



Dr. Bea's Newsletter

August 2003

Longevity through Mitochondrial Rehabilitation

No matter how hard we try, we really can't stop the aging process. Even Dorian Gray had his comeuppance: After years and years of looking extraordinarily young and feeling pretty sassy about it, he looked in the mirror towards the end of the famous Oscar Wilde book and blam! —a scary old guy stared back at him.; Shangri-la existed only in the minds of its inhabitants and the Fountain of Youth? Yeah, right. Everyone looks for it but in our current millennial era of instant everything esp. gratification, Ponce de Leon's famous elixir seems to have been replaced with a combination of quick and painful shots of Botox and collagen, dangerous shots of Human Growth Hormone, increasing the risk of heart attack, and carelessly considered and administered steroid treatments.

When all else fails, we dress like Lara Flynn Boyle, date a much younger woman (Harrison and Calista) or man (Joan Collins and her latest boy toy), or compulsively nip and tuck until we look like an embarrassing parody of our former self: For example: Cher—who I have no idea who she looks like anymore, the late-great Peggy Lee who had trouble moving her face towards the end and, god forbid, it looks like Michael Douglas, a previously handsome man—now a strange hybrid of who he was and who he is morphing into—looks like he is beginning the nip/tuck/hair plug thing.

We can't stop time—and the ravages thereof—but we could probably activate our forward slow-scan remote button at least for awhile anyway (eventually we will get to the end of the movie...) just by taking extra good care of our mitochondria.

Let me explain mitochondria to you and why they are of utmost importance to us: 90% of our energy is created by a tiny organelle called a mitochondria. They live inside each of our billions of cells, so obviously, we have billions of mitochondria. Each one of the billions of mitochondria in our cells acts as our very own personal Energizer Bunny. Mitochondria perform very important functions in our bodies, primarily having to do with energy and cell respiration. Inasmuch as our mitochondria have their own DNA, some scientists are even postulating that they may be a type of primitive bacterium, which gives me the creeps for some weird reason.

Teensy powerhouses, our mitochondria run on a fuel called adenosine triphosphate or ATP, which we manufacture through the food we eat and the exercise we do. Not surprisingly, we have more ATP-fueled mitochondria when we are young than when we are old and many of the degenerative diseases of aging are the result of the body's energy systems failing either at the cell insulin-glucose transport level or at the intracellular level involving the mitochondrial power plants.

To put it simply, mitochondria breathe life into our body by absorbing energy nutrients while postponing death by exhaling the poisons out of our body. Mitochondria provide us with the energy to take our 5 mile hikes in the mountains so that we can view the gorgeous fields of vetch, lupine and paint brush or to cross-country ski for 6 straight hours on a beautiful winter's day or to toss our giggling grandkids in the air without dropping them on the way down.

In a less prosaic way, our Energizer Bunnies also help us regulate blood sugar, cholesterol and blood pressure; they are responsible for the detoxification of toxins, nutrient uptake and cellular repair. Our cells and therefore our life will break down if we have ailing mitochondria. And mitochondria are very susceptible to damage from oxidative stress which means that just by living and breathing in oxygen like we all do a few thousand times per day, we create stress in the mitochondria.

According to the latest research, our mitochondria have a great deal to do with our life span, and how we feel as we age. Rather than making our aging process a painful, longterm experience with an inevitable admission into the Home for the Befuddled, let's feed our little Energizer Bunnies and keep them banging the cymbals as long as we can. "Aging is not for the faint of heart" (anon. patient), but for gods sake, let's make it a bit easier on ourselves and everyone around us.

How can I find out if I have ailing mitochondria? If you are over 50, you have ailing mitochondria. If you are under 50 and have any kind of a chronic disease or CFIDS or Fibromyalgia, you have ailing mitochondria. If you are a heavy exerciser, you have ailing mitochondria. Whatever age, if you experience more fatigue than you would like, you have ailing mitochondria. Elevated homocysteine levels? Ailing mitochondria. If you have congestive heart failure, take a statin drug, smoke nicotine or drink alcohol or have any kind of neurological disease, ditto. This pretty much covers most people.

