Evidence-based Lifestyle Medicine for Cardiovascular Health

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The moral imperative: What should we prescribe Brian, a 42-year-old father (with 2 young children) and high blood pressure, high cholesterol, and type 2 diabetes?
AHA/NHLBI: Updated Metabolic Syndrome Guidelines
Diagnose when ≥3 of these risk factors present

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Defining Level</th>
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</thead>
<tbody>
<tr>
<td>Waist circumference</td>
<td>≥40 in (≥102 cm)</td>
</tr>
<tr>
<td>Non-Asian Men</td>
<td>≥35 in (≥88 cm)</td>
</tr>
<tr>
<td>Non-Asian Women</td>
<td>≥35 in (≥88 cm)</td>
</tr>
<tr>
<td>Asian Men</td>
<td>≥31 in (≥80 cm)</td>
</tr>
<tr>
<td>Asian Women</td>
<td>≥31 in (≥80 cm)</td>
</tr>
<tr>
<td>TG</td>
<td>≥150 mg/dL or on drug tx for ↑ TG</td>
</tr>
<tr>
<td>HDL-C</td>
<td>≥40 mg/dL or drug tx for ↑ HDL-C for Men</td>
</tr>
<tr>
<td>Women</td>
<td>≥50 mg/dL or drug tx for ↑ HDL-C for Women</td>
</tr>
<tr>
<td>Blood pressure</td>
<td>≥130 mm Hg systolic or ≥80 mm Hg diastolic or on HTN drug tx</td>
</tr>
<tr>
<td>Fasting glucose</td>
<td>≥100 mg/dL or on drug tx for ↑ glucose</td>
</tr>
</tbody>
</table>

*Some non-Asian US adults with marginally increased waist circumference may be genetically predisposed to insulin resistance and other metabolic syndrome risk factors.


As risk factors increase, heart and stroke risk increases

• Why not just treat Brian with medications to “normalize” blood sugar, blood pressure, cholesterol...?
Are benefits of pharma management of diabetes exaggerated?

- A 2016 systematic review summarized potential fallacies in the “...overwhelming consensus in favor of tight glycemic control to prevent microvascular complications...” as “strong[er] than warranted by the evidence.”
  - “...inconsistencies observed in diabetes trials between the effect of glycemic control on surrogates and on outcomes important to patients should lower our confidence in relying on these surrogates for decision making and support the case for larger and longer-term investigations.”
  - “[Embrace] this skeptical view...”
- Newer agents might be superior...or not

Why do we say that BP meds are overrated and may even give false confidence?

- Although BP meds for high blood pressure reduces risk of stroke compared to not treating, the risk of stroke for that person is still 2-3x higher than someone with the same BP who is untreated!
  - BP medications do not reduce the risk of stroke to normal, even if the treated BP is “normal”. Howard, G. et al. Stroke. 2015;46:1595-1600
- Use a high blood pressure as a warning sign that you have to make lifestyle changes.
  - But, no matter what, some people need blood pressure meds

Most people with the metabolic syndrome are also at greatly increased risk of:

- Cancer
- Heart disease and stroke
- Type 2 diabetes
- Dementia, Parkinson’s
- Atrial fibrillation
- Degenerative joint disease
- Intra-abdominal catastrophes
- Fatty liver
- Infections
- Worse surgical outcomes
- Depression
- ...and so on
How can we help patients choose a better health trajectory?
“Luck falls ever on the side of the prudent”

- Patient with risk factors
- More meds
- Less risk, fewer meds
- LIFESTYLE EDUCATION
- More complications
- Medically independent
- Disease progression and drug side effects

• Q: Can we treat Brian with lifestyle medicine instead of pharmaceuticals?
• A: YES

Brian lost 85 pounds in about 4 months
(105 pounds in 6 months)

