

February 2002



# Dr. Bea's NEWSLETTER

## Longevity

What do the Vilacambins of Ecuador have in common with Lola Blonder of Lexington, Massachusetts? Or the Hunzas of Pakistan with Dirk Struik, mathematician at MIT? Or the Abkhazians of the USSR with Mary Lavigne of Lancaster, Massachusetts? They've all hit the centenarian jackpot: The Vilacambins, Hunzas and Abkhazians are renowned for living past 100 while Lola Blonder at 101 is alive and well with all her cognitive facilities intact, Dirk Struik at 104 is still teaching math at MIT and Mary Lavigne at 102 is healthy, lives alone and has a wicked sense of humor.

We all want what they have—to live long and healthy. The big question is—*how*? How can I live long and prosper? How can I not break my hip? How can I not lose my mental faculties? How can I be like Lola, Dirk and Mary? Well, many gerontologists are studying these older cultures and individuals hoping to arrive at a satisfying answer. However, the only way they can do this is through inference or deductive logic. That is, since the Hunzas eat a lot of yogurt and exercise constantly at high altitudes, if we eat a lot of yogurt and exercise frequently at high altitudes we should live longer. Since Mary has a wicked sense of humor and an optimistic personality, since Dirk can still manage the deep conceptualizations of higher math, since Lola loves crossword puzzles, therefore, yadda yadda yadda.

Many centenarians have generously willed their brains to geriatricians who feverishly carve up the gifted brains postmortem in hopes of finding a clue among the twirls, whirls and whorls of brain tissue: Whacking away in the frontal lobes which are responsible for higher thought, liquify-

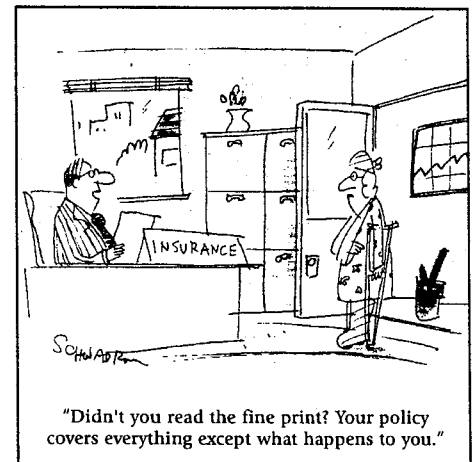
ing the tissue in the tiny black substantia nigra in hopes of revealing its secrets of graceful fine-motor activity like penmanship and more importantly, weighing, measuring and examining the size, shape and health of the hippocampus, a structure in the temporal lobe which is crucial for forming and retrieving memories. Of course, our dear friends the rats and the Rhesus monkeys have been probed, liquified and biopsied *in vivo*, but so far, not one centenarian has offered their precious thinking organ while still alive and kicking, and until that cold day in hell, I guess deductive inference will have to do. So, what do vigorous and pioneering elders have in common?

Let's take one centenarian, Mary Lavigne, pick her apart, examine her and try to figure out through inference why she's still happily around at 102: First of all, she is a single woman: "I never married. I didn't want to get into it." In contrast, most centenarian men are all married or have been. Mary is never alone and has many friends who take her to lunch and arrange for bridge foursomes. Mary is full of good humor and gregarious - she is basically a very happy, optimistic person. This corresponds with the famous nun study: Sixty years ago autobiographies were written by a group of then young Catholic nuns. Those nuns who chronicled positive emotions in their twenties have lived markedly longer than those who recounted emotionally neutral or negative personal histories.

Perhaps of equal importance Mary carries within her DNA a small handful of genes that enable humans to live to be 100 or more. These genes exist in a very small stretch of chromosome No. 4, one of the

23 pairs of the human genome system and are thought to work by limiting the activity of free radicals.

Geriatrician Dr. Thomas T. Perls also suggests several other traits of centenarians: One surprising statistic is that one in five of the married centenarian women who are mothers had at least one child after the age of 40. Perls also thinks that longevity



may be inherited: Families seem to have large collections of extremely old people.

