Natural Eating: Eating in Harmony with our Genetic Heritage

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Private Subscription Newsletter

Ancestral Insulin; Blood Type Debunked; Darwin's 'Healthy Choice'; Recipe: Tomato Ketchup; Q&A: Chicken Feed; Sweet Tipple; Natural Eating for Cats; Cracking Wheat; Tuna Cholesterol; Feature Article: Cholesterol/Food Connection; 'Healthy Choice' Revealed; Messages.

Current Anthropology

Insulin Resistance Clue to Ancestral Human Diet

Insulin resistance occurs when the body needs to produce "abnormal" levels of insulin to function properly.

Janette Brand Miller and Stephen Colagiuri of the University of Sydney, Australia, argue that insulin resistance is, on the contrary, the naturally adapted state for human beings.

One of the arguments that they cite is the fact that all 'unacculturated' peoples such as the Australian Aboriginal, the Native American and the African Pygmy all display what we call insulin resistance.

This is no problem to them since their food supply contains little in the way of Bad Carbohydrates. On the contrary, it is helpful for reproduction.

During pregnancy, glucose needs to be diverted to the fetus. Insulin resistant females would automatically maintain glucose in circulation rather than lock it up in muscle and fat stores.

Furthermore, during lactation the breasts develop insulin sensitivity. This encourages the uptake, by breast tissue, of glucose for conversion into milk lactose.
Source: WRND; Brand-Miller; 1999; 84.

Comment:
See Page 5.

Blood Groups and Evolution: Johns Hopkins Refutes Popular Diet Book

As humans evolved, we developed blood groups. These have great similarity to those of the chimpanzee and the gorilla.

From molecular studies of the genes for the different ABO groups, these blood groups developed more than 5 million years ago, and conceivably even earlier.

Human populations dispersed over the globe, carrying their blood groups with them, *before* the development of agriculture 10,000 years ago. At the time that blood groups evolved, our ancestors were *all* forager/hunters. They ate lot of plant food as well as animal matter.

Humans developed agriculture only in the past 10,000 years. This is the only major change in the human dietary and it is too recent to have had any evolutionary effect.

All people are of forager/hunter and then agricultural ancestry. There is no difference by blood group in these ancestries, and no reason to believe that one blood group evolved with one dietary pattern and another blood group with another.
Source: Johns Hopkins University

Comment:
Just so. Our eating pattern was set in the Savannahs of East Africa over 50,000 years ago. The blood groups had been around several million years by then!

Darwin Food Label

Study this food label and find the pitfalls. Comment page 5.

HEALTHY CHOICE

Tuna Casserole

American Heart Association
Meets American Heart Association criteria for saturated fat and cholesterol for healthy people over age 2.
While many factors affect heart disease, diets low in fat and cholesterol may reduce the risk of this disease.

Nutrition Facts
Serving Size 1 meal 9oz (255g)

Calories 240	
from fat 45	
Total Fat 5g	**8%**
Saturated Fat 2.0g	**10%**
Polyunsaturated Fat 2.5g	
Monounsaturated Fat 0.5g	
Cholesterol 25mg	**10%**
Sodium 580mg	**24%**
Total Carbohydrate 33g	**11%**
Dietary Fiber 4g	**16%**
Sugars 7g	
Protein 16g	

Vitamin A 0%, Vitamin C 0%, Calcium 15%, iron 8%

INGREDIENTS: SKIM MILK (WATER, CONDENSED SKIM MILK), COOKED FETTUCINE (ENRICHED SEMOLINA WHEAT FLOUR, NIACIN, IRON, THIAMINE MONONITRATE, RIBOFLAVIN, FOLIC ACID, MAY CONTAIN EGGWHITES) TUNA, CELERY, PEAS, WATER, ONIONS, CONTAINS 2% OR LESS OF THE FOLLOWING: MUSHROOMS (CONTAIN SALT) TOASTED BREAD CRUMBS (WHEAT FLOUR, SUGAR, PARTIALLY HYDROGENATED SOYBEAN OIL WITH TBHQ, SALT, YEAST, CALCIUM PROPIONATE),

