



Inflammatory and Non-Inflammatory Food--a Report

with

Suggestions for Healthy Eating

by

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A Babe in the Woods

My Background:

- no formal qualifications to talk about today's topic
- not a nutritionist, dietitian, physician, biochemist, or scientist

I agreed to talk about it mainly because:

- I had lymphoma in 2005 and believe it was caused by inflammatory food
- I have done some reading on our topic
- I have had some personal experience of inflammatory foods and have one story and possibly a second to tell
- I believe that this experience and reading might be helpful to others
- I welcome corrections and suggestions
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The Story of Jennifer (b. 1960)

Our Jennifer was a bonnie baby about 14 months old in 1961

- She was walking, talking, tooting, and laughing
- We started feeding her solid foods
- Jennifer became very sick
- She began to look exactly like the girl in the picture on the left

Jennifer's symptoms

constant crying

refusal to eat

diarrhea

huge swollen belly

loss of weight and muscle mass

medical diagnosis: "failure to thrive"

desperate parents

Dr Spock's *Child and Baby Care* and its Appendix, recovery

in 1964 in Ottawa, more diagnosis: "koiliakos"

Jennifer's current guideline for safe eating

Jennifer (now 62) kindly sent me this info on her present diet:

- 1 **Eat gluten free** (never cheat, even when its hard)
- 2 Eat **mostly vegetables**
3. Enjoy **fruits** that are low on the glycemic index index (berries, melon, bananas that still have green, etc.)
4. Drink only **water, herbal tea, and organic coffee** (swiss water, processed decaf) and **clean wine** (none are perfect but typically sauvignon blanc from New Zealand and pinot grigio from northern Italy are the best)
5. **Eat clean in restaurants:** Eat no monosodium glutamate, no pre-made foods. Order oil and vinegar on the side instead of in pre-made salad dressings (unless the restaurant makes its dressings from scratch). Avoid soup cubes and spices like chili/taco mixes that have msg. When eating out, call in advance and ask how to avoid additives.

The Story of Jim (that's me) Part 1: Before 2005

I was born in 1934 and as a child ate a standard diet-- meat, potatoes, a vegetable, and plenty of dairy

But I had frequent stomach aches and nausea as a pre-schooler-- about three or four days each month

About 1938, I had a tonsillectomy as a remedy for my tummy aches and eventually overcame the nausea

As an adult, I often felt that my digestion was not quite right

Medical consultations and a colonoscopy were not helpful

- I took my many vitamin supplements as an adult because I felt that I was missing certain nutrients

The story of Jim
Part 2: In 2005,
a great pain in
my left shin
bone, sore
muscles
everywhere,
night sweats,
and a stiff neck

After several medical consultations, a diagnosis of
“polymyalgia rheumatica”

After several months, a bone scan “showed cancer in every
bone of your body” —find the source of the cancer

A CAT scan revealed no “source,” only cancerous bones about
to break, admission to hospital

A hospital diagnosis of probable Diffuse Large B-Cell [DLBC]
lymphoma in my bones, Stage 4 plus

My hospital treatment: much radiation, CHOP-R, and blood
thinners for 13 lung embolisms

A most unpleasant, scary, near–death experience, but I
recovered

What could
I do to
avoid a
relapse?

- I could read about the disease
- I could find out what might have caused it
- I could act prudently by avoiding the cause

What had caused
this near lethal
disease?

Much frustration reading
books on lymphoma—cause
unknown.

