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# The Bond Briefing

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RATIONAL EVIDENCE-BASED COMMENT FOR THE GENERAL PUBLIC & HEALTH PROFESSIONALS. WE SAY EXACTLY WHAT WE THINK

**Evolutionary Physical Activity:** Too much Sitting Time is bad for you. **Tricks of Human Biology:** Protein and Muscle Building. **Q of Month:** Can one Overdo Omega-3? **Unsolicited Testimonials:** Michael Virardi; Dana & Jim Melton. **Recipes:** Paleo Harvest by Nicole Bond. **Q&A:** Fruit, Fructose & GLUT; Cooking, Antinutrients, Legumes; 'Blue Zone' Legumes; Demonization of Sunshine; Ringworm and Diet. **Promised Last Month:** How do Placebos Work?; The Rise of Glucose Intolerance. **Events Report:** RAHMS International Conference Medical Lecture.

## Evolutionary Physical Activity

### Too much sitting is bad for you

In 'Limit Sitting Time' back in [April 2008](#) I reported on Dr Marc Hamilton's study [1] which says that: "What people do in the remaining 15½ hours of their day is more important than the 30 minutes activity per day that the authorities recommend".

He reinforces his findings in a later paper [2]: "We present compelling evidence on the deleterious effects of sedentary behavior... It is time to consider excessive sitting a serious health hazard.... It switches off fat-burning enzymes in the blood vessels and increases risk of diabetes and heart disease"

In particular he warns the notionally 'physically active adult' who, after his 30 minutes early morning jog, then sits in his car on the way to work, sits at his computer all day, has lunch at his desk, drives home again and watches TV until it's time to go to bed. Such a person, in spite of fulfilling the public health guidelines of 30 minutes of vigorous activity a day, sits too much. Hamilton terms him 'an exercising couch potato'.

Now Dr Genevieve Healy of Queensland University, Australia, finds that "even standing up for one minute, moving, and moving more often is good for the heart and good for the waistline" [3].

Professor John Thyfault of the USA's Centers for Disease Control and Prevention, finds [4] that excessive sitting messes with glucose control, decreases insulin sensitivity and inhibits insulin signaling. **Cont page 3.**

## Tricks of Human Biology

### Protein and Muscle building

In [Feb 2013](#), 'Body-Building & High Protein Drinks' I made the point that you can't build muscles by trying to 'push' protein into them. Indeed in 'Muscle Building: Eat Proteins Moderately but Regularly', [Jan 2010](#) I reported how the best way to build muscle is 'little protein but often'.

Now a new study reinforces the message and adds detail [5].

Subjects were fed their 90 grams daily ration of protein either:

- a)** As a typical American diet: 10 grams at breakfast (along with lots of starch), 15 grams at lunch (plus more starch) and 65 grams at dinner or,
- b)** 30 grams at each meal.

**Result?** Case b) subjects synthesized 25% MORE muscle protein than case a) subjects. Says author Doug Paddon-Jones of Texas University: "We're not taking enough protein on board for efficient muscle building during the day, and at night we're often taking in more than we can use. This excess would end up as glucose or fat."

**My View?** Foragers ate their mongongo nuts or roasted witchety grubs at any time.

So this effect is a biological curiosity, usable by those wishing to increase muscle mass, such as body builders or frail oldsters.

Note: 30 grams protein is provided by roughly 4 oz (120 grams) of meat, fish or nuts.

## Question of Month

### Can one Overdo Omega-3?

**Q** You advise consuming about equal proportions of omega-3 to omega-6. But what happens if, in addition, you take a good dose of fish oil supplement? Is there added risk from inflammatory cytokines and can I eat too much omega-3 to my detriment?

**A.** Our living environment today is strongly pro-inflammatory – and part of the problem is the consumption of omega-6 oils. They generate inflammatory cytokines (powerful signaling molecules). Omega-3 is ANTI-INFLAMMATORY and so it is an antidote to omega-6.