Most centenarians have never smoked and either totally abstain from or are extremely moderate in their use of alcohol. This is corroborated by another famous study (the Harvard study)—in which researchers in 1937 recruited 237 Harvard sophomores and 332 teenage males from poor urban families. The men were all white and born primarily in the 1920's. The men received regular physical and mental evaluations for 60 years or until their death. They found that, overall, those men (regardless of social status) who abstained from smoking, drank in moderation, controlled body weight, exercised, graduated from high school, had a stable marriage

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## Mammograms Revisited

*Mammograms: I hardly know what to believe anymore. The daily news about mammograms is as changeable as the daily weather in Colorado. To simplify all the research so far. The startling news is that mammograms do not prevent women from dying of breast cancer nor does it help them avoid mastectomies. Or early detection does not necessarily improve the chance of a cure. (Sweden's Malmö Study and the Canadian Study). So far, only one country has taken the research seriously: Switzerland has decided not to offer national mammography screening anymore. Dr. Peter Gotzsche (Copenhagen) said "It is possible that a mammogram might find a cancer early-leading to treatment that might prevent a breast cancer death. But, theoretically, the treatment might be so harsh that it precipitates another illness so that the woman lives no longer although her death is not attributed to breast cancer." (New York Times, 12/8/01)*

*The conservative AMA based journal, The New England Journal of Medicine reported in Health News, 2/2002 that it is still recommending mammograms even though its distinguished English counterpart, Lancet, concluded that breast-cancer screening techniques do not save lives. Lancet also suggested that early detection via mammography leads to "overtreatment" of slow-growing tumors that aren't likely to seriously endanger patients. Dr. Richard Horton, editor-in-chief of Lancet opines that "The public believes mammography to be far more effective than it really is." The ultra-liberal Dr. John Lee in his Medical Letter, 2/2002 supports "wholeheartedly... that women stay away from routine mammograms," but that we should be "very conscientious" about checking our breasts every month for lumps.*

*Ralph Moss Ph.D. has studied cancer treatments for years and agrees with the more liberal Gotzsche et al. That the "evidence justifying mammography [is] shaky," and that we need to look at mammography not just as preventing deaths from breast cancer but from all causes. This all cause statement is important here. Mammography does reduce deaths from breast cancer but not from all causes. Even Dr. Claudia Henschke M.D. from Cornell Medical Center and a huge proponent of mammography concludes that "early detection and treatment may be associated with 'somewhat increased mortality in the earlier years'". As Moss concludes, "Expect to see an escalating campaign to counteract the negative findings. The establishment will pull out all of the stops on this one, because mammography is the centerpiece of the whole orthodox strategy on breast cancer."*

*The New York Times in an editorial on 2/6/02 chided the medical establishment. They found it "disappointing that key organizations and individuals in the cancer establishment have mostly chosen to draw their wagons in a defensive circle... and that a serious and open reassessment of the data is crucial and must be conducted by an organization that can be trusted for its objectivity." So, you can see that mammography data is so disparate at this point-as is the reportage thereof-that it's best that you make up your own mind about mammograms, until something more concrete appears.*

## Longevity (continued from page 1)

and coped effectively with stress lived the longest. Those men who also had a stable and supportive social network lived the longest, but on a more ominous note, those men who suffered from periods of major depression before age 50 increased their risk of dying before 70. Interestingly, being an unhappy or temperamental child and having impoverished or short-lived parents had only minimal bearing on successful aging.

Bottom line: Successful aging doesn't necessarily require a happy Beaver Cleaver childhood with plenty of money and love as those men who endured sordid childhoods filled with misery and beatings a la David Copperfield lived just as long. The Harvard study compellingly suggests that by forging our own good health in the alchemical pot of childhood optimism and good health and by developing healthy habits in early adulthood we actually have a pretty good chance at increasing our life span.

Everybody has ideas about how to live a long time: For example, Deepak Chopra suggests nine strategies: The first one is to envision yourself as a young person or don't think of yourself as old. This first strategy brings to mind an interesting study that was done a few years ago with very old seniors aka the "old-old." Researchers measured the seniors' walking ability after viewing two series of words: One series of three words was Dependent-Senile-Old. The other series of three was Wise-Astute-Accomplished. Guess which series of three words profoundly affected their ability to walk? I think what we say to ourselves is very, very important in imaging who we are in the world.


Chopra's second strategy is to meditate for 15 minutes twice a day

- 3) Consume foods from all the "six tastes" according to Ayurveda: Astringent (beans, apples, green tea), Bitter (green and yellow vegetables), Pungent (spicy foods), Salty (fish, low fat soy sauce), Sour (citrus, berries, tomatoes) Sweet (grains, dairy, fruits.)
- 4) Make use of nutritional supplements
- 5) Vary your exercise routine
- 6) Reduce nighttime stress (sleep well)
- 7) Adopt a younger attitude
- 8) Become more expressive of the love you feel
- 9) Maintain a youthful attitude which includes spontaneity, curiosity and playfulness.

