Signs of Aging - 40 BioMarkers

And how to reverse them...

This is not an exhaustive list, and is in no particular order.

1. Muscle mass decreases. (muscle/weight/height Body Mass Index Increases)
2. Fat increases as a percentage of body weight.
3. Strength, energy and speed of the body decreases.
4. Base Metabolic Rate (metabolism) decreases.
5. Aerobic Capacity, the capacity to process oxygen, decreases. Red blood cells as a percentage of total blood volume (hematocrit) decreases until the average at age 90 is what is considered to be "anemia" at age 40.
6. Body cells become resistant to insulin.
7. LDL Cholesterol ("bad" cholesterol) and triglicerides increase, and HDL Cholesterol ("good" cholesterol) falls.
8. Blood pressure increases.
9. Bone mineral density decreases.
10. Density of calcium in circulatory system increases.
11. Kidney functions decrease.
12. We lose neurons in our brain. This leads to Alzheimer's, Parkinson's, and Senile Dementia.
13. The vagus nerve, the longest nerve in our body, deteriorates... and all the nervous system surely also deteriorates.
14. Growth Hormone secretion drops.
15. Testosterone in men, and estrogen and progesterone in women, drops.
16. Sexual desire drops.
17. Thyroid (a hormone which affects metabolism) drops.
18. melatonine (a hormone which regulates the body clock) drops.
19. DHEA (a hormone precursor to testosterone and estrogen) drops.
20. EPO, (erythropoyetin, a hormone which stimulates the production of new red blood cells) drops.
21. Estradiol, a female hormone, increases in men.
22. Cortisol, "the Death Hormone," increases.
23. Good enzymes (Super Oxidase Dimutase, etc.) drop.
24. A bad enzyme, MAO-B increase in the brain. MAO-B destroys neurons that produce dopamine, which is a neuro-transmitter.
25. Aromatase enzyme, a bad enzyme, increases. Aromatase converts testosterone to estrogen in men, which deprives him of libido.
26. The thickness of skin decreases, resulting in more wrinkles.
27. Prolactin, a female hormone, increases in the body of a male, presumably depriving him of some sexual libido.
28. Water proportion in the body and in the skin, drops. This results (among other things) in dryer skin, and more wrinkles.
29. Sense of hearing drops.
30. Sense of taste drops... "everything tastes the same"
31. Sense of vision, especially capacity to read small letters in low light, decreases.
32. Hair falls and loses its color (it becomes white).
33. The thymus gland, the master of the immune system, shrinks and atrophys, thus lessening our immune system.
34. Our liver, brain, and other critical organs shrink in size, thus affecting their functions.
35. Lipofuscine ("liver spots") accumulates in our hands and our brains. This snuffs out many neurons in

our brain.
36. The circulatory system deteriorates in length and width.
37. The velocity of blood flow decreases.
38. Inflammation increases in our body.
39. "Deep sleep" becomes more scarce and less profound.
40. Digestion becomes slower and less complete.
41. The retina of the eye becomes thinner, in many cases detaching.
42. The macula of the eye loses some of its shape after age 40, and causes distorted vision.
43. Micro-vessels in the eye pop, covering the retina, causing partial loss of vision, or complete blindness.
44. Night-vision decreases.
45. Melanocytes continually release small amounts of the brown- black pigment called melanin into the skin. Exposure to sunlight signals the melanocytes to produce more melanin. Melanin determines our normal skin color and attempts to protect our skin from severe sun damage. As we age, our melanocytes begin to function less effectively. The density of active melanocytes in the skin is reduced by 10% to 20% every 10 years, starting in our late 30's and 40's. Melanocytes are also responsible for hair color, so their loss explains why 50% of people are gray by age 50.

Discussion

The good news is that for everything that can happen, for each sign of aging there is a cause, and there is a mainstream or alternative medicine treatment to slow it down or stop the sign of aging completely, or even reverse the course.

1. Muscle mass decreases... on the average about 7 lbs. per decade... this loss accelerates after age 45.
And what to do about it: Do exercises to increase muscle mass, or to decrease the rate of loss. Take injected growth hormone, which is proven to increase muscle mass. If necessary, take testosterone, which is also proven to increase muscle mass. Try to EAT much more protein, seek protein every day.)

2. Fat percentage increases from 25% to more than 40%.
And what to do about it: Eat less fat in your diet. Make certain you have adequate levels of thyroid hormone. Eat foods with fiber, or fiber supplements. Take thermogenic supplements, such as mah wong, L-carnitine. Take injected growth hormone, which is proven to burn fat in your body.