Only risk factors:

sprays and
herbicides

old age (71?)

male sex

abattoir work

family history

High Risk Factors

exposure to certain
chemicals

exposure to radiation

weak immune system

certain autoimmune
diseases

certain viral infections

Discovery by chance of T. Colin Campbell's book, *The China Study*

- In China, many cancers in China are rare compared to Canada
- Canadian diet is not like the Chinese diet

More reading and then writing

Discovery by chance of Jane Plant's book,
Your Life in Your Hands

- Stay away from dairy because of its insulin-like growth factor
- Follow an Asian-type diet (only 10% fat and 10% protein) with many fruits and veggies)
- Transform one's Western diet into an Asian-type diet using Western food

Compilation of "Notes on the Immune System and Food" (see LSGO website, 50 pages)

MY Moment of Truth came in 2012 when I learned:

- that I am certainly sensitive to a protein in wheat called gluten (the Enterolab test)
- that about 80% of human white cells (including B cells) are situated next to the intestine
- that their main work is to triage what one eats by identifying foods that are incompatible with the body
- that B cells reproduce about 1000 times more frequently than other cells because of their big job
- that my B cells must have been chronically stressed for 72 years

Then
Eureka!!!


I realized that my B-cell Lymphoma could have been caused by chronic inflammation in my gut

This hypothetical hunch made me INTENSELY interested in the gut and in inflammatory and non-inflammatory foods

Ladies and gentlemen, now that you now about where this Old Babe is coming from, I would like to say a few things about today's topic about inflammation

What is Inflammation?

“a complex biological response of body tissues to harmful stimuli, such as pathogens, damaged cells, or irritants” — *Wikipedia*



Irritants can be foods that are incompatible with one's body

Scientists have recently learned that one type of fat in food can also damage cells

What are the
five classic
signs of
inflammation?

- Heat (*calor*)
- Pain (*dolor*)
- Redness (*rubor*)
- Swelling (*tumor*)
- Loss of Function (*function laesa*)

Why is inflammation in the gut especially difficult to feel?

Pain Thresholds

no pain

brain

hair

nails

LITTLE PAIN

internal organs

much pain

arteries

muscles

bones and teeth

high pain

finger tips

tongue

Why is inflammation a matter of concern?

- Chronic, intestinal inflammation is associated with cancer, cardiovascular diseases, metabolic diseases, stroke, Alzheimers, and amyloidosis
- Inflammation is sometimes painful
- Inflammation can be debilitating, if not life-threatening:
 - e.g. digestion of food can be lessened
 - e.g. absorption of nutrients can be lessened
 - e.g. the ability of organs to function can be impaired or destroyed

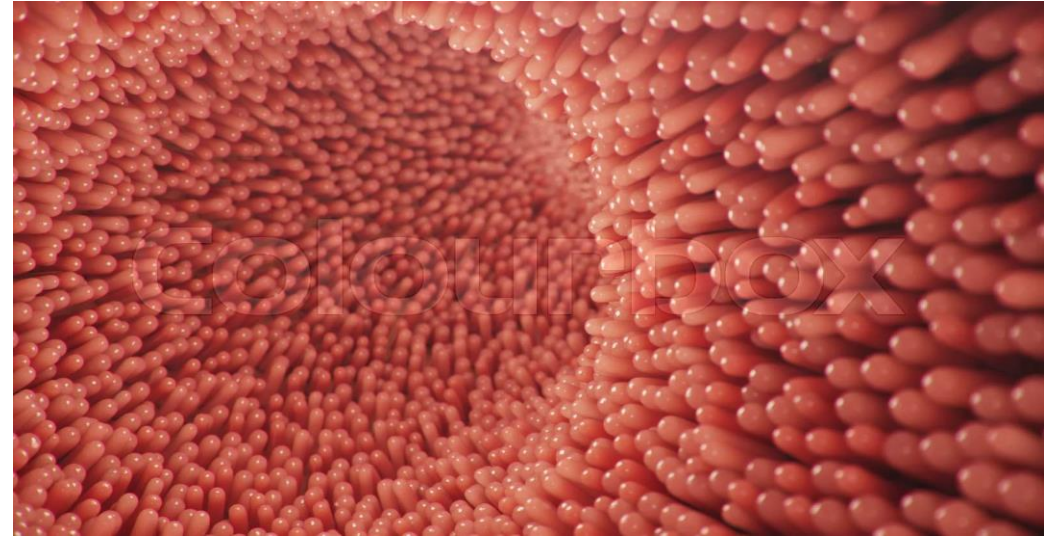
Objective measures of inflammation

Several objective blood tests:

- CRP [C-Reactive Protein] or hs-CRP [high-sensitivity CRP]. CRP is a reactive protein released by the liver in response to an infection or inflammation
- Several “interleukins” also signal inflammation. [Interleukins are proteins that can communicate between (“inter”) leukocytes (white blood cells)]:
 - IL-1B [the number after the IL [i.e. “interleukin”] signifies one or another type of protein
 - IL-4
 - IL-6
 - IL-8
 - IL-10
 - TNF [Tumor Necrosis Factor]—a protein secreted by white cells to signal inflammation

Why is inflammation of the intestine especially worrisome?

- To absorb nutrients, the intestine is covered by finger-like projections called **villi** (about 6000 to 25,000 per square inch) and each villus has a huge number of projecting “microvilli”



- The total area of surface of the intestine is therefore about 2000 square feet-- about the size of a tennis court
- If a sore thumb were the size of tennis court, imagine how it would feel!

My Plan for discussing Inflammatory Foods

Part A. A report on studies of foods that can affect all people: “Dietary Inflammatory Indexes”

Part B. A description of certain foods that may be inflammatory for a small percentage of people

Part C. Suggestions for a non-inflammatory diet

A note about the categories of inflammation in my summaries of DIIs presented below

In the original articles about Dietary Inflammatory Indexes [DIIs], foods are assigned numerical grades with dozens of distinct levels of pro- or anti-inflammation. In my summary of this research, I combine these many grade levels into only four general categories: mildly or highly anti-inflammatory and mildly or highly inflammatory. All summarised DIIs are listed in the Reference section below, and readers interested in accessing the finer gradations, (which could not be clearly represented in PowerPoint slides) can consult the original studies.

Part A: The Dietary Inflammatory Index [DII]--2009

Philip P. Cavicchia et al. "A New Dietary Inflammatory Index Predicts Interval changes in Serum High-Sensitivity C-Reactive Protein" *The Journal of Nutrition*, vol. 139 (12) Dec. 2009, pp. 2365-2372. <https://doi.org/10.3945/jn.109.114025>

This pioneering DII-2009 meta-analysis was done at the University of South Carolina.

Researchers surveyed **thousands** of articles about inflammatory foods and/or their constituents

Their findings could not be related easily to dietary patterns

The DII-2009:
mildly anti-
inflammatory
foods or food
constituents

- Ginger
- Saffron
- Caffeine
- Beer
- Liquor
- Protein
- Thiamin (Vit. B1)
- Riboflavin (B12)
- Folic acid (B9)
- Iron
- Selenium
- Daidzein (a part of soybeans, etc)
- Cyanidin (a plant pigment)
- Epicatechin (a part of plants)

The DII-2009:
highly anti-
inflammatory
foods or food
constituents

- Garlic
- Turmeric
- Tea
- Wine
- Alcohol
- Fiber
- N-3 fatty acids
- Vitamin A
- Niacin (Vitamin B3)
- Vitamin B6
- Vitamin C
- Vitamin D
- Vitamin E
- *B*-carotene
- Magnesium
- Zinc
- Quercetin (a plant substance)
- Luteolin (a plant substance)
- Genistein (a plant substance)

The DII-2009: mildly inflammatory food constituents

- Energy
- N-6 fatty acids (sunflower and other oils)
- MUFA (monounsaturated fatty acids)
- Saturated fat
- Cholesterol
- Vitamin B12

The DII-2009:
highly inflammatory
food constituents

- Carbohydrate
- Fat

Part A (continued): The Dietary Inflammatory Index [DII-2014]

Nitin Shivappa et al. "Designing and developing a literature-derived, population-based dietary inflammatory index" *Public Health Nutr.* 2014 Aug;17(8):1689-96. doi: 10.1017/S1368980013002115. Epub 2013 Aug 14. PMID: 23941862; PMCID: PMC3925198.