Julian Whittaker, M.D. suggests

- 1) That we shield cells from oxidative damage by the liberal use of antioxidants such as C, E, A, selenium and beta-carotene.
- 2) That we maximize methylation with B Vitamins (B6, B12 and Folate).
- 3) That we protect ourselves against advanced glycosylation end products or AGEs. Glycosylation hardens our organs and tissues, makes them stiff and interferes with normal function. Keep AGE's away by keeping blood sugar in the normal range and watch what you eat.
- 4) That we reduce inflammation by taking more EFA's and using liberal doses of olive oil.

Whittaker and the authors of the book, Biomarkers have devised a darkly amusing, series of noir little tests to measure functional age. I have put it on the back page of this newsletter. Proceed at your own risk.

In future newsletters, I will address various diseases of aging. Today, the drumroll introduces perhaps the most feared of all the diseases of aging - Alzheimers Disease 

# Newsbriefs

**To Bob Dole and Friends:** The pharmaceutical company, Bayer AG, projects making 900 million dollars on its new impotency drug, Vardenafil. They say it improves erectile function by 80% (Viagra claims 82%) and the FDA is expected to approve it momentarily. (Eli Lilly is also racing to have their new ED drug, Cialis, approved.) Do we trust Bayer AG? Here are a couple reasons not to:

Bayer introduced the statin drug Baycol which ended up being hastily pulled from all pharmacy shelves after killing a few too many people. Bayer is also the company that handles Cipro: They somehow arranged for the U.S. military (read: you and me and our taxes) to pay for trials to approve Cipro as the preeminent anti-anthrax drug when in fact just about any antibiotic could have protected against the strain of anthrax found in the letters. But, back to erectile dysfunction: More natural alternatives to the above Big Pharma solutions are as follows: 1) L-arginine is an amino acid which is an oxidative precursor to nitric oxide and nitric oxide is crucial to a firm erection. (Viagra also increases the production of nitric oxide but at \$10 a pill.) Try 3-6 grams of arginine about 45 minutes before bedtime. 2) DHEA has also been shown to help: Try 50 mg. for at least 6 months. 3) Ginkgo biloba may help also, at 120 mg. per day. 4) You could also try the B vitamin, choline at 1-3 grams per day, vitamin B5 at 500-1500 mgs daily and an herb called yohimbe. Be careful with the latter because it is known to increase blood pressure. Also, have your testosterone levels checked and supplement if needed. Stop smoking: Smoking significantly impairs erectile function. (*Health & Healing Newsletter*, June, 2001 and *Mercola Weekly email Newsletter*, 12/20/01).

**Measure Twice, Cut Once (I'm begging here):** Or surgical mistakes are on the rise: Since 1998, surgical mistakes rose from 15 "wrong site" surgery cases to 150 in the year 2001. 41% of the 126 cases analyzed were orthopedic, 20% were general surgery, 14% were neurological and 11% were urological. The remaining cases were miscellaneous procedures such as podiatric, dental or oral. Fifty-eight percent occurred in an outpatient setting and 29% occurred in an inpatient operating room. Most involved operations on the wrong site. However, 13% of the mistakes involved operating on the WRONG PATIENT (How does this happen?) and 11% involved the wrong surgical procedure. I guess this means that I go into the hospital to have a pesky heel spur removed and I regain consciousness in the ICU with a complete knee replacement while some other hapless soul still has a sore knee and a newly sore heel as well?

If you must have surgery there are a few things you can do, actually MUST do: 1) Make sure you know your own name and go over this detail with your surgeon before the anesthetist puts you under. This way you can be fairly certain that you are the right patient. 2) While you are having the above chat with your surgeon, make sure you both agree on EXACTLY what will be done, ie. heel spur vs. complete knee replacement as aforementioned. 3) You yourself—in your own hand—take a big black permanent marker and mark exactly where you perceive the surgery site to be. (eg. your heel is pretty far away from your knee.) If you are not sure where the surgery site is, elicit the

help of a friendly nurse who will be very sympathetic to your request because s/he... um, KNOWS the score about the ditzzy surgeons operating in your hospital. 3) Be a pest and ask as many questions as you need to ask to feel comfortable about what's going to happen. (Report from *The Joint Commission on Accreditation of Healthcare*, 12/4/01)