(continued on page 2)

How can I keep my Energizer Bunny clapping the cymbals? The best food for Bunny is Coenzyme Q, named ubiquinone more than 50 years ago since it is “ubiquitous” in the body. It’s primary function is to stimulate the production of ATP—the high octane fuel that our mitochondria need to clean out debris and fuel up the engines. I take about 100 mgs daily and probably should be taking more. In this case, more is better. I don’t know of any contraindications with large doses of CoQ.

Vitamin C is also good for mitochondria since it is a great antioxidant and will help mitochondria rid itself of toxins and reactive oxygen species otherwise known as oxidative debris—our human form of rust.

Antioxidants: Add a general all-purpose antioxidant supplement to help vitamin C along.

The Carnitines: Acetyl -L Carnitine and L-Carnitine. The Carnitine Cousins are very energizing. You should invite them over more often. ALC is fairly specific to

brain cells and acts as a spark plug and energizer to the brain cell mitochondria. I take 500 mgs in the morning and as a result I seem to be able to think better and faster. Alzheimer’s patients can take up to 3,000 mgs. ALC’s cousin, L-Carnitine is the only nutrient that can transport fat to the mitochondria which then uses it for fuel and burns it off, a wonderful alchemy that could be useful to the hoards of overweight Americans. Good for anyone who needs to lose weight or who would like to have more energy. For weight loss, start with 1,000 mgs with breakfast then a few days later, add another 1000 mg with lunch. Always good to take the Carnitine Cousins with Coenzyme Q. Very synergistic.

Alpha Lipoic Acid: My new favorite supplement, it is the primary antioxidant for aging skin. I have been taking 600 mgs daily (pretty big dose) for almost a year now and have noticed wonderful things with my skin. Lipoic Acid seems to work at a molecular level preparing fuel for the mitochondria. The body cannot use sugar without the assistance of lipoic acid which then primes the natural energizing

pathways of the body. It will also assist the Bunny by neutralizing free radicals, a major cause of mitochondrial dysfunction. This supplement is also very important for endurance athletes as lipoic acid protects the mitochondria from the damage that comes from the increased oxidative metabolism.

Will doing all that nutrition slow my aging process? According to all the literature, a resounding YES. Here are my recommendations for resuscitating our ailing mitochondria and this is per day amounts: 600 mgs of Alpha Lipoic acid, 100–200 mgs of Coenzyme Q, vitamin C to bowel tolerance, 1000 mg of carnitine and 500–1000 mgs of acetyl-L- carnitine. You might also want to add phosphatidyl serine at 300 mg per day, and phosphatidyl choline (a fancy form of lecithin) at 3500 mgs per day. Don’t forget the basics as well: Your B vitamins, a multi and fish oil.

Dr. Bea’s Kitchen

Dr. Sherry Rogers, in her July newsletter, mentioned some very easy ways to eat healthily and to start rejuvenating our bodies, especially with a lot of raw foods. What follows is not directly quoted, but paraphrased and with my own ideas added.

For a healthy starter meal, use a birdseed cereal of soaked raw buckwheat groats, sunflower seeds, raisins and almonds. The night before, put 3 T. of uncooked raw groats, 1 T sunflower seeds, 1 T raisins and a few almonds in a dish (or covered glass container if you want to take it directly to work) to soak overnight in your beverage of choice. I use either non-fat milk or vanilla rice milk. Put it in the fridge and cover it for the night. The next morning, you will have an already prepared yummy-healthy cereal to start your day. If you travel, take the fixings with you as this is a great healthy breakfast to have instead of the sweet carbohydrates that are usually offered in the continental breakfast package.

Or, you could make a bunch of No-Grain Muffins, freeze them by the twos and have two with almond butter for breakfast. (Recipe follows.) Or take a muffin or two for a mid-morning snack.

