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News Flash

**Only 12% of American adults
are metabolically healthy**

From the “Gillings School of Global Public Health” University of North Carolina

Published 11/29/2018 Journal “Metabolic Syndrome and Related Disorders”



AMA Morning Rounds®

Leading the News

Life expectancy continues to decline in U.S.

X SYNDROME X

**X Metabolic
Syndrome X**

METABOLIC SYNDROME

HIGH TRIGLICERIDES & LOW HDL



(Heart disease i.e. coronary artery and peripheral artery disease)

HIGH BLOOD PRESSURE

HIGH BLOOD GLUCOSE **(T2 Diabetes & Pre-Diabetes)**

ABDOMINAL OBESITY **(waist to height ratio > 0.5) (beer belly)**

INFLAMMATION **(Irritable bowel, Arthritis, auto Immune diseases, atherosclerosis, heart disease etc.)**

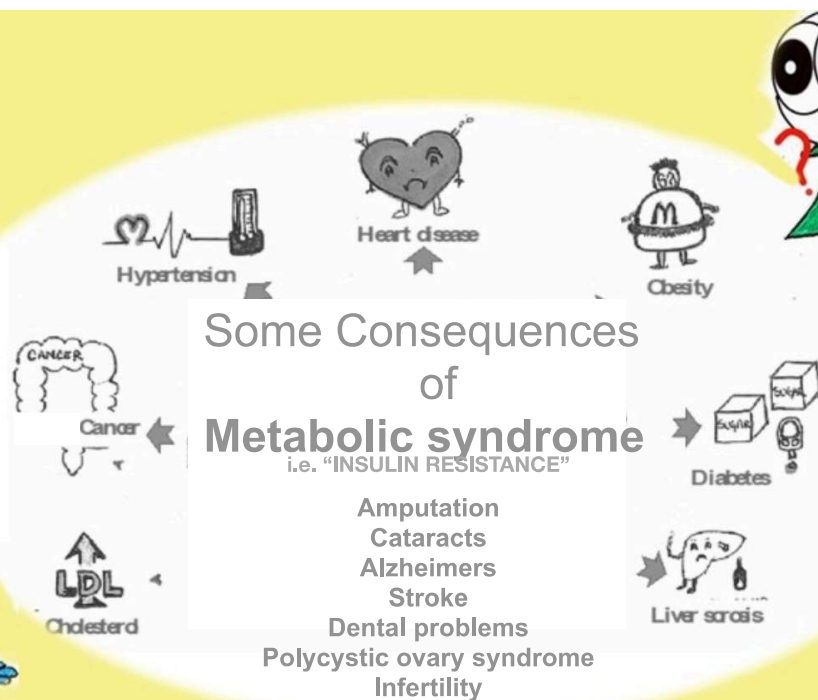


The Root Cause of Metabolic Syndrome & all of it's manifestations is hormonal....



INSULIN

or more specifically INSULIN RESISTANCE



But how prevalent is "Metabolic Syndrome?"

@Toodlee-Doodle

Some All American Facts

11% of all adult Americans are Diabetic

Over 100,000,000 adult Americans are pre diabetic

Each year 800,000 Americans have a stroke

160,000,000 (42%) of adult Americans (and 20% of children) are overweight or obese

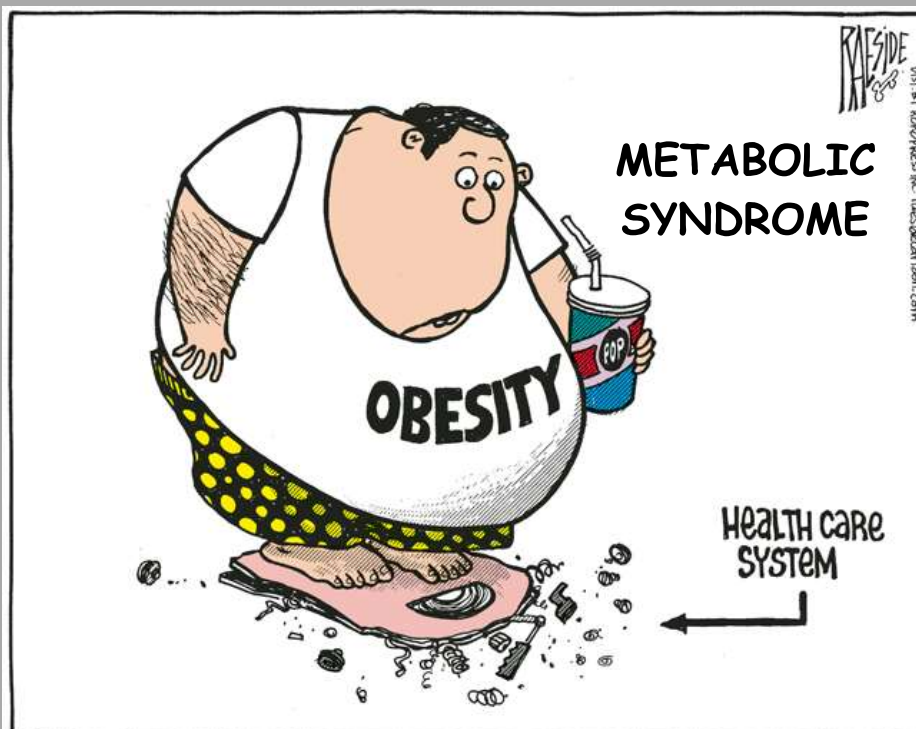
1 in 3 adult Americans have high blood pressure

40% of Americans have or will have Heart Disease

40% of all Americans will get diagnosed with Cancer

1 in 3 Seniors will die with some form of Dementia

**Most of these diseases were virtually unheard of in primitive aboriginal societies
(and in America before 1900)**



Almost 20,000
Children
are
diagnosed with
T2 DM
each year

Americans borrow
\$88B in 2018
To cover excess
healthcare costs
NYT

Medical costs
Account for 2/3 of
Bankruptcies

How bad is it....Really?

The total economic burden of **T2D in the U.S** has exceeded **\$400 billion annually**, an average of **\$13,240** per diagnosed individual.

Estimates of medication cost for patients on insulin are nearly **\$5,000** annually



The economic burdens: Cardiovascular disease \$350B
Cancer \$250B
Obesity \$150B



GDP of USA 2015 \$20 Trillion. 17% of GDP or \$3.4 T is spent on healthcare

BY 2050 healthcare spending is projected at 37% of \$55 Trillion GDP
Or
\$20 Trillion Dollars

**PROJECTION: Medicare will run out of money in 6 years!
AND
by 2050
the entire Federal Tax collection will
not be enough to pay for healthcare!**



Some other "Facts"

High Cholesterol (saturated fat) = Heart Disease, vascular disease, and Heart attacks

Calories in vs. calories out determines weight loss (or weight gain)

Diabetes (type 2) is a progressive disease and cannot be reversed (Kaiser P Policy)

Eating fat makes you fat i.e. you are what you eat

Saturated fats are unhealthy and polyunsaturated fats are healthy

High blood pressure is caused by too much salt

Eat 6-12 servings of fruits and vegetables every day

Eat 48 servings of grains per day

It is best to eat 6 small meals per day

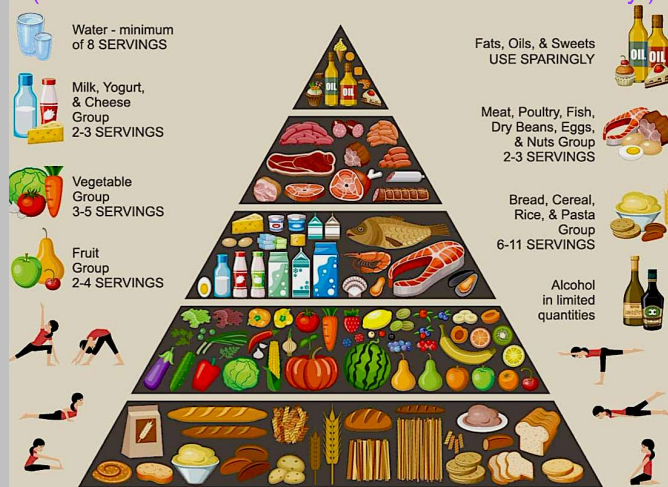
Overweight people lack the discipline to eat less and exercise more

There is strong evidence that all of the above are incorrect.

HOW DID WE GET TO SUCH A METABOLICALLY UNHEALTHY CONDITION?

Beginning in 1970 Government recommendation include: 250 - 325 grams of carbohydrate/day or up to 1300 calories

(These recommendations remain in force to this day!)