<table>
<thead>
<tr>
<th>Pre and post lab results (4 months later)</th>
<th>Pre</th>
<th>Post</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>328</td>
<td>243</td>
</tr>
<tr>
<td>Body Mass Index (BMI)</td>
<td>47</td>
<td>35</td>
</tr>
<tr>
<td>Blood Pressure</td>
<td>140/96</td>
<td>100/70*</td>
</tr>
<tr>
<td>Total Cholesterol</td>
<td>197</td>
<td>99*</td>
</tr>
<tr>
<td>Triglycerides</td>
<td>315</td>
<td>70</td>
</tr>
<tr>
<td>HDL (good) Cholesterol</td>
<td>32</td>
<td>42</td>
</tr>
<tr>
<td>LDL (bad) Cholesterol</td>
<td>102</td>
<td>43</td>
</tr>
<tr>
<td>Total Cholesterol:HDL Ratio</td>
<td>6.2</td>
<td>2.4</td>
</tr>
<tr>
<td>HbA1c</td>
<td>6.5%</td>
<td>5.1%</td>
</tr>
<tr>
<td>Liver enzymes (AST, ALT)</td>
<td>High</td>
<td>Normal</td>
</tr>
</tbody>
</table>
Goals

- Lifestyle prescriptions can be more important than medications, and if followed may make many medications unnecessary
  - Offer broad range of benefits – without side effects!
  - Reduce heart disease, stroke, dementia, type 2 diabetes, depression, frailty, cancer, etc.
- When giving patients lifestyle prescriptions, keep it simple and suggest only those restrictions that have factual support: evidence-based

Critical thinking about nutrition advice

Don’t believe everything you think.

- Consider historical precedent: What have humans traditionally chosen to eat?
- Is the source peer reviewed?
- What is the methodology of the study?
- What are the ACTUAL benefits?
- Is the claimed benefit reproducible by other researchers?
- Does the benefit include mortality reduction?

Choices matter: Lifestyle and health

- Good diet quality:
  - Vegetables, fruit, nuts, whole grains, polyunsaturated and omega-3 fats;
  - Low in: red/processed meats (yet typically eaten daily), sweet drinks, trans fat, and sodium
- Body mass index 18.5-24.9
- >30min/d of mod-vigorous physical activity
- Moderate alcohol (5-15g/day)
- Not smoking

Associated with 12-14 years greater longevity, and:
  - 84% less all cause mortality, 82% less cardiovascular mortality, 65% less cancer mortality. 
  - Also associated with about 90% reduction in type 2 diabetes
PURE diet score

- PURE study collected data on 138,527 from 18 countries over 9 years
- “Most healthy” outcomes (mostly mortality) in those eating
  - Vegetables and fruit 8.4 servings/day
  - Nuts and legumes 2.5 servings/day
  - Dairy 3 servings/day
  - Unprocessed red meat 1.4 servings/day
  - Fish 0.3 servings/day
- Validated when applied to ONTARGET, INTERHEART and INTERSTROKE databases
  Mente, A. et al, Eur Soc Cardiol 2018

Mediterranean diet adherence and health outcomes

- Meta-analysis of prospective cohort studies, 4,172,412 people followed for 5-16 years
- Mediterranean diet: “perfect” if high in vegetables, fruit, grains, legumes, fish, olive oil; 1-2 servings of alcohol/day; up to 3oz meat/day, 5oz dairy/day
- For every 2 points of greater adherence on an 18 point scale there was 8% lower total mortality, 10% less cardiovascular disease, 4% less cancer

Mediterranean diet: Lyon diet heart study

- A randomized controlled trial for secondary prevention of heart disease
- “Prudent Western Diet” vs. Mediterranean Diet after myocardial infarction (MI)
  - 72% reduction cardiac events
  - 56% reduction in all cause mortality
  - 61% reduction in all cancers
  - Independent of cholesterol, blood pressure, aspirin, alcohol use
Lifestyle recommendation overview

1. Four-part lifestyle prescription for avoiding heart disease and stroke
2. What should be avoided or minimized
3. Unnecessary restrictions: keep it evidence-based
4. How to help patients make this a priority – Make lifestyle prescriptions a universal standard of care

Part 1: What to choose

5-part lifestyle medicine Rx

1. Exercise every day
2. Eat an omnivorous Mediterranean-style diet
   - Vegetables, whole fruit, beans, whole grains
   - Fish, dairy, other animal proteins
   - Extra-virgin olive oil
   - Include caffeine, chocolate and alcohol
3. Aim for a waist smaller than your hips
4. Get adequate sleep
5. Heat: Sauna, hot baths?
Lifestyle Rx 1: Exercise daily