MARGARINE (LIQUID AND PARTIALLY HYDROGENATED SOYBEAN OIL, WATER, SALT, VEGETABLE AND MONO-AND DIGLYCERIDES, SOY LECITHIN, SODIUM BENZOATE, CITRIC ACID, AND CALCIUM AND CALCIUM DISODIUM EDTA (PRESERVATIVES) FLAVOR, BETA CAROTENE (COLOR), VITAMIN A PALMITATE), PARMESAN CHEESE (PART SKIM MILK ,CHEESE CULTURE, SALT, ENZYMES, CELLULOSE POWDER (PREVENTS CAKING), MODIFIED CORNSTARCH, RICE STARCH, MUSHROOM BASE (MUSHROOM, SALT BUTTER (CREAM, SALT), FLAVORINGS, SUGAR) MIREPOIX BASE (SAUTEED VEGETABLES (CARROTS, CELERY, ONION), SUGAR, SOYBEAN OIL, SALT, MALTODEXTRIN, MODIFIED CORNSTARCH, FLAVORING), PARTIALLY HYDROGENATED SOYBEAN OIL, FLAVORING, FLAVOR, SEAFOOD FLAVOR (CONTAINS WHITE COD FISH, CLAMS, SHRIMP, LOBSTER MEAT), SALT, GRANULATED GARLIC, CARAMEL COLOR, BUTTER FLAVOR (DRIED BUTTER) FROM BUTTER, NON-FAT MLK SOLIDS, SODIUM CASEINATE, FLAVOR), MALTODEXTRIN, MODIFIED CORNSTARCH, BUTTER (CREAM, SALT), FLAVORS, PARTIALLY HYDROGENATED SOYBEAN OIL).

Quick Fix

Fast foods and their accessories do not have to be life-threatening. Here is a recipe for tomato ketchup which makes for a safe and tasty sauce. The main difference compared with commercial sauces is the substitution of sugar (or corn syrup) by fructose. This keeps the glycemic index low. Commercial ketchups usually aim at a high a level of sweetness. In the interests of training the palate, this recipe also keeps the sweetness slightly lower.

Tomato Ketchup

♥♥♥♥♥

Ingredients:
. 1 can (12 oz, 340 g) tomato paste
. 6 fl. oz (170 ml) tomato juice
. 4 tbsp. (60 ml) red wine vinegar
. 2 tsp. lemon juice
. 4 tsp. fructose
. ½ tsp. garlic powder
. pepper to taste
. (very little) salt to taste

Method:
Blend all the ingredients together, to obtain a smooth "home-made tomato ketchup".
Store in the refrigerator.

Comment:
This makes a fine tomato ketchup that can be used in all the conventional ways. Experiment with the proportions of tomato juice to get the consistency right. This ketchup can also be used as a sauce on spaghetti or on vegetables.

Readers Questions

Chicken Feed

Q. *Does the type of feed a chicken receives affect the cholesterol content of its eggs? What is the value of flax-fed (high DHA) eggs?*

A. There have been many efforts by the poultry industry to reduce the cholesterol content of eggs by modifying the hen's feed. They find that the hen's diet has no effect on the cholesterol content in the egg yolk.

This is not surprising; a chick embryo has to have a certain range of nutrients in order to be viable. Cholesterol is one of them. So the answer to your first question is: “No, eggs from all sources will have the same cholesterol content, about 190mg per egg”.

But why worry? It has been demonstrated that moderate egg consumption has no effect on blood cholesterol levels.

On the other hand, there is a deficiency of omega 3 fatty acids in the battery egg. This is a flagrant example of how industrial feeding of hens for egg production has undermined nutritional quality. DHA (docosohexanoic acid) is a substitute for the all-important but terribly lacking alpha-linolenic acid (Vitamin F_2). Industrial battery eggs have a very poor ratio of omega 6 to omega 3 oils – about 33 to 1.

