Activation of Sustainable Change:

The Key to Living Your Healthiest Life

Presented By

Dr. Michelle Thompson
University of Pittsburgh Medical Center

Dr. Michelle Thompson-Olson

- 1992: Changed my own diet & lifestyle
- 1998: Nutrition Great Lakes Institute Technology Integrative Journey Director of Massage
- 1996-2003: LECOM
- 2003-2006: UPMC Mercy Family Medicine Residency
- 2016: Community events stepping out of brick & mortar to create awareness
- 2017: Physician Wellness & Doctors in the Kitchen

Dr. Michelle Thompson-Olson

- 2018: Nutrigenomics/Pharmacogenomics/Mind Body Medicine
- 2019: Culinary Medicine: Mindful Medicine: Yoga Medicine: Wholehearted Medicine, LLC
- 2020: Plant Based Pennsylvania, Ohio, Alaska, Texas, NC, Tennessee
- 2020: Lifestyle Medicine Residency Curriculum
- 2021: Certified in Mind-Body Medicine
- 2022: Medical Director of the UPMC Lifestyle Medicine Institute

Learning Objectives

- Describe prominent dietary patterns and the impact nutrition has on disease management.
- Recognize the benefits of nutrition for disease prevention and elevating physical wellness.
- Outline strategies to implement nutrition-related changes to activate a healthy, sustainable lifestyle.

Remember to take a breath.

What is the state of your plate?

YOU HAVE 3-5 CHANCES A DAY

CHOICES

FOOD ADDICTION VS. FOOD FEARS

Nutrition is Individual!

- Consider your family / personal history with diet and nutrition.
- What is your relationship with food?
- How does lifestyle medicine have an impact on nutrition?

eat plants

keep moving

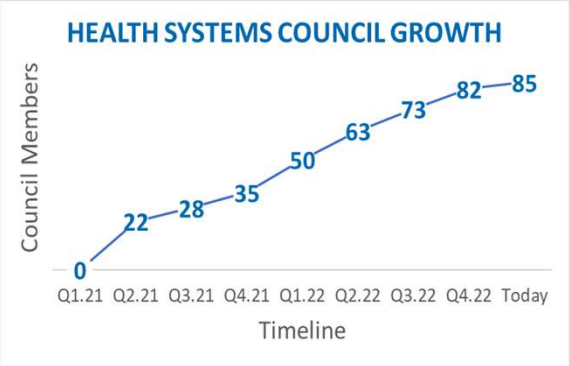
sleep well

be present

stay calm

love people

National Trend Indicator



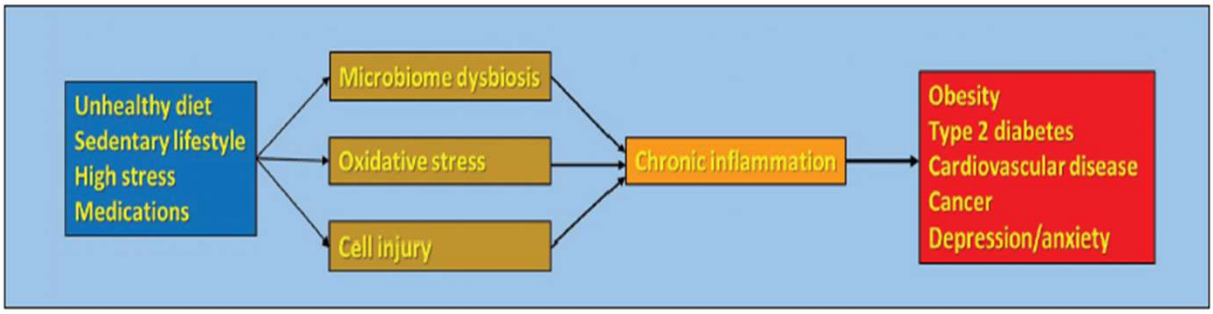
Health Systems Council Members

We need lifestyle medicine now more than ever!

- Unhealthy lifestyle behaviors are at the root of the global burden of noncommunicable diseases and account for about 63% if all deaths.
- Poor diet is the leading cause of poor health in the U.S. and the root cause of more than half a million deaths per year.
- Only 5% of the adult population of the U.S. practice all of the positive lifestyle measures known to significantly reduce the risk of developing cardiovascular disease (CVD).

Source: American Heart Association Strategic Planning Task Force and Statistics Committee. Defining and setting national goals for cardiovascular health promotion and disease reduction: the American Heart Association's strategic impact goal through 2020 and beyond. Circulation. 2010 Feb 2; 121 (4): 586-613. doi:10.1161/CIRCULATIONAHA. 109.192703.

Lifestyle Modifications Cultivate Change



Steps in the pathogenesis of inflammation leading to progression of chronic diseases.

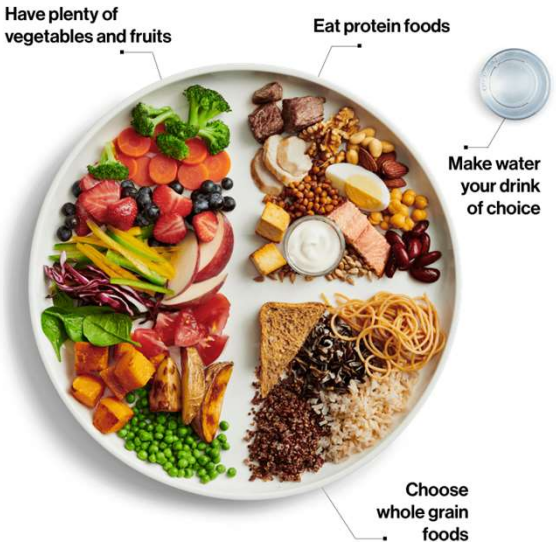
Traditional Diets in the US

- Unhealthy diet is the leading cause of death across the globe.
- Unhealthy diet contributes to approximately 678,000 deaths each year in the U.S.
- 1/3 of people in the world are overweight/obese.
- In the past 30 years, the global prevalence of diabetes has nearly doubled.