- This study extended and improved the DII 2009 study above. Researchers surveyed some 6500 articles about inflammation caused by food published between 1950 and 2010
- On the basis of 1943 of these articles and a study of dietary data from diverse populations around the world they developed a "Dietary Inflammatory Index," which I will refer to as DII-2014
- The DII-2014 rates 45 items (11 foods and 34 food elements) as either anti- or pro-inflammatory

The DII-2014: mildly
Anti-inflammatory
Foods and Food parts

11 foods: saffron, pepper, thyme, oregano, rosemary, garlic, ginger, onion, turmeric, green tea, black tea, caffeine

23 food constituents: about a dozen vitamins, 3 minerals, 4 flavonoids, fiber, omega-3 fatty acids

DII-2014: strongly anti- Inflammatory

Six Foods: garlic, ginger, onion, turmeric, green tea, black tea

Several Food Constituents:

- alcohol,
- vitamin B-6,
- B-carotene (a pigment that gives an orange colour to many fruits and vegetables)
- fiber
- magnesium
- PUFA [poly-unsaturated fatty acids]
- vitamins A, C, D, and E
- zinc,
- 4 flavonoids: (flavon-3-ol, flavones, flavanols. isoflavones)—the yellowish organic compounds in plants (e.g. parsley, berries, citrus fruits, tea, chocolate, and wine)
- anthocyanidins—common plant pigments

DII-2014:
weakly
pro-inflammatory
food parts

5 Food Constituents:

- Vitamin B12
- Carbohydrate
- Cholesterol
- Energy
- Protein

DII-2014:
strongly
pro-inflammatory
food parts

3 Food Constituents:

- saturated fat
- fat
- trans fat

Part A.
Another study:
The “Empirical Dietary
Inflammatory Index
[EDII]” 2016

F. K. Tabung et al. “Development and validation of an empirical dietary inflammatory index” *Journal of Nutrition* 146 (2016), pp.1560-1570, 10.3945/jn.115.228718

- Tabung used the Nurses Health Study (n=5230) in the USA to correlate certain food groups eaten by the nurses with three markers of inflammation in their blood samples

Empirical
Dietary
Inflammatory
Index [EDII]
2016: anti-
inflammatory
foods

- Foods that had predominately anti-inflammatory markers were as follows:
 - beer
 - wine
 - tea
 - coffee
 - dark-yellow vegetables
 - leafy green vegetables
 - snacks
 - fruit juice
 - pizza

Empirical Dietary
Inflammatory Index
[EDII] 2016:
inflammatory foods

- Foods that had predominately inflammatory markers were as follows:
 - processed meat:
 - red meat
 - organ meat
 - fish (other than orange roughy)
 - other vegetables (i.e. vegetables other than yellow and orange ones)
 - refined grains
 - high-energy beverages,
 - low energy beverages,
 - tomatoes

Part A. continued:
Questionnaire-Based,
“Anti-Inflammatory
Diet Index” [AIDI] –by
researchers from
Poland and Sweden
about a Swedish diet

- Joanna Kaluza et al “May Questionnaire-Based Anti-Inflammatory Diet Index Predict Low-grade Systemic Inflammation” *Antioxidants & Redox Signaling* 2017 Vol.28, No.1 pp. 11-25. <https://doi.org/10.1089/ars.2017.7330> [To read this article, go to sci-hub.sel, and enter the blue link.]
 - Kaluza remarks that the DII (2014) was based mostly on the food and dietary experiences in several countries while the EDII was based on data about groups in the U.S. She also notes that the diets assessed in these studies and their inflammatory potential are not the same as a European diet and its inflammatory potential.
 - Kaluza (and her colleagues) therefore developed an “Anti-Inflammatory Diet Index” [AIDA] based on the kind of food eaten by a certain population (3053 women) in a Nordic country, Sweden
 - I found this Anti-Inflammatory Diet Index [AIDA] the most useful and enlightening

