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

Evolutionary Physical Activity: Importance of Load Carrying. **Don't Let Your Guard Down:** "Five-a-Day is enough" – Really? **Evolutionary Sleep Patterns:** Breast Cancer & Dim Light. **Recipes:** Olive Bread. **Q&A:** Salt and Endurance Athletes; Dairy, Tonsillitis, Nasal Congestion, ADHD. **Reversionism:** Is Lean Beef OK after all? Feeding Cows Right. **News Clips:** Solved – Puzzle of wide Variation in Breakfast Cereal GIs; Starch Feeds Col-rectal Cancer; Omega-3 helps Osteoarthritis. **Briefing:** Why we use Xanthan Gum.

Evolutionary Physical Activity

Importance of Load Carrying



Australian Aborigine Shouldering a Wallaby Kill.

Hunter gatherers, both men and women, always seem to be carrying loads. Indeed the women are rarely without a 2 stone (28 lb, 13kg) toddler on their backs. In addition, they finish the day carrying some 15 lb (7 kg) of gathered food.

The questions I ask myself are these: if this was the case for eons, do our bodies expect this load to be there? And if not, do things go wrong?

After all, it is noticeable that, just in my lifetime, we have reduced dramatically our load carrying habits.

When the first wheeled luggage appeared in the 1970s, we assumed it was designed for women and wimps. But now wheeled luggage is ubiquitous and I am the rare traveler who still carries his bags.

I use a shopping basket instead of the supermarket trolley with the vague idea it will tone up muscles. When golfing I walk the course and carry the 30lb bag.

Now I wonder if a lifetime of load carrying has preserved me from back problems and osteoporosis.

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Don't let your Guard Down

"Five-a-day is enough" – Really?



"Five-a-day is enough"

So scream media headlines in response to a Sino-American study of dubious merit [1].

This is in spite of the study authors concluding that: "a higher consumption of fruit and vegetables is associated with a LOWER RISK of all cause mortality, particularly cardiovascular mortality".

But within 24 hours this study had been translated in the mainstream media to:

"Eating more than five fruit and veg a day may be waste of time."

Where did the media get this from? Well, the researchers did claim a cutoff point at five servings per day, after which the risk of death did not reduce further.

Here we get into the shortcomings of the study, which was a 'meta-analysis'. This is where the authors collect the data from many other studies, give the numbers a good stir, and try to find a pattern. It is rather like comparing apples and pears and concluding they are bananas. The chief weaknesses were:

Cont: page 4.

Evolutionary Sleep Patterns

Breast Cancer & Dim Night Light



Exposure to even a low level of light at night – like that creeping under a bedroom door - makes breast cancer tumors grow faster and makes the cancer cells impervious to the breast cancer drug, tamoxifen, according to a study in *Cancer Research* [2].

The researchers find that even dim light suppresses melatonin production. Population studies have linked exposure to light at night to various kinds of cancers. I first wrote about it in: '*Night Light & Cancers*', [Jan 2006](#).

However, this study goes one stage further by finding that even dim light has this effect. The researchers think that it could be as little as the glow from a computer screen or a street lamp.

My View? Foragers slept under the moon and stars comforted by the embers of a personal camp-fire. So they did not sleep in pitch darkness. Indeed, as I write this, we are enjoying a beautiful Harvest Moon with enough light to read by.

So in my view we need to have a better definition of permitted light levels before we rush to sleeping in light-tight rooms.

Recipes

This Greek-style olive bread has a great crust and the interior crumb has a nice chewy texture. It resembles a classic rough-ground whole-wheat bread with, of course, the olives.