For lunch, think big salad with unlimited raw vegetables of your choice. Don’t forget additions like avocado, pumpkin seeds or walnuts, grated cheeses, apple or pear slices. If you want more protein, add hard boiled egg slices, good canned tuna or salmon that hasn’t been fed pink dye so that it looks artificially fresh. (Dr. Bea’s Newsletter, March, 2003) Or add leftover chicken or beef to your salad. Your dressing should be a top-quality organic cold pressed oil of your choice (try walnut oil for a change) with lemon juice or a good balsamic or rice vinegar. Don’t forget fresh herbs like basil, thyme, dill and oregano. Prepare your salad the night before and keep your dressing in a separate little jar.

For dessert bring along another container filled with your fruit of choice—melon balls, raspberries/blueberries, apples, pears, cherries—whatever strikes your fancy at the store—and plenty of filtered water.

For a change from salads, bring celery stuffed with hummus or almond butter. Or apples with almond butter. Bring a baggie of crudites—carrots, celery, scallions, zucchini, cauliflower, radishes, daikon—and something to dip them into. There are lots of already prepared dippings at Whole Foods from which to choose.

Whenever you can, treat yourself to a 16 oz. glass of fresh juice from Wild Oats: One of my favorite combos is carrot, celery, beet, lemon and ginger. Very zingy.

Dinner is more of the same, but maybe since you will have more time, steam some broccoli then sauté briefly in garlic, olive oil and sun-dried tomatoes. I also like baked and grilled vegetables. Try this: Arrange a mixture of asparagus and thinly sliced carrots on a baking tin or two, spray with olive oil, sprinkle with garlic salt and bake at 500 degrees until very done, turning the vegetables every now and then. Should take maybe a 1/2 hour and watch that they don't burn. Have more fruit for dessert, or plain yogurt flavored with vanilla extract and stevia.

No-Grain Muffin Recipe

(Adapted from Dr. Joseph Mercoa's
No-Grain Cookbook)

1 C. ground flaxseeds
1/2 C. ground walnuts
1/4 C. protein powder
2 t. baking powder
1t. baking soda
1 t. cinnamon
1/4 t. salt
Stevia or Xylitol to taste
2 T. oil
2 eggs
2 t. vanilla
2/3 C. grated zucchini
2/3 C. ricotta cheese
Grated zest of one orange
(I use the bigger holes on the grater)
1/2 C. chopped walnuts

- 1) Preheat oven to 350.
- 2) Mix flaxseeds, walnuts, protein powder, baking powder, baking soda, cinnamon and salt.
- 3) Mix oil, eggs, vanilla, grated zucchini, ricotta and orange zest, the xylitol or stevia.
- 4) Mix the dry with the wet ingredients then add the chopped walnuts.
- 5) Divide dough into a sprayed, regular sized 12 compartment muffin tin and bake for 20–25 minutes or until a toothpick comes out clean.

Variations: Use grated carrots instead of zucchini. Add some raisins. Add a mashed ripe banana. Add the juice from the orange you used for the zest. Not much you can do to ruin this recipe. It is very versatile.

Ten Foods which are highest in pesticides and which you should buy organically

- 1) **Baby Food:** Regular baby food contains unconscionable amounts of pesticides (16) and carcinogens.
- 2) **Strawberries:** Non-organic strawberries are the most heavily contaminated fruit in the United States. On some farms, strawberries are sprayed with 500 pounds of pesticides per acre.
- 3) **Rice:** Herbicides and insecticides have contaminated the groundwater near the rice fields in California's Sacramento River Valley, one of the nations leading rice-producing regions.
- 4) **Oats:** Heavily contaminated with illegal residues.
- 5) **Milk:** Full of antibiotics, rBGH. Butter: Very concentrated forms of pesticides and hormones reside in the butter fat.
- 6) **Bell Peppers:** Contains neuro-toxic pesticides. In EPA studies, the greatest amount of neuro-toxic residue by far was found in peppers from the US and Mexico, followed by cantaloupe, celery, pears and green beans from Mexico.
- 7) **Bananas:** Pesticides include those which cause birth defects.
- 8) **Green Beans:** More than 60 pesticides are used on green beans.
- 9) **Peaches:** FDA sampled one contaminated batch and found 80 times the official tolerance level of a pesticide called pronamide.
- 10) **Apples:** The FDA has detected 36 different pesticides on US apples and just on one apple sample alone, found seven different pesticides.

