



The science & art of living the way nature intended

# The Bond Briefing

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

**Q&A:** Vitamin Supplements. **News Shorts:** Neurologist with Alzheimer's. **Did you Know?** High Intake Lean Protein Sickness. **Q&A:** Eat Glucosamine to make Glucosamine? **News Shorts:** Mushrooms lower Cancer Risk. **Human Behaviour:** Monogamy & Partner Scarcity. **Briefing II:** Sunscreen – Unintended Consequences II. **Ancestral Physical Activity:** Modern Inactivity. **Health Policy:** USDA Dietary Guidelines 2020.

## Questions

### Vitamin Supplements

**Q.** Do vitamin supplements really help or should we focus only on food intake?

In terms of natural and synthetic supplements, would you recommend the synthetic ones or is it better to take the natural ones?

**A.** I have always argued strongly against the idea of using supplements. There are several reasons, of which the overarching one is that we should be eating **AUTHENTICALLY** – as nature intended -- and not seeking, futilely, to compensate for poor eating habits. That is just fool's gold.

But there are more precise, scientific reasons too. For a start, supplements individually don't seem to work too well – nutrients need to be consumed in **FOOD** where they are efficiently absorbed in a complex symphony with all the other ingredients, see: **Whole Food not Supplements**, [Jan 2012](#) [1]; **Food Better than Supplements**, [March 2018](#) [2]; **Multivitamin Supplement?** [April 2007](#) [3].

Secondly, there are unintended consequences when taking a 'hit' of one particular micronutrient. Surprisingly it can alter the expression of your genes, see: **Epigenetic Effects – Part II**, [Sept 2017](#) [4]. More surprisingly, some supplements can actually have the **OPPOSITE** effect to that intended, see: **Antioxidants Boost Cancer II**, [May 2015](#) [5]. Others have severe side effects, see: **Risks of Folic Acid Supplements**, [Dec 2009](#) [6] and, **Excess folate, B12 in Pregnancy greatly ups Autism Risk**, [Nov 2016](#) [7]. **Cont:** > p 2

## News Shorts

### Neurologist with Alzheimer's



<https://bit.ly/2U7C7wI>

65-year-old Alzheimer specialist, Dr Daniel Gibbs, of Oregon Health & Science University, Portland, took one of those Ancestry-style DNA tests. It discovered that he had a genetically high risk of developing Alzheimer's himself.

Further diagnostics, including an amyloid PET scan, confirmed that he was, indeed, in the early stages of the disease.

As a specialist in brain health, he decided to retire and use the time to document his condition, research it, and find ways to slow its progression. In other words he would do a case study on himself.

Now, five years later, the editor of JAMA, Rita Rubin MA published an interview with Dr Gibbs [8].

What insights did he have? Interestingly Dr Gibbs comes out strongly in favor of lifestyle changes. They will not come as a surprise to my readers:

“Get adequate aerobic exercise”  
 “I've been aiming for 10,000 steps a day. I walk my dog in the hills”  
 “Move to a more plant-based Mediterranean diet leaning more on foods high in flavonols, including berries and nuts”  
 “Sleep 7½ - 8 hours a night so >p3

## Did You Know?

### High Lean Protein Intake Sickness

Early explorers of the Pacific North-West (like Lewis & Clark) sometimes suffered from what was termed 'rabbit starvation'. It is a toxic and potentially fatal condition caused by living on a diet of lean (zero fat) meat. This happened easily when they fed exclusively on the animals they hunted.

This sickness was avoided by the Eskimo, who also lived on an entirely animal diet, since their hunted creatures (seal, whale, etc.) contained a lot of blubber which is mainly fat. In the Pacific North West, archaeologists contended that prehistoric peoples had an “extreme salmon specialization” living on salmon which, in the spawning rivers up to a thousand miles inland, were also very lean. However, they did not suffer from a similar condition, 'salmon starvation'.

Now a study [9] finds that these early peoples actually had much more fat in their diet, especially from another fish – the candlefish, so-called because, when it was dried, it could be lit up like a candle. Moreover, its fat is the “good” omega-3 fish-oil, DHA.

