a burger with melted cheese and bacon. A red banner in the top left corner of the graphic says 'BAD FATS'. In the bottom right corner of the graphic, the words 'SATURATED fats' are written in a blue, stylized font. To the right of the burger graphic, there is a block of text: 'Eating foods that contain saturated fats raises the level of cholesterol in your blood. High levels of blood cholesterol increase your risk of heart disease and stroke.'



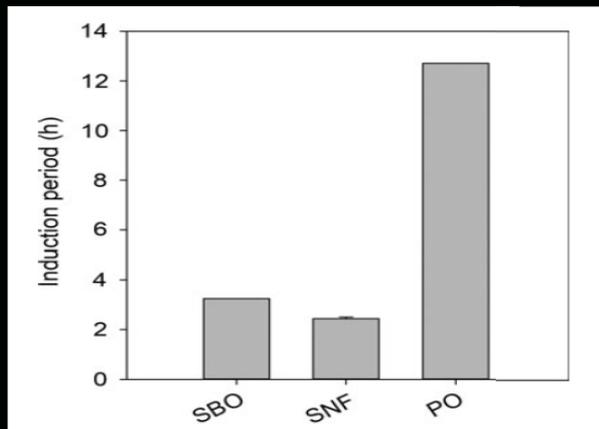
# ***Summary: Dietary Sense and Nonsense in the War on Saturated Fat***

**1 – Historical perspective on excess carbohydrate consumption as the primary cause of obesity**

**2 – How “dietary science” went awry with the demonization of saturated fat (animal/tropical oils)**

**Financial Interests in the USA were more important than good science**

**3 – Ecological and experimental studies on tropical oils demonstrate great stability with high temperature cooking and no CVD risk**





**THANK YOU**  
for your  
**ATTENTION!**

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