The "Food Pyramid" OF 1980 is a policy decision and NOT a Scientific Document

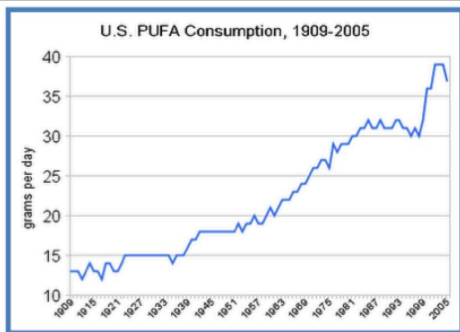
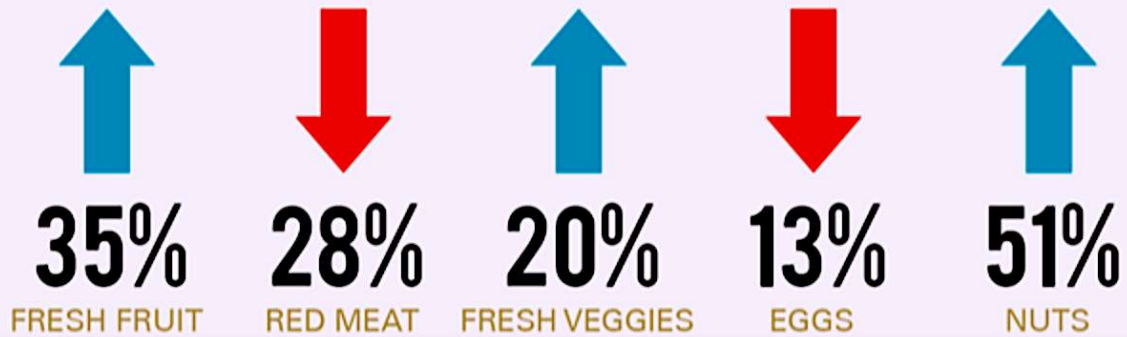
PS.... 300 gm of carbs Equals the equivalent of

60 teaspoons of sugar

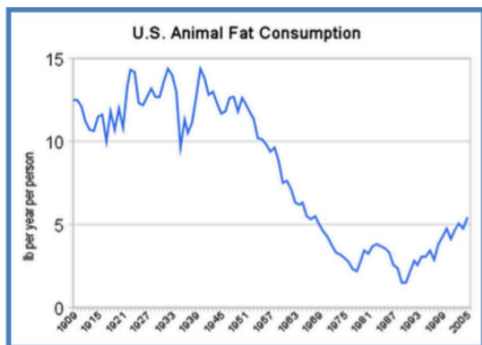
So what did Americans do about the food pyramid?

America LISTENED!

AMERICANS HAVE FOLLOWED OFFICIAL DIETARY ADVICE

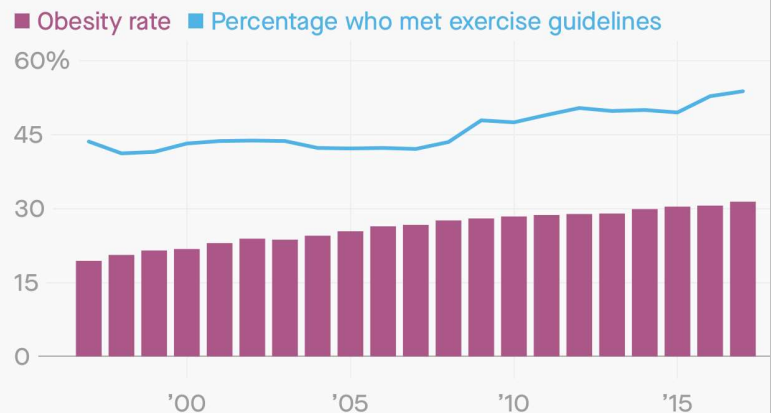


Poly-unsaturated Fatty Acid Consumption



America LISTENED to the food pyramid!

Americans are exercising more, but the obesity rate is growing



ATLAS | Data: US Centers for Disease Control and Prevention

Share

So here is what happened
since the
onset
of the
Food Pyramid

DISASTER!



1172727736



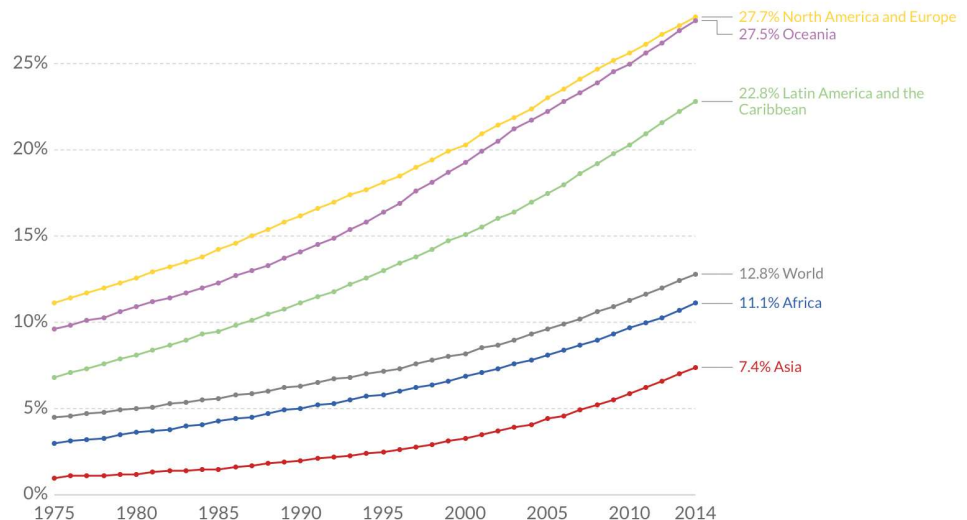
America exports
“Dietary
Guidelines”
(Processed foods)
to the
world!

Adult obesity by region

Prevalence of obesity in adults by region

The prevalence of obesity in adults, measured as the percentage of adults aged 18 years and older (both male and female) with a body-mass index (BMI) greater than 30 kilograms per metre squared.

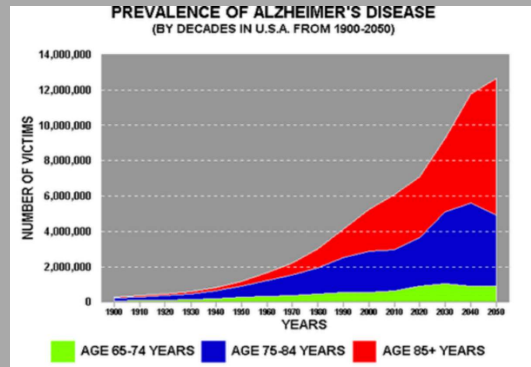
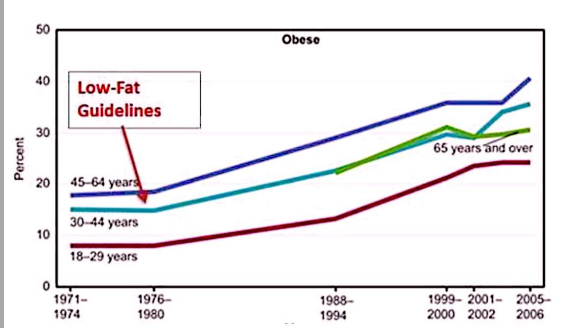
Our World
in Data



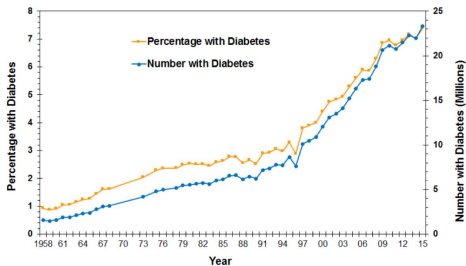
Source: UN Food and Agricultural Organization/WHO

CC BY

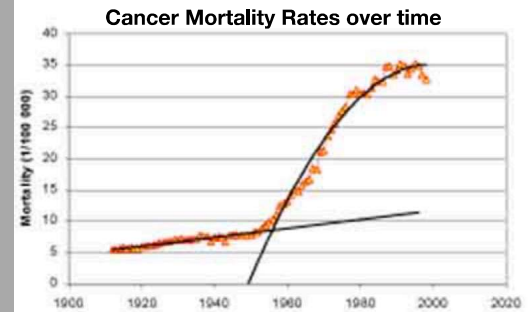
It began around 1900 and then accelerated



Number and Percentage of U.S. Population with Diagnosed Diabetes, 1958-2015



CDC's Division of Diabetes Translation, United States Diabetes Surveillance System available at <http://www.cdc.gov/diabetes/data>

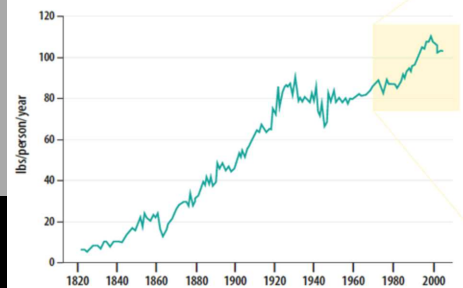


The average American consumes 152 lb. of sugar & 180 lb. of wheat every year! (DHHS)

