Anti-Aging Medicine

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Opening

- Generally, ill health was considered part of getting older. We now have information that this doesn't have to happen. There is no reason why most of us can be functional and healthy to the end of our lives.
- As we see more people dealing with health issues occurring more commonly as people get older, no society can sustain this growing epidemic of ill health.
- A number of diseases that were found in older people, they are now occurring in younger people. One example is diabetes, type 2. This disease used to be considered a condition for older people. It is now occurring in younger ages, and even in children. Another one is cancer.
- A new area of medicine is emerging, referred to as anti-aging medicine. Actually, many of the protocols addressed for older people can be utilized for all age groups.

Cellular Health

- Everyone's health begins with our cells, the basic building block of our organs, the various systems, enzymes, hormones, and ultimately our whole body.
- In each cell, we have a nucleus and within that nucleus is the DNA, the blueprint of how that cell is supposed to be the designed.
- It is extremely important for the body to protect this DNA. When the cell needs to reproduce itself, it needs the DNA as its roadmap. If the DNA gets altered, then the cells it reproduces will not be the same and this can lead to the development of cancer.
- The cells are able to reproduce or replicate itself a number of times before it can no longer do that. This has to do with telemores.

Cellular Functions

- Free Radicals
  - This is a term for one or more unpaired elections orbiting around molecules and looking for another electron to restore its equilibrium. Free radicals can steal electrons from nearby stable molecules. This can cause molecules to function improperly.
- Glycation
  - Glycation is a chemical reaction in which the molecules of sugar and protein are tangled up, resulting in deformed and non-functioning molecules. Glycated proteins have a tendency to fuse together, a process known as cross-linking. This causes the body's tissues to become increasingly stiff and tough. Glycated proteins produce cellular toxins known as advanced glycation end products or AGEs. It plays a role in:
    - Alzheimer's
    - Atherosclerosis
    - Cataract formation
    - Complications of diabetes
    - Heart failure
    - Premature skin aging

Source: **The Life Extension Revolution: the new science of growing older without aging (2005) by Philip Lee Miller, MD with Monica Reinagel. (Publisher: Bantam)**

Cellular Functions continued

- Inflammation, Chronic
  - Inflammation occurs when the cytokines are activated in response to a fever or injury and they don't shut off. Measuring inflammation can be done through the C-Reactive Protein and Fibrinogen tests.
- Oxygenation
  - Oxidative stress is like our cells rusting, like car rusts. Oxidative stress occurs on four levels:
    - Level 1 - This occurs at the molecular and cellular levels.
    - Level 2 - This affects the cell membranes, DNA, enzymes, protein synthesis, and mitochondrial function.
    - Level 3 - This affects the structural and functional level of blood vessels, nerve cells, skin, muscles, and organs.
    - Level 4