Benefit of moderate exercise

- Less cancer, better cancer survival
- Less heart disease (60%), stroke
- Improved endothelial function
- Anti-oxidant, anti-inflammatory
- Better cholesterol, triglycerides
- Less dementia
- Less frailty in old age
- Lower total mortality: As good or better than meds for stroke, heart, diabetes
  BMJ 2013;347:f5577
- 30-80% lower risk of developing DM2
- Immune-enhancement, fewer infections
- Better mood

Exercise vs. stent

- 101 men with stable angina and single vessel disease
- Randomized to angioplasty/bare metal stent or exercise training: 20 min exercise bicycle/d, for 1 y
- Equal benefits for symptom relief
- Exercise group had 60% fewer cardiac events, particularly reduced hospitalizations and revascularizations. Cheaper, too! Hambrecht Circulation 2004;109:1371-78

Prescribing exercise:

- Emphasize the importance of exercise, and sitting less
- Find out what they like to, or can, do
  - Short-duration high-intensity works for many of us: e.g. 20 x 8 second sprints, with 12 second recovery between sprints, on exercise bike after warm up
- Give a written exercise prescription
- Ask about compliance on the next visit
- Very, very few patients are at risk from excessive exercise

Lifestyle Rx 2:

Mediterranean-style diet

- Greater evidence for better health outcomes across:
  - A broad spectrum of disease
  - Prospective randomized controlled and observational studies
  - Different geographical areas and ethnicities
- Supported by historical precedent: Nothing new here, folks
A summary of Mediterranean diet benefits

**Randomized Controlled Trials (RCTs)**
- Lower death rates §
- Less heart disease, stroke §
- Less atrial fibrillation §
- Improvement in heart disease risk factors §
- Less type 2 diabetes §
- Better blood sugar control §
- Sustainable weight loss §
- Less cancer §
- Less breast cancer §
- Improved brain function §
- Less depression §
- Fewer fractures §
- Less inflammation §
- Less gastroesophageal reflux disease §
- Less diabetic eye disease §

**Prospective Observational Studies**
- Lower death rates §
- Less heart disease, stroke, 3, and peripheral artery disease §
- Less type 2 diabetes §
- Less cancer §
- Better cancer survival §
- Less mild cognitive impairment and progression to dementia §
- Less dementia, Parkinson’s disease §
- Less depression §
- Less menstrual symptoms, hot flushes and night sweats §
- Less inflammation §
- Less non-alcoholic fatty liver disease §
- Less age-related macular degeneration §
- Less childhood obesity and ADHD §

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**Randomized controlled trials (RCTs)**
2. Estruch, R. et al. NEJM 2018;378:e34
6. Ajila, O. et al. AJCN 2013; 97:505-16 (Meta-analysis: 20 Randomized Controlled Trials)
17. Sofi, F. et al. AJCN 2010;92:1189-96 (Meta-analysis of 7 prospective studies)
Mediterranean diet vs. low fat diet

Randomized controlled trials

- Lyon Heart Study: Mediterranean diet associated with 70% reduction in cardiac events, 56% reduction in deaths, 60% reduction of all cancers 4 y follow up, secondary prevention.
  P= 0.05, de Lorgeril Arch Int Med 1998;158:1181-87

- PREDIMED. Med diet reduced cardiovascular disease by 30%, stroke by 40%
  – 68% less breast cancer n=4200 women, average 67yo and BMI 30. Total of 35 breast cancer cases. Secondary analysis, prespecified outcome. No change in weight or exercise habits.
  – 52% less diabetes 4y, no weight loss or activity goals, Salas-Salvado J. Diabetes Care 2011;34:14-19

A whole food Mediterranean diet

- Aim for 9 servings of vegetables and whole fruits daily. Potatoes don’t count! Avoid smoothies and juice - eat whole vegetables or fruit instead.
- Eat plenty of beans/legumes, and include raw nuts and seeds.
- Eat intact or minimally-processed whole grains like brown rice, oat groats, steel cut oats, old-fashioned rolled oats, quinoa, etc.
- Use extra-virgin olive oil as main fat, replacing most other oils and fats.
- Eat plenty of fish, especially oil-rich fish like salmon, tuna, and sardines. Include other animal proteins in the form of unprocessed (uncured) meat and poultry, dairy, and real eggs.
- Emphasize cultured dairy like unsweetened yogurt and kefir, and aged cheese.
- Includes moderate alcohol.
- Not usually low in fat, saturated fat, or cholesterol.