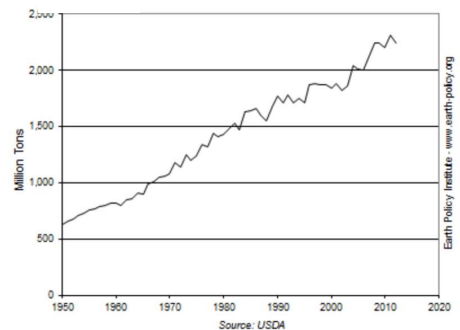
Some of the over 200 labeling Names in processed foods for Added SUGARS

Agave Nectar	Barley malt	Barbados sugar	Beet sugar
Brown sugar	Buttered syrup	Cane juice	Cane sugar
Caramel	Corn syrup	Corn syrup solids	Carob syrup
Confectioners sugar		Castor sugar	Date sugar
Dehydrated cane juice		Dextran	Demerara sugar
Dextrose.	Diastatic malt	Diatase	Ethyl maltol
Free flowing brown sugars		Fructose.	Natural Fruit juice
Fruit juice concentrate		Galactose.	Glucose solids
Golden sugar	Golden syrup	Glucose	Granulated sugar
Grape sugar	Sorghum	Honey	High fructose corn syrup
Icing sugar	Invert sugar	Lactose.	Malt
Maltodextrin	Maltose	Malt syrup	Mannitol
Mannose.	Maple syrup	Molasses	Muscovado.
Panocha	Powdered sugar	Treacle.	Refiner's syrup
Raw sugar.	Rice syrup	Sucrose	Turbinado sugar
Yellow sugar			

US Consumption of caloric sweeteners,* lbs/person/year, 1822-2005



World Grain Production, 1950-2012



**We are obsessed with CHOLESTEROL & Saturated Fat?
BUT.....what are the facts?**

**60% of all Americans admitted to the hospital
with an acute heart attack have normal or
low Cholesterol**

Based on evaluations of lab work on 400,000 consecutive hospital admissions for Myocardial Infarction

**75% of Americans evaluated for any
Cardiac problem have normal or low
Cholesterol**

GUIDELINES ARE UPDATED EVERY 5 YEARS ANDER WERE LAST UPDATED IN 2015

Because of "Strategic Dissonance" The reviewers refused to look at the following papers.

Research not considered during development of current guidelines

"Strategic Dissonance"

"Insufficient evidence of association is present for intake of ... saturated or polyunsaturated fatty acids; total fat ... meat, eggs and milk."

Mente A, et al. A systematic review of the evidence supporting a causal link between dietary factors and coronary heart disease. Arch Intern Med. 2009 Apr 13;169(7):659-69.

"...no significant evidence for concluding that dietary saturated fat is associated with an increased risk of CHD or CVD."

Siri-Tarino PW, et al. Meta-analysis of prospective cohort studies evaluating the association of saturated fat with cardiovascular disease. Am J Clin Nutr. 2010 Mar;91(3):535-46.

"There were no clear effects of dietary fat changes on total mortality or cardiovascular mortality..."

Hooper L, et al. Reduced or modified dietary fat for preventing cardiovascular disease. Cochrane Database Syst Rev. 2011 Jul 6;(7).

Research published after 2013

"Saturated fats are not associated with all cause mortality, CVD, CHD, ischemic stroke, or type 2 diabetes."

De Souza, R. et al. (2015). "Intake of saturated and trans unsaturated fatty acids and risk of all cause mortality, cardiovascular disease, and type 2 diabetes: Systematic review and meta-analysis of observational studies". *BMJ*. 351: h3978.

"...no mortality benefit for the intervention group in the full randomized cohort or for any prespecified subgroup. There was a 22% higher risk of death for each 0.78 mmol/L reduction in serum cholesterol."

Ramsden, C. et al. (2016). "Re-evaluation of the traditional diet-heart hypothesis: analysis of recovered data from Minnesota Coronary Experiment (1968-73)". *BMJ*. 353: 11246.

"...replacing SFA with mostly n-6 PUFA is unlikely to reduce CHD events, CHD mortality or total mortality. The suggestion of benefits reported in earlier meta-analyses is due to the inclusion of inadequately controlled trials."

Hamley, S. (2017). "The effect of replacing saturated fat with mostly n-6 polyunsaturated fat on coronary heart disease: a meta-analysis of randomised controlled trials". *Nutrition Journal*. 18: 28.

Clinical Trials on Saturated Fats

Journal of the American College of Cardiology July 2020

"Reduction in saturated fat intake for cardiovascular disease,"

(systematic review and meta-analysis of randomized, controlled clinical trials)

Included: RCTs on **59,000** participants

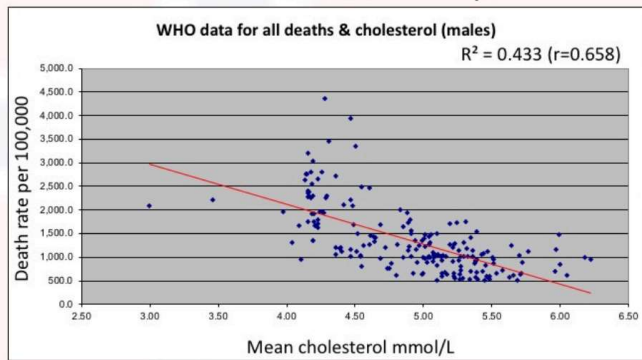
Findings: **no statistically significant effects of reducing saturated fat on all-cause mortality, cardiovascular mortality, fatal MIs (myocardial infarctions), non-fatal MIs, stroke, coronary heart disease mortality, coronary heart disease events.**

CONCLUSION:

Whole-fat dairy, unprocessed meat, eggs and dark chocolate are SFA-rich foods with a complex matrix that are not associated with increased risk of CVD. The totality of available evidence does not support further limiting the intake of such foods

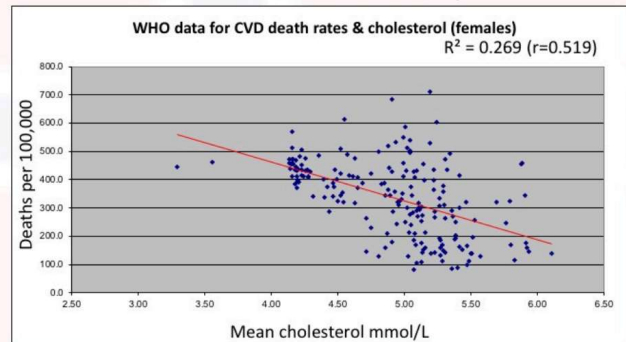
Source: Hooper, L. et al. , Cochrane Database Systematic Review, 2015.

All deaths & cholesterol The 192 Countries Study



© Dr Zoë Harcombe www.zoeharcombe.com

CVD deaths & cholesterol The 192 Countries Study



© Dr Zoë Harcombe www.zoeharcombe.com

What about Meat? Isn't that unhealthy?...especially red meat?

Annals of Internal Medicine

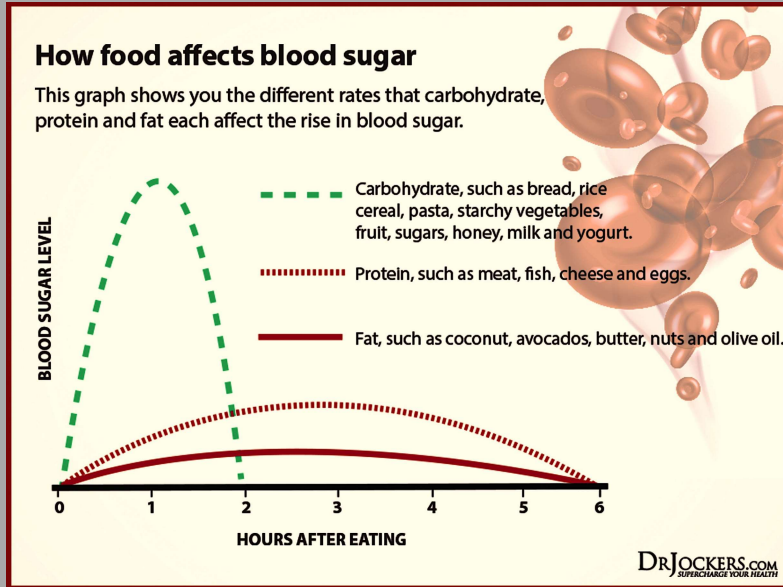
Clinical Guidelines 19 November 2019

Unprocessed Red Meat and Processed Meat Consumption: Dietary Guideline Recommendations From the Nutritional Recommendations (NutriRECS) Consortium

In a series of articles examining 12 randomized control trials enrolling about 54,000 individuals, a 14-member international team led by Bradley Johnston an associate professor of community health at Dalhousie University in Halifax, Canada, concluded that those who like meat should not stop on health grounds. [“Based on the research, we cannot say that eating red or processed meat causes cancer, diabetes or heart disease.](#)

[We did not find a statistically significant association or reduction in the risk of heart disease, cancer, or diabetes for those that consumed less red and processed meat.”](#)

WHAT HAPPENS WHEN WE EAT?