Other peoples also ate plenty of acorns– and the “camas bulb” – which, thanks to the help of the Nez Percé tribe, saved the lives of Lewis & Clark. The camas root is rich in the dietary fiber inulin rather than ordinary starch – so it was doubly good.

More on excess protein intake [next month](#)

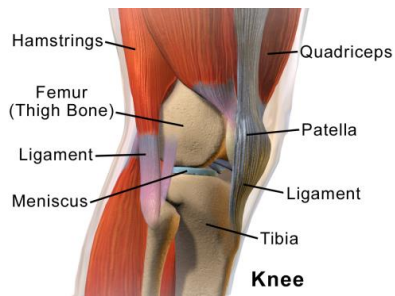


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<https://bit.ly/35Xgr8S>

## Questions

### Eat Glucosamine to make Glucosamine?



<https://bit.ly/3h3kMMX> [10]

**Q.** I am diagnosed with osteoarthritis in the knee where the meniscus cartilage is worn down. My specialist suggested that I “might try glucosamine supplements”. What do you think?

**A.** Not a lot. The reasoning seems to be that, since the meniscus in the knee is largely composed of glucosamine that, by consuming it, the body will magically use it to rebuild the meniscus.

In fact the scientific literature finds that it is of no use at all [11].

This situation is similar to the (false) idea that taking collagen supplements can help rebuild collagen in the body. See: **Eat Collagen to Make Collagen?** [July 2013](#) [12].

In reality the digestive system breaks down the collagen supplement into its constituent amino acids and what it does with them after that is completely out of your control.

So it is the same with glucosamine. After the digestive system has broken down the compound into its component parts, there is no knowing what it will do with them.

Even so, some people say that they **FEEL** an improvement – even when there is none physically. This is the placebo effect and, indeed, one gold standard trial found that placebo performed better than the glucosamine itself! [13]

**Bottom Line?** By all means take glucosamine supplements if they make you **FEEL** better, but don't expect any real improvement in the

physical condition. See also **Vitamin Supplements**, p1.

### Continued from Page 1

#### Vitamin Supplements

There is also the fact that supplements themselves are not well absorbed, see: **Why Fish-oil Supplements Work Poorly**, [Aug 2015](#) [14].

The only excuse for supplementation is for vegans who **MUST** take vitamin B12, see [Dec 2000](#) [15]. This only highlights my arguments that Veganism is not a natural way for humans to feed themselves.

**My View?** To quote **What about Supplements?** Deadly Harvest, [Chapter 7](#) [16], page 170:

There are thousands of compounds that are important to the harmonious functioning of the body, and they all need to be working together. It is unrealistic to think that we can compensate for dietary errors by cherry-picking this or that supplement...

...The central tenet of the Savanna Model is that we will find all the nutrients we need by eating the right kinds of foods in the right patterns.

The whole thrust of our message is to discourage people from the prevailing idea that they can avoid hard choices, keep their bad eating habits, and compensate by ‘taking a pill’

See also: **Eat Glucosamine to make Glucosamine?** Page 2

## News Shorts

### Mushrooms lower Cancer Risk

A data-mining exercise on 17 cancer studies finds a correlation between higher mushroom intake and lower risk of cancer [17].

Say the researchers: “Mushrooms are the highest dietary source of the amino acid “*ergothioneine*”, which is a unique and potent antioxidant and cellular protector”

Even though shiitake, oyster, maitake and king oyster mushrooms have higher amounts of ‘*ergothioneine*’ than white button, cremini and portabella mushrooms,

all varieties of mushroom lowered risk of cancer.

According to the findings, those who ate 18 grams of mushrooms daily had a 45% lower risk of cancer compared to those who did not eat mushrooms.

Mostly the studies focused on breast cancer, but other cancers were improved too. (See: **Mushrooms lower Prostate Cancer Risk**, [Oct 2019](#).)

**My View?** This study is finding ‘*correlation*’ not causation. Nevertheless, funguses of all kinds were a regular part of the forager diet and it has to be a good thing to be eating plenty of mushrooms of all kinds.