Source: Health effects of dietary risks in 195 countries, 1990-2017: a systematic analysis for the Global Burden of Disease Study 2017

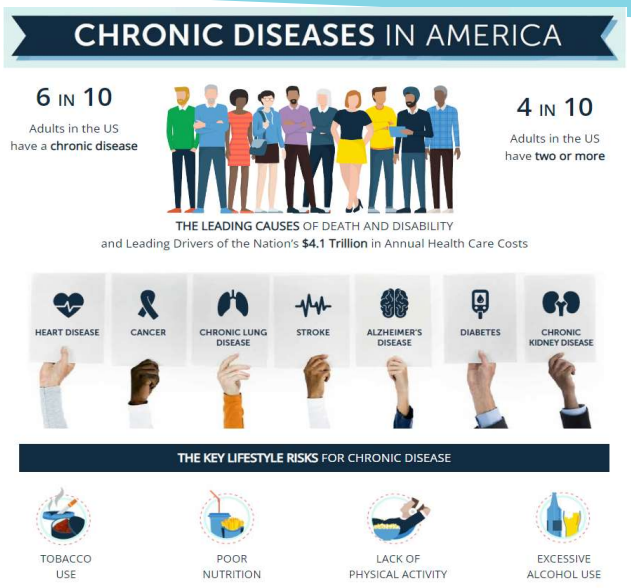
Trends in U.S. Diets vs. ACLM & Canadian Standards

Canadian Food Plate



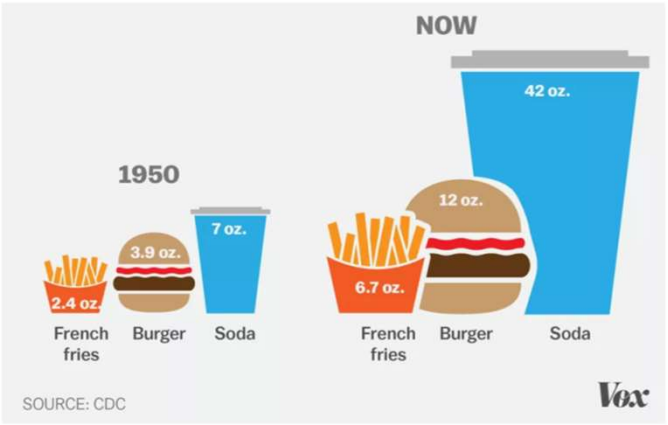
American College of Lifestyle Medicine's Whole Food, Plant-based Plate (WFPB)

CDC's National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP)

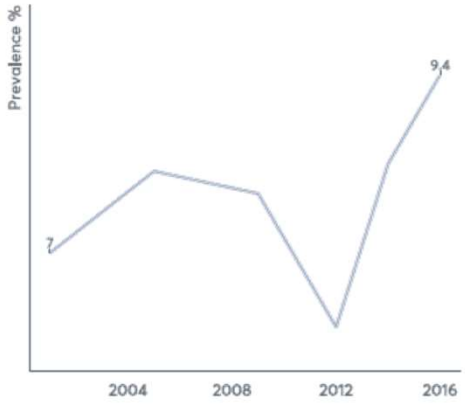


Source: https://www.cdc.gov/chronicdisease/resources/infographic/chronic-diseases.htm

The average restaurant meal today is more than FOUR TIMES larger than in the 1950s!

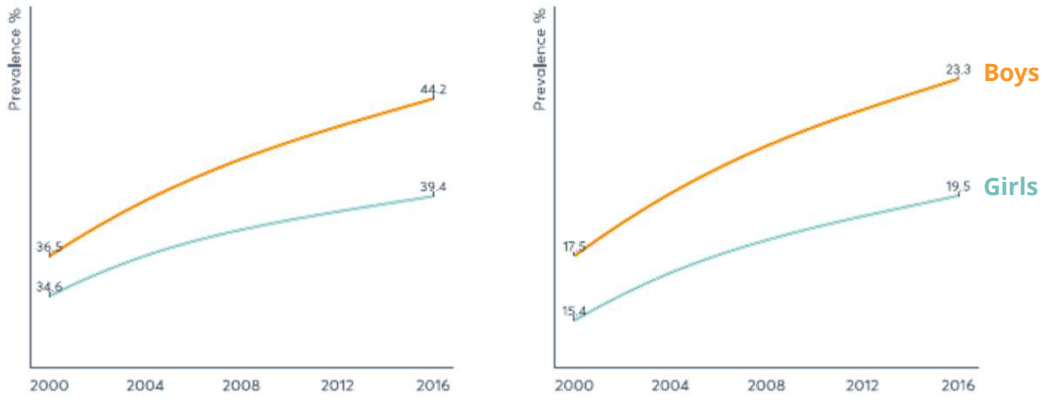


Prevalence of Overweight & Obesity in Children Under 5yo (US)



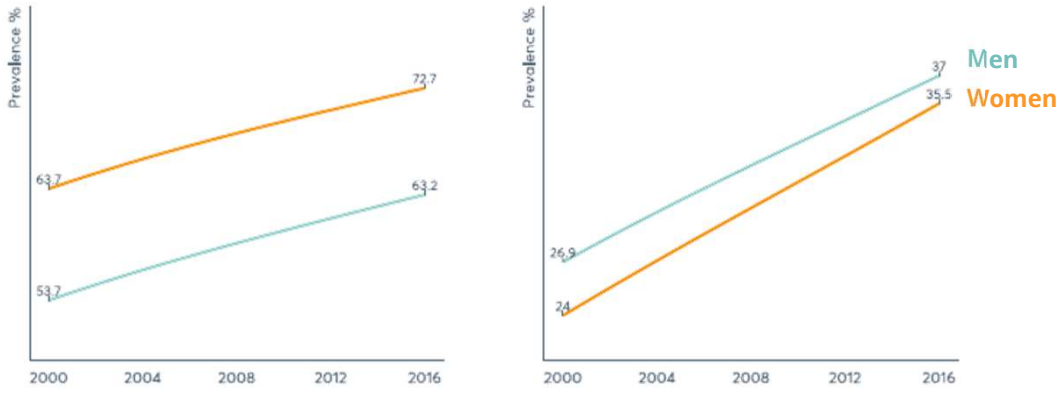
Source: WHO Global Health Observatory

Prevalence of Overweight & Obesity in Children 5yo to 19 yo (US)