**Infants and Pets:** Apparently it's more than OK for the family Bassett hound to slop drooly kisses all over the face of your precious darling. Seems that when children are exposed to cats and dogs in their first year of life, they appear less likely to develop allergies later in life. Almost a thousand children were followed from birth to age 7; those whose mothers said they were exposed to two or more cats or dogs were significantly less likely to test positively for allergies. (Report from *American Thoracic Society in San Francisco*, Fall 2001)

**Relentless Itching:** Is there anything worse? I feel so sorry for patients who develop itchy rashes. It's a nasty situation. Very occasionally a pruritic rash will occur in the early stages of detoxification (mostly concurrent with a yeast detox). Or a patient will come in to me with a rash that popped up overnight seemingly out of nowhere and the itching is driving them crazy. It's under their arms, around their waist, on their chest; they've dug deep nasty-looking furrows in their skin from scratching and they generally feel crazy and out of control. Usually, I suggest natural anti-histamines and anti-inflammatories for symptomatic relief but more importantly, I try to determine what is causing it. This is not easy and my job as an environmental detective is taxed to the core. Is it a new detergent, or a body cream gone bad, what new thing have they started eating? Could it be the liver misbehaving, or the lymph system on strike? The list can go on and on.

For example, contact dermatitis can be caused by citrus or tomatoes, soaps and cosmetics, metals such as nickel, latex gloves and a new one- Balsam of Peru - which can cause systemic contact dermatitis. BOP gives cinnamon and vanilla their distinctive flavors, and can also occur in citrus peels. BOP elimination diets forbid citrus, certain spices, tomatoes, chocolate, ice cream, wine and beer. These are all highly histaminic foods, ie. can cause swelling even in a non-BOP allergic person. Try a month without these foods and see if the itching goes away. (*Journal Am Acad of Dermatology*, Sept 2001)

When all else fails and it seems you will be stuck forever in pruritic purgatory and nothing seems to be the causative agent, try this 50 year old treatment: Tablets of 250 mg. procaine hydrochloride and 150 mg. of ascorbic acid given orally every 4 hours or as needed. Oftimes there is dramatic relief and patients are able to stop scratching allowing the skin to heal and the vicious cycle of scratching/histaminic release/scratching to stop. (*Alan Gaby reporting in Townsend Letter*, July 2001 on an article in *Ann Allergy*, 1953.)

**Restenosis:** As many as 20 to 40% of patients who undergo angioplasty to open clogged heart vessels find that these very same vessels clog up again after 6 or so months. This is what happens in an angioplasty: Your interventional cardiologist will thread a dangerously thin and sharp probe up your

*(continued on back side)*

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femoral artery-starting in your groin. He will push this impossibly skinny wire oh so carefully until it circuitously reaches the heart and the offending artery. Then he will roto-root the gunk out of the ailing artery and place a stent to help the artery stay open. Now, we don't want this death-defying act to happen too often, do we? It's been discovered that people with low levels of homocysteine are less likely to develop restenosis. This is easy to fix. All you have to do is take a folic acid supplement with B6 and B12. (*NEJM*, 11/29/01) Thorne has a good combination of all three called Methylguard.

**War on Cancer:** December 23, 2001 marked the 30th anniversary on the War on Cancer. In 1971, Richard Nixon signed a National Cancer Act launching a multi-billion dollar "assault" on cancer. So, how are we doing? Not so good, thank you. In 1962 there were 278,000 deaths from cancer in the United States. By 1982 that figure reached 433,000 and this year it reached 553,000 with no victory in sight. (*The Moss Reports*, 12/24/01)

Why? First of all and quite obviously, cancer is a very big business and I seriously wonder - oh, call me cynical - if there isn't a "cure" out there somewhere and no one is talking because maybe the "cure" will not mean great big bucks for Great Big Pharma.

Don't forget that Kilmer McCulley "discovered" thirty years ago that folic, B6 and B12 would reduce heart disease by reducing high levels homocysteine and because the "cure" happens to be an unpatentable vitamin substance (read: no money in it) this information was suppressed until just a few years ago. How many lives do you think were lost because of the criminal suppression of this information?

