

This article provides a basic framework for anti-aging medicine, 20 practical tips and suggested reading to share with your patients. I usually give patients this article on or before the first visit. You can access a PDF file of this article on the website www.sajune.com and share with your patients as desired.

*With the knowledge that we will live longer than those before us,
comes the quest to live better than those before us.*

Will we be in a wheel chair with scarce recollection of our past?

Or will we be walking, talking, energetic and happy?

*In this article, learn the science behind the restoration of optimal cellular function
through hormones, nutrition, detoxification and balancing of the mind and body.*

Anti-Aging Medicine?

Reality or Myth

By Sangeeta Pati MD FACOG

Are you on a quest for *anti-aging* remedies? Is there such a thing, a magic pill or a secret solution? Yes, the search for magic pills, the age control genes and the secret remedies continues hotly pursued in the world of research. Yes, there is a growing body of evidence that the human life span can be extended, with some Japanese Okinawans living upwards of 120. But is it the extension of life that intrigues us? Or is it the possibility that we may live as productive, happy and disease-free people if we use restorative approaches to correct imbalances in hormones, nutrition, toxins, mind and body, allowing our body does what it does best; keep us healthy.

Whether you call it “anti-aging” or “regenerative” or “restorative” or “functional”; this is no myth. The last two decades in medicine proves that applied correctly this new genre of medicine results in greater than a 90% resolution of symptoms such as fatigue, insomnia, decreased libido, weight gain, anxiety, depression, muscle and joint pains and decreased mental function. It also results in greater than an 80% improvement of disease states such as fibromyalgia, rheumatoid arthritis, chronic fatigue syndrome, gastric reflux, IBS, high cholesterol, high blood pressure, PMS, PCOS, infertility and in teenagers, ADD, anxiety and sleep disorders; and thus, the quest for “anti-aging” medicine.

Anti-aging medicine applies advanced technologies for very early detection, prevention and reversal of age-related disease. There is a growing body of data supporting the reality of anti-aging medicine, while derailing the notion that it is a myth. For example, studies show that:

- The field of anti-aging medicine is the most rapidly growing medical specialty with more than 30,000 physicians worldwide in 80 countries.
 - *American Academy of Anti-Aging Medicine, 2005*
- Women receiving hormone replacement immediately after menopause have reduced heart attacks, strokes, bone fractures and Alzheimer's. They also have significant improvements in sexual function, mood, skin, energy and sleep.
 - *Euro J Anti-Ageing Med Mar 2006, Journal of General Internal Med 2006*
- Men receiving hormone replacement when levels are low (andropause) have reduced heart attacks, strokes and risk of Alzheimer's. They also have improved mood, confidence, motivation, sexual function, muscle mass, energy and strength.
 - *Eur J Endocrinol. 2006, Eur Heart J. 2006, Curr Drug Targets CNS Neurol Disord. 2005*
- In both men and women, sexual function improves sharply after restoration of normal levels of testosterone, DHEA and nutrition (i.e. Vitamin B-12, nitrogen).
 - *J Clin Endocrinol Metab. 2006, Fertility and Sterility 2004, Int J Impot Res 2005,*
- Growth hormone and aggressive nutritional supplementation speed recovery from muscular, skeletal and surgical injuries significantly.
 - *Hormone Res 1996*
- Preventing sugar spikes is the best way to prevent diabetes, obesity, heart disease, stroke, skin aging and cancer.
 - *International Anti-Aging Magazine, 2006*
- High sugar consumption and meats increase cancer risk
 - *John Hopkins University and American Cancer Society, 2005.*
- Inositol pentakisphosphate from beans slow cancer cell growth
 - *Sackler Institute, 2005*
- Men with higher levels of B-6, B-12 and folate had better retention of verbal and spatial skills
 - *Tuft's University, 2005*
- Exercising 2 times per week cuts Alzheimer's risk in ½. It also cuts risk of heart attack and stroke.
 - *Finnish Study, 2005, American Journal Cardiology 2006*
- Gum disease increases risk of Alzheimer's by 50%. Flossing prevents this.
 - *University of South Carolina, 2005*
- Eating broiled or baked fish 1 to 4 times per week cuts down stroke risk by 28%, while eating fried fish or fish sandwich increased stroke by 37%
 - *Harvard University, 2005*
- Beta-glucan from Oat kernels penetrate the skin reducing fine lines and wrinkles
 - *Canadian researchers, 2005*
- Alpha and Beta hydroxyl acids promote natural skin exfoliation and cell renewal
 - *American Academy for Anti-Aging Medicine, 2005*
- Radiation levels (which cause cancer) from cell phones increase 10-fold inside a closed vehicle.
 - *Science and Technology Team, UK*