Source: WHO Global Health Observatory

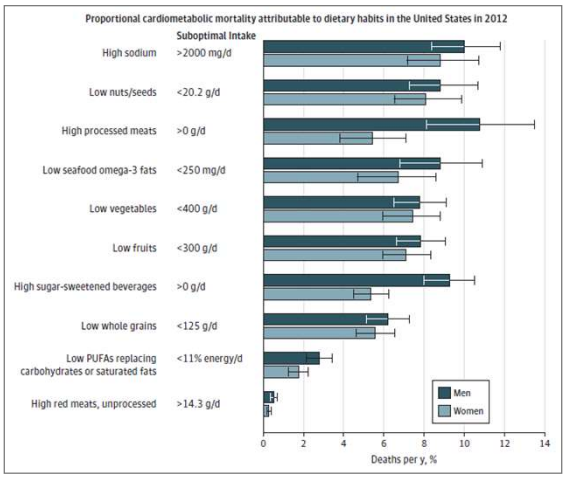
Prevalence of Overweight & Obesity in Adults (US)



Source: WHO Global Health Observatory

Main Dietary Factors Contributing to Disease

- The highest proportions of cardiometabolic deaths were estimated to be related to:
  - Excess sodium intake
  - Insufficient intake of nuts/seeds
  - High intake of processed meats
  - Low intake of seafood omega-3 fats
  - High intake of sugar beverages



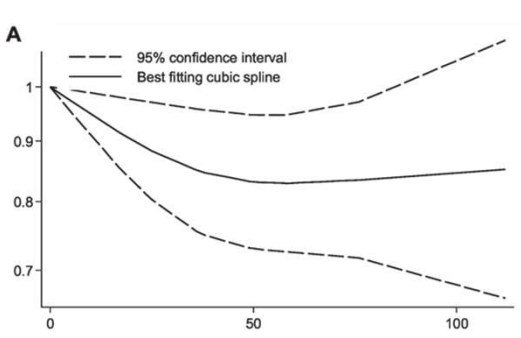
Source: JAMA, 2017;317(9);912-924.

Food Groups and Risk of Overweight, Obesity, and Weight Gain: A Systematic Review and Dose-Response Meta-Analysis of Prospective Studies

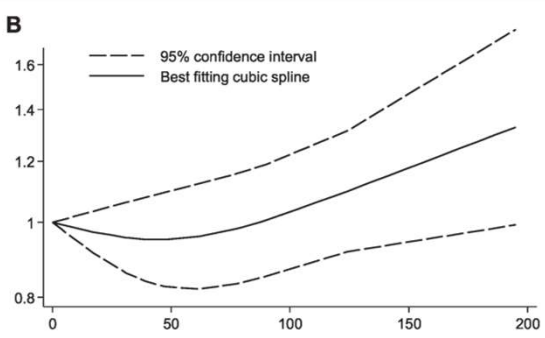
Sabrina Schlesinger,[1] Manuela Neuenschwander,[1] Carolina Schwedhelm,[2,3] Georg Hoffmann,[4] Angela Bechthold,[5] Heiner Boeing,[2,3] and Lukas Schwingshackl[2,3]

[1] Institute for Biometrics and Epidemiology, German Diabetes Center (DDZ) at Heinrich Heine University, Düsseldorf, Germany; [2] Department of Epidemiology, German Institute of Human Nutrition Potsdam-Rehbruecke (DIfE), Nuthetal, Germany; [3] NutriAct-Competence Cluster Nutrition Research Berlin-Potsdam, Nuthetal, Germany; [4] Department of Nutritional Sciences, University of Vienna, Vienna, Austria; and [5] German Nutrition Society, Bonn, Germany