Then there is the very famous case of the magic cancer machine of the 1930's discovered by Royal Rife who was a brilliant engineer. His literature still exists in the naturopathic underground in which he substantiates many, many cures from terrible cancers with his machine which emitted a sort of sound frequency: Rife discovered that certain cancers were obliterated when in the presence of particular frequencies. When the AMA heard about this unpharmaceutical (read: no money in it) approach, they made life extremely difficult for him and finally he faded into anonymity. You can still purchase a machine today based on the Rife technology, but, of course, nobody calls them cancer machines.

Second of all, this war imagery stinks: Assault on Cancer. War on cancer. Obits mention routinely that "s/he bravely fought..." whatever kind of cancer got them. This is an extremely aggressive stance. Fire up the radiation machine and shoot me with 4200 rads of dangerous radiation; stick me with chemotherapy needles and napalm the crap out of the cancer, but first of all, slice me up bigtime with a knife. Maybe this is why the War on Cancer is not working. Maybe it's not a war. Maybe cancer cells are not like terrorist cells.

The only answer is a more subtle attitude called prevention and there is plenty out there to read about how to do this. Here's how I look at it: Are you aware of aikido? It's a form of

Japanese martial art that meets the opponents force by stepping back and flowing with the force wave instead of slamming against it. Then, at the perfect moment and using the opponents own energy field, a small flick of the wrist will send your opponent flying as you have kept her constantly off-balance; Very non-aggressive, very thoughtful and intelligent, just like preventative medicine. So, why don't the drug companies concentrate on preventative/alternative/complementary~aikido medicine? No money in it. Just like folate for heart disease or Royal Rife's cancer machine.

**Breast Cancer:** It's important to sleep in a dark room, since light exposure at night is associated with an elevated risk of breast cancer. Along this same line, late-night shift workers had about a 60% greater risk and the more years worked, the greater the risk. It all has to do with melatonin, the hormone produced by the pineal gland in the brain. Melatonin production peaks at about 1:30 am and if women are awake at this time or sleeping in light rooms, they will have decreased melatonin levels. What can you do? Don't work the graveyard shift. Install light-blocking shades so you can sleep in total darkness. Do not have any light-emitting devices like LED clocks near your bed and avoid electromagnetic fields while you are sleeping, ie electric blankets, water beds, clock radios. If you have trouble sleeping or find yourself routinely waking up at the bewitching hour of 1:30 am, think about sleep aids, including melatonin. (*Science News*, 10/6/01 and *Moss Reports*, 10/22/01)

**Statins:** Now that the "establishment" has suggested that most everyone should be on a statin drug to lower cholesterol levels (How nice for Big Pharma. . .) more icky side effects have been reported, this from the *Wall Street Journal*, 2/1/2001. In addition to muscle aches and pains and the very serious rhabdomyolysis , a possibly fatal side effect where your muscles eat away at themselves, how does short term memory loss grab you? As the WSJ points out, most of us taking statins are older so when we have weakness, memory loss and muscle aches and pains, we might attribute it to a senior moment or the precursor to something more serious, not a preventable side effect from our cholesterol lowering drug.

How many of us have found ourselves standing blankly in front of, say the bookshelf or the refrigerator or our clothes closet, wondering why the heck we are there? How many of us say: "I'm-having-a-senior-moment-I-wonder-if-I-have-early-Alzheimers—Will-I-be-in-a-long-term-care-facility-within-two-years? Or how many of us say: "Oh, this must be a reaction to my Lipitor. Nothing wrong with my mind."

No doubt, statins do dramatically reduce cholesterol but at what cost? The jury is still out on how important statins are in reducing the incidence of heart disease and if, indeed, there is any correlation at all. In the meantime hundreds of thousands of us are on Zocor or Lipitor or Mevacor or Pravachol presumably to reduce the cholesterol in our arteries, ergo, prevent heart attacks. However, it also non-selectively reduces brain cholesterol which helps us think and retain memory. (An "All life is a trade-off" moment.)

# Alzheimers Disease

As a nation, we keep getting older and older. By the year 2050 there will be almost 2 billion people aged 60 years and over in the world. (In 1950, there were 200 million over 60.) It is expected that the number of American 100 year olds will have doubled during the 1990's from about 37,000 to about 72,000 and by the year 2050, centenarians will number in the millions. How many of us will live this long? How many of us will live the last 10 or 15 years of our life in the twilight of Alzheimers Disease? It is thought that over 14 million Americans will be victimized by this disease by the year 2050. We all know what AD is and we all know we don't want it, so why don't I cut to the chase and examine some proven and anecdotal methods of preventing this horrible result of the brain in winter gone bad.