Swedish AIDI:
anti-inflammatory
foods eaten
daily

10 foods with anti-inflammatory potential consumed daily

- “Total fruits and vegetables” (about 28 of them)
- Tea
- Coffee
- Whole grain bread
- Breakfast cereal (e.g. porridge, muesli)
- Low-fat cheese
- Chocolate
- Dried fruits (e.g. raisins, prunes)
- Herbal Tea
- Olive oil and canola oil

Swedish AIDI:
anti-inflammatory
foods eaten
weekly

5 foods with anti-inflammatory potential (consumed weekly):

- Legumes (e.g. beans, lentils)
- Nuts
- Linseeds (flax)
- Red Wine
- Beer

Swedish AIDI:

pro-inflammatory
foods eaten daily

5 Foods with “pro-inflammatory potential”
(consumed daily)

- Unprocessed red meat
- Processed meat
- Organ meats
- Chips
- Soft-drink beverages

As you've probably noticed, research about Inflammation has problems

Number of Studies: Thousands of studies, mostly of single foods

Scope of Studies: Some seem either too broad or too narrow

e.g. fat (too broad)

e.g. pepper (too narrow)

Vague Descriptions:

e.g. "red meat"--but what red meat?

Lack of Consensus: e.g, fat or protein??

Gaps in Coverage?: Few, peer-reviewed studies analyzing dairy products—only Wikipedia articles entitled "Fat" and "Saturated Fat"

Weak Explanations: How is saturated fat inflammatory??

My conclusions about inflammation and food from the reports above

- This summary is based on my readings of the reports described above.
- I have added question marks after items where I think there seems to be disagreement among researchers
- My summary below does not list all items in the reports or all inconsistencies
- It is impressionistic!!

These foods are
often reported to
be
anti-inflammatory

- Fruits, whether fresh or dried
- Vegetables, whether fresh or frozen
- Whole-grain cereals (e.g. porridge, muesli, flax)
- Whole-grain bread
- Low-fat cheese ???
- Chocolate (if 80% cacao)
- Olive oil
- Canola oil
- Tea, whether green, black or herbal
- Coffee
- Wine and beer ????

These foods are
reported to be
inflammatory

- foods high in saturated fat: butter, cheese, ice-cream, milk, eggs meat
- processed meat
- organ meat
- soft drinks (because of the sugar)
- juice drinks (because of the missing fiber)
- fish (if deep fried and therefore fatty)
- refined carbohydrates:
 - sugars of all kinds
 - refined grains (white flour, some pasta, pastry)
- Foods containing trans fats

Another cause of inflammation:

Advanced Glycation End Products [or “AGEs”]

Uribarri, Jaime et al. “Advanced glycation end products in foods and a practical guide to their reduction in the diet.” *Journal of the American Dietetic Association* vol. 110,6 (2010): 911-16.e12.
doi:10.1016/j.jada.2010.03.018

AGEs are harmful products (glycotoxins) that form when fat and/or protein combine with sugar--a process known as “glycation”

- Food from animals (e.g. beef, poultry, pork, fish, eggs, and cheese), which are high in protein and fat, contain many AGEs
- If such AGE-rich foods are broiled, grilled, or roasted under a high, dry heat their AGEs are greatly increased
- If such foods are boiled, poached, stewed, steamed, or microwaved for a short time, the increase in their AGEs is much less

A Good Guide to many Inflammatory Indexes

Doratha A. Byrd et al “Development and Validation of Novel Dietary and Lifestyle Inflammation Scores” *The Journal of Nutrition* Vol. 149 (12) 2019, pp.2206-2218

- This essay provides a helpful survey of the field of research about inflammation

Saturated Fats

- Several of the DIIs list “saturated fat” as inflammatory but there is little discussion of where it can be found or why it is inflammatory

As many health authorities recommend that one “reduce, limit, or replace” saturated fat in one’s diet, where can it be found?