Daily Intake & Relative Risk of Obesity

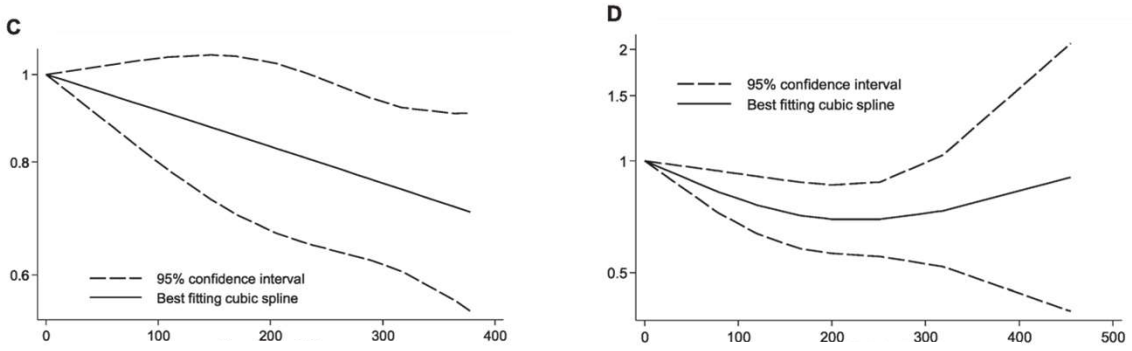


Whole Grains



Refined Grains

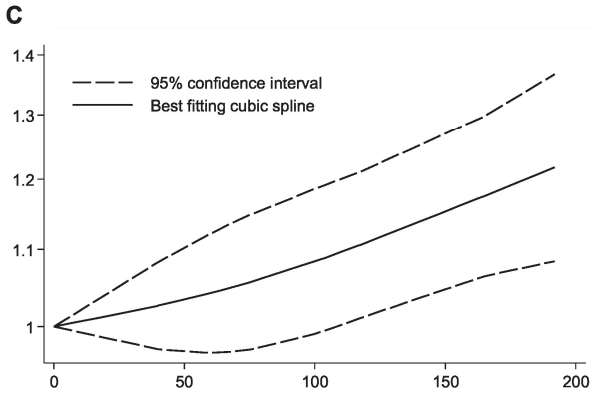
Daily Intake & Relative Risk of Obesity



Vegetables

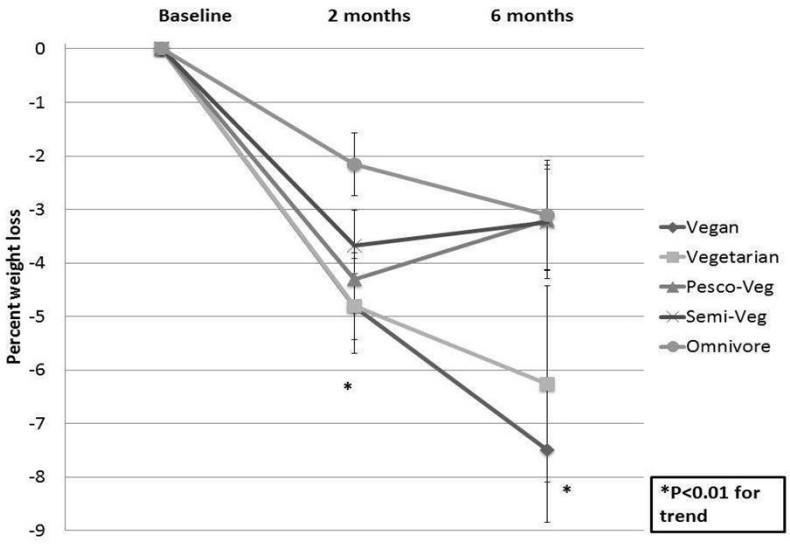
Fruits

Daily Intake & Relative Risk of Obesity



Red Meat

Dietary Patterns and Weight Loss



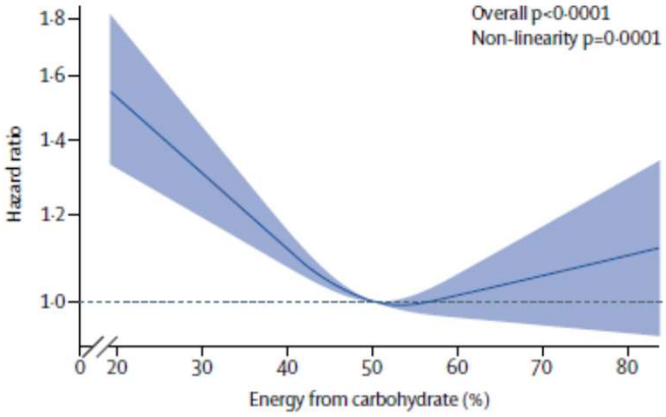
Source: Turner-McGrievy GM, Davidson CR, Wingard EE, Wilcox S, Frongillo EA. Comparative effectiveness of plant-based diets for weight loss: a randomized controlled trial of five different diets. Nutrition. 2015 Feb;31(2):350-8.

Issues with Common Diet Trends

- Low carb vs. high carb diets
- Ketogenic diet
- Myths about fats

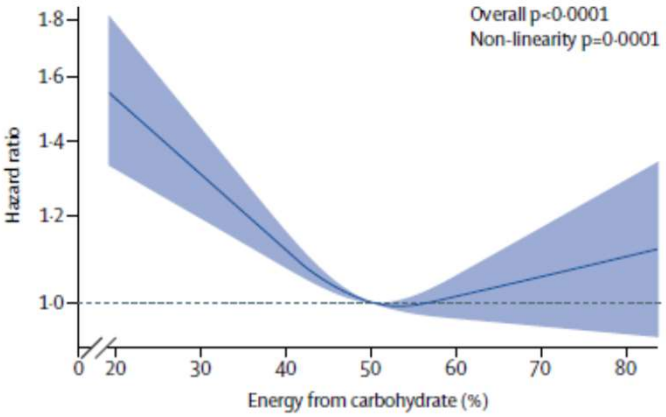
Issues with Common Diet Trends

- In the meta-analysis of all cohorts (432,179 participants), both low carbohydrate consumption (<40%) and high carbohydrate consumption (>70%) conferred greater mortality risk than did moderate intake.



Issues with Common Diet Trends

- HOWEVER, results varied by the source of macronutrients:
  - **Mortality INCREASED when carbohydrates were exchanged for animal-derived fat or protein.**
  - **Mortality DECREASED when the substitutions were plant-based.**



Keto

ESC European Society of Cardiology
European Heart Journal (2019) 40, 2870–2879
doi:10.1093/eurheartj/ehz174
CLINICAL RESEARCH
Prevention and epidemiology

Lower carbohydrate diets and all-cause and cause-specific mortality: a population-based cohort study and pooling of prospective studies

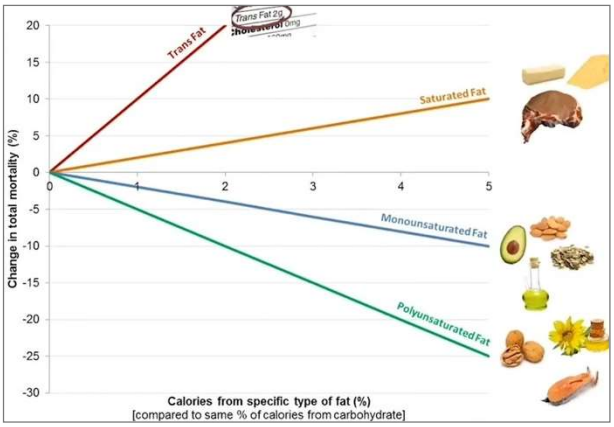
Mohsen Mazidi[1,2]*, Niki Katsiki[3], Dimitri P. Mikhailidis[4], Naveed Sattar[5], and Maciej Banach[6,7,8]*; on behalf of the International Lipid Expert Panel (ILEP) and the Lipid and Blood Pressure Meta-analysis Collaboration (LBPMC) Group

- Findings on pooled data of **nine prospective cohort studies with 462,934 participants** (mean follow-up 16.1 years) indicated a **positive association between LCD** and overall (RR 1.22, 95% CI 1.06-1.39, P<0.001, 12=8.6), **CVD** (RR 1.13, 95% CL 1.02-1.24, P<0.001, 12 = 11.2), and **cancer mortality** (RR 1.08, 95% CL 1.01-1.14, P=0.02, 12 = 10.3).