Insulin regulates our blood glucose level.

At any given time we average 1 teaspoon of sugar in our blood

Functions of Insulin

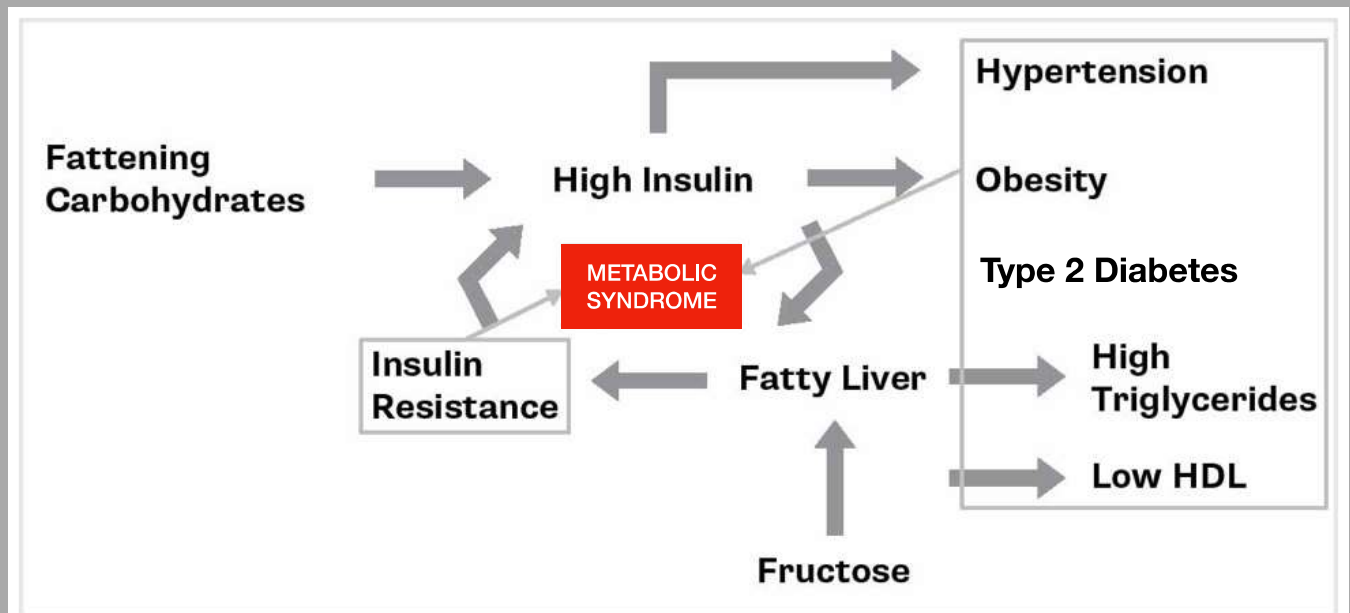
1. Insulin balances blood sugar levels
2. Insulin causes liver and muscle to store glycogen (glucose)
3. Insulin stimulates liver to store glucose as fat
4. Insulin stimulates fat cells to store more fat
5. Insulin **STOPS** our body from burning fat as fuel!

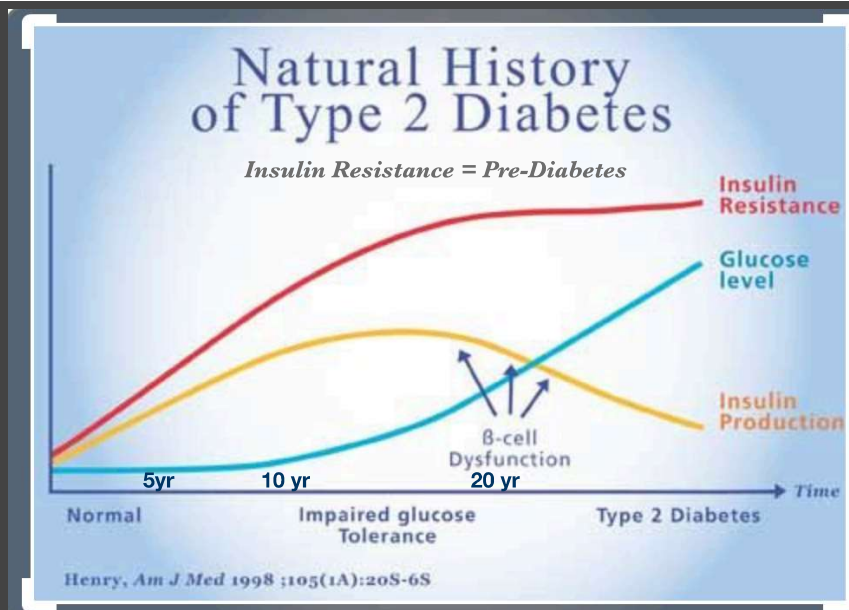
REQUIRMENTS OF INSULIN RESISTANCE

- 1) Insulin does not work in certain cells (muscles, body fat, liver) of the body
- 2) Hyper Insulinemia (Elevated Insulin Levels)

Resistance development is a normal bodily response to over use

Insulin Resistance CAUSES Metabolic Syndrome (X)





This curve holds true for virtually all the excess Insulin Diseases

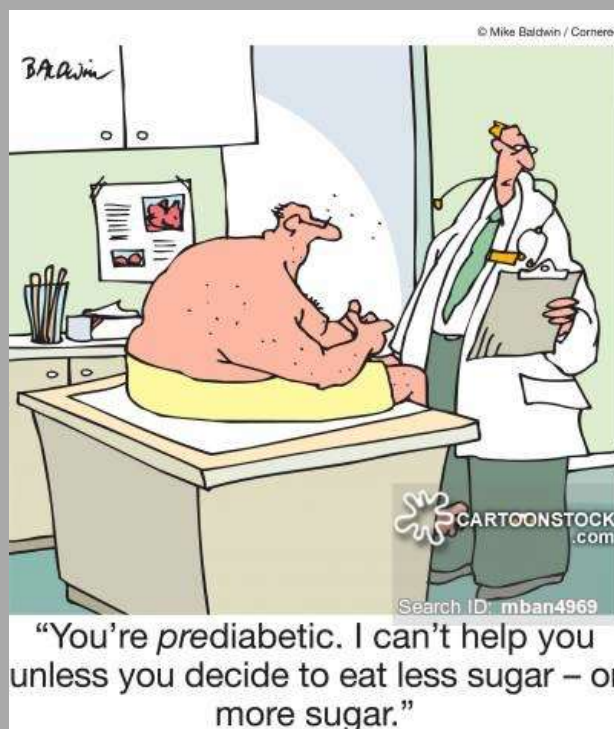
1. Insulin resistance reduces the ability to metabolize glucose
2. Insulin resistance decreases Ghrelin production (Ghrelin stimulates satiety)
3. Insulin resistance causes Leptin resistance (Leptin inhibits appetite)

Classically, traditional Medicine is not a “healthcare system”

It is a
“Symptom-Focused
and
Pharmaceutical Based
System”

We treat the symptom
i.e. “high blood sugar”
Or
Cardiovascular disease
Or
Hypertension
With DRUGS

WE DO NOT TREAT
the cause...
i.e. Insulin Resistance
and
too much insulin



It is possible
to

CURE Insulin Resistance
(and therefore Metabolic syndrome diseases)

You must
lower your

INSULIN LEVEL!

Insulin is “**MIRACLE GROW**” for fat cells

If the problem is too much Insulin,
then the solution is very simply

LOWER INSULIN!

BUT HOW?

FOOD CAN MAKE YOU SICK
FOOD CAN ALSO HEAL THE SICK
EVEN BETTER
FOOD CAN PREVENT DISEASE!

**DIET Options are the essentially the only options
to lower insulin resistance**

Starvation i.e very low calorie diet (or Bariatric Surgery)

Low to Moderate carb diet (50 to 100 gm. of total carbs per day)
Avoid all sugars and starches, (Paleo) (Atkins)

“Ketogenic Metabolic Therapy” (< 20 gm. of total carbs per day)
High Fat, moderate protein diet (80-100 gm/day)

Vegan Whole Food diet can work with no sugars, no starches
No seed oils, no processed food & vitamin supplementation as needed.

***Intermittent fasting* will improve the success of all of the above**

Regardless of your choice, eat Whole Foods, avoid sugars, starches and
processed food and vegetable & seed oils (Vegetable oils increase the risks for cancer)
Olive oil, Avocado oil, Macadamia oil, Coconut oil Palm oil and animal fats are OK!