- Older adults with a brighter outlook on the future, have 77% less chance of dying from stroke or heart attack than their pessimistic peers.
 - *Netherlands researchers, 2005*
- The power of deep breath: shallow breathing leads to a low oxygen, acid state in which our chemical reactions do not function optimally.
 - *Science of Breathe, 1998*
- Stress increases the hormone cortisol, which impairs the immune system, anti-cancer mechanisms, thyroid function, fat burning, vascular health, brain function and almost every other repair and maintenance function in the body. In that, it is the plague of the 21st century.
 - *J Trauma Stress. 2006, J Nucl Cardiol. 2006*

Is anti-aging for you? Take yourself for a moment to age 50. You have the rest and the best of your life in front of you. How do you want to live these years? The basis of our current medical standard is the treatment of existing disease. If you have high blood pressure, you can take a pill. If you have a heart attack, you can get a bypass. If you have cancer, you can get chemotherapy. But once the bypass is complete and once the cancer is removed, you are still left with the underlying imbalances that allowed the plaque or the cancer to develop in the first place. Given the choice; would you not choose to restore optimal function and prevent recurrences in the future? Would you not choose to live walkie-talkie, strong and energetic rather than in a wheel chair, not knowing your name? If so, you are on a quest. You are on a quest for information and a health care provider who will partner with you to help restore balance and optimize your quality of life.

Restoring the balance means optimizing the ability of our cells to do what they do best: keep us healthy, happy, keep those cancer cells at bay and repair those arteries that are damaged daily. This involves correcting deficiencies of 1) hormones and 2) nutrients, 3) removing toxicities 4) mental peace and 5) a body which is pain free and structurally sound. All disease is a manifestation of imbalances in these five areas, rather than just one cause. For example,

- ***Weight gain*** is a result of imbalances in hormones (insulin, thyroid, cortisol, estrogen, progesterone etc), nutrients (that activate fat breakdown and muscle development), toxicities (i.e. acidity preventing the release of fat) and stress in the mind (causing increased cortisol and fat storage).
- ***Cognitive decline*** (i.e. brain fog) results from hormone deficiencies (i.e. thyroid, estrogen, testosterone), nutrient deficiencies (i.e. B-12, B-6, folate, anti-oxidants), toxicities (i.e. bowel, acidity, chemicals) and mind imbalances, especially stress.
- ***Thyroid deficiency*** symptoms result from low thyroid hormone compounded by nutrient deficiencies (i.e. iodine, zinc, selenium, ferritin, B-12), and bowel and liver toxicities which prevent absorption and activation of thyroid. There is also increasing data showing the role of stress on thyroid suppression.
- ***Bone decline*** is caused by deficiencies of hormones (i.e. progesterone, estrogen, testosterone, growth hormone) and nutrients (calcium, magnesium, Vitamin D, boron), compounded by toxic overload such as acidity, heavy metals (which

displace calcium and magnesium) and bowel toxins which prevent the absorption of nutrients.

- *Skin aging* is a result of deficiencies of collagen builders such as estrogen, DHEA, growth hormone, thyroid, Vitamin C, Vitamin E, amino-peptides and others. Almost all skin cells are maintained by a combination of hormones and nutrients. Thus, interventions on the outside must be accompanied by ones to correct the inside.

So, whether we aim to cure or prevent a symptom or a disease, the basic 5 areas must be addressed: establish a healthy, enabling mind, correct deficiencies (of hormones and nutrients), remove toxicities and get the body pain-free and strong. By reestablishing this balance we achieve optimal cellular function, so the cells of the body can best do what they do- keep us healthy.