However, the hormones the body makes from these oils affect a vast range of other biochemical processes too and it is possible to have too much omega-3.

Such is the case of the Eskimo who has a diet extremely rich in omega-3 fish oil and very little omega-6. Eskimos have low blood pressure and low blood clotting – they can die from a nose bleed. See: *Deadly Harvest*, [Chapter 4](#), p 91.

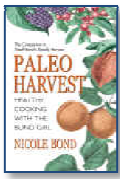
However, in the western world, it is extremely hard to overdo the omega-3 even if you ruthlessly strip out the omega-6.

See: 'Omega-3 Mega-doses Treat Eye Disorders' [Oct 2013](#).

## Unsolicited Testimonials

Recent ones from **Michael Virardi** and **Dana & James Melton** at: [http://bit.ly/bond\\_plaudit](http://bit.ly/bond_plaudit)

## Recipes



No space for a recipe this month but check out Nicole's latest cookbook [Paleo Harvest](#). It has over 170 new and updated recipes.

## Questions

### Fruit, Fructose & GLUT

**Q.** I breakfast daily on 1½ to 2 pounds of raw fresh fruit. However, knowing that high fructose corn syrup (HFCS) is upsetting our metabolism and health, I am concerned about so much fruit intake even though eaten raw and chosen for its relatively low sugar content, e.g. citrus, berries, avocado, papaya, etc. And what is GLUT, the so-called fructose transporter?

**A.** It is good that you are aware of fructose over-consumption. However, in my view, it only became a problem when the intake of HFCS sweetened fizzy drinks increased by TWENTY TIMES from 2.6 gallons per year in 1940 to 55 gallons per person per year today [*Deadly Harvest*, [Chapter 3](#), p 78].

Even so, it is wise to keep control of intake since the body has no fail-safe mechanism to deal with fructose over-consumption. In this, you will find my most-consulted webpage useful: the Fruit-fructose-GI table [<http://bit.ly/Fructose-Gi-Table>].

By the way, papaya (paw-paw), although middling in sugar content, does have a high GI of around 60.

As for GLUTs, they are special proteins on the membrane of the cell which transport sugars across the membrane into the cell. GLUT5 is specialized to transport fructose. In particular GLUTs are found in the intestine wall and are the way sugars are absorbed.

If there is a problem with GLUTs, the sugars arrive in the colon where bacteria digest them, giving rise to bloating and cramping. But this can happen

anyway if the intake of sugars is so large that they overwhelm the ability of GLUTs to deal with them.

### Cooking, Antinutrients, Legumes

**Q.** Many nutritionists say that cooking food removes all (or at least most) of its nutrients. Since cooking food removes nutrients doesn't it remove anti-nutrients as well? I am asking this since it is suggested to avoid foods (like legumes) that contain anti-nutrients.

**A.** It's a very sweeping statement to say that cooking food removes most of its nutrients. In fact cooking (roasting) was widely practised in the Pleistocene. Some forms of cooking are more aggressive than others but in many cases they also make nutrients bio-available.

Primatologist Richard Wrangham even claims that the human species evolved thanks to cooking. I think he overstates his case, but see what I say about it in: '*Cooking Helped Evolution?*' [July 2009](#).

As for antinutrients in legumes, yes, they are a problem. Lentils and beans have to be thoroughly boiled or they simply poison you. But even so, much remains as antinutrients and background poisons.

Soy in particular is notorious: it has at least 15 allergens of which three are considered 'major'. Soy is also strongly linked to cancers, senile dementia, thyroid disorders, pancreatic problems, and disrupted hormone function [6].

For a full discussion, see '*Legumes*', *Deadly Harvest*, [Chapter 3](#), page 65.

### 'Blue Zone' Legumes

**Q.** Legume consumption is one of the 6 or so characteristics common to 5 areas in the world where people live measurably longer: the so-called [Blue Zones](#). Does cooking safely remove the toxins and, if so, is there good reason to consume legumes regularly?