VIRTA Type 2 diabetes Trial description and results:

349 Diabetic patients
 93% Obese
 88% Taking Diabetes meds

262 were treated with low carb diet (30-50 grams/day) and counseling
 87 we treated with the standard drugs, insulin, counseling and recommended ADA diet

RESULTS:

LOW CARB DIET (unlimited Calories)

Weight loss average 30lb.
 92% discontinued insulin
 100% off of all oral diabetic medication
 70% were no longer diabetic

STANDARD DIABETIC TREATMENT AND DIET

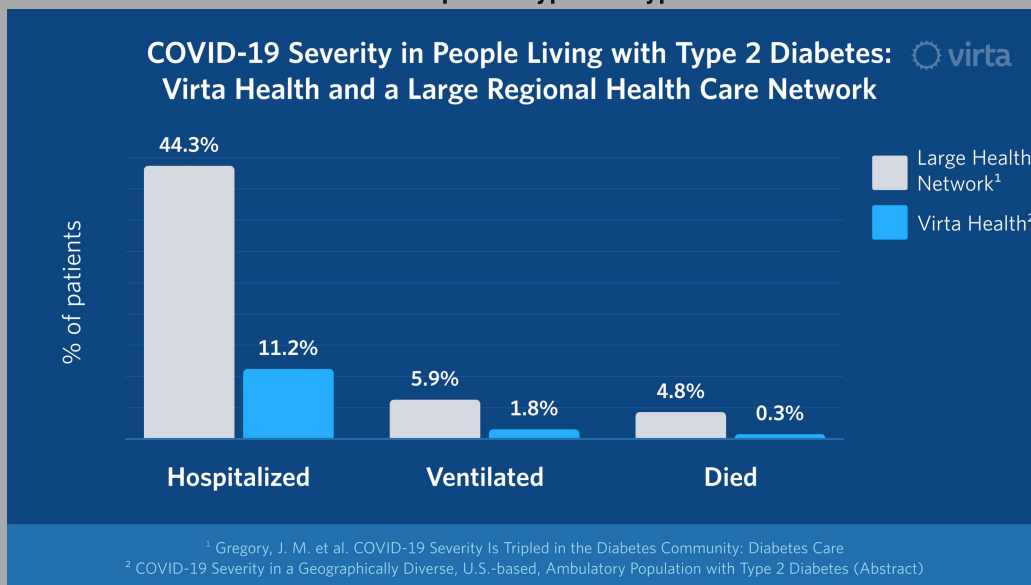
No weight loss on average
 Insulin dose increased in most
 Oral Medications increased or no change
 A1c continued to increase

medical
 prescription costs
 Were reduced
 by more than
 70%
 in year 1 alone

22 of 26
 Biomarkers of
 Heart disease
 & inflammation
 were **Significantly**
 Improved after
 1 year
 Including
 Cardiac calcium
 Score
 "reversing heart
 disease"



COVID-19 Severity Is Tripled in the Diabetes Community: A Prospective Analysis of the Pandemic's Impact in Type 1 & Type 2 Diabetes



Virta Health
 rx.
 Is a
 Lifestyle
 Intervention

Effects of dietary composition on energy expenditure during weight-loss maintenance. [Ebbeling CB](#)¹, [Swain JF](#), [Feldman HA](#), [Wong WW](#), [Hachey DL](#), [Garcia-Lago E](#), [Ludwig DS](#).

WHY DO YOU LOSE WEIGHT ON LOW CARB?

Iso-caloric diet crossover study comparing
Low fat (10%) High Carb (60%)
Vs
Low Carb (10%) High fat (60%)

Results:

The Total Energy Expenditure at rest was
324 k/cal more/day in the low carb group
(TRANSLATION.....35 lb loss per year)

Both
groups
ate
exactly
thee
same
number
of
calories

Association Between Egg Consumption and Risk of Cardiovascular Outcomes: A Systematic Review and Meta-Analysis

AMERICAN JOURNAL OF MEDICINE 2021 Jan;134(1):76-83.e2. doi: 10.1016/j.amjmed.2020.05.046.

Conclusions: Our analysis suggests that higher consumption of eggs (more than 1 egg/day) was not associated with increased risk of cardiovascular disease, but was associated with a significant reduction in risk of coronary artery disease.

Here is what we learned:



- 1) carbs are responsible for increasing insulin secretion and causing insulin resistance beginning in the liver
- 2) Hyperinsulinemia induces fat accumulation and HALTS fat burning
- 3) Dietary (especially processed) carbohydrates produce excess fat accumulation
- 4) Metabolic Syndrome is a hormonal disease with abnormally high levels of insulin and a “greatly exaggerated” insulin response to carbs in the diet...i.e. “Insulin Resistance”

THE BOTTOM LINE to IMPROVE & MAINTAIN HEALTH

Eat a LOW INSULIN STIMULATION DIET

- #1 Eat whole foods and eliminate processed foods
- #2 Avoid **all** sugars and starches
- #3 Eliminate polyunsaturated oils and trans fats
- #4 Do not fear good fat, including saturated fat
- #5 Loose fat if you are overweight
(the most effective program is the very low carb metabolic therapy)
- #6 If you are eating carbs, always eat your protein 10 minutes before you eat your carbs
It will decrease your insulin secretion by 15-25%
- #7 limit your daily food intake to a 6-8 hour window. Eliminate snacks between meals to keep insulin levels low for 16-18 hours/day (This is called “Intermittant Fasting”)
- #8 Exercise is great (DO IT).....however it's effect on fat loss (weight loss) is small in the long run
- #9 Lower your fasting Insulin levels (below 5-8 mIU/L) and HgA1c (below 5.5):
Lower Triglycerides to below 100: Increase your HDL to above 70
- #10 Reduce Stress in any way possible and get 7-8 hours of sleep/night

Please let your doctor know what you are doing, especially if you are taking medications!

Excellent References to increase your knowledge

<https://hvmn.com/blogs/podcast/a-master-class-on-metabolism-insulin-resistance-and-chronic-disease-w-dr-rob-cywes-h-v-m-n-podcast>

“Diabetes Code”, “Obesity Code”, and the “Cancer Code” by Jason Fung MD

“Good Calories, Bad Calories”...Gary Taubes MS

“The Obesity Epidemic”...Zoe Harcombe PhD

“The Big Fat Surprise”...Nina Teicholz MA

“Lies My Doctor Told Me”...Ken Berry MD

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[youtube@richardmucci8389](https://www.youtube.com/channel/UC8389)

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“A low-carb diet is bad for you. One of my patients slipped on some bacon grease and broke her leg!”

Test insulin resistance with

Kraft test. (GTT with insulin measurements)

Cardio IQ® Insulin Resistance Panel (Quest)

NMR Lipo-profile IR (LabCorp)

HOMA-IR

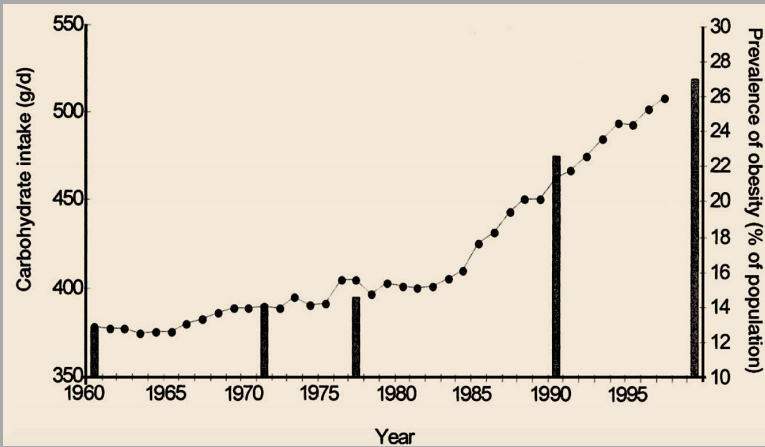
Don't Stop the Statins

Christopher P Cannon. Eur. Heart J. 2019;40(43):3526-3528.

"Conflict of interest: C.P.C. reports research grants from (all >10 K) Amgen, Boehringer-Ingelheim (BI), Bristol-Myers Squibb (BMS), Daiichi Sankyo, Janssen, Merck and Pfizer; and consulting fees from Aegerion, Alnylam, Amarin, Amgen, Applied Therapeutics, Ascendia, BI, BMS, Corvidia, Eisai, HLS Therapeutics, Innovent, Janssen, Kowa, Merck, Pfizer, and Sanofi (>10 K)."

Be aware of "Conflict of Interests" among the authors of scientific papers.

**The authors of this paper have all been paid by big
Pharmaceutical companies that manufacture Statins.**



In 1980
no state had
an obesity
rate greater
than
15%

In 2018
no state had an obesity rate
less than
25%

CUTTING CALORIES DOESN'T HELP IN THE LONG RUN!



Average weight per contestant.....300+ pounds

Average weight loss during the show.....110 Pounds to 190 lb.

Average exercise calorie expenditure at the beginning of the show.....5 kcal/kg/day

Average exercise calorie expenditure at the end of the show.....10 kcal/kg/day

Average metabolic rate per contestant at the beginning of the show.....2600 kcal/day

Average calorie intake during the show.....1300 kcal/day

Average metabolic rate at the end of the show.....**2000** kcal/day



In 2016 the NIH published the results of a 6 yr follow up. In the study all the contestants for the 2008 show were reevaluated.