FINDINGS:

Switching to Keto diet was associated with increased cholesterol and inflammatory markers, decreased triglycerides, and decreased insulin-mediated antilipolysis.

Fats



FINDINGS:

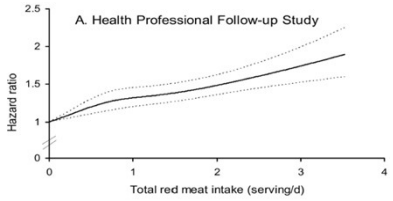
Replacing 5% of energy from saturated fats with equivalent energy from **polyunsaturated fats and monounsaturated fats was associated with 27% and 13% estimated reductions in total mortality**, respectively.

Source: JAMA Internal Medicine. 2016 August 1;176(8):1134-1145.

Red Meat

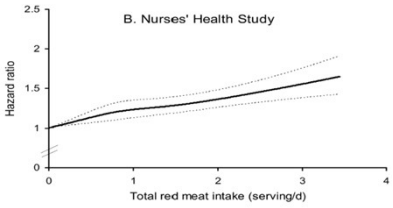
Red Meat Consumption and Mortality: Results from Two Prospective Cohort Studies

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, and Frank B. Hu, MD, PhD



CONCLUSION:

Red meat consumption is associated with an increased risk of total, CVD, and cancer mortality. Substitution of other healthy protein sources for red meat is associated with lower mortality risk.



Diets that Support Healthy Lifestyles

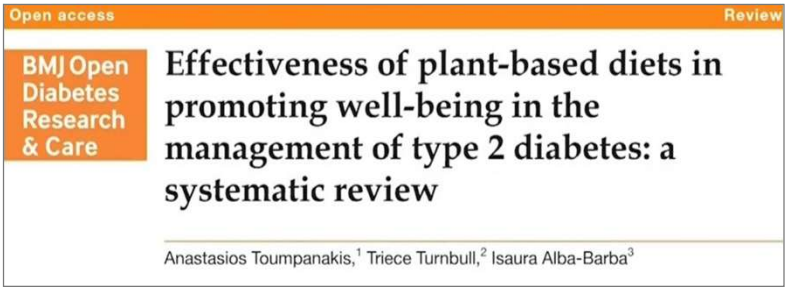
- Vegetarian diet
- Vegan diet
- Mediterranean diet

Vegetarian & Vegan Diets

Characteristic	All-Cause	Ischemic Heart Disease	Cardiovascular Disease
All (N = 73 308), No. of deaths[a,b]	2560	372	987
Vegetarian	0.88 (0.80-0.97)	0.81 (0.64-1.02)	0.87 (0.75-1.01)
Nonvegetarian	1 [Reference]	1 [Reference]	1 [Reference]

- Vegetarian diets are associated with lower all-cause mortality and with cause-specific mortality (30% less for IHD). Results appeared to be more robust in males.
- Vegan are on average, 30 pounds lighter than meat eaters.
- Vegans and vegetarians are less insulin-resistant than meat eaters.
- Pesco-vegetarians and semi-vegetarians have an "intermediate protection" against lifestyle diseases.

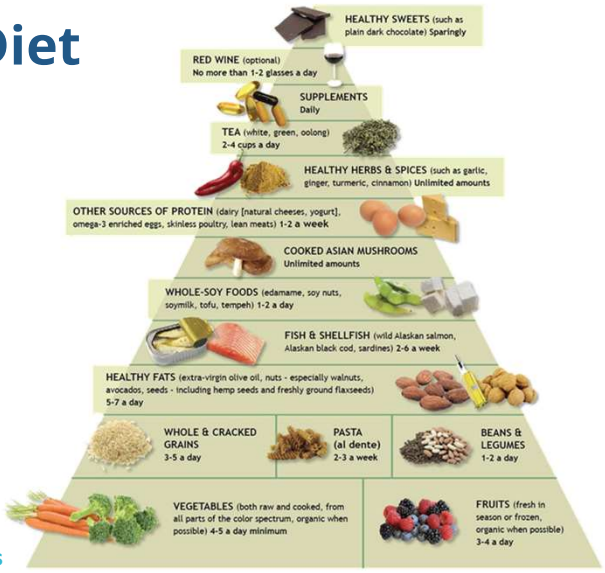
Vegetarian & Vegan Diets



FINDINGS:

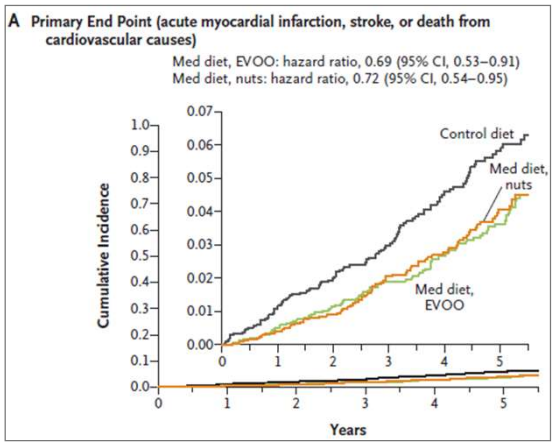
Plant-based diets were associated with significant improvement in emotional well-being, physical well-being, depression, quality of life, general health, HbA1c levels, weight, total cholesterol, and LDL.