3. Body strength, energy, and speed decreases.
And what to do about it: Do exercises. Try to EAT much more protein. Take folic acid, phenylalanin, vitamins B complex. Take injected growth hormone, which is proven to increase your energy and body strength.

4. Base Metabolic Rate (Metabolism) decreases. The thyroid gland produces less hormone.
And what to do about it: Eat less fat, eat less carbohydrate, eat more protein. If necessary, take thyroid replacement (with a doctor's supervision.)Take injected growth hormone, which may improve the functioning of the thyroid gland.

5. Aerobic capacity (capacity to process oxygen) decreases.
And what to do about it: Do aerobic exercises. Take injected growth hormone, which is proven to help increase the circulatory system. Check hematocrit and hemoglobin, and do if necessary take EPO (erythropoyetin) which is the hormone that stimulates the bone marrow to produce more red blood cells.

6. Body cells lose sensitivity to insulin.

And what to do about it: Avoid sugar and carbohydrates in your diet, decrease fat in your diet, and increase protein in your diet. If you are overweight, try to lose weight through good diet and exercise. Do exercises to increase muscle mass and to help burn glucose, which helps to lower high insulin levels. Eventually this might reverse insensitivity to insulin. Take supplements with chromium, which will help insulin to work better. A medicine taken by diabetics to increase sensitivity to insulin can also help. Take supplemental magnesium, arginine, carnitine, vitamin C. Buy a meter to measure glucose levels after every meal, and adjust your diet to keep glucose between 70 and 105, (preferably 80 to 95.) Take injected growth hormone, which is the other key needed for insulin to do its work to let glucose into every cell in the body.

7. LDL Cholesterol, (Low Density Lipoprotein, the "bad cholesterol) increases, and HDL Cholesterol (High Density Lipoprotein, the "good" cholesterol) decreases.
And what to do about it: Avoid fat, sugar, and high carbohydrate foods whenever you can. Take chromium, Omega-3 fish oil, amino acids such as taurine, cisteine, carnitine. Eat vegetables with a high content of fiber. Take injected growth hormone, which is proven to increase HDL, and lower LDL.

8. Blood pressure increases.
And what to do about it: Eat less fat, eat less foods with a high carbohydrate content (potatoes, rice, pasta, sweets, bread) and eat more foods with a high protein content. If fat comes with the protein, eat it. Avoid salt, take supplementary chromium, magnesium, potassium, and calcium. Do exercises. Take injected growth hormone, which will lower your blood pressure in the long run. Note: when you begin to take injectable Growth hormone, an immediate benefit is an increase of water retention. However, this will cause a short term increase in your blood pressure. The body, however, will compensate for this in a few months by building more circulatory system, thus decreasing blood pressure.)

9. Density of minerals in our bones decreases. Osteoporosis ("porous bones") is a nearly universal condition beginning after age 50.
And what to do about it: Take testosterone, (and/or female hormones) which are proven to avoid osteoporosis. Take supplemental vitamin D, calcium, magnesium, phosphorus, lysine, vitamin C, and boron. Take injected growth hormone, which is proven to increase your bone density (ie, minerals in your bones.)

10. Calcium increases in our blood, as it decreases in our bones. More calcium in the blood contributes to arthritis, and stiffness of the circulatory system.

11. Kidney function decreases. The kidneys are responsible for filtering and purifying our blood. They also serve as a theromostat to determine if there is enough oxygen in our blood. If there are not enough red blood cells carrying oxygen, the kidneys are the ogans that produce EPO, erythropoyetin. As kidney function decreases, they allow red blood cell level to decrease, which decreases oxygen to all parts of our body.
And what to do about it: If red blood cell count is lower than normal, it can be raised with EPO. (Recombinant EPO will raise red blood cells, and RBC has a life of up to 4 months. This must be taken under medical supervision.) Decrease the amount of meat in your diet. Drink 6 to 8 glasses of pure water every day. Take injected growth hormone, which will increase the circulatory system, which will contribute to the health of your kidneys.

12. We lose about 20% of the neurons in our brain. This may be due to a lack of oxygen, or to the increase in bad enzymes in our brain, or bad circulation, or probably to a combination of these factors. Improving any or all of them will decrease the loss of neurons.
And what to do about it: Take deprenyl to prevent or lessen the amount of MAO-B. Centrophenoxine will help to clean up lipofuscin, which contributes to the loss of brain cells. EDTA chelation will help to

clean up the circulatory system. Lower cholesterol and triglicerides will help blood to flow better. Vaso-dilators such as piracetam, vinpocetine, and hydergine will help get food, oxygen, and water to your brain cells. Hyperbaric Oxygen Therapy will super-saturate blood with oxygen, which could help repair or save brain cells. Take supplements with phenylalanin, choline, vitamins B-5, B-6, B-12, folic acid, calcium, and vitamin C. Take injected growth hormone which will help to increase your circulatory system to the brain, which will help to keep your brain cells healthy.