Extra-virgin olive oil

- Associated with the Mediterranean diet model, and:
  - Lower total and cardiovascular (CV) mortality, Buckland, G et al. AJCN 2012;96:142-9
  - Less atrial fibrillation
  - Improved endothelial function, blood pressure, Morena-Luna, R. et al. Hypertension 2012;59:354-60
  - Improves fibrinolysis, reduces platelet aggregation
  - Reduces post-prandial: activation of Factor VII, p inflammation, increases antioxidants, Appu, P. Atherosclerosis 2007;190:181-6
  - Modest lipid benefits
  - Less cancer: about 40% Lipids Health Dis 2011;10:127
- Many of the benefits appear to be phenol-mediated: extra-virgin is the least processed and therefore richest in phenols.
Choosing extra-virgin olive oil

- Extra-virgin olive oil is essentially fresh squeezed olive juice which offers maximum benefits when fresh and unprocessed.
  - Purchase within 12 to 18 months of its harvest date, and use within six months of opening. Store in a cool, dark place.
- California Olive Oil Council reviews California produced olive oils: [https://www.cooc.com/](https://www.cooc.com/)
- Look for reliable domestic brands with harvest dates: California Olive Ranch, Corto, Oregon Olive Mill, and so on.

Eat raw nuts, not commercially-roasted (or roast them yourself)

- Nuts associated with:
  - 32% lower risk of heart attack meta analysis. Highest vs. lowest Weng, YJ et al. Coronary Artery Dis 2015;
  - Less cancer, respiratory illness Van Den Brandt, P. Int J Epidemiol 2013 10.1093
  - Peanuts OK, but peanut butter less beneficial
- All nuts, including peanuts, lower LDL cholesterol: down 7.4% and triglycerides 10% with 67g of nuts daily. Pooled analysis, 25 studies, Sabate J. et al. Arch Intern Med 2010;170:921-29
  - Raw almonds: 2 handfuls/day (73g) lowered Lp(a), oxidized LDL cholesterol, LDL cholesterol 9.4% and TC:HDL 9%, Jenkins, Circulation 2002;106:1327-32
Chocolate and heart disease
Use 70% or higher for therapeutic effect
tea, extra-virgin olive oil have similar compounds

- Increases HDL cholesterol 11-14% 75g dark chocolate, 3 weeks Mursu FRBM 2004;7:381-9
- Improves endothelial function Vachopoulos Act Hypertens 2005;38:765-91 Also in smokers Vachopoulos Act 2005;38:766-83
  - heart disease risk by 37%, stroke by 29% meta-analysis, highest v. lowest, Vachtsevanos, K et al. BNI 2012;212:24486
  - 23-4 servings weekly associated 10% lower risk of MI compared to non-consumers (p=0.04) Larsson Heart 2016 doi:10.1136
  - Likely < 1oz/day of 70-85%

Caffeine in coffee and tea

  - Less progression of Parkinson's, Mocchetta, M Fibrinogenesis and related disorders 2010
  - Longer leucocyte telomeres Liu, J J Nutr 2010
- Tea associated with less heart disease, osteoporosis, maybe less cancer
- Avoid “coffee” and “tea” drinks with added sweetening and flavors, like caramel lattes, mochas, and sweetened tea drinks
- Caffeine may be part of the mechanism for benefit from coffee, tea

Alcohol and health

1 drink = 4-5 ounces wine, 12 ounce beer, 1.5 ounces spirits

- Up to 2 alcoholic drinks/men, 1/women daily associated with:
  - 45% less mortality following MI Mobasheri, A. et al. JACC 2005;45:1305-70
  - Raises HDL, reduces platelet aggregation, increases fibrinolysis, increases NO, stabilizes plaque Review: Kloner, R. Circulation 2007;116:1306-17
  - All alcoholic drinks associated with reduced risk Kern et al. BNI 1996;358:761/H:951-6
Other aspects of prudent alcohol intake

- Moderate alcohol intake also associated with:
  - Fewer vascular and renal complications of diabetes
- Breast cancer: Possible small increase in risk at 7 drinks/week, likely increase at 14/week

- Many people, because of their personal health history or beliefs, need to avoid alcohol. Homemade kefir may be a reasonable alternative for them.