Restoring Hormones

We age because our hormones decline, not the other way around. In women and men, hormone imbalances occur from age 30 onwards. By age 50, we are at approximately 50% of hormone function for estrogen, progesterone, testosterone, thyroid, DHEA, melatonin and growth hormone. Of course, a healthy lifestyle plays an important role in optimizing cellular function. Of course genes play a role; however at some point our organs will not produce hormones even with the healthiest lifestyle and the best genes.

Symptoms are one reason that people restore hormones; but the more compelling reason is the potential to prevent degenerative disease, since symptoms can be handled by a variety of other ways. Studies show that every brain cell in the body has a receptor for thyroid, estrogen, progesterone and testosterone, as does every heart cell, every nerve cell, every bone cell, every vascular cell and every skin cell. With that, it becomes clear that as hormone levels decline, so will the stimulation to these cells. As stimulation declines, the cells degenerate leading to a myriad of symptoms (such as sexual decline, fatigue, anxiety, mood swings, weight gain, insomnia, cognitive decline), but more importantly degenerative diseases (such as heart disease, cognitive disease, and osteoporosis). Preservation depends on restoration of physiologic hormone levels.

In women, one of the first hormones to decline is ***progesterone*** around age 35. This produces a symptoms such as anxiety, panic attacks, lighter sleep, PMS, mood swings, fibroids, breast and ovarian cysts, heavier or irregular bleeding and weight gain. Progesterone is also responsible for bone building, thus women start to lose bone around age 35. Some women even have hot flashes and lower sex drive with declining progesterone.

In women, ***estrogen*** levels begin to decline and become imbalanced around age 45 and eventually wane altogether at age 51, the time of official menopause. Changing estrogen levels produce hot flashes, skin and vaginal dryness, recurrent urinary infections, urine incontinence, bone loss and cognitive decline.

Risk in women? When women consider hormone replacement the looming question is about the risks, especially of breast cancer, strokes and heart attacks. On review, women are the most protected during their 30's when they have the highest hormone levels. It is only after menopause that women have increased risk of stroke, heart attack and breast cancer. Data suggests that it is *hormone imbalances* that contribute to breast cancer. We know that, most breast cancers occur after menopause; precisely at the time when the ovaries stop producing the normal balance of hormones.

Why? First, progesterone, which prevents breast cell division, declines from the late 30's. Second, approximately 10 years later comes an imbalance of the estrogens. Estriol (E3), which is breast and clot protective, decreases from 80% to 10%. Estrone (E1), which is breast and clot stimulating, goes up from 10% to 80%. The increased E1 is undesirable as E1 is converted to forms of estrogen (i.e. 16-OH E1) which are mutagenic and carcinogenic to the breast. So, restoration of protective hormone levels needs to be considered a possible preventative step against breast cancer.

Large studies so far have used, synthetic, hormones (not identical to human hormones) with a ratio of estrogen weighted towards E1 like the large Women's Health Initiative (WHI) study published in 2002, which was followed by much confusion. Reanalysis of this study and many others has eventually led to the following three conclusions on hormone restoration in women.

- 1) When started early, hormones are protective on the heart and brain.
- 2) "Progestins" have been shown to increase clots and breast cancer in 5 trials compared with natural "progesterone" which is associated with protection.
- 3) Bio-identical Estradiol (E2) delivered through the skin is cardioprotective, as opposed to E1, delivered through the mouth (i.e. Oral Premarin™ used in WHI).

So, when restoring hormones, we aim to use protective forms and delivery routes.

Testosterone declines in men and women from the late 30's onwards producing loss of desire for sex, joint and bone pain, muscle weakness, loss of confidence, moodiness, depression, anxiety, muscle loss and fat gain. Testosterone restoration not only addresses these symptoms; but studies support a protective role for testosterone against heart disease, cognitive decline and bone loss.

Risk in men? Traditionally testosterone restoration was thought to be associated with heart attacks and prostate cancer. If this were the case, men should have heart attacks and prostate cancer when the testosterone levels are the highest in the 20's instead of when they are the lowest after age 50. In fact, the New England Journal of Medicine finally analyzed this in 2004 and published their conclusion that it is *low* testosterone and high estrogen, which is associated with prostate cancer. The cardiology literature has since shown that men who maintain testosterone levels in the upper ranges are lower risk of cardiac and neurologic events.