Other studies suggest other benefits too. See: **White Button Mushrooms aid Immune Function**, [Sept 2019](#) and, in the context of brain health (**Neurologist with Alzheimers**, p 1) see: **Mushrooms Reduce Cognitive Decline**, [April 2019](#).

## Human Behavior

### Monogamy & Partner Scarcity

In forager societies, men will take on a woman for wife, including any children from a previous marriage, until he or she decides to put an end to it and move on to a new relationship. This is known as “Serial Polygamy”.

On the other hand, it is very rare for a man to have two or more wives at a time and it is virtually unknown for the reverse to occur.

What is the dynamic happening here? In **Marriage and Polygamy**, *Deadly Harvest*, [Ch8](#), p 210 [18], I talk about how it is as much as a man can do to protect and help feed one wife and children at a time.

Now a study offers another dimension to the phenomenon. As mentioned in *Deadly Harvest*, if a man is to commit to a marriage and, in particular to support the children of the marriage, he has to be sure that he is indeed the father.

In seeking this reassurance, a man's genes provoke in him an emotion (jealousy) driving him to drive off any rivals for his wife's sexual favors.

This study posits that a man has such a high priority on guarding his

wife from outside suitors that he can only manage one at a time [19]. Say the researchers: “We find that male mate guarding, rather than paternal care, drives the evolution of monogamy, as it secures a partner and ensures paternity certainty in the face of more promiscuous competitors.”

### Briefing II

### Sunscreen - Unintended Consequences II



<https://bit.ly/2RqfNwP>

Last month we looked at how sunscreen, since its widespread use from the 1950s, has been selling us the message that we could bask all day long in powerful sun without burning. That message is too good to be true and treacherously misleading. Yes, sunscreen stopped the skin burning but it continued to allow skin DAMAGE. And since sunbathers felt invulnerable, they did far more damage to their skin than if they had been warned off by sun-burning.

That is not the end of the story: we look now at what is IN sunscreen – its **ingredients**:

Are the **INGREDIENTS** of sunscreen doing anything untoward? In: **The Problem with Sunscreen** [June 2019](#) [20] I paraphrase an article in JAMA [21]:

“There are many ingredients in sunscreens that are absorbed through the skin which are known to mess with hormones [“endocrine disruptors”] and which have never been evaluated.”

Reader **Alysia Georgiades** has her own take on this question in her blog post “**Let’s Talk about Sunscreen**” [22]. She goes into many of the ingredients including one that I have fingered too: titanium dioxide, see: **Titanium Nanoparticles Inflamm the Colon** [23], and chemicals in general: **Chemicals on our Skins**, [June 2007](#) [24]

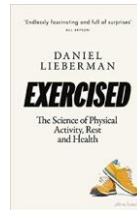
**My View?** For many years now, I have taken the view to **NOT** use sunscreen. The skin has its own nature-provided alarm: **REDDENING**. That’s the time to get out of the sun. That way you avoid undue skin damage, and also avoid the risk of absorbing endocrine disruptors into your body.

### Ancestral Physical Activity

### Modern Inactivity



Credit [25]



Continuing [last month's](#) highlights from Prof. Lieberman’s [26], latest book, ‘Exercised’ [27]

The total time Americans spent sitting increased 43% from 1965 to 2009. A typical adult now engages in 5½ hours of light activity a day, just 20 minutes of moderate activity, and less than one minute of vigorous activity.

In contrast a typical Hadza spends 4 hours on light activity, two hours moderate activity and 20 minutes on vigorous activity.

All told, Americans elevate their heart rate to ‘moderate’ levels between one half and one tenth as much as non-industrial people.

Consequences of long periods of inactivity are: raised levels of fat and sugar in the bloodstream and, most seriously, increased chronic low grade inflammation triggering our immune system into attacking the body tissues.

**My View?** Regular readers will find nothing surprising in Prof. Lieberman’s information. Even so, it is helpful to reinforce the message. For a quick summary see: **Paleo-conforming Physical Activity**, [Sept 2018](#) [28].

Foragers were always ‘up and doing’. They didn’t actually run much, but they did carry loads and they did do heavy labouring, both on a daily basis. This applied to both sexes and to all ages, notably old people.

The men climbed trees and did, on occasion, jog for miles to run down a quarry. Meanwhile, most of us still run the danger of too much **SITTING**.



<http://bit.ly/2P68TKb>

If you have a sedentary occupation do try a stand-up desk – or even a treadmill desk ([June 2015](#) [29]), and install an app on your laptop which reminds you to **MOVE** at least once every hour.

### Continued from Page 1

### Neurologist with Alzheimer’s

that the brain’s ‘glymphatic’ system can detoxify the brain overnight” See **Sleep Detoxifies Brain**, [Nov 2013](#) [30]



“Learning new skills to create fresh synapses, for example doing cryptic crossword puzzles and looking up new words. I attend all the Grand Rounds lectures” [which present thought-challenging new ideas in medicine].

(In this regard, I have given many ‘Grand Rounds’ lectures, notably at the Annenberg Centre, Eisenhower Hospital, Rancho Mirage, CA)

Dr Gibbs has taken part in 5 clinical trials and written a book about his journey called “*A Tattoo on my Brain*”. So how is he getting on?

As he says, we all have some amount of “cognitive reserve” – the brainier and the more educated have more of it. Alzheimer sufferers do well for a number of years but when the cognitive reserve is used up then they fall off a cliff edge. He thinks that he is now close to his own cliff-edge.

**My View?** It is rather disconcerting that a doctor who has spent his career caring for Alzheimer sufferers is only now discovering what to do about it.

However, we wish Dr Gibbs well with his new found Alzheimer lifestyle protocol. After all, **‘Bad’**



**Genes Don't Doom Us**, [April 2010](#) [31].

However, we would add to his protocol:

- plenty of sunshine;
- avoid glycemic meals (their insulin spikes create plaque called “Tau” which tangles brain-cells into Alzheimer knots);
- boost omega-3s and reduce omega-6s;
- avoid plant poisons such as those in soy;
- feel hungry on a regular basis (judicious use of the Ketogenic Diet can be helpful, **Alzheimer's & Ketogenic diet**, [April 2012](#) [32]).

It is all there in **Alzheimer's Disease and Dementia**, *Deadly Harvest*, [Chapter 9](#), page 253 and, **Rolling Back Alzheimer's**, [June 2012](#) [33].

Indeed I have written many articles about various aspects of lifestyle and Alzheimer's – use the search-box on my [#BondBriefing](#) index page: <http://bit.ly/BB-Index>.

## Health Policy

### USDA Dietary Guidelines 2020

Every five years the USDA updates its guidelines. It is the ‘go-to-source’ for nutritionists and for those designing meals in public institutions like schools, prisons, and hospitals. However, as I have commented on previous editions [34], these guidelines are again a shabby compromise between solid science and the ferocious opposition of the food industry and their puppet politicians.

Says Sarah Reinhardt, of the Union of Concerned Scientists: “When the final guidelines come out and you see recommendations that contradict science that’s not because someone wrote a compelling public comment. That’s because somebody went through the back door and influenced the process in the wrong way.”

It is not all bad, there is general advice to focus on ‘nutrient dense’

foods; and for the first time there is advice on the entire lifecycle from new-born to old age.

However, as Prof. Marion Nestle of NY University says: “the exclusion of any recommendation to avoid ultra-processed foods required the committee to turn a blind eye to how junk food increases bodyweight, chronic disease and overeating.”

**My View?** The mainstream science has moved a long way towards our position in the last few decades. However, getting it into official guidelines is a major battle. And the irony is that “very few Americans match up to even these watered-down guidelines.” [35].

Says Reinhardt again: “If the public were to follow these [albeit flawed] recommendations we’d be talking billions of healthcare dollars saved every year from reduction in diabetes and other chronic diseases.”

**Paleo in a Nutshell:** Geoff's latest work encapsulates, concisely and easily, current thinking on living the way nature intended. [www.paleo-nutshell.com](http://www.paleo-nutshell.com)



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