

LECTURE HANDOUT
Continuing Medical Education
Darwinian Insights



Fact and fiction about:
Cholesterol and CVD; dairy and bone health;
demonization of sunshine; 8 glasses of water a day, and other shibboleths.

Geoff Bond, M.S., M.I.C.E., M.I.L., M.I.T.I.
Evolutionary Lifestyle Anthropologist

This science of evolutionary lifestyle anthropology dovetails with conventional Western medicine to move towards an integrative approach to healing. Understanding how our evolutionary heritage designed our bodies and minds to function is producing an earthquake in received ideas.

References: The science is rigorously evidence-based and is information that doctors can trust. The lecture will cover a vast field and the scientific literature is correspondingly copious. The over 480 citations are at: <http://bit.ly/Bond-DH-References>. They are also available in the copy of *Deadly Harvest* (www.deadlyharvest.com) lodged with the library.

IN THIS LECTURE:

- Exploration of human origins and the lifestyle and feeding patterns to which we are still naturally adapted.
- The way we live today is in sharp discordance with this ancestrally hard-wired lifestyle. This discordance disturbs many physiological and psychological processes.
- The ways in which we can align our lifestyles today as closely as possible to our Pleistocene-bred natures are presented.
- Some of these ways are in sharp conflict with received wisdom.
- The science supports this new approach and does not support the received wisdom in a number of areas. Evolutionary anthropology brings insights calling into question the received wisdom in matters of, e.g. cholesterol control, sunshine exposure, dairy and bone health, and water intake.

Objects:

At the conclusion of this presentation, clinicians will be able to:

1. Cite anthropological insights in the role of nutrition and lifestyle in health and common diseases
2. Re-evaluate medical and nutritional recommendations for disease management
3. Incorporate fresh approaches in their patient management
4. Assess cultural, racial, ethnic factors.

MAIN POINTS

Feeding Patterns

- Obligate low glycemic
- Fatty acid profile: Absence of myristic and palmitic acids. Strong presence of alpha-linolenic acid, DHA and ALA. The powerful role of omega-3 and omega-6 eicosanoids.
- The role of hunger pangs
- High intake of dicot plant food, rich in micronutrients, plant fibers and alkalizing in nature. The importance for colon biomass and its symbiotic relationship with the body
- Low sodium-potassium ratio. Importance at the level of the cell
- Null effects on serum pH (which is neutral)

How it went wrong: the advent of grass seeds, dairy, potato, sugar, omega-6 vegetable oils. The consequences of it going wrong.

Physically Activity Patterns:

- Women foraging 4 to 5 miles a day carrying loads including back-borne toddlers.
- Men walking and jogging 7 to 10 miles several days a week, often carrying heavy loads.

Our evolutionary history means that the body now expects this physical activity pattern to be there. Without it, things go wrong: poor osteoblast signaling, lymphatic stagnation, poor lower leg circulation, poor blood sugar control, poor lipid control, poor mood control.

Sunshine:

Our evolutionary history means that the body now expects sunshine to be there. Without it things go wrong: poor bone building, undermined immune system, increased likelihood of CVD, diabetes, MS, depression, and many, many more.

The recent recognition of the importance of sunshine. Discussion in the BMJ. New guidelines recommending midday sunshine without sunscreen.

Stress:

Modern living is cross-threaded with our savanna-bred natures. It raises stresses our bodies don't know how to handle. Abnormal secretion of stress hormones and consequences: Example the workplace. In Pleistocene times, 'work' was fulfilling, gender specific, much shorter, no employers or employees, no jobs: no one who had your livelihood in their grasp.

IMPLICATIONS FOR HEALTH FACT & FICTION**Cholesterol**

- Foragers have high cholesterol intake yet very low serum cholesterol levels.
- High cholesterol levels are due to the body making it when it shouldn't under the stimulation of a variety of non-forager lifestyle factors, e.g. hyperinsulinemia, omega-6 eicosanoids, bad colon bacteria...
- High cholesterol levels are a poor guide to heart attack outcomes. Role of inflammation, eicosanoid-induced plaque production etc.
- Aggressively reducing cholesterol levels with drugs does not have a particularly good outcome. Side effects.

Sunshine exposure

- Foragers spend their lives stark naked under a tropical sun. We can expect our bodies coming to rely on it being there.
- Sunshine deficiency is a factor in a huge variety of diseases, e.g. cancer (including melanoma), heart disease, MS, diabetes, dementia, osteoporosis and many more.
- The demonization of sunshine is terribly misguided. It is aided and abetted by a rampant sunscreen industry.
- Sunscreen actually promotes skin damage by encouraging people to stay out in the sun long past the time when burning would have given them danger warnings.

Dairy and Bone Building

- Foragers build strong healthy bones without resort to dairy
- Horses, gorillas and chimpanzees can build strong bones just from vegetation
- 85% of the world's population build strong bones without resort to dairy
- Paradoxically, dairy consumption can increase rates of osteoporosis. Role of lipids and antinutrients. Poor calcium uptake from dairy consumption.
- Bone building and resorption are under the control of a huge variety of hormonal and other signals, largely controlled by lifestyle factors.