**A.** No. But certainly we can learn lessons from the health and longevity of various societies around the world and I have written about many of the societies in question. See:

- *Population Study Clues*, *Deadly Harvest*, [Chapter 4](#), p 85
- *Natural Eating*, [Chapter 3](#)
- *Sardinian Centenarians*, [Nov 2002](#)
- *Greek Centenarians: Facts and Fallacies* [Ikaria], [Oct 2009](#)
- *Good Health in Extreme Old Age* [Okinawans], [May 2010](#).

These peoples have got most things right, but not necessarily all.

Actually, not all of these long-lived communities do consume legumes. And even those that do, the amount is much smaller than you think.

For example: 'The total soy protein intake in 1930s China was no more than 5 grams per person per week. In Japan, consumption has increased slowly since those days, but even now soy protein intake is still only a modest 8 grams per day' [*'Legumes'*, *Deadly Harvest*, [Chapter 3](#), p. 65].

But in the end, consumption of soy did for the long-lived Okinawans – they have twice the rate of senile dementia compared to non-consumers.

See also my reply to: '*Cooking, antinutrients, legumes*', above.

### Demonization of Sunshine

**Q.** It's sad that, based on the [UV index](#), the U.S. Environment Protection Agency advises staying away from the sun. It doesn't even remotely consider the benefits of sunshine.

Thanks to your Briefing, I read Dr Michael Holick's amazing book "The Vitamin D Solution". It got me thinking how my current lifestyle is Vitamin D deficient. Taking supplements is not the answer. How do I acquire quality Vitamin D?

**A.** Those who have read my Briefings for a while will know

that I consider the demonizing of sunshine not only overblown, but a major health disaster.

For a rebuttal see: '*Fear not Melanoma – Part I*', [Jan 2013](#) and '*Part II*', [Feb 2013](#).

As you say Dr Michael Holick has developed some rules of thumb for sunshine exposure which I report in: '*How much Sunshine?*' [April 2011](#).

### Ringworm and Diet

**Q.** *My overweight, diabetic father has been suffering from ringworm fungus on his back. The doctor's medication is not helping. He was told to go on a high protein vegetable diet. I think he needs to follow your Savanna Model diet. Thoughts?*

**A.** What precisely is meant by a "high protein vegetable diet"? (Vegetable proteins – or animal proteins plus lots of vegetables – or what?)

As far as I know, there is no evidence for any diet as treatment for fungal infections. If you can, please find out where the doctor got his information.

On the other hand, diabetics are more susceptible to funguses and so it makes sense to follow my precepts and keep diabetes under control. This will also tune up the immune system which will be beneficial too.

Furthermore, being overweight, damp and sweaty are conditions to be avoided. Otherwise your father should, of course, pay attention to the conventional medications that his doctor prescribes.

**Continued from Page 1**

### Too much sitting is bad for you

...It also leads to non-fatty liver disease.

Thyfault questions the automatic prescription of bed-rest for recovery from clinical conditions. "It causes changes in thousands of mRNAs in leg muscles within days." (mRNAs are molecules carrying genetic instructions from DNA to the cell's chemical plant.)

Thyfault advises that people should follow another public health guideline: that they should walk at least 10,000 steps a day – preferably in short sessions at regular intervals.

Dr Peter T Katzmarzyk, Louisiana State University, finds [7] that reducing sitting time to under three hours at a time might extend lifespan by 2 years; reducing TV time to 2 hours a day increases lifespan by 1.4 years.

Professor Rebecca Seguin of Cornell University, USA, finds [8] that women with 11 hours per day of sedentary time increase their risk of coronary heart disease by 27% and of cancer by 21%.

She advises: "small changes can make a big difference; do interrupt prolonged sitting time."

Dr Dorothy Dunlop of Northwestern University, Illinois, says [9] that being sedentary is as strong a risk factor for disability as lack of moderate activity. Moderate activity she defines as "walking briskly as though you are late for an appointment".