TABLE 1 Anthropometric and energy expenditure variables in 14 of the original 16 study subjects who participated in "The Biggest Loser" 30-week weight loss competition

	Baseline	End of competition at 30 weeks	Follow-up at 6 years	P		
				Baseline vs. 30 weeks	Baseline vs. 6 years	30 weeks vs. 6 years
Age (years)	34.9 ± 10.3	35.4 ± 10.3	41.3 ± 10.3	<0.0001	<0.0001	<0.0001
Weight (kg)	148.9 ± 40.5	90.6 ± 24.5	131.6 ± 45.3	<0.0001	0.0294	0.0002
BMI (kg/m ²)	49.5 ± 10.1	30.2 ± 6.7	43.8 ± 13.4	<0.0001	0.0243	0.0002
% Body fat	49.3 ± 5.2	28.1 ± 8.9	44.7 ± 10	<0.0001	0.0894	0.0003
FM (kg)	73.4 ± 22.6	26.2 ± 13.6	61.4 ± 30	<0.0001	0.0448	0.0001
FFM (kg)	75.5 ± 21.1	64.4 ± 15.5	70.2 ± 18.3	<0.0001	0.0354	0.0101
RQ	0.77 ± 0.05	0.75 ± 0.03	0.81 ± 0.02	0.272	0.0312	<0.0001
RMR measured (kcal/d)	2,607 ± 649	1,996 ± 358	1,903 ± 466	0.0004	<0.0001	0.3481
RMR predicted (kcal/d)	2,577 ± 574	2,272 ± 435	2,403 ± 507	<0.0001	0.0058	0.0168
Metabolic adaptation (kcal/d)	29 ± 206	-275 ± 207	-499 ± 207	0.0061	<0.0001	0.0075
TEE (kcal/d)	3,874 ± 926	3,002 ± 573	3,429 ± 581	0.0014	0.0189	0.0034
Physical activity (kcal/kg/d)	5.6 ± 1.8	10.0 ± 4.6	10.1 ± 4.0	0.0027	0.001	0.8219

The predicted RMR was obtained using a linear regression equation developed using baseline data on body composition, age, and sex in the full 16-subject cohort. The P values were not adjusted for multiple comparisons. BMI, body mass index; FM, fat mass; FFM, fat-free mass; RMR, resting metabolic rate; RQ, respiratory quotient; TEE, total energy expenditure.

THE FINDINGS:

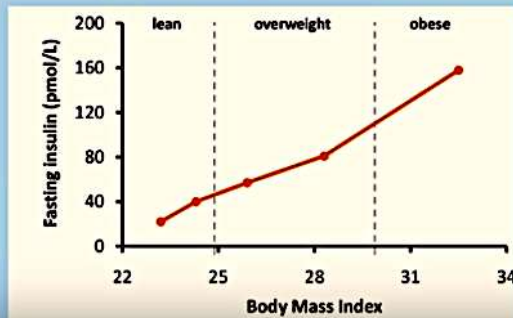
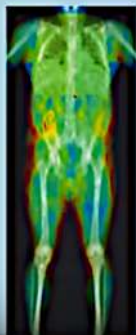
All contestant continued the to exercise at the rate of 10 kcal/kg of weight/day

All but one of the contestants regained most of the weight they lost (avg. 290 lb) and 30% were heavier than prior to the show

All but 1 of the contestants had a resting metabolic rate that was slower (avg 5%) than at the completion of the show.

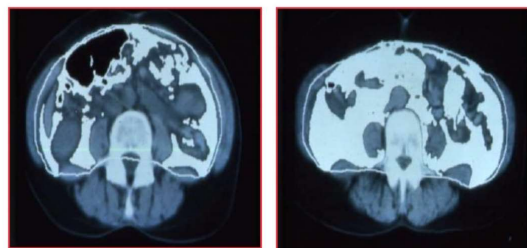
show

Abdominal obesity



Visceral Body Fat Correlates to Metabolic Syndrome!

Visceral Fat Distribution: Normal vs Type 2 Diabetes



This is what happens when you become **INSULIN RESISTANT**

Courtesy of Wilfred Y. Fujimoto, MD.

Reference Reading List
“The Big Fat Surprise” ...Nina Teicholz
“Obesity Code” & “Diabetes Code” ...J.Fung MD
“Good Calories, Bad Calories” ...Gary Taub
“Lies My Doctor Told Me” ...Ken Berry MD
“The Obesity Epidemic” ...Zoe Harcombe
“Food Fix” ...Mark Hyman MD

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Journal of the American College of Cardiology July 2020

Saturated Fats and Health: A Reassessment and Proposal for Food-based Recommendations: JACC State-of -the-Art Review

Arne Astrup, Faidon Magkos, Dennis M. Bier, J. Thomas Brenna, Marcia C. de Oliveira Otto, James O. Hill, Janet C. King, Andrew Mente, Jose M. Ordovas, Jeff S. Volek, Salim Yusuf and Ronald M. Krauss

Abstract:

The recommendation to limit dietary saturated fatty acid (SFA) intake has persisted despite mounting evidence to the contrary. Most recent meta-analyses of randomized trials and observational studies found no beneficial effects of reducing SFA intake on cardiovascular disease (CVD) and total mortality, and instead found protective effects against stroke. Although SFAs increase low-density lipoprotein (LDL)-cholesterol, in most individuals, this is not due to increasing levels of small, dense LDL particles, but rather larger LDL which are much less strongly related to CVD risk. It is also apparent that the health effects of foods cannot be predicted by their content in any nutrient group, without considering the overall macronutrient distribution. Whole-fat dairy, unprocessed meat, eggs and dark chocolate are SFA-rich foods with a complex matrix that are not associated with increased risk of CVD. The totality of available evidence does not support further limiting the intake of such foods.

The Western diet: a blind spot of eating disorder research?—a narrative review and recommendations for treatment and research

Agnes Ayton ✉, Ali Ibrahim

Nutrition Reviews, nuz089, <https://doi.org/10.1093/nutrit/nuz089>

Published: 17 December 2019

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Abstract

Over the last 50 years, in parallel with the obesity epidemic, the prevalence of eating disorders has increased and presentations have changed. In this narrative review, we consider recent research exploring the implications of changing patterns of food consumption on metabolic and neurobiological pathways, a hitherto neglected area in eating disorder research. One of the major changes over this time has been the introduction of ultra-processed (NOVA-4) foods, which are gradually replacing unprocessed and minimally processed foods. This has resulted in the increased intake of various sugars and food additives worldwide, which has important metabolic consequences: triggering insulin and glucose response, stimulating appetite, and affecting multiple endocrine and neurobiological pathways, as well as the microbiome. A paradigm shift is needed in the conceptual framework by which the vulnerability to, and maintenance of, different eating disorders may be understood, by integrating recent knowledge of the individual metabolic responses to modern highly processed foods into existing psychological models. This could stimulate research and improve treatment outcomes.

Eating fat is bad...right? & unhealthy?