The good news is that, when hens are fed on flaxseed or fish oils, which are high in omega-3 fatty acids, the yolk content of these "heart friendly" fatty acids is massively increased from 18 mg to 150mg. This dramatically improves the ratio to the ideal – 4 to 1.

It is possible to find enlightened egg producers who feed their hens this way. They are usually cage-free birds too.

Always get eggs of this kind whenever you find them.

Check your health-food store. One supplier is Gold Circle Farms (www.goldcirclefarms.com/). They also claim that their hens are pesticide and hormone free.

Sweet Tipple

Q. *What is Sugar Alcohol?*

A. Sugar alcohols are a form of artificial bulk sweetener. (The word ‘alcohol’ is to designate the type of molecule. There is no inebriating effect!)

There are many of them: sorbitol, maltitol and lactitol are the most common. They are slowly absorbed in the digestive tract and so have a low glycemic index. For this reason they are commonly found in diabetic jams and confectionery. Their toxicity is very low so they are also becoming more prevalent in regular soft drinks and pastries.

On the other hand, sugar alcohols are still empty calories (just like sugar, 20 cal/tsp.) and they cause intestinal disturbances in many individuals. Even so, they are preferable to the alternative, sugar.

Natural Eating for Felines

Q. *I feed my cat on scraps from the table and commercial pet-foods. Do cats have a different naturally adapted eating pattern to us, and should I be concerned about how and what she eats?*

A. You bet! Cats are ‘obligatory’ carnivores. Their naturally adapted eating pattern is such that they get all their nutrients from animal matter. Cats do not have the full complement of enzymes like we do for extracting the nutrients from plant foods and much less cereals.

This is a major drawback to kitchen scraps – they are high in foods like cereals and saturated fats (including dairy) that the cats’ metabolism cannot process.

With the recent introduction of high glycemic commercial dry cat-food containing large proportions of bad carbohydrates, it is no coincidence that large numbers of cats are being driven into diabetes.

Cats cannot synthesize (like we can) vitamin A from plant beta-carotene. They cannot make arachidonic acid (AA), DHA (see ‘Chicken Feed’) or GLA (Gamma Linolenic Acid) from omega six and omega 3 oils like we can.

For cats, AA, DHA and GLA are essential fatty acids. Why have they

become 'essential'? Because they were always present in their food supply (prey animals that could make them).

It is a common failing of cat dietaries to be deficient in these essential fatty acids. Result? Arthritis, inflammation, hair loss, flaking skin, and liver and kidney problems.

No, for a healthy cat, you have to adopt a Feline Natural Eating pattern. That is a whole new story, yet to be written! But for the time being, stick to all-animal cat-foods and let it catch the occasional mouse or bird.

Cracking Wheat

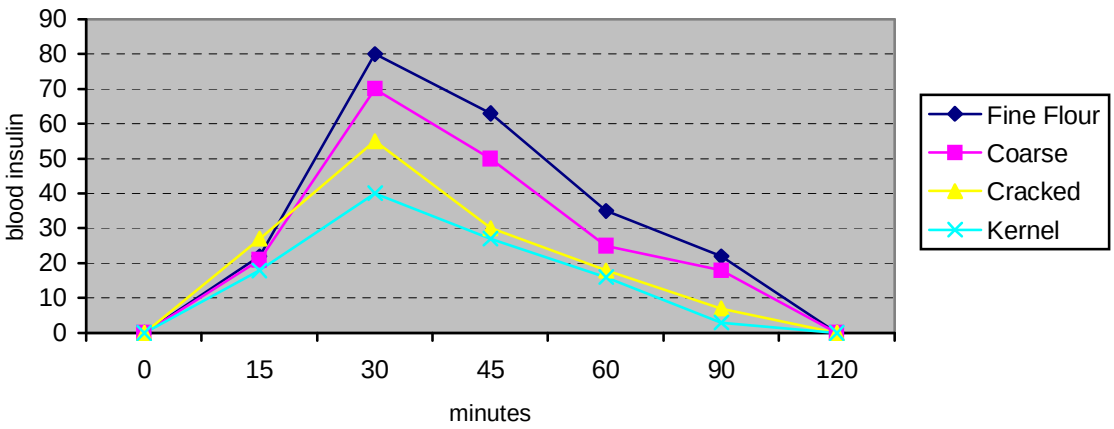
Q. *Is cracked wheat bread the same thing as whole-wheat bread?*