Olive Bread

Yield: about 25 slices

1 can pitted black olives (6 ounces, drained weight)

Dough:

5 eggs, omega-3

1 ½ cup almond flour (about 6 oz)

¼ cup flax seed flour (about 1 oz)

3 tablespoons chia seeds

2 tablespoons coconut flour

3 tablespoons olive oil

2 tablespoons red wine vinegar

¼ teaspoon salt, or to taste

¾ teaspoon bicarbonate of soda

½ teaspoon xanthan gum

olive oil spray

1. Rinse the olives under water in a colander. Drain and cut olives in half. Set aside.

2. Combine all the dough ingredients in a food processor and, using the blade, mix them to obtain a smooth consistency.

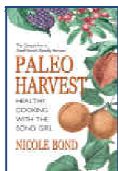
3. Using a fork, stir in the olives.

4. Spray a loaf mold (about 7.5 x 4 x 3 inches) with the olive oil and fill with the mixture.

5. Bake in a hot oven at 340°F (170°C) for about 50 minutes.

Check the center for doneness.

This recipe is from the 'Breads, Crackers and Crusts' chapter of Nicole's latest cookbook [Paleo Harvest](http://www.Paleo-Harvest.com), with its over 170 recipes. See: www.Paleo-Harvest.com



We are offering a **20% DISCOUNT** to those who already have Nicole's previous cookbook, Healthy Harvest. Let us know!
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Questions

Iron-man triathlete, long time follower and chum, Patrick Garlepp, called me from his home in Vancouver, Canada:

Salt and Endurance Athletes

Q. Many of my fellow competitors supplement with salt. I argue that this is unnecessary and possibly harmful. What do you say?

A. I agree. But I remember how, in the 1960s, when first setting sail for the tropics, a bottle of salt tablets, the size of horse pills, was part of the equipment!

It was an old-hands' theory that, since we lose salt through sweat, this had to be replaced.

It was only later that we learnt that sweat is also the body's way of disposing of waste. So if the sweat tastes salty that means the body is getting rid of an excess of it!

So did foragers take salt tablets? Not likely! Kalahari explorer Laurens van der Post describes how (in a Land Rover) he followed, with difficulty, a band of Bushmen while they chased a wounded eland for several days.

That is endurance running *par excellence* – and no source of free salt in sight.

On the other hand beware of the phenomenon of excessive water intake. That does drain electrolytes (including sodium) out of the body, sometimes with fatal consequences: see 'Distance Runners Drink too much': [Sept 2011](http://www.nature.com/news/2011/09/21/20110921a).

Dairy, Tonsillitis, Nasal Congestion, ADHD

From paleo-orthodontist and colleague, Kevin Boyd ('Your Jaws are what you Chew', [Aug 2011](http://www.nature.com/news/2011/08/21/20110821a)).

Q. What's your take on enlarged tonsils as immune response to dairy products? I think dry, cold and dirty air is the main culprit in lack of nasal breathing, but lately I hear anecdotal evidence from moms about better sleep-breathing when dairy is removed from their kids' diets.

A. I am certainly familiar with much anecdotal evidence (from health professionals) suggesting that dairy allergy is a factor in nasal congestion and also swollen

tonsils [3,4]. It is certainly worth eliminating dairy from kids' meals anyway.

Background: Dr Boyd is exploring the idea that poor sleep-breathing makes kids exhausted and vulnerable to ADHD.

He has a remarkable story of success with a patient 'Connor'. By expanding his airways both Connor's refreshing sleep and his mom's sanity were restored.

Hear the podcast on Dr Steven Park's site: <http://bit.ly/1s3pgLO>

Also hear the mom's story in 'Finding Connor Deegan': <http://bit.ly/1BnioEF>

Revisionism

Is Lean Beef OK after all?

As rule of thumb we have gone along with the mainstream doctrine that red meats (beef, lamb, and pork) are suspect. This is due to their high level of fat, most of which is saturated.

However, I have equivocated over beef for two reasons:

a) Its main saturated fat is 'stearic acid' which is pretty harmless to humans. Indeed our bodies desaturate it into mono-unsaturated 'oleic acid' the main component of olive oil.

b) Most of its bad fats are situated in positions 1 and 3 of the triglyceride molecule where they body cannot use it – see 'Palm Oil – Friend or Foe', [Oct 2011](http://www.nature.com/news/2011/10/21/20111021a).