13. The largest nerve in the body, the vagus nerve, which runs from the brain to the lower body, deteriorates. The vagus nerve is the main neural component of the parasympathetic nervous system, or that part of the nervous system that takes care of the functions that run more or less on "auto-pilot". These include heart rate, ability to have an erection in men, and digestion. As we age, the vagus nerve is affected and damaged by rising blood sugar levels. This affects and can be measured in heart rate, the increase in erectile impotence in men, and digestive problems. A twenty-one year old non-diabetic's heart rate typically slows as much as 75 percent from inhaling to exhaling. This drops to about 30 percent for a seventy year old non-diabetic, or less (including "no variation") in a diabetic.
And what to do about it: Sugar causes the most damage to the circulatory system. Learn which foods increase your blood glucose levels, and avoid those foods (potatoes, bread, sweets, sugar, fruits, rice, pasta, pizza, cookies, cakes) .

13. Growth hormone secretion decreases about 70% from age 20 to 50, and another 70% from age 50 to 80. Testosterone decreases in males, estrogen decreases in females, thyroid decreases, DHEA, and melatonin decrease.
And what to do about it: hormone replacement therapy, (melatonin, DHEA, pregnenolone, testosterone, Tri-Est, progesterone, thyroid, and growth hormone) under a doctor's supervision, or secretagogues such as arginine, ornithine, vitamin B-3, B-5... Take Injected growth hormone in particular, which is the single most important hormone replacement you can take. It is scientifically proven to reverse many of the signs of aging, including perhaps rejuvenating the thyroid gland itself.

14. Our bodies produce less of certain enzymes, such as super-oxidase dimutase, which are important for digestion or as our first natural defense against free radical damage.
And what to do about it: eat raw fruits and vegetables, if necessary take natural enzymes supplements.Take growth hormone, which may help increase the body's production of its own enzymes, and decrease the production of harmful enzymes that increase with age.

15. The thickness of our skin decreases... skin wrinkles.
And what to do about it: Take supplements of vitamin A, C, E, cisteine. Take growth hormone by subcutaneous injection which is proven to increase the thickness of skin.

16. The proportion of water in tissues decreases... this causes dry skin and more wrinkles.
And what to do about it: Vitamin A, C, E... NaPCA creams, inositol, drink plenty of water every day. Take growth hormone by subcutaneous injection, which is proven to cause tissue to retain water.

17. We hear less well, and see less well.
And what to do about it: take supplemental Vitamin A, Vitamin C, Vitamin E. Take growth hormone by subcutaneous injection which is proven to improve sight and hearing. If necessary, use hearing aids and eye glasses.

18. Men more than women, some younger and some older, but all of us lose hair on our heads, and hair turns white.
And what to do about it: Dye your hair. Take growth hormone, which will increase the circulatory system reaching the roots of the hairs, thus taking water, oxygen, and nutrients to the roots of your

hair. This will avoid or postpone the loss of hair.

19. The thymus gland which is the master gland of the immune system, shrinks and atrophys with age, thus impairing our immune system.
And what to do about it: Take supplements of Vitamins A, C, and E. Take growth hormone by injection, which is proven to reverse the atrophy of the thymus gland.

20. The liver and brain and other vital organs shrink and become less effective. We lose up to 20% of the neurons in our brain, especially after age 45. Our liver shrinks in size.
And what to do about it: Take medicines such as vinpocetin, hydergine, and piracetam so that they will dilate the capillaries. This will help feed the brain and other organs with oxygen and nutrients, to prevent loss. Take growth hormone, which will increase the circulatory system, thus getting nutrients and oxygen and water to all organs, thus preventing their loss.

21. Lipofuscin accumulates in our brains and snuffs out memory cells.
And what to do about it: centrophenoxine, piracetam, vinpocetin, hydergine, to help remove lipofuscin from the brain, or reduce the rate of accumulation, with a doctor's supervision. Take growth hormone, which will increase the size and vigor of the circulatory system, thus helping to keep the garbage moving out.