Thyroid; how many people do you know who have "normal" thyroid labs, but many of the classic thyroid symptoms: fatigue, mental slowness, depression, weight gain, dry skin,

constipation, feeling cold, hair loss, swelling of ankles, palpitations. Thyroid hormone and function eventually decline in everyone due to both low thyroid production and also low thyroid function at the receptor site. Sometimes lab values may be “normal” and yet not “optimal”. They can also be “optimal” but not “functional” because of deficiencies in ferritin, zinc, selenium, iodine or any cofactor needed to activate thyroid.

In the early 40's, **insulin** generally goes up causing some degree of insulin resistance in everyone. With this comes weight gain in insulin controlled areas (lower abdomen, thighs, under arms, under chin), as areas of muscle start to become areas of fat. This weight is stubborn due to the powerful hormone insulin directing the body to store all food as fat (i.e. even lettuce) and not let it go. This stubborn weight needs more than exercise and calorie reduction to resolve. In this pre-diabetic state, cardiac risk is higher. Glucose and insulin swing high and low, producing fat storage when high and hypoglycemic symptoms (i.e. sugar cravings, severe sleepiness, dizziness, headache) when low. This metabolic imbalance is effectively addressed by hormonal and nutritional restoration along with clearance of toxins from the bowel and liver.

Other hormones that decline include:

- **DHEA**, which enhances strength, sexual energy and immunity,
- **Melatonin**, known for its effects on sleep, however it is actually one of the most powerful anti-cancer hormones due to its role in activating natural killer cells,
- **Pregnenolone**, most well known for effects on memory and concentration and
- **Growth hormone**, with the role of maintaining connective tissue (i.e. joints, bone, muscle, cartilage, fat, skin), body composition and preventing frailty.

Tip 1: Use only the forms of hormones, which are exactly identical to the body's molecular structure (i.e. bio-identical hormones)

Tip 2: Hormone replacement should always be accompanied by the nutrients that activate the hormone receptor and removal of toxins that may interfere with the activity of the nutrients or hormones. In addition, stimulation of the energetic pathways using homeopathy and acupuncture permits hormones to act optimally.

Tip 3: Hormone function is more important than a hormone level. So, even though your thyroid hormone may measure normal, you may not have optimal thyroid function.

Tip 4: To achieve optimal function of hormones it is necessary to use a little bit of each deficient hormone, since they activate each other, instead of a whopping dose of one like DHEA, with hopes that it converts to the others.

Tip 5: There is no magic pill to balance Cortisol and high Insulin. Therefore, these hormones require attention to stress reduction, adrenal support, detoxification, lifestyle changes and insulin support.

Restoring nutrients

Although, we in the U.S. are daily bombarded by the concepts of anti-oxidants, “bad carbs”, “good carbs”, trans fats, good fats, low fat; we are as a nation mineral and vitamin deficient, according to current Nutrition Council data. The leaching of the soil and prolonged storage practices has produced a state of nutrient depletion in our food supply.

Every cell reaction, whether to activate a brain chemical, produce energy or to break down fat and build muscle, needs a vitamin or mineral to proceed. Every cell reaction produces damaging free radicals, which requires anti-oxidants to neutralize them. Every hormone needs a vitamin and mineral to activate its receptor. As an example molecular data show that:

- thyroid hormone needs zinc, selenium and iodine to be activated. Thyroid function needs a Vitamin D 25-OH level of greater than 55 and a ferritin level of greater than 90 ng/mL.
- Insulin needs chromium, vanadium, magnesium and Vitamin B3 to be active.
- And estrogen needs B vitamins, iodine and cobalt to be active.

We can improve our food-based nutrition by eating more vegetables (50% of intake), eating organic produce (which increases nutrients by 30-40%), increasing good fats (i.e. nuts, salmon, avocado, olive oil), eating fresh and flash-frozen vegetables and *avoiding* preservatives, processed food (in boxes and cans), simple sugars and bad fats (fried food, hydrogenated oils); but even then we can not get the nutrients needed to activate hormones, energy cycles, brain chemistries and other pathways through food alone. In fact the American Medical Association has now recommended that we take a multi-vitamin/ mineral to “prevent chronic disease”. This is the premise for supplementing nutrients through superfoods (i.e. green food supplements, phytonectars, bee pollen, spirulina, chlorella, berries, acai, mangosteen, goji, noni) and formulated products.