Women and alcohol

- Women with low to moderate alcohol intake (3-7 drinks per week) exhibited the lowest risk of mortality, hypertension, MI, stroke, cognitive decline compared to abstainers and heavy drinkers (>1 drink per day). [Mostofsky Am J Public Health 2016 106:1586-91]
- Women with a history of breast cancer who had moderate alcohol intake had 38% lower total mortality, and no increase in breast cancer recurrence or mortality. [Newcomb, P. et al. JCO 2013;31:1939-46. Review: Demark-Wahnefried, W. and Pam Goodwin. JCO 2013;31:1917-19]

Lifestyle Rx 3: Waistline

- Excessive abdominal fat drives many of the cardiac risk factors, and is associated with an increase in most other diseases.
- Don’t miss opportunity to remind patients of associated risks, don’t give up, don’t fail to present them with solutions.
  - Motivation
  - Food choices, emphasizing homemade
  - Food quantity
  - Daily exercise
For most patients, waist management is a vital key to long-term health

- Stress the importance to them, just as you would BP, blood sugar, medication compliance.
- Have a plan that works for you, too. Or refer.
- Make sure your recommendations are associated with better health outcomes, not just weight loss.
- Weight loss almost always requires eating substantially less, not exercise.

Lifestyle Rx 4: Adequate sleep

- Start with the basics:
  - Schedule 7-9 hours of sleep
  - Vigorous activity every day
  - 1 glass of red wine with evening meal
  - No screen time after evening meal
  - Deep hot bath or sauna
  - Bedtime snack with protein and good fat?
  - Blackout bedroom: No lights, screen time, or music
  - Sleep apnea?

Lifestyle Rx 5: Heat

- Hot baths and sauna for diabetes, heart disease, stroke, dementia, depression, immunity, and sleep:
  - Although the mechanisms for benefit aren’t clear (fewer?), heat therapies such as a deep, hot bath or sauna, typically 2-3 times per week for 10-20 minutes, is associated with benefit for:
    - Reduced risk of heart attacks and total mortality [Laukkanen, T. et al. JAMA Intern Med 2015;175:142-8]
    - Depression [Naumann, I. et al. BMC Comp Alt Med 2017;17:172]
    - Better immunity and improved sleep
Part 2: What to avoid

Things to avoid or minimize

- Refined carbohydrates
  - Sugars
  - Refined grains and white flour
  - Juices and sugar-sweetened beverages
- Hydrogenated oils and trans fats
- Think twice about highly processed vegetable oils
Problems associated with added sugars and starches

- Obesity
- Hypertension
- Hypertriglyceridemia
- Ischemic heart disease and stroke
- Insulin resistance, metabolic syndrome and type 2 diabetes
- Dementia
- Cancer

Sugars, refined grains, and the heart

- Highest intake of added sugars associated with 3-4x greater risk of dying of heart disease and stroke; 33% more for one 12 ounce soda a day. *n* = 43k, 14.6. Yang, Q et al. JAMA Internal Med 2014;174:516-24
  - Sweet drinks, naturally or artificially sweetened, including fruit juice >5 a week is associated with increased risk of metabolic syndrome. Ferreira-Pego J Nutr 2016 146(8):1528-36

Help patients identify sugar (real and artificial) and refined grains

- Refined and concentrated sugars
  - Including brown, raw, and table sugar, fructose, fruit juice concentrates, agave nectar, corn syrup, rice syrup and so on.
  - Avoid artificial and non-nutritive sweeteners too, including aspartame, sucralose, and stevia.
  - If you need to use a sweetener – choose traditional options like raw honey, molasses, pure maple syrup, and regular brown or white sugar – but use them sparingly.

- Minimize sweet drinks, including juices
- Minimize refined grains:
  - Including anything made with white flour (wheat, enriched, and unbleached), white rice, instant oatmeal, cold (ready-to-eat) breakfast cereals, and grits.
Avoid highly processed vegetable oils

- Most are extensively processed with chemicals and high temperatures of 250-500°F
  - The processing is necessary to create neutral tasting, clear oils, but it also makes them severely nutrient-depleted
  - Sydney Diet Heart Study: Linoleic acid (omega-6, safflower oil) replacing saturated fat, randomized controlled trial (RCT). The group using safflower oil had about a 62% higher mortality, 70% higher cardiovascular disease (CVD) risk, n=458. Ramsden, C. BMJ 2013;346:g707
  - Minnesota Coronary Experiment. Ramsden, C. BMJ 2016;353:i1246
- Minimally processed traditional oils from seeds or nuts (including virgin coconut oil) are healthy, but lack the evidence for benefit of extra-virgin olive oil.

Why commercially-processed food is significantly less healthy than cooking from scratch

- Heat, multiple processing steps, time, pressure and exposure to air all cause nutrient depletion:
  - Eliminate probiotics, alter fiber characteristics
  - Typically have added sugars and starches, highly-processed fats, plus other chemicals of uncertain risk
  - Associated with more calories and eating more, An, R. Eur J Clin Nut 2015;doi:10.1038
  - More rapidly metabolized, especially carbohydrates and sugars, and less filling. Fardet, A. Food Function 2016;7:2338
  - A 10% increase in processed foods was associated with a 12% increase in risk of cancers overall, and breast cancer in particular. Fiolet, T. et al. BMJ 2018;360:k322 (N= 104,980, 8 years)

Part 3: Avoid creating unnecessary restrictions

Organic, vegetarian, vegan, paleo, keto . . .
Whole foods that do not cause heart disease

- Dietary cholesterol and saturated fat
- Red meat
- Dairy
- Eggs
- Salt added to home-made food
  - (For more info on sodium see pages 53-54 in *Good Food, Great Medicine* 4th edition)

Saturated fat from whole foods: neutral

- Saturated fat from whole foods not associated with mortality, cardiovascular disease (CVD), coronary heart disease (CHD), stroke or type 2 diabetes Meta-analysis: deSouza, R et al. BMJ 2015;351:h3978
  - Trans fats from hydrogenated oils associated with more risk
  - “High carbohydrate intake associated with higher risk of total mortality, total fat and individual types of fat were related to lower total mortality. Total fat and types of fat were not associated with cardiovascular disease, myocardial infarction, or cardiovascular disease mortality, whereas saturated fat had an inverse association with stroke.” Gregor, M et al. PLoS Med 2010;7:e1000365
  - “Dietary saturated fat is not associated with risk of total mortality, total cardiovascular disease, coronary heart disease, stroke, or type 2 diabetes.” deSouza, R et al. BMJ 2015;351:h3978

- Prior analyses and editorials worth reviewing:
  - Dietary refined carbohydrate are a much greater concern Siri-Tarino PW Am J Clin Nutr 2010;91:535-46 Also Hu, F. AJCN 2010;91:1541-56

Red meat observational studies

- Higher death rates and more cancer, heart disease, stroke, respiratory disease, infections, kidney and liver disease, and diabetes with higher red meat intake, fresh or processed,
  - Poultry and fish associated with significantly (25%) lower mortality. NIH-AARP n=538,369, 14y follow up. Etemadi, A et al. BMJ 2015;351:9007
  - Other large and well-done observational studies do not show harm from red meat.
Randomized controlled trials (RCTs): omnivorous diets containing moderate red meat vs. good diets with little or no red meat

- Mediterranean diet with 500 grams red meat per week compared to 200 grams per week: showed better weight loss and cholesterol in those with more red meat. These results "do not support red meat reduction in the context of the Mediterranean [eating] pattern" n = 41, 5-week randomized crossover. Similar total protein. O'Connor, L. et al AJCN 2018;108:1-8

- SMILE: Patients with moderate-severe depression randomized to either Mediterranean diet with red meat 3-4x a week, fish 2x a week, alcohol up to 2 servings a day, reduced processed foods/sweets: 32% remission over 12w; vs. usual diet and social support: 8% remission. Jacka, F. et al. BMC Med 2017;15:23 doi:10.1186

More red meat in randomized controlled trials (RCTs)

- BOLD: compared 4 healthy diets with varying amounts of lean red meat (up to 5 oz/day). The greatest improvements in cardiovascular risk factors and inflammatory markers, were found in those who ate the most red meat. RCT. TC, LDL. 5w, Roussell, M. et al. AJCN 2012;95:9-16

- DASH +/- red meat: a DASH-type diet (Dietary Approaches to Stop Hypertension) which included 6 servings per week of lean red meat, was compared to a lower-fat, low-meat DASH diet to assess effect on mood. Those who ate more red meat had less depression and anger than the other group. 4w, RCT, Torres, S.J. and Nowson, C.A. Nutrition 2012;28:896-900

Red meat summary

- An omnivorous Mediterranean diet with moderate amounts of red meat appears to give better results across a broad range of outcomes than diets that include little or no red meat.
- Sustainability has been demonstrated for the entire record of human history.
- Most studies show processed meats to be harmful.
- Traditional cultured preserved meats - which use different methods than modern commercial processing - may be healthy: I am aware of no studies looking at this.
- I am not aware of long term prospective studies strictly designed to measure the impact of red meat.
**Dairy foods and health outcomes**


  - Other systematic reviews show similar or neutral effect


**Dairy and inflammation**

- **52 high-quality studies on dairy and inflammation**
  - Avoid commercially-sweetened dairy foods: buy them plain and unsweetened, and sweeten them yourself with fresh fruit and honey.

**Dietary cholesterol and eggs: unrelated to heart disease risk**

- **Dietary cholesterol (and eggs) unrelated to disease outcomes**: n=1000, 20y. Virtanen, J. et al AJCN 2016

- **Eggs are excellent sources of nutrient-rich grow-your-own protein**
  - Not associated with health risk. n=7231, -1/w vs +2/w. 4.7%
  - Not associated with increased blood cholesterol. n=140, 12/w vs +2/w. Be, Fuller, NR et al. AJCN 2015
Lifestyle summary

- Choose whole foods you’ve prepared yourself, including snack foods
- Be wary of claims that foods eaten for millennia are harmful
- Get outside, short of breath and sweaty, every day, even if only briefly
- For weight loss, pursue the necessary changes for planning, food quality, quantity, daily activity, and accountability

Encouraging patients to make it a priority

- Are we convinced of the importance of lifestyle medicine?
- Do we exaggerate pharmaceutical benefits?
- Ask about diet and daily exercise habits at every visit
- Have evidence-based resources at hand
- Avoid unnecessary prohibitions
- Prescribe lifestyle with the same formality that we prescribe medications, or refer
Need more ideas?

• Go to our website: [goodfoodgreatmedicine.com](http://goodfoodgreatmedicine.com)
  – Click on the Cookbook tab for:
    • Whole food shopping list
    • Sample recipes
    • Lifestyle recommendations
  – Click on the Resources tab for patient handouts:
    • How to boost your immune system for cold and flu season
    • Mediterranean principles to eat by
    • Type 2 diabetes and weight loss ideas
    • Cancer Survivorship
    • Calcium, Vitamin D, and Osteoporosis
  – Sign up for our free monthly Food and Lifestyle Newsletter.

The completely revised and updated 4th edition includes 300 easy-to-read pages packed with evidence-based prescriptions for the “why” and “how” of implementing a whole food Mediterranean diet. Includes over 200 easy-to-follow recipes using everyday ingredients.

Books are available at:
Amazon, Powell’s Books, Providence Gift Shop and Integrative Medicine Department, all Portland metro area county libraries, and [goodfoodgreatmedicine.com](http://goodfoodgreatmedicine.com)

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Good Food, Great Medicine 4-part series

• Thursdays 6-8pm: October 4th, 11th, 18th, and 25th 2018
• Call the Providence Resource Line to register at 503.574.6595 or look for Good Food, Great Medicine in the class listing on-line at [providence.org/classes](http://providence.org/classes)
Good Food, Great Medicine

Join us for the 4th edition launch November 5th
7pm at Powell’s Books Cedar Hills Crossing!

Dr. Hassell will address the current medical data for a
whole food Mediterranean diet, as well as
how to evaluate conflicting dietary recommendations

Evidence-based food and lifestyle prescriptions for
type 2 diabetes reversal • heart disease and stroke prevention
cancer risk and better treatment outcomes • weight loss • inflammation
blood pressure • cholesterol • blood sugar • immunity • dementia • Parkinson’s
osteoporosis • heartburn • depression • anxiety • ADHD

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