22. The circulatory system deteriorates. We are born with a perfectly clean and beautifully flexible circulatory system reaching everywhere. But by the time we are 50 years old, if you would see a cross-section of your veins and arteries, and depending upon how much you have abused your body with sugar, fat foods, cigarettes and alcohol etc, they are looking like a clogged up sewer. In addition to cholesterol, they are clogged up with calcium, and veins and arteries have lost flexibility. This causes blood to circulate more slowly, and so less oxygen gets to all parts of the body, including the brain. This is a root cause of loss of brain cells, and organ and gland atrophy.
And what to do about it: Avoid as much sugar and carbohydrates and fat in your diet, as possible. Vitamins will help prevent free radical damage, which causes some of the problem. Omega-3 oil will help lower cholesterol, increasing the level of growth hormone will help repair the walls of the circulatory system, and EDTA Chelation Therapy might help to cleanse out calcium and some metals, thus improving circulation. Take growth hormone by injection which is proven to increase the length and breadth of the circulatory system. Take piracetam and hydergine and vinpocetin to dilate the circulatory system, thus helping to increase the flow of blood to all parts of the body. Take EPO to increase blood volume, the percentage of blood that is red blood cells, and hemoglobin which carries oxygen.

23. Toxic metals such as lead and mercury accumulate throughout our lives in our bodies. They stick to the brain and the spinal column, causing damage. This process probably starts soon after birth. After a certain level, lead will cause a decrease in learning. Mercury causes a decrease in learning and headaches and pain. Both probably also contribute to damage which might result in an increase in other terrible deseases.
And what to do about it: Get an analysis done to determine what levels of toxic metals are in your body. Of course, if you smoke, quit smoking. EDTA Chelation therapy and DMSA pills (both under medical supervision) will lower the levels of toxic metals. Some heavy exercises can also help lower some toxins, a little. Avoid contact as much as possible with mercury and lead in paints, fungus creams, etc. The greatest amount of mercury is foolishly placed into your mouth by ignorant dentists, via so-called "silver" amalgams (if dentists would call them "mercury amalgams," like they should since they are more than 50% mercury, then they might lose business...) Utterly refuse any mercury amalgams in your mouth, and consider removing and replacing the ones you have!

I am passionate about this because I am a victim of my dentist's ignorance, as can be seen in my lab results of my hair analysis.

24. Deep sleep deteriorates. The first stage of deterioration of sleep due to aging occurs between young adulthood (ages 16 to 25) and mid-life (35-50). Although the total amount of sleep remains constant as young adults move into mid-life, the proportion of slow wave or deep sleep decreases from nearly 20% of a normal night's sleep for those under 25, to less than five percent for those over 35. Growth hormone secretion, which occurs primarily during deep sleep, also declines by about 75%.
And what to do about it: Take growth hormone by subcutaneous injection, which is proven to increase deep sleep. This is also one of the first benefits that I lost when I purposely stopped taking Growth hormone for 30 days.

25. Certain bad hormones such as cortisol increase with age. Cortisol is produced by the body in response to stress. It is a catabolic, ie, it destroys muscle. Cortisol is also known as "the Death hormone" under the theory that the human body will spontaneously end its own life at a certain age.
And what to do about it:Avoid anger and stress, and very strenuous exercise which will make the body produce cortisol. Take injected growth hormone, which helps you to remain optimistic and to resist stress.

26. A harmful enzyme, aromatase, *increases* with age. Aromatase converts testosterone to estrogen. In a man's body, this results in a loss of muscle and worsening skin tone, and a decrease in sex drive. In a woman's body, this results in depriving her of the little testosterone she has, which is vital for building muscle, and skin tone, and also sex drive.
And what to do about it: Take Arimidex, which is a very effective anti-aromatase. This should be taken after a blood tests shows low levels of free testosterone and high levels of estradiol or estrogen in men. (I am not sure when women should take estradiol.)

45. As we age, our melanocytes begin to function less effectively. The density of active melanocytes in the skin is reduced by 10% to 20% every 10 years, starting in our late 30's and 40's. Melanocytes are also responsible for hair color, so their loss explains why 50% of people are gray by age 50. When sunlight hits the skin, cells called melanocytes (located between the outer and middle layers of the skin) begin to take action. Melanocytes continually release small amounts of the brown- black pigment called melanin into the skin. Exposure to sunlight signals the melanocytes to produce more melanin. Melanin determines our normal skin color and attempts to protect our skin from severe sun damage.

and what to do about it: take injectible growth hormone, which is known to reverse loss of hair color in many people. Also take trisoralen, or Meladinina, or Metoxalene or Ammoidin, which increases melanin in the skin.

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http://www.rajeun.net/signs.html

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