Wikipedia articles on “Fat” and “Saturated Fat” list the proportions of saturated fat in the total fat content of many different foods:

- 11 Dairy-product fats: each more than 60% saturated
- 20 Meat-and-fish-product fats: 25% to 43% saturated
- 10 Nuts and seeds: 9% to 20%
- 6 Sweets and baked goods: 14% to 60%
- 12 Fats and oils added during cooking or at table: 18% to 63%
- Other: Egg-yolk fat: 36%; Avocado:: 16%

Other sources indicate that the total fats in grains, vegetables, and fruit are negligible (0% to 5%)

Saturated vs. Unsaturated fats

A most important
difference

Many researchers have reported that saturated fats can cause inflammation but that most unsaturated fats do not cause inflammation

An important difference between saturated fat and unsaturated fat:

- Saturated-fat molecules are straight and rigid (good for storing energy and heat in a compact way). They are like a matchstick
- Unsaturated-fat molecules are curved and flexible (good for covering the pliable membranes of miniscule cells in both plants and animals). They are like a string
- Note: Most animal cells are enclosed in a fatty membranes that have a complex, flexible structure

Saturated vs. Unsaturated Fat

Saturated fatty acid

Unsaturated fatty acid

The infographic illustrates the difference between saturated and unsaturated fatty acids. The saturated section shows a straight-chain hydrocarbon structure with 11 carbon atoms, surrounded by icons of milk, butter, cheese, and meat. The unsaturated section shows a bent-chain hydrocarbon structure with a double bond between the 6th and 7th carbon atoms, surrounded by icons of an avocado, fish, and olive oil.

Stearic acid (saturated fatty acid)

Oleic acid (monounsaturated fatty acid)

Linoleic acid (polyunsaturated fatty acid)

The figure displays the chemical structures of three fatty acids. Stearic acid is a saturated fatty acid with a straight chain of 18 carbon atoms. Oleic acid is a monounsaturated fatty acid with a single double bond between the 9th and 10th carbon atoms, causing a sharp bend in the chain. Linoleic acid is a polyunsaturated fatty acid with two double bonds, one between the 9th and 10th carbons and another between the 12th and 13th carbons, resulting in a more complex, zig-zag chain structure.

Figure 1 Structure of different fatty acids

Source: US Department of Agriculture.

Two important papers about saturated fat

- Shen, Y., Zhao, Z., Zhang, L., Shi, L., Shahriar, S., Chan, R. B., ... Min, W. (2017). *Metabolic activity induces membrane phase separation in endoplasmic reticulum. Proceedings of the National Academy of Sciences, 114(51), 13394–13399.* doi:10.1073/pnas.1712555114 [To read this article, go to “sci-hub” and enter the doi number.]
- “How saturated fatty acids damage cells: Observations of saturated and unsaturated fatty acid behaviour could impact public health.” *Science Daily*, 1 December 2017. This article is an explanatory interview with two of the Columbia University authors of the paper listed above. It is available online www.sciencedaily.com/releases/2017/12/171201181545.htm