Tip 6: There are good tests covered by insurance to analyze nutritional and anti-oxidant status. These help take the guesswork out of which nutritional supplements are needed. Always evaluate Vitamin D 25-OH, ferritin, iodine, B-12, folate.

Tip 7: The first place to look to explain nutrient deficiency is lack of proper absorption caused by bowel toxins and not enough good bowel bacteria.

Tip 8: Supplements should be of high quality without fillers, binders, dyes and impurities (i.e. listed as “other ingredients”).

Tip 9: Oral supplements should be taken in divided doses, at least 2 times a day, because the intestines can not absorb the entire days’ nutritional needs at one time. If taken at one time, the intestines absorb only about 30% while 70% is lost. With smaller, multiple doses the body gets nutrition the way it is meant to and absorption improves.

Tip 10: Many people are B-12 deficient due to lack of intrinsic factor, which is needed for B-12 absorption. B-12 levels should be bumped initially with 8 weekly injections.

Tip 11: The ratio of each meal should aim towards 50% vegetables, 25% lean protein and 25% complex carbohydrates.

Tip 12: Some of the best anti-oxidants include superfoods such as spirulina, chlorella, berries, clove oil and a variety of colorful vegetables such as green leafy, beets, carrots, squash and eggplant. Red wine and dark chocolate (or cocoa) in moderation also are excellent sources. Some of the best “good fats” come from walnuts, almonds, fresh ground flaxseed and (non-farmed) salmon.

Tip 13: The best strategy is to use a range of healthy sources instead of to overindulge in any one healthy food source (i.e. soy).

Removing Toxins

We are exposed to 50 times the level of toxins compared to most other developed countries, through water, air, industry, computers, cell phones, preservatives, plastics and fumes. These toxins reside in the bowel, the liver and the fat tissues especially. Toxins impair all chemical reactions in the body. As an example:

- Bowel toxins like Candida or other bacterial overgrowth impair absorption and production of nutrients.
- Acidity from shallow breathe, lack of vegetables, and inflammation causes slowing of chemical reactions in the body, which proceed optimally at pH 7.0 and above.
- Electromagnetic radiation (EMF) from cell phones, computers, cordless phone bases, and WiFi zones are now known to have a real effects on sperm function, brain waves, thyroid function and immunity.
- Liver toxins (i.e. Tylenol, prescription drugs, alcohol, fuel fumes) impair the detoxification process, which occurs in the liver.
- Viruses, fungi and parasites are present everywhere and accumulate in the body.
- Heavy metals diminish neurological function and bone among other things.

Toxins impair the absorption and utilization of nutrients and hormones. This is the premise for regular bowel, liver and tissue detoxification and specific detoxification as needed, for example if heavy metals or parasites are identified.

Tip 14: First, avoid toxins such as chlorinated water, processed foods, plastic water bottles and food containers, pesticides, EMF, gas fumes and medications.

Tip 15: Seasonal bowel cleanses with vegetables and supplements containing probiotics (good bacteria), enzymes and fiber are a great way of increasing bowel absorption.

Tip 16: There are accurate tests to identify specific toxins including salivary pH testing, urine and stool testing, heavy metal testing and live blood observation.

Balancing the mind and the body

In the entire restorative approach, the most powerful interventions are those targeting mind and body balance. Just look at the physical strength of a middle-aged person who has practiced Tai-Chi or Marshall Arts and you will question our Western concept of when in life we are at our strongest. The Far East embraces the idea that it is indeed the last half of life in which we have the potential to be the strongest. After marriage, after the child bearing, after child rearing and worrying about relatively unimportant things, we are able to focus our energy on the mind, the body and the spirit if we so choose. A mounting body of scientific evidence supports the powerful effect of the mind on the bodily functions of repair, maintenance and prevention of age-related disease. Every disease has been shown to be associated with stress in the mind in some way. Every bodily process is affected by not only the state of the mind, but even the energy produced by mental “intention”, which can produce change at a cellular level. So, mind and body must be addressed actively for optimal health.

Tip 17: Make yourself the center of your own universe. Set your intention to achieve health and peace in all you do. Take care of yourself first, honor your own needs first and then only can you be strong enough to take care of others.