Mediterranean Diet



*8-10 daily servings of fruits and vegetables

Mediterranean Diet

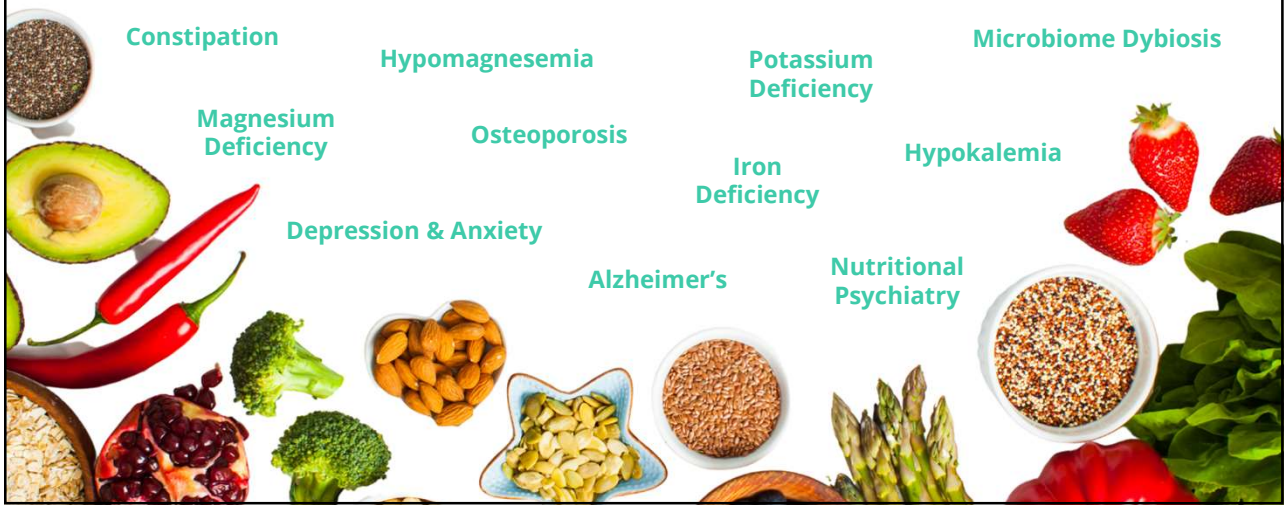


CONCLUSIONS:

In this study involving persons at high cardiovascular risk, **the incidence of major cardiovascular events was lower (30% less) among those assigned to a Mediterranean diet** supplemented with extra-virgin olive oil or nuts than among those assigned to a reduced-fat diet.

Using Foods for Fuel and Beyond

Food can treat things like:



Food Lists

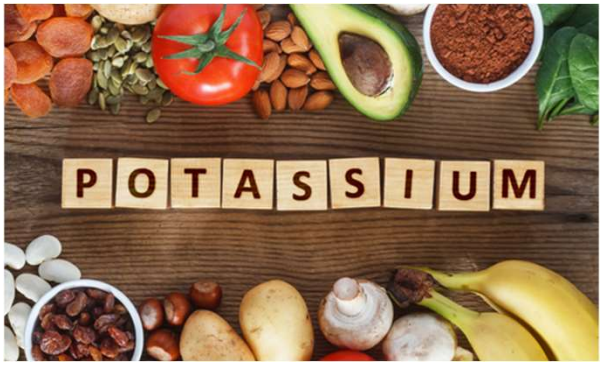
- Iron
- Potassium
- Calcium
- Magnesium
- Nitric Oxide
- Protein
- Probiotics

Iron

- Soybeans
- Blackstrap molasses
- Lentils, cooked
- Spinach, cooked
- Quinoa, cooked
- Tofu
- Tempeh
- Lima beans, cooked
- Pumpkin seeds
- Swiss chard, cooked
- Black beans, cooked
- Pinto beans, cooked
- Turnip greens, cooked
- Brussels sprouts, cooked
- Chickpeas, cooked
- Potato
- Kidney beans, cooked
- Prune juice
- Beet greens, cooked
- Tahini
- Red kidney beans, cooked
- Navy beans
- Black-eyed peas, cooked
- Asparagus, cooked
- Bok choy, cooked
- Cashews
- Dates
- Avocado
- Raisins
- Almonds
- Apricots, dried
- Watermelon
- Soy yogurt
- Tomato juice
- Green beans, cooked
- Kale, cooked
- Sunflower seeds
- Broccoli, cooked
- Millet, cooked
- Sesame seeds
- Bulgur, cooked

Potassium

- Baked potato
- Adzuki beans
- Avocado
- Soybeans
- Black turtle beans
- Lima beans
- Squash
- Yams
- Plantains
- Bamboo shoots
- Passion fruit
- White beans
- Beet greens
- Dates
- Mushrooms
- Nuts
- Vegetables
- Legumes



Calcium

- Blackstrap molasses
- Collard greens
- Okra
- Bok choy
- Mustard greens
- Turnip greens
- Swiss chard
- Beet greens
- Spinach
- Tofu
- Calcium-fortified OJ
- Soy milk (if fortified)
- Rice milk (if fortified)
- Soy yogurt
- Cabbage
- Tempeh
- Kale
- Soybeans
- Green beans
- Brussels sprouts
- Asparagus
- Mushrooms
- Celery
- Tahini
- Broccoli
- Almonds
- Almond butter
- Oranges
- Papaya
- Apricot
- Figs
- Grapefruit
- Avocado
- Plums
- Blackberries
- Peaches
- Grapes
- Navy beans
- Chickpeas
- White beans
- Sesame seeds
- Chia seeds
- Poppy seeds
- Oats

Magnesium

- Brazil nuts
- Almonds
- Cashews
- Pine nuts
- Hazelnuts
- Pecans
- Pistachio
- Walnuts
- Amaranth
- Spinach
- Dark chocolate
- Black-eyed peas
- Brown rice
- Soybeans / edamame
- Black beans
- Dark green leafy veggies (beet, collard, mustard & turnip greens, kale, parsley, watercress)
- Whole grain products

Nitric Oxide

Nitric oxide helps with vascular health and athletic performance! Food sources include:

- **Beets**
- **Arugula**
- **Spinach**
- **Fennel seeds**
- **Watermelon**
- **Garlic**
- **Citrus foods**
- **Dark chocolate**
- **Walnuts**
- **Dark green leafy vegetables**

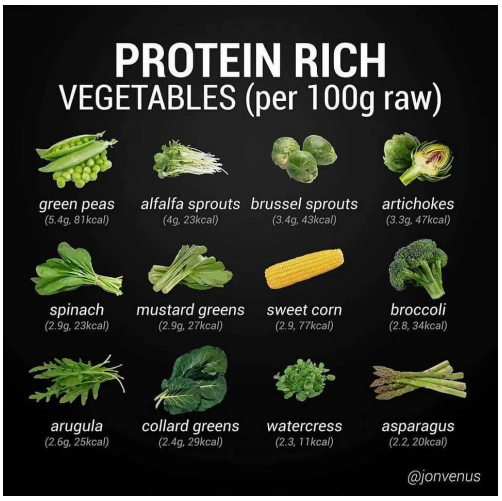
Where should we get our protein?

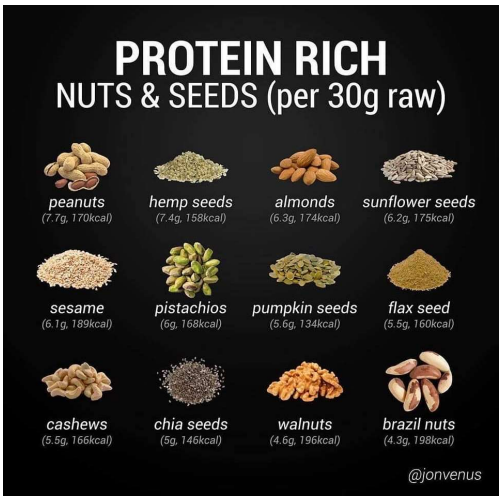
Protein content per 100g:

- **Soy beans 36g**
- **Chicken 31g**
- **Pork 27g**
- **Beef 26g**
- **Peanuts 26g**
- **Almonds 21g**
- **Cashews 18g**
- **Quinoa 13g**
- **Egg whites 11g**

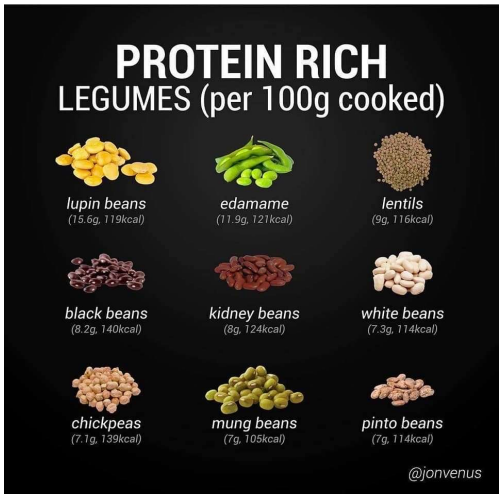
**Note: Plant proteins do not have dietary phosphatidylcholine (lecithin) which is converted to TMAO.*

Increasing plant-based protein options:





Increasing plant-based protein options:



Foods that Support Hormonal Balance

- Banana
- Spinach
- Lemon
- Oranges
- Pink grapefruit
- Ground flax
- Chia seeds
- Almond
- Pomegranate
- Tomato
- Ginger
- Collards
- Pumpkin sees
- Pistachio
- Dark chocolate
- Zinc
- B complex
- Vitamin D
- Vitamin C

Strengthen Your Immune System!

- Vitamin A
- Vitamin C
- Zinc
- Quercetin
- Pre & Probiotics

Foods that Support the Immune System

Vitamin A

- Spinach
- Sweet potato (cooked)
- Raw carrots
- Winter squash (cooked)
- Black eyed peas
- Kale (cooked)
- Tomato juice
- Collards (cooked)
- Fortified cereal
- Turnip greens (cooked)
- Hard boiled eggs
- Sweet red pepper (raw)
- Cod liver oil
- Swiss chard (raw)
- King mackerel
- Spinach (raw)
- Salmon
- Romain lettuce (raw)
- Bluefin tuna
- Mango
- Trout
- Cantaloupe

Foods that Support the Immune System

Vitamin C

- Bok choy
- Kiwi
- Broccoli
- Mango & Papaya
- Brussels sprouts
- Mustard greens
- Cabbage
- Citrus fruits
- Cantaloupe
- Parsley
- Cauliflower
- Peas
- Currants
- Pineapple
- Red pepper
- Diakon
- Strawberry
- Radishes
- Tomatoes
- Guava
- Turnip greens
- Kale

Foods that Support the Immune System

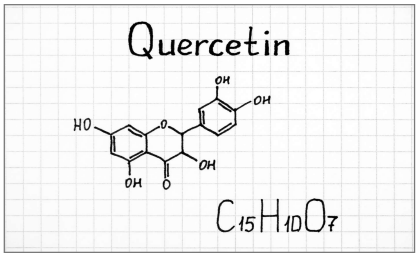
Zinc

- Chickpeas
- Lentils
- Beans
- Hemp seeds
- Squash
- Pumpkin
- Sesame seeds
- Dark chocolate
- Regular potatoes
- Sweet potatoes
- Green beans
- Kale
- Whole grains (wheat, quinoa, rice & oats)

Foods that Support the Immune System

Quercetin

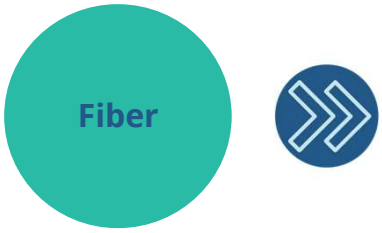
- Onions
- Apples
- Grapes
- Berries
- Broccoli
- Leafy vegetables
- Peppers
- Black tea
- Green tea
- Red wine
- Citrus fruits
- Cherries
- Capers



Foods that Support the Immune System

- Host and gut microbiota equilibrium can be enhanced with the use of probiotics, prebiotics, and synbiotics.
- **PROBIOTICS** are live strains of microorganisms that confer a health benefit on the host by reducing the number of competing pathogens (production of antimicrobial substances and by interfering in the intestinal mucosal adhesion).
  - **Sources include fermented products like sauerkraut, pickled or fermented veggies and fruits, etc.**
- **PREBIOTICS** are substrates that are selectively utilized by host microorganisms, conferring health benefits through the modulation of microbiota.
  - **Natural sources include cereals, fruits, green veggies, and plants.**

Fiber



- The emerging increase in chronic digestive diseases is probably related to the loss of microbial diversity, which is attributed to the decline in the consumption of dietary fiber. Fibers are fermented and used by the colon bacteria as a source of nourishment.