Linus Pauling thought his cognitive ability way into his 90's was a direct result of the 10 to 20 grams of Vitamin C he ingested daily and his continued work at a job he loved. Continuing in the happy-at-our-work-tradition, we have Arturo Toscaninni conducting orchestras at age 84, Picasso painting at 91, Grandma Moses starting her painting career at 70 and continuing until her death at 101, Pablo Casals, the famous cellist giving concerts in his early 90's. Or how about John Glenn at age 75 travelling in space with cosmonauts young enough to be his grandchildren. Or Roy Walford, the old skinny bald guy who lived for two years in the Biosphere with peers half his age? Viktor Korchnoi, age 70, who won the elite Biel International Chess Festival in Switzerland beating his 25 year old opponent. Not a doddering one in the bunch.

One of the most important aspects of keeping your mind nimble and quick is to use it or lose it. Do crossword puzzles, learn chess, memorize poems, sing new songs, play the piano, study a language, start writing or painting, take college courses, don't stop working if you love your job, and keep learning more about your chosen field. We can actually develop new neurons and rewire the brain given half the chance through constant stimulation. In fact, one of the centenarians studied, a man of exceptional intelligence, was found to have severe senile placqing upon autopsy. By all rights, he should have been incapable of thought and deep into an Alzheimer's decline. Seems that he somehow developed new dendritic

pathways in his brain which compensated for cell loss in other areas. We do this by stimulating our brain as mentioned above. We can see the same compensatory mechanism in the heart which develops collateral circulation to bypass the blocked arteries. These people, although severely compensated, may never develop clinical heart disease.

Secondly, feed your brain: Eat lots of cold water fish which is full of brain healthy omega-3 fatty acids, take extra DHA, an omega-3 which is concentrated in the brain. Get help from brain boosters: My favorite is Acetyl-L-Carnitine which acts like a spark plug in the brain. A couple of other ones are phosphatidylserine which (to continue our car lexicon) acts more like a lube job for the brain, enhancing communication and inhibiting cortisol, a stress hormone which is poison to the brain; then there is probably the most commonly known brain booster, ginkgo biloba and maybe one not so well know, Piracetam. You can get it anywhere in Mexico and from the Life Extension Institute. And, don't forget the all important B-Vitamins. In the botanical realm, there is the well known huperzine A, and many others like lycorus radiata, boluohui, coptis chinensis, berberis and pilocarpus and all the anthocyanins like grapes and OPC's

(Brain Boosters to avoid: **Growth Hormone:** Not enough is known about this and unless you get it by injection, the GH is useless. **Gerovital:** May cause tremors, convulsions, low or high blood pressure and cardiac arrest. **Dilantin:** This anticonvulsant is sometimes promoted as an IQ booster, but there is nothing to support this. Furthermore, there are many side effects such as slurred speech, insomnia and fatal blood dyscrasias. **Vincamine:** Sort of OK. Be careful if you use it. It does increase blood flow to the brain but long term use could cause insomnia and cardiac arrhythmias.)

Seems that the amyloid deposits, neurofibrillary tangles and senile placques which are characteristic in AD are surrounded by pockets of inflammation, so you might want to try anti-inflammatories. Natural NSAIDS are the oils: fish and flax oil, plus black current, evening primrose. Also turmeric, curcumin, ginger and feverfew. Unnatural NSAIDS are aspirin, ibuprofen and naproxyn, and they are potentially dangerous because of the internal bleeding possibilities. Estrogen

replacement therapy seems to be good for preventing Alzheimers in women, but the side effects and trade-offs, to me, aren't worth it. DHEA is also good, but only if you need it. Laboratory tests are available for this.

Check your medicine chest. Is there any pharmaceutical you are taking that could cause memory loss or compromise brain health in any way? For example, statins for elevated cholesterol.

Make sure you don't have an excess of heavy metals like aluminum, mercury (from fillings) and/or neurotoxic food additives like MSG or food colorings running around in your brain. I can test for this and suggest detoxification methods if necessary. (I am convinced that Parkinson's has a heavy metal-chemical etiology.)

Have some fun. A new study suggests that going for a walk, seeing a movie, chatting with a friend, picking up a book or a magazine will lessen your risk of getting Alzheimers.