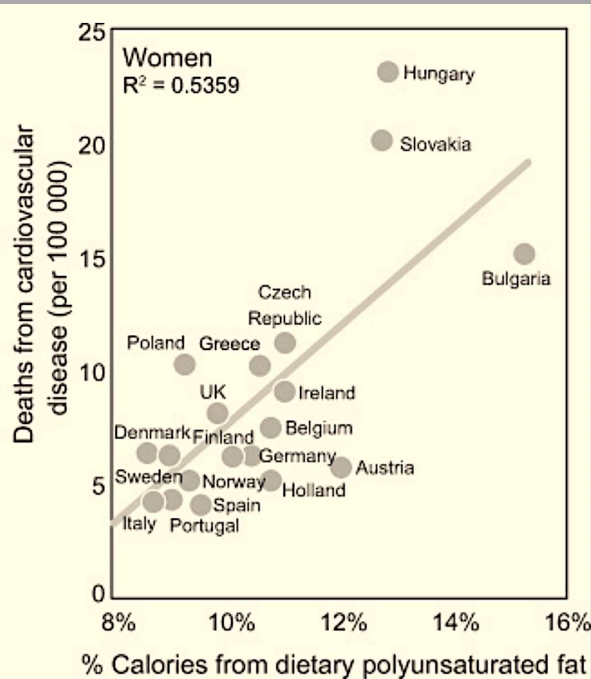
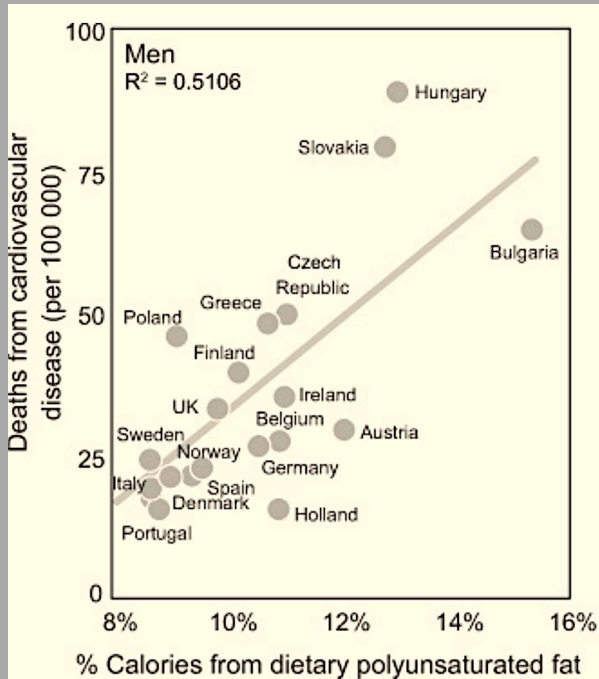
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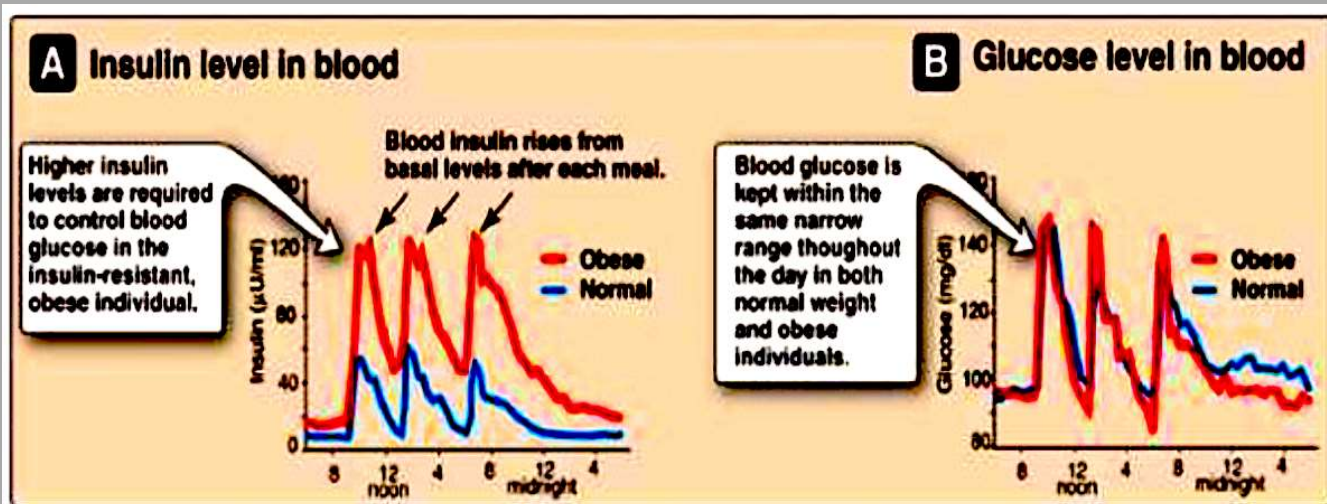
Arne Astrup, Faidon Magkos, Dennis M. Bier, J. Thomas Brenna, Marcia C. de Oliveira Otto, James O. Hill, Janet C. King, Andrew Mente, Jose M. Ordovas, Jeff S. Volek, Salim Yusuf and Ronald M. Krauss

Whole-fat dairy, unprocessed meat, eggs and dark chocolate are Saturated fat-rich foods with a complex matrix and are **not** associated with increased risk of CVD. The totality of available evidence does not support further limiting the intake of such foods.

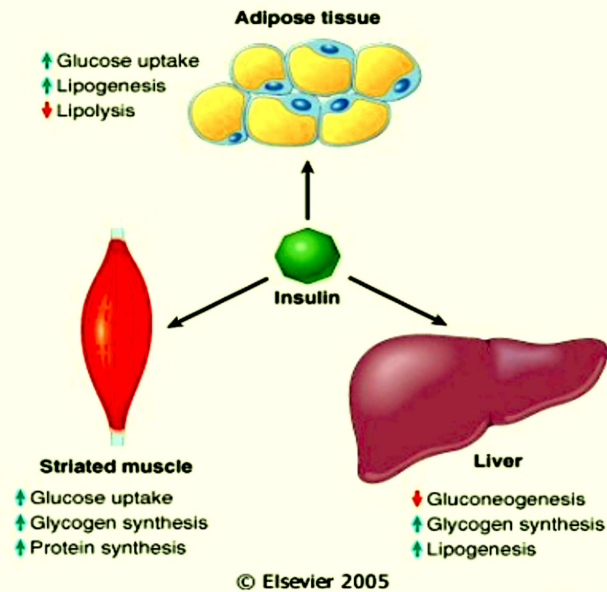
Did polyunsaturated fat improve cardiac risk?



Insulin Resistance



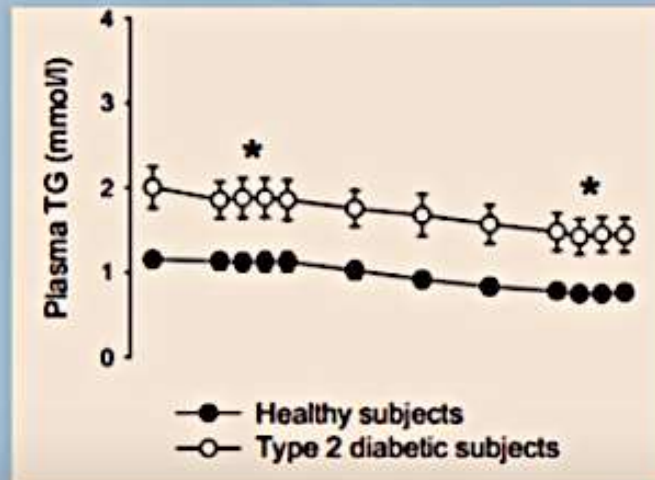
Effects of insulin on target tissues.



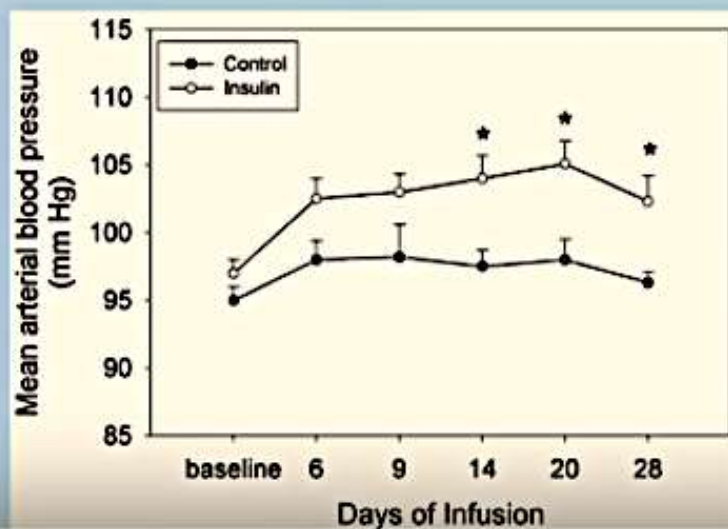
The most difficult subjects can be explained to the most slow-witted man if he has not formed any idea of them already; but the simplest thing cannot be made clear to the most intelligent man if he is firmly persuaded that he knows already, without a shadow of doubt, what is laid before him.'

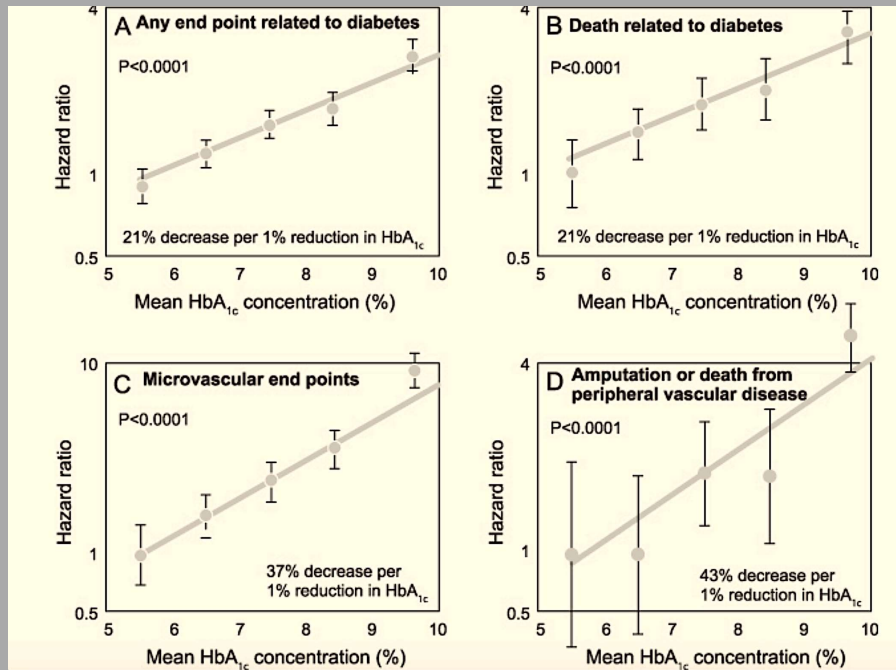
Leo Tolstoy "The Kingdom of God is Within You"