Other fruits slathered with pesticides are cherries, imported grapes, raspberries and nectarines. However, spinach, bell pepper, celery, hot peppers and potatoes are grown with less pesticides so, OK to eat commercially in a pinch, as are pineapples, plantains, mangoes, papaya, watermelon, plums, kiwi, blueberries and grapefruit.

Acceptable veggies are avocado, cauliflower, brussel sprouts, asparagus, radish, broccoli, onion, cabbage and eggplant. Eat all organically when you can, but if you can't always find organics, eat the acceptables in the commercial line.

Regarding Your Summer Travel...

Travel is not my passion—especially the busy, confusing airport-airplane thing—but I know most of you love to travel. Unfortunately in my job as your find-out-all-the-bad-news-I-can-and-share-it-with-you-person, I have found some rather disturbing news for all you travel mavens. (*The Green Guide*, July/August 2003). As we all already know, it's easy to get sick on an airplane, not only because of the continually recycled air where the elegant viral sneeze in first class recycles back to us in cattle class, but because of very hush-hush sprayed pesticide use.

Twelve countries—that we know of—require routine “disinsection”: Jamaica, Grenada, India, Kiribati, Madagascar, Trinidad, Tobago and Uruguay require spraying while passengers are on board. Jamaica, Australia, Barbados, Fiji, New Zealand and Panama disinsect when either empty or occupied. All U.S. airways must and do comply.

Air Jamaica sprays its planes once a month with Demon WP, a synthetic pyrethroid insecticide that remains “effective” for up to 6 weeks. Although the EPA does not regulate for pyrethroids, they interfere with nerve and brain function causing numbness, twitching, headaches, nausea or itchy, burning skin. Ever feel off balance and fuzzy when you are on an airplane or feel yourself staggering (soberly, that is) up the ramp after you get off the plane?

If you are chemically sensitive and/or concerned, ask before you buy your ticket whether insecticides will be sprayed on your flight. You may want to change your airline, or if the flight is to a country that requires spraying, you may want to change your destination.

If you do decide to risk air travel, here are some healthful tips: Drinking water is the most important thing you can do for yourself, not only because of the dehydration on air flights, but because, if there are noxious chemicals aboard, “dilution is the solution to pollution.” Ask for an aisle seat, so you

won't be shy about drinking your water and using the rest room 2 or 3 times if need be.

Take extra vitamin C, glutathione and alpha lipoic acid as a “detox cocktail” when you travel and maybe extra adrenal support to handle the travel stress.

Stay away from sugar and refined carbohydrates while you are travelling. Do not buy those great pretzels or the tempting Cinnabons or even TCBY yogurt; they are all too sugary and will lower your immunity so that the elegant viral sneeze in first class will end up getting you. Bring healthy snacks like almonds, celery stuffed with almond butter, sliced apples or pears, turkey and cheese rolls—anything easy to eat. Do not eat the airline food. Happy trails!

Six Great Foods to include in your daily diet:

- 1) Avocados for their heart healthy source of monounsaturated fats.
- 2) Tomato Sauce or fresh tomatoes for their anti-cancer lycopene content
- 3) Orange Marmalade for the flavonoids
- 4) Salmon for the Omega 3's
- 5) Nuts for heart health
- 6) Beans for the saponins which adsorb toxins from our gut.

Please check out my website at www.drbea.com

I add new information every 2–3 weeks in a section called Hot News. Stay current with all the latest information!

**Dr Bea's Newsletter is published quarterly. It is researched and written by
Dr. Bea Knight-Johnson, D.C. • 948 North Street, Suite 1 • Boulder, CO 80304 • 303-440-6526**

No statement in this newsletter shall be construed as offering diagnosis, cure, mitigation or prevention of any disease. Anyone having questions regarding the content of this newsletter should contact their own health care provider for verification.