Tip 18: Strengthen the body with Yoga, Tai-Chi, Qi-Gong, regular exercise with breathing, which has been shown to cut down cancer, heart disease and cognitive decline by over 30%. Just try it.

Tip 19: Indulge in regular weekly massage and hydrotherapy with Epsom salts to rebalance the blood flow to all organs. The strong therapeutic benefits of these practices have been well established by the ancient Romans, Greeks, Russians and people of the Far-East.

Tip 20: Practice conscious breathing (breathe awareness) 5-10 minutes a few times a day So, close your eyes. Take a deep breathe. In fact, take 10 deep, slow, easy breaths while relaxing all muscles one at a time. Congratulations! You have just extended your healthy life.

Conclusion

With the knowledge that we will live longer than those before us, comes the quest to live better than those before us. Will we be in a wheel chair with scarce recollection of our past? Or will we be walking, talking, energetic and happy? We stand on the threshold of a new paradigm, for the first time we can apply advanced technologies for very early detection, prevention and reversal of age-related disease. When we realize that only 4% of breast cancer is accounted for by the breast cancer genes and that less than 50% of heart attacks occur in those with high cholesterol, it becomes crystal clear that these

conditions are the result of preventable imbalances in hormones, nutrients, toxins, the mind and the body. When corrected, the reality is that the body returns to its optimal functional state. So, whether you call it “anti-aging” or “regenerative” or “restorative” or “functional”; this is evidence-based medicine. It is no myth.

Recommended Reading

General

- *121 ways to live to 121 Years and More* by Dr. Ron Klatz and Dr. Robert Goldman, Basic Health Publications, 2007
- *The Anti-Aging Revolution* by Dr. Ron Klatz and Dr. Robert Goldman, Basic Health Publications, 2007

Hormones

- *The Sexy Years* by Suzanne Somers, Random House, 2004
- *Ageless* by Suzanne Somers, Crown Publishers, 2006
- *The Testosterone Syndrome* By Dr. Eugene Shippen, 2001
- *The Andropause Mystery: Unraveling Truths About the Male Menopause* by Robert S. Tan, AMRED Publishing, January 2001
- *The Natural Hormone Makeover* by Dr. Phuli Cohan, Wiley 2008
- *The Natural Superwoman* by Dr. Uzzi Reiss, Penguin, 2007
- *Natural Hormone Balance for Women* by Dr. Uzzi Reiss, Pocket Books, 2001
- *Adrenal Fatigue* by Dr. James Wilson, Smart Publications 2001
- *Overcoming Thyroid Disorders* by Dr. David Brownstein, Med Alt Press, 2002
- *What Your Doctor May Not Tell You About Premenopause* by Dr. John Lee, Time Warner Books, 1999
- *The Better Brain Book* by Dr. David Perlmutter, Riverhead Books, 2004
- *The Edge Effect* by Dr. Eric Braverman, 2005
- Hormone Replacement Therapy in Women: The Evidence by Dr. Sangeeta Pati published in European Journal of Anti-Aging Medicine, March 2006
- Cardiovascular effects of medroxyprogesterone acetate and progesterone: case of mistaken identity? by Dr. R. Kent Hermsmeyer, et al, Nature Clinical Practice, www.Nature.com, June 2008
- Novel Perspectives for Progesterone in Hormone Replacement Therapy, with Special Reference to the Nervous System by Dr. Michael Schumacher et al, published in Endocrine Reviews, July 2007, 28(4):387-439

Nutrition

- Vitamin D Deficiency by Dr. Michael F. Holick, New England Journal of Medicine 2007;357:266-81
- *Iodine: why you need it, why you can't live without it*, Dr. David Brownstein, 2006

Detoxification

- *The New Detox Diet* by Elson Haas, Celestial Arts, 2004

Arthritis

- *Overcoming Arthritis* by Dr. David Brownstein,

Cardiology

- *The Sinatra Solution: Metabolic Cardiology* by Dr. Stephen T. Sinatra, Basic Health Publications 2008

- *Reverse Heart Disease Now: Stop deadly plaque before it's too late* by Dr. Stephen T. Sinatra, Wiley 2008

Cancer

- *Keeping aBreast* by Dr Kahlid Mahmud, Author House, 2005