In the most recent study [10], Dr Jarett Berry of Texas University, says that 2 hours of sedentary behavior negates 20 minutes of vigorous exercise. He advises that: "any movement is good movement; take short walks during the day; think about a stand-up desk; and use a pedometer to check up on your true walking behavior".

**My View?** Apart from the 3-6 miles traveled per day foraging and hunting, foragers spent the rest of their day walking about and sitting about. Their day is not characterized by one short burst of activity and then loafing about for the rest of the day.

[Next Month](#): thoughts on 10,000 steps, sitting and pedometers.

### As Promised Last Month

#### How do Placebos Work?

A placebo works because of its effect on the patient's beliefs.

From an evolutionary point of view, it is puzzling why, if people are capable of recovering, they need a placebo to do so. A recent article summarizes the understanding so far [11].

It is all to do with the immune system and how it mobilizes itself. Unbeknownst to us, it is constantly calculating trade-offs between the reproductive cost of mounting an intense immune response and the benefit obtained.

At any one time it has a list of priorities. The placebo is a cue which gets the immune system to move that particular condition higher up the list.

This is a very condensed summary of a many faceted question. For example, it is possible to have TOO MUCH faith in a placebo – in which case the immune system fails to mount a response at all!

Other studies on patients' brains suggest that there are many types of placebo effect which gear in different mechanisms. For example, mechanisms of expectation, of anxiety or of reward.

Article pdf: <http://bit.ly/1nkiGCT>

### The Rise of Gluten Intolerance

Full-blown celiac disease has symptoms of diarrhea, depression, vitamin deficiency, mineral deficiency, epilepsy, stunted growth, and osteoporosis.

These conditions had been observed for centuries. It is astounding to think that it was only in 1950 that the Dutch pediatrician, WK Dicke, wrote his thesis suggesting that gluten is the cause [12]. He had observed that, during the WWII privations, celiac children improved when bread was not available.

Celiac children improved when bread was not available.

Even so it has taken decades for this knowledge to be accepted into the medical establishment. This is one reason gluten

intolerance is on the rise – it is being correctly diagnosed more often!

That is perhaps the main reason. However, wheat consumption has also risen 40% since 1940. Worse, food processors often add pure gluten to their processed foods – the amount has tripled since 1977 [13].

Currently it is estimated that Americans consume on average, one way and another, some 12 lb (5.5 kg) of gluten per year.

For more on this see my article 'What is Gluten?' on [www.uggfoods.com](http://www.uggfoods.com)

Direct link: <http://bit.ly/1oSIqIV>

## Events Report

<http://bit.ly/bond-event>

### MEDICAL LECTURE

On July 11th I gave my lecture: "**Is Cancer Optional?** Our evolutionary history gives us revolutionary insights for avoidance and remission" at the International Medical Conference: 'Recent Advances in Health and Medical Sciences' (RAHMS).

My contribution came at the end of the sessions devoted to 'Oncology and Anticancer Research'.

I have every admiration for the researchers who presented their papers describing the most abstruse, difficult and complex experiments to unravel the mysteries of cancer biochemistry.

However, I was the ghost at the feast. At the end of my talk I observed:

"In 1971 Richard Nixon launched the war against cancer. Today, hundreds of billions of dollars later, we are still nowhere near finding the cure. And yet the answer is right under our noses – and for free!

Just live the way our bodies recognize and our immune systems, honed for eons for the job, will sort out any cancerous cells just fine."

There was some lively Q&A but no one contested my assertion – in fact they agreed with it.

[Next month](#) I will report on a couple of presentations of interest.



**Deadly Harvest:** Geoff's latest work encapsulates current thinking on lifestyle anthropology. [www.deadlyharvest.com](http://www.deadlyharvest.com)



**Paleo Harvest Cookbook:** Over 170 delicious, Bond Precept conforming recipes [www.paleo-harvest.com](http://www.paleo-harvest.com)

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Full text: <http://bit.ly/Bond-science>, #100. Direct link: <http://bit.ly/1nkiGCT>

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