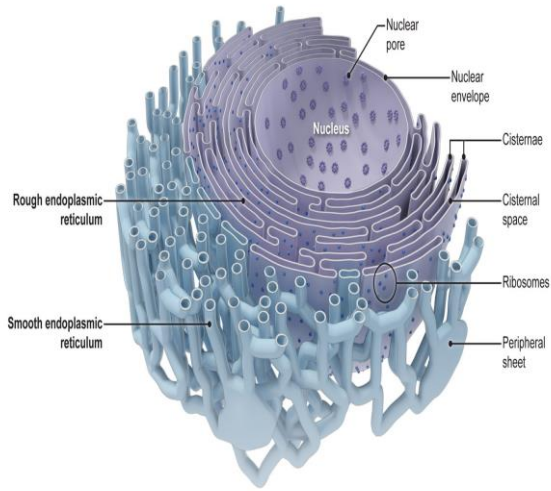
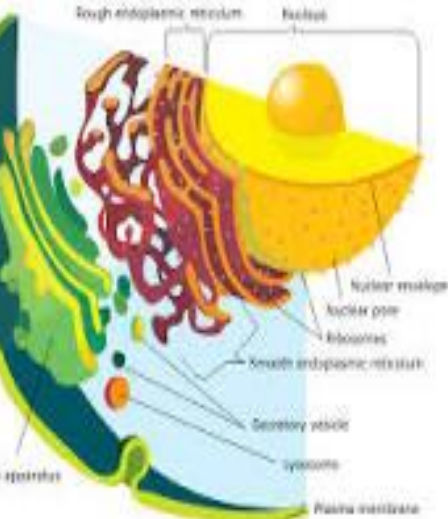
Saturated Fat: a Recent Discovery

Until recently (2017), there were few “robust” explanations of how saturated fat can be inflammatory

In 2017, however, researchers at Columbia University (see Chen et al) saw for the first time under their powerful microscope the damaging effect of a saturated fat, which they were able to observe through an advanced, fluorescence, imaging technique.

These researchers reported the following:

- When a human cell uses saturated fat to build one of its inner organelles (the endoplasmic reticulum), this fat forms hard, inflexible domains that are irritants in the cell’s tissue, which is normally flexible and pliable
- These rigid domains or irritable lumps then break off from the cell, causing damage to the cell and therefore inflammation



Wikipedia in "Saturated Fat" reports that the following organizations have recommendations to "reduce, limit or replace dietary intake of trans fats and saturated fats"

World Health Organization

American Heart Association

Health Canada

US Department of Health and Human Services

UK Nation Health Service

UK Scientific Advisory Committee on Nutrition

Australian Department of Health and Aging

Singapore Ministry of Health

Indian Ministry of Health and and Family Welfare

New Zealand Ministry of Health

Hong Kong's Department of Health

Some scientists, however, have been critical of this assessment of saturated fat. See, for example, Harvard Health Publishing "New thinking on saturated fat" (September 1, 2010). <https://www.health.harvard.edu/staying-healthy/new-thinking-on-saturated-fat>

These scientists argue that if saturated fat is less than 10% of dietary calories, it will have no bad effect. If more than 10%, it can produce low-density lipoproteins, which produce cholesterol, which causes arterial plaques, which leads to cardiovascular disease and, presumably, to inflammation

Part B

Food Sensitivities: (Inflammation caused by certain foods in only a small percentage of people)

- Gluten (or the protein gliadin in wheat, spelt, rye, barley, and some oats)
- Dairy (which contains lactose and a protein similar to gliadin)
- Tree nuts
- Peanuts
- Shellfish—mollusks (e.g. clams, snails, and scallops)
—crustaceans (e.g. shrimp and lobster)
- Tomatoes (and other nightshade plants such as potatoes, eggplant, and peppers)
- Caffeine
- Salicylates—chemicals produced by plants to defend against insects and diseases
- FODMAPS—“fermentable oligo-di-mono-saccharides, and polyols” (e.g. avoid asparagus, artichoke, cauliflower, garlic, leek, onions, some mushrooms, peas, and scallions, and many fruits and grains, processed meats, and many other foods)
- Sulfites, MSG, eggs, food colorings, other food additives (there are about 5000), yeast
- Sugar alcohols (e.g. aspartame and other sweeteners)