A: Cracked wheat is simply whole-wheat berries (grains) that have been crushed into smaller pieces. This may give products a lighter taste or texture than does regular whole wheat. Some 'cracked wheat bread' contains only a small amount of cracked wheat and is mainly made of refined flour. Check the ingredients label to make sure that cracked wheat or whole-wheat flour is listed first as the primary ingredient. Whole grains are higher in dietary fiber, several vitamins and minerals and a variety of natural health-promoting phytochemicals.

More importantly, the less the grain is milled, the better is its glycemic index. The following graph shows how insulin levels peak dangerously with fine flour and are at their best with whole kernel. Cracked wheat is next best.

Rye kernel is even better. The recipe for a bread made from whole kernels and coarse ground rye flour will be published shortly.

This is a classic example of how it is possible, by choosing wisely, to limit the damage of bread, a potentially dangerous foodstuff.



after Brand-Miller: World Rev Nutr Diet: 1999: 84

Cholesterol Worries

Q. *I see from the label on a tuna can that it contains cholesterol. Is this important? I am battling high cholesterol levels.*

A. Let's keep things in proportion. A 3-oz portion of canned tuna contains about 20mg of cholesterol. This is *inconsequential* compared to an egg, for example, which contains over 200 mg – 10 times as much!

Furthermore, tuna is rich in heart-healthy omega 3 oils – imperative for including foods like tuna in the diet. What is more, these oils (EPA or eicosapentanoic acid) will drive down the body's own production of cholesterol.

This is a mantra well worth learning. "*Most people who have high cholesterol levels do so because their body is making abnormal quantities of it – not because they are eating it.*"

Eat the tuna with a clear conscience. Even with its (modest) cholesterol content, the net effect will be to drive down your blood cholesterol levels.

Feature Article

The Food/ Cholesterol Connection

High cholesterol levels are stereotypical of modern civilization. They are unknown amongst the primitive tribes, like the Australian Aborigines, the Tarahuramas, the Hunzas and even the 'high meat' Eskimos. As far as we can tell, they were unknown amongst our Pleistocene forebears.

What is cholesterol accused of? It is the visible abnormal deposit in arteries. The real question should be, "*why* is the body causing cholesterol to settle in arteries?"

Our internal plumbing is not like boiler pipes which passively fur up. Rather, our arteries are made of proactive living tissue that inflames, scars, produces hormones and sends signals to other parts of the body. *Why* do the cells that line our arteries decide to capture cholesterol

molecules and divert them into building plaque?

As ever with such matters the question is much more complicated than it seems at first sight. However, we can be sure of one thing. If the body is making too much cholesterol then this is a *symptom* of more harmful dysfunctions going on in the body and particularly in the cardio-vascular system. Simply reducing cholesterol levels with medication is about as useful as shutting off the fire alarm without dealing with the fire.

So what are high cholesterol levels a symptom of? They are a symptom of disturbed hormonal balances, particularly hormones like insulin, cortisol and adrenaline. When these hormones are floating around in the bloodstream in abnormal quantities, they create mischief. They act on the walls of the blood vessels in many ways, with the net result of causing the production of plaque and blood clots.

The main culprits are the *bad* carbohydrates, *bad* proteins and *bad* fats. They are quite unnatural foods for humans to be eating and, as luck would have it, they do have an extremely deleterious effect on human biochemistry.

Natural Eaters will have heard the sermons about *bad* carbohydrates. These drive up insulin levels. Insulin then raises levels of another hormone, HMG CoA reductase, which in turn instructs the liver to produce cholesterol.

There is a direct chain of events between consuming bad carbohydrates and raising cholesterol levels.