Exercise! It will bring oxygen and life to your brain. Lack of physical exercise has actually emerged as a risk factor for cognitive decline.

Reduce your stress. Handle your sleep problems. Don't eat too much. Back to the old bald guy in the Biosphere, Roy Walford. He is a gerontologist who has been experimenting with caloric restriction and underfeeding not only in rats but in his own life. He fasts 2 days a week, eats sparingly and keeps consistently 30% under his suggested weight. So far so good for Walford who must be close to 80 now. Handle your heart problems so you don't have the multiple mini-strokes that can come with uncontrolled hypertension or the cognitive decline associated with atrial fib, heart attacks and congestive heart failure.

Even though it seems as if every other person has Alzheimer's disease—maybe because so much attention has been focused on it lately—it actually is quite comfortingly rare: Dementia, including AD, is not a normal part of aging and only affects 3% to 10% of people over age 65.

# Markers of Aging: How do you measure up?

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## Reaction Time

Reaction time slows down as we age. To test yours, take the falling ruler test. Have someone dangle a ruler from the end, holding it at the 12" or 18" mark (depending on the size of the ruler). Position your thumb and middle finger about 3½ inches apart at equal distance on either side of the bottom of the ruler (the 0" mark.)

As the other person drops the ruler, without warning, catch it between your thumb and finger as quickly as possible and note where you caught it. Repeat three times and average your scores. Averages generally go from the 6" mark at 20-30, to 10" at age 40-50 and 12" or more at age 60.

## Visual Accommodation

As we age, the lenses of our eyes stiffen and lose their ability to accommodate, or change shape and this interferes with near vision, hence the proliferation of "cheaters." To test your visual accommodation, hold this page at arms length and slowly move it towards your eyes until the print suddenly begins to blur. If you wear glasses for distance, you may use them, but do not use reading glasses. For the average 21 year old, the blurring point will be about 4 inches from the eyes; at age 30, 5½ inches; at 40, 9 inches; at 50, 15 inches. By the time you are 60, your arms probably aren't long enough to bring it into focus at all.

## Skin Elasticity

One of the most visible markers of aging is the skin. Loss of connective tissue in the skin contributes to the sagging and wrinkling that are characteristic of aging. A reliable test of skin elasticity is to pinch the skin on the back of your hand between your thumb and forefinger for 5 seconds then see how long it takes to return to normal.

This will take less than a second for most people under 30, and 2-5 seconds for those aged 40-50. By age 60, traces of the skin fold will remain for an average of 10-15 seconds, and by age 70, 35-55 seconds.

## Static Balance

Static balance is the process by which we maintain an upright posture while standing. Age-related changes in the complex interplay between sensory, nervous and motor systems are one reason why older people are more prone to fall. When your eyes are closed, the difference in static balance between young and old are exaggerated (older people are more dependent on vision for balance), so this test is one of the most dramatic biomarkers.

Stand on a hard, uncarpeted floor, barefoot or in low-heeled shoes. Close your eyes, and, bending at the knee, lift one foot (the right foot if you are right-handed and the left if you are left-handed) about 6 inches off the ground. Do not move or hop about to maintain your balance—just stand there with your eyes closed. See how long you can stand on one leg before putting your foot back down. Repeat two more times and average your scores. The mean score at age 20 is 30 seconds; age 40, 15 seconds; age 50, 10 seconds; age 60, 7 seconds; age 70, 5 seconds.

## Lung Function

Lung function also declines with age. Light a match and hold it about 12 inches from your mouth. Inhale deeply, and with your mouth wide open (do not pucker up as you normally would to blow out a candle) attempt to blow out the match. Bring the match forward gradually and repeat until you are able to extinguish the flame. Most 20-30 year olds can do this at a distance of more than 10" from their mouth. For ages 40-50, the average is 7-8", and for 60-70 years, it is 5" or less.

Have fun with these tests, and don't freak out if you don't "pass" the tests—they are only broad indicators of where you are right now. Repeat them every so often and see if you have improved.

If you are interested in the 16 references used in the articles *Longevity and Alzheimers*, please send me a SASE and I will send you a list of my references.

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Please feel free to email me at [beakj@earthlink.net](mailto:beakj@earthlink.net) with your questions and suggestions. I guarantee privacy on all matters, and will try to answer all of you personally.

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