Part B. Common symptoms of a food sensitivity

Diarrhea

Skin sores

Bloating

Gas

Headaches

Runny nose

Shortness of
breath

Wheezing

Skin rash

Sore joints

Anal burning

Sleeplessness

Stomach pain

Part C

My Suggestions for a Healthy, Non-inflammatory Diet

- Consider the recommendations of the following two experts:
 - T. Colin Campbell, *The China Study*
 - Michael Greger, *How Not to Die*
- Consult Greger's website <nutritionfacts.org> and his pamphlet *Evidence-Based Eating Guide*, which is summarized in his book above
- See also "Jim's Lucky Experiences" posted on the LSGO website
- **In brief, eat a whole-food, plant-based diet and avoid industrially processed food**
- This diet is anti-inflammatory, anti-carcinogenic, and anti-cardiovascular disease

S

Michael Greger's Suggestions for a Healthy Diet: His Daily Dozen Foods in 24 Servings

GREGER's Daily Dozen

- Beans (3 servings)
- Fruit (3s)
- Cruciferous veg (1s)
- Vegetables (2s)
- Nuts and seeds (1s)
- Spices, including turmeric (1s)
- Beverages" (water, green tea, hibiscus tea (5 times 12 oz per day)
- Berries (1s)
- greens (3s)
- flaxseed (1 tbsp ground)
- whole grains (3s)
- daily exercise (90 min. moderate, 40 min. vigorous)

Total servings 24: (19 food and 5 beverage)

A couple of practical suggestions for easy-to-make, non-inflammatory, whole-food, plant-based meals

The foregoing list looks challenging rather than appetizing

But I have two **delicious recipes** that enable me to ENJOY nearly all of the eleven foods listed above by the time I have finished lunch each day

In fact, this chef's **original recipe** for a whole-food, plant-based BREAKFAST is on the very next slide.

Jim's Practical Suggestions for a Healthy BREAKFAST

Breakfast (Jim's Incomparable Compote)

Drop a handful of cooked or uncooked oatmeal (or any other chewable grain) in a large bowl

Grind a heaping tablespoon of flaxseed and add it to the oatmeal with a pinch of turmeric.

Then add any five fruits (fresh or frozen) by the handful: (e.g. pineapple, blueberries, red grapes, raspberries, and melon).

Next, open a can of cooked beans or chickpeas, wash and then drain some in a large, slotted serving spoon, and sprinkle this spoonful over the fruit

As a side, place a handful of nuts (e.g. several walnuts and a Brazil nut) on a small plate

Make a cup of green tea and a brew cup of tasty coffee

ENJOY!!!!



Jim's
suggestion for
a anti-
inflammatory
LUNCH



Lunch: **Jim's All-Inclusive, Superior Salad**

Cut up in advance (or every three or four days) and combine in a large serving bowl the following twelve ingredients: slices of purple cabbage, red pepper, yellow pepper, two large sticks of celery, several "flowers" of broccoli, several "flowers" of cauliflower, half a cucumber, a carrot, some onion (green or purple or red, or sweet), a little garlic?, zucchini. Stir this mixture well.

Then pour some of these veggies into a lunch bowl (while refrigerating the big bowl until the next day's lunch)

Cover the veggies in the lunch bowl with green leaves of any kind (spinach, kale, lettuce, etc)

Cut, dice, and add half an avocado and some tomato

Add a slotted, serving spoonful of drained beans of any kind

Add Dressing: ½ balsamic vinegar, ½ water, and Italian seasoning

ENJOY!!!



Production of Jim's All-Inclusive Superior Salad



Merry Christmas to All

References

- Philip P. Cavicchia et al. “A New Dietary Inflammatory Index Predicts Interval changes in Serum High-Sensitivity C-Reactive Protein” *The Journal of Nutrition*, vol. 139 (12) Dec. 2009, pp. 2365-2372. <https://doi.org/10.3945/jn.109.114025>
- Harvard Health Publishing “New thinking on saturated fat” (September 1, 2010). <https://www.health.harvard.edu/staying-healthy/new-thinking-on-saturated-fat>
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