That is only one effect of high insulin levels. Insulin directly inflames arteries and causes them to scar and fur up.

Here is a new concept: because of insulin's potential for creating havoc with body biochemistry, researchers have established *insulin indices* for many foodstuffs.

Insulin indexes are established in a similar way to glycemic indexes. Volunteers eat foodstuffs and have their *insulin* levels measured over a period of time. However, unlike the glycemic index (where the food is compared to glucose) the food is compared to white bread.

Insulin indexes usually, but not always, track the glycemic index. The carbohydrates with the worst insulin indexes are *bread, breakfast cereals, confectionery* and *potato*. Potato is notable for having a relatively high *insulin* index compared to its glycemic index.

Unlike for the glycemic index, proteins *do have* an insulin index.

Proteins raise insulin levels even though they do not raise blood sugar levels.

The following table gives some typical values. It can be seen that potato and yogurt is exceptionally insulinemic, beef and fish is moderately so and eggs only modestly so.

Furthermore, if proteins and carbohydrates are eaten together, then the insulin raising power of the combination is much greater than of the two ingredients separately. This is another powerful argument to observe good food combining principles and avoid protein/starch combinations.

Some Insulin Indexes

Food		Index
	Worse	
Potatoes		124
Yogurt		115
White Bread	Bad	100
White rice		79
Fish	Better	59
Beef		51
Eggs		31

Holt et al; Am J Clin Nutr; 1997; 66

In addition *animal* protein has a strongly atherogenic (artery damaging) effect, and milk proteins (casein) are the worst. Casein is also the most powerful provoker of the production of cholesterol. (Not a message that the dairy industry wants to hear!) Thus *yogurt* is exceptionally cholesterolemic.

And plant proteins? Yet another straw in the wind. Plant proteins are helpful to the artery walls and work to *reduce* cholesterol. (Soy protein is the best.) Plant proteins are *good* proteins.

Finally *bad* fats. Perhaps the most potent raisers of cholesterol levels are the saturated fats *myristic* and *palmitic* acid and their artificial counterparts, trans-fat and hydrogenated fats. The saturated fats are particularly found in red meats (beef, pork and lamb products), dairy products (milk, yogurt, butter, cheese, ice cream) and tropical oils like palm oil and coconut oil. The artificial saturated fats are present in all kinds of margarines, spreads, baked goods, cookies, cakes, gateaux, TV dinners, pizzas and the like.

The one saturated fat that is safe from the cholesterol-raising point of view is *stearic* acid. Stearic acid is found notably in cocoa (and chocolate). That is one reason why we make an exception of cocoa in the Natural Eating patterns.

The only oils that are safe to consume, but in the right proportions and, as always, modestly, are the essential fatty acids found in Canola oil and flax oil. Olive oil is also safe from the cholesterol raising point of view but it is still empty calories.

So, the main strategy is to eliminate *bad* carbohydrates, *bad* proteins and *bad* fats from the diet and stop further corrosion of the cardiovascular system. Just by doing that, the body can start to repair some of the damage.

Up to now we have deliberately avoided talking about the HDL/LDL ratio. (The ratio of 'good' to 'bad' cholesterol.) This is because, in a sense, this is a red herring. It is true that this ratio can be manipulated by dietary means. But the bottom line is that the whole transport system of LDL's, VLDL's and a myriad other compounds cannot be micro-managed in isolation. (Sorcerer's Apprentice Syndrome again). You have to get the whole eating pattern sorted out, as described above, and then the lipoprotein biochemistry will sort itself out just fine too.

A word about cholesterol control is not complete without passing reference to the other cholesterolemic lifestyle activities. Studies show that lack of exercise and stress are both potent drivers of cholesterol making activity. Make sure that you get the minimum amount of exercise *every day*. That is, about 30 minutes per day of moderate cardio-vascular

(aerobic) exercise. Brisk walking, floor exercises, jogging, tennis, vigorous dancing are all acceptable. This will also help to control stress. If you are the stressed-out type of personality, investigate stress control techniques such as yoga, meditation, hot relaxing baths, massage and a good night's sleep.