Blood triglycerides

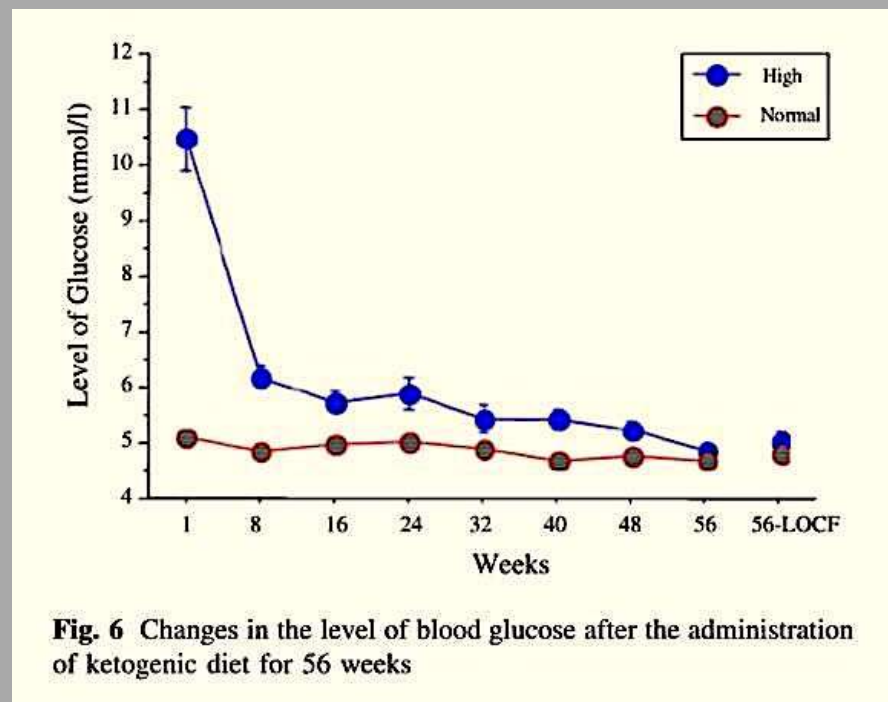


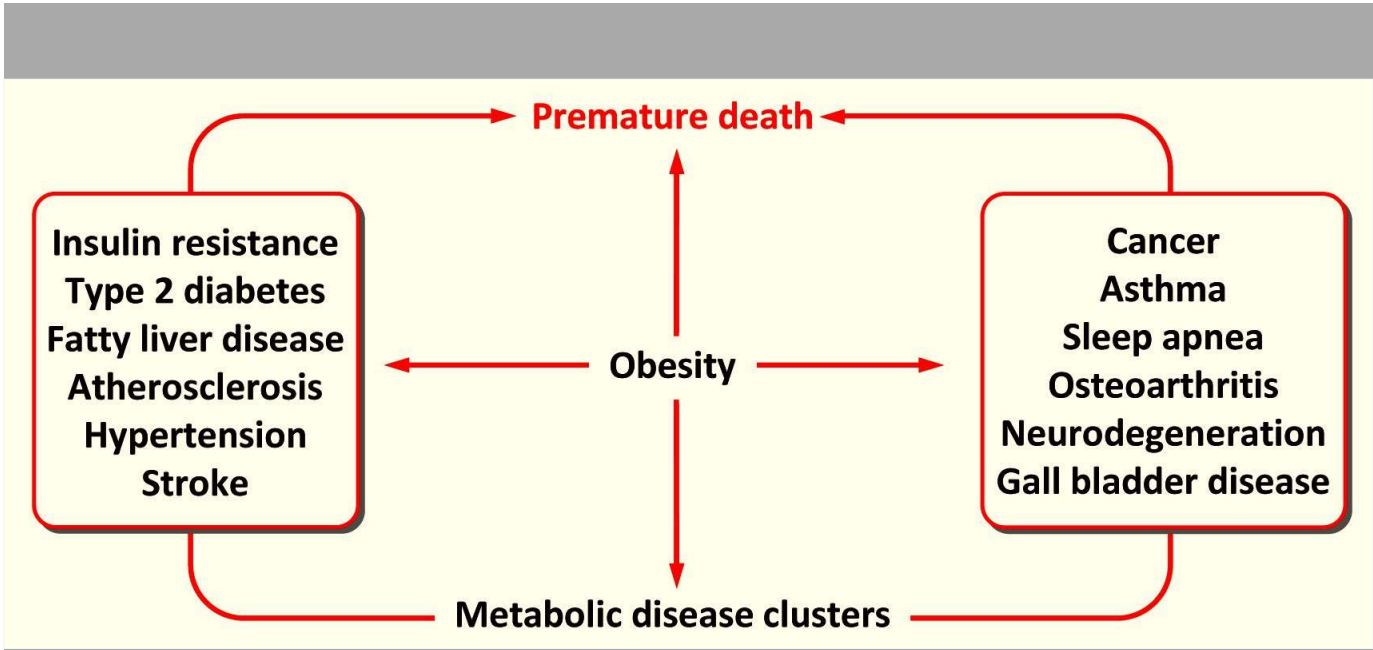
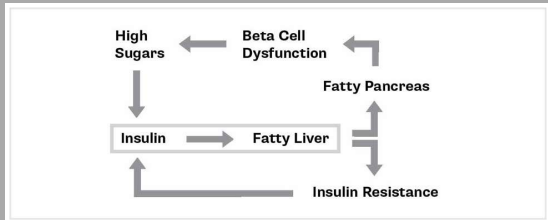
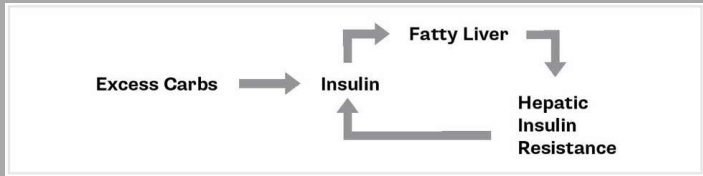
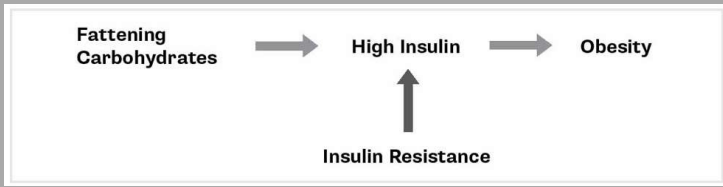
High blood pressure

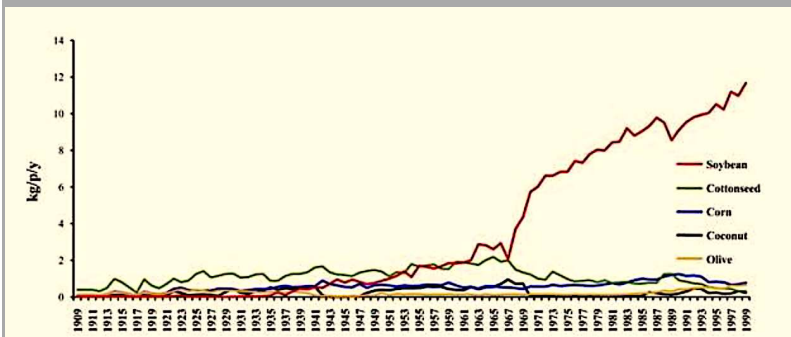




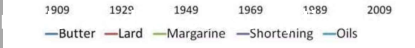
(These regression graphs make more sense if you read them right to left rather than left to right!)







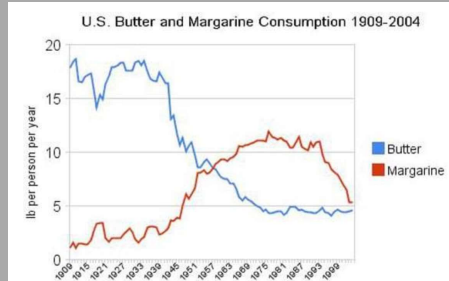
Polyu



ased as recommended

America

Listened!



Saturated fat consumption decreased as recommended

- Definition:

Insulin resistance is defined as a **failure** of target organs to respond normally to the action of insulin.

Muscles, body fat and liver start resisting or ignoring the signal that the hormone insulin is trying to send

RESISTANCE is a normal biologic function of all organisms!

To guarantee that I see presenter notes

Go to "Display"

Then "arrange display"

Screens should be separated and not overlapping.

If overlapping go to options keys and separate

Will see wallpaper on monitor until I start PLAY