In this regard I have written approvingly about Texan Ted Slanker who ranches grass-fed beef [5]. See "Ted Slanker: 'The Real Diet of Man is very simple'". [April 2010](http://www.nature.com/news/2011/04/21/20110421a).

Now we have a study which finds that LEAN beef consumption is conducive to lowering blood pressure and "also reduced peripheral vascular constriction" [6].

By lean beef they mean less than 5% fat. This is REALLY LOW since ordinary beef cuts contain up to 28%. That's 600% more!

My View? It will be OK to eat beef if it is truly 5% fat, and comes from animals fed right (see: 'Feeding Cows Right', next).

Feeding Cows Right

Grass-fed beef is better than corn-fed – right? Well farmer Joel Salatin [7] of the Shenandoah Valley, West Virginia, goes one

better – his cows stand up to their knees in a lush meadow of dandelion, red clover, nettle, white leaf plantain, white clover, timothy, orchard grass, and narrow leaf plantain... What a roll call!

But Salatin is in a tiny minority trying to do right by beef raising. I described this scene from viewing the seminal, award-winning documentary 'Food Inc'. View it here: <http://bit.ly/1oPrz9b>

It is not for the faint-hearted: it exposes – against savage Agri-business opposition – the iniquities of modern food production – particularly of intensive animal farming.

So Salatin is on to something and he has gone on to achieve great public esteem, featuring in articles by Time Magazine and so forth. But even he could go further. As I describe in: 'How to make good body Fat', [March 2010](#), nature designed COWS AS BROWSERS, feeding on low lying shrubs and bushes. If you can find that, let us know!

News Clips

Solved: Puzzle of Wide Variation in Breakfast Cereal GIs

Why do corn flakes have a much higher GI (Glycemic Index) than bran cereal? On the face of it they have similar amounts of starch. Simon Schenk and colleagues at University of Texas think they have found the answer [8]. The bran cereal provoked a much sharper INSULIN spike which cleared the blood of glucose much more quickly, so reducing the GI.

My View? This neatly shows the dangers of focusing uniquely on Glycemic Index. Indeed the INSULIN Index (II) when compared to the GI is even more important. See: 'Insulin Control and its Index', [Jan 2005](#). This study finds that bran cereal, because of the insulin spike, is more dangerous to health than even corn flakes.

Starch Feeds Colorectal Cancer

Alberto Martin at Toronto University, Canada, finds why it is that the high starch intake in Western diets provokes cancer of the colon and rectum [9].

The starches feed 'bad' bacteria that in turn produce chemicals that induce cell proliferation and tumors in the colon wall.

Moreover, the same bacteria interfere with the body's ability to repair and fight cell proliferation.

My View? Yet another piece of evidence to say that starch is not human food.

Omega-3 Helps Osteoarthritis

In a study on the injured knees of mice, the ones fed a high omega-3 diet quickly recovered [10].

In contrast those on a high omega-6 diet showed abnormal bone remodeling and calcified tissue formation in the joint. The omega 6 diet also showed significant loss of cartilage and increased joint inflammation.

My View? Yet more confirmation of the need to strip out omega-6 oils from the diet.

See: 'Importance of Load Carrying', page 1.

Omega-3 helps Learning to Read

A very well designed study on Oxfordshire (UK) underperforming schoolchildren aged 7 to 9 found that when their blood levels were boosted with DHA* fish oil, both their reading ability and their behavior improved [11].

Notably, the children started the study with dangerously low blood levels of both types of fish oil, DHA* and EPA*: 2.5% of total blood fats compared to the recommended 8-12%. Most of these children NEVER ate any oily fish in their lives!

The researchers supplemented them with 600mg daily of DHA. This is admittedly not a high dose and the authors think that an increased dose would produce even better results.

And yet another study finds that infants fed with a formula milk enriched with DHA scored significantly better on intelligence tests at age three to six [12]. Of course breast feeding does this automatically – provided the mother has consumed the optimum amounts of oily fish.

* DHA = DocosaHexaenoic Acid;

* EPA = EicosaPentaenoic Acid.

Each of these is important and has a vital function. More [next month](#).

My View? Unlike the food supply of our savanna forebears, the typical western diet is chronically deficient in omega-3 oils, and it is the hardest to rectify just by eating right. On average, it takes a 4 oz salmon steak per day to keep the levels up to par. See: 'Omega-3 Mega-doses Treat Eye Disorders', [Oct 2013](#).

'Fish Oil Dosage', [April 2009](#).

'Fish Oil for Children', [May 2005](#)

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Importance of Load Carrying



1950s coalman with 1cwt (112 lb, 50kg) sack of coal.

If you don't use it you lose it

The rate of 'bad backs' [13,14] and osteoporotic spines [15] has been rocketing in recent decades. Is it a coincidence that, in parallel, there is a decline in load carrying?

We know for certain that good bone health needs the signaling from mechanical stress [16].

It is also suspected that cartilage (like that in spinal disks) renews itself better when it is given work to do.

Some tests, including those on horse cartilage, suggest that correct loading in early life, "may well turn out to be the best prevention for joint injury later in life" [17].

I speculate that future studies will find that a lifetime of sensible load carrying is the best precaution to avoid back problems.

Briefing

Why we use Xanthan Gum

Some question why we use a substance like xanthan gum in our bread recipes.

Our hunter-gatherers ancestors frequently consumed the gums and resins which exude from the bark of trees (for example). So there is nothing unusual in that. Indeed, we could argue that our modern Western diet is deficient in these substances.

However there is one gummy substance which we do eat in large quantities and which was never present in our ancestral food supply: gluten. And we do know that it does us harm: see my article 'What is Gluten?' on [Ugg Foods](http://bit.ly/1oSIqIV) web-site: <http://bit.ly/1oSIqIV>

Since the farming revolution (only 400 generations ago), we have taken to eating cereal grains, in particular wheat products, notably bread.

The secret to wheat bread's ability to 'rise' is gluten's glutinous properties. When the yeast ferments, it gives off carbon dioxide which the gluten traps to give the bread its aerated texture. The challenge for us when concocting a wheat-free bread is how to replace this useful property of gluten. The answer is to use a DIFFERENT glutinous substance.

Guar gum, locust bean gum and agar-agar are all naturally-occurring options but we found that xanthan gum gives the best baking results.

Xanthan gum is a natural product, produced by fermenting plants under the right conditions and has been found to be perfectly safe. Find Nicole's comprehensive bread recipe chapter in [Paleo Harvest](#).

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"Five-a-day is enough"



a) They examined what happened to subjects who consumed 1 serving of fruit and veg per day; 2 per day; 3 per day; four per day; five per day; six per day... and that was it! Moreover, there were SO FEW subjects who consumed 6 per day that the margin of error was off the scale.

Even worse, there simply weren't enough data to see what happened if one consumed MORE THAN SIX portions of fruit and vegetables per day.

b) These studies did not define what is meant by 'fruit and vegetables'. When the USDA allows French fries and pizza-filling to be classified as vegetables then the results are worthless.

Of course, this study is just one of many looking at the same subject and it only made the headlines because the media COULD make headlines out of it.

For example another study recommended that AT LEAST seven portions of fruit and/or vegetables should be eaten on a daily basis [18]. We still have to wait for the day when proper longitudinal studies are done on subjects (like Nicole & me!) who consume REALLY LARGE volumes of plant food like we advocate.



Deadly Harvest: Geoff's latest work encapsulates current thinking on lifestyle anthropology. www.deadlyharvest.com



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