Finally, a reference back to the noble savage, who has his cholesterol levels perfectly under control. How does he live? Plenty of physical activity and a diet very close to the Natural Eating Pattern. He eats plenty of plant food and little bad protein, bad fat, bad carbohydrates. He eats no dairy products, the worst of them all.

Afterword: Diet is the commonest reason for dysfunctional cholesterol mechanisms. Just occasionally there is a medical condition such as underactive thyroid. Your doctor will have checked this possibility first.

Fridge Door Summary

Cholesterol

Helpful Foods - definitely favor
Unrestricted Salads and Vegetables: see Book, Table 1, Appendix 1
Unrestricted Fruits: see Book, Table 1, Appendix 1
Omega 3 oils (moderation)**:** Canola oil, walnut oil, flaxseed oil
Oily Fish (moderation)**:** salmon, tuna, sardine, mackerel
Nuts (moderation)**:** particularly walnuts
Sundry: tea, ginger, red wine (moderation), hard drinking water

Harmful Foods
Meat: cut out beef, lamb, pork, bacon, sausage, ham, salami and other cold meats.
Dairy: cut out milk and its products – See Book, Appendix 1.
Other Animal Proteins: limit consumption of poultry, cheese
Bad fats: cut out lard, shortening, dripping, butter, margarine, cream, whole milk, full fat yogurt, palm oil, coconut oil, trans-fatty acids, hydrogenated fats.
Omega 6 Vegetable Oils: cut out sunflower oil, safflower oil, corn oil, peanut oil, evening primrose oil etc.
Bad Carbohydrates: cut out cereals, bread, pastries, sugars, honey etc. (see Book, Table 3 Appendix 1)

Other Harmful Lifestyle Activities
Stress: Stress raises cortisol and adrenaline levels, raising cholesterol levels.
Lack of Exercise: Exercise rebalances cholesterol-producing hormones.

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Darwin Label Revisited

"Healthy Choice"?
Anybody who looks at the litany of fillers, additives, preservatives, flavorings will soon realize that they have to exercise a lot of skepticism about the claims of food processors. In this case the term 'healthy choice' is not a claim – it is the name of the manufacturer! Caveat emptor …

"American Heart Association"?
Read the small print. Only in as much as the dish "meets criteria for saturated fat and cholesterol". What about all the other heart threatening ingredients like the salt – 25% of daily maximum in one go!

This product is more skim milk (1st item) and garbage fettuccini (2nd item) than it is tuna. Is that what you intended to buy when you bought a "tuna" casserole – cheap junk fillers?

Give products like this a wide berth.

From Page 1

Ancestral Diet (continued)

Comment:
Indeed. The advent of bad carbohydrates into the human diet is very recent. If we have become insulin sensitive then this is to our detriment. It is rather like the storm overflow at a sewage works. If there is a sudden flood, the raw sewage overflows into the watercourse.

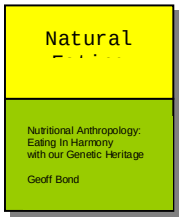
The immediate problem is resolved (avoiding flooding the sewage works) only to store up downstream problems in terms of polluted rivers.

So it is with us. The insulin sensitivity solves the immediate crisis of a glucose overload by shifting the glucose into fat stores.

But the longer term problems remain – in the form of all the ills of abnormally high insulin levels: heart disease, atherosclerosis, allergies, cancer, immune dysfunction, osteoporosis, kidney disease and diabetes.

Natural Eating Book to be Published

Much Awaited 'Bible' to Natural Eating will be Available Soon
The book will be available from us end February, Amazon.com in early March, the bookstores in April. Discounts are being offered for those who register now. Write to us, without commitment, either on-line or at the contact addresses below.



The Natural Eating Book	
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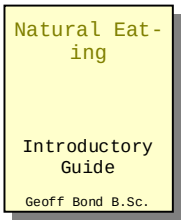

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