➢ **<u>Sources include:</u>**

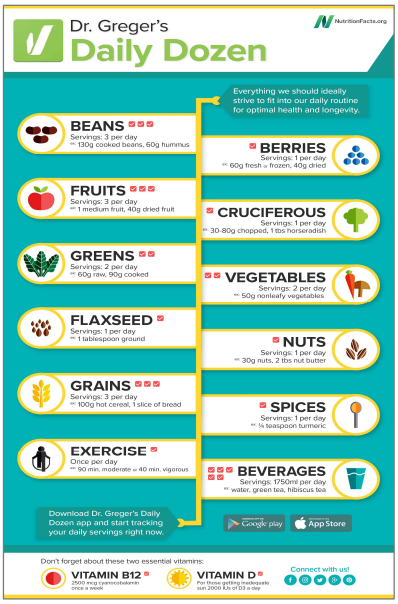
- **Peas**
- **Leafy green veggies**
- **Spinach**
- **Blueberries**
- **Blackberries**
- **Apples**
- **Oranges**
- **Avocadoes**
- **Nuts & seeds**
- **Lentils (black beans, lima beans, kidney beans, edamame, chickpeas)**
- **Grains (whole wheat, oatmeal, quinoa, bran flakes)**

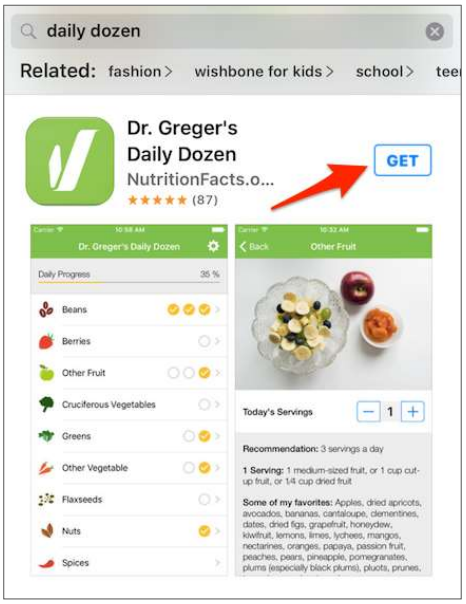

EAT THE RAINBOW
BLUE
+ FIGHT OFF FREE RADICALS
GREEN
+ CELL HEALTH
YELLOW
+ TISSUE REPAIR
ORANGE
+ IMMUNE SYSTEM
RED
+ ANTIOXIDANT
PURPLE
+ CELL FUNCTION
@jonvenus


Fruits & Vegetables
Plant Proteins
Drink Water
Whole Grains
ADD HERBS & SPICES

Use your meals as a Power Plate!

- **¼ vegetables**
- **¼ fruits**
- **¼ whole grains**
  (brown rice, barley, pasta, quinoa, kashi, spelt, ezekial bread/muffins, wraps, whole wheat couscous)
- **¼ lean protein**
  (bean, tempeh, lentils, nut, seeds, soy, tofu, edamame, textured vegetable protein [TVP])





Mindful Eating: It's not just a trend!

- Mindful eating is paying attention to our food, on purpose, moment by moment, without judgment.
- We are starting to pay attention to **WHAT** we eat, but what about **HOW**, **WHY**, and **WHEN** we eat?
- Even if you only have 5 minutes between meetings, try to pay complete and 'on purpose' attention to the act of eating.

"The difference with mindful eating is that it is not about rules or guidelines; instead, it is about individual experience. No one has the same experience with the same food every time. The idea is for people to have their own experiences and to be in the present while having them."

Why eat mindfully? Evidence-based Research

Contributes to Weight Loss Maintenance

Dunn, Carolyn, et al. "Mindfulness approaches and weight loss, weight maintenance, and weight regain." Current obesity reports 7.1 (2018): 37-49.

Improves Digest Function

Cherpak C. E. (2019). Mindful eating: A review of how the stress-digestion-mindfulness triad may modulate and improve gastrointestinal and digestive function. Integrated medicine (Encinitas, Calif.), 18(4), 48-53.

Contributes to Positive Behavior Change

Warren JM, Smith N, Ashwell M. A structured literature review on the role of mindfulness, mindful eating, and intuitive eating in changing eating behaviours: effectiveness and associated potential mechanisms. Nutr Res Rev. 2017. Dec;30(2):272-283.

Activating and Maintaining Sustainable Lifestyle Habits Through Nutrition

- There is an undeniable need to change our practices in order to address the disease burden created by unhealthy lifestyle and nutrition.
- Despite the historical lack of nutrition education during medical school and other wellness-related degrees, wellness and medical professionals are in a privileged position to guide and motivate individuals to make positive changes that help prevent and reverse disease.
- There is enough evidence to encourage a whole food plant-based diet that actively limit or avoid animal products, in order to not only leverage wellness but also decrease mortality.

FOOD FOR THOUGHT

- Slow but sustained change is the easiest way to change our dietary patterns, one meal at a time.
- Most important, always consider WHY, HOW, and WHEN before your meal selection and eat as mindfully as possible.
- Consult certified nutrition professionals when necessary to stay within scope of practice (if working with others around lifestyle changes).

NATIONAL WELLNESS INSTITUTE

Thank you!

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