Water Intake

- Foragers lived in a water-poor environment. They obtained a high percentage of fluid from what they ate – notably vegetation (contains 85% to 90% water)
 - Thirst is a good guide to a need to drink.
 - A normal thirst reaction kicks in well before dehydration occurs.
 - Even the USDA's Dietary Guidelines 2010 recognize this and add that tea, coffee and various soft drinks are acceptable.
 - Where did the mantra of 'drink 8 glasses of water a day' come from? Role of mineral water industry.
 - Dangers of water intoxication. Deaths of Boston Marathon runners (hyponatremia).
-

About Geoff Bond

Geoff latest book, *Deadly Harvest*, was 13 weeks best seller in Amazon's 'Preventive Medicine' Kindle category. *Deadly Harvest* is heavily referenced, containing some 35 pages of primary source citations. A copy is donated to the library. More at: www.deadlyharvest.com.

Geoff Bond graduated with Honours in the rigorous sciences from London University in 1964, and completed post-graduate applied science professional qualifications in 1968. Geoff spent 15 years of his early career living and working in remote African villages where he widened his studies in evolutionary human development.

He is one of a small breed of scientists who peer back in time to see how nature forged our bodies and minds to live in a particular kind of way. He describes how we don't do it anymore, why it matters and what we can do about it. Bringing unique insights to the challenges of national healthcare, Geoff is an expert contributor to the UK think-tank "Reform".

Geoff lectures regularly to CME audiences in Europe, Britain and in USA. Recently he was keynote CME speaker at the Body Conference (London), and at the Antiageing Conference (London). In California, he has given CME lectures to many hospitals including Scripps Center for Integrative Medicine, Eisenhower-Annenberg, and Providence St Joseph.

Geoff has been keynote speaker at seminars promoted by Dr Elber Camacho, medical director of the Comprehensive Cancer Center, Palm Springs; by Dr Rita Stec, director of the Women's Wellness Center; and by Dr Stephen Gundry, medical director of the International Heart Institute, Desert Hospital. More at: www.speakerbond.com.

For the last 15 years Geoff has authored a monthly Intelligence Briefing that brings original, cutting-edge thinking for health professionals. More at <http://bit.ly/Briefing-p1>. Complimentary access for bona fide health professionals [write to me at geoff@geoffbond.com].

LECTURE HANDOUT - APPENDIX

RESOURCES

- Geoff Bond's website www.geoffbond.com (www.naturaleater.com)
- Geoff Bond's monthly *Bond Briefing* – a non commercial, pure intelligence, update on the latest thinking in evolutionary lifestyle anthropology. Normally by subscription, attendees of the lecture are offered free access for 12 months. Send an email to Geoff Bond at geoff@geoffbond.com. (We hate junk mail and promise not to spam you or abuse your email address in any way.) View a sample copy at <http://bit.ly/news-2011-01>
- Geoff Bond's latest book, *Deadly Harvest* (www.deadlyharvest.com). View online, print copy in the library.

Feeding Pattern

The ideal food pyramid for humans. Full information at www.naturaleater.com and in *Deadly Harvest*, lodged in the library.

Physical Activity

Get the equivalent of Pleistocene activity: golfing, dancing, housework, gardening, chopping wood and more. More at www.naturaleater.com/Science-articles/Hunter-gatherer-Cordain.pdf

Sunshine

Vital to obtain and maintain adequate sunshine – work up to a good tan without burning and keep it there.

- o Sunshine Consensus Statement of seven health institutions: <http://bit.ly/Bond-Sunshine>
- o BMJ 2008; 337:a764. Is Sun Exposure a Major Cause of Melanoma? No; 22 July 2008, doi:10.1136/bmj.a764. Sam Schuster. <http://bit.ly/BMJ-Sun>

Cholesterol

- o Ray KK et al. Statins and All-Cause Mortality in High-Risk Primary Prevention: A Meta-analysis of 11 Randomized Controlled Trials Involving 65 229 Participants. *Arch Intern Med.* 2010;170(12):1024-1031.
- o Taylor F, et al. Statins for the primary prevention of cardiovascular disease. *Cochrane Database of Systematic Reviews* 2011, Issue 1. Art. No.: CD004816. DOI: 10.1002/14651858.CD004816.pub4
- o *Am J Cardiovasc Drugs.* 2008;8(6):373-418. Statin adverse effects : a review of the literature and evidence for a mitochondrial mechanism. Golomb BA, Evans MA.
- o Vorster, HH et al. "Serum Cholesterol, Lipoproteins, and Plasma Coagulation factors in South Africa Blacks on a High-egg but Low-fat Intake." *Am J Clin Nutr* 46:1 (1987): 52–57.

Water Intake

- o *Am J Physiol Regul Integr Comp Physiol.* 2002 Nov;283(5):R993-1004. "Drink at least eight glasses of water a day." Really? Is there scientific evidence for "8 x 8"? Valtin H.
- o *N Engl J Med.* 2005 Apr 14; 352(15): 1550-6. Hyponatremia among runners in the Boston Marathon. Almond CS et al.

Stress

"...the scientist will prepare the bed on which mankind must lie; and if mankind does not fit – well, that will be just too bad for mankind. There will have to be some stretching and amputations..." – Aldous Huxley, *Brave New World*, 1936. (More about the 'Procrustean Bed' in *Bond Briefing* December 2010: <http://bit.ly/BB-2010-12>) Try to take life-decisions that do not conflict with our savanna-bred natures. A vast subject about which Geoff Bond writes regularly in his monthly *Bond Briefings* <http://bit.ly/BB-Index>. And in Chapter 8 of *Deadly Harvest* (free access): <http://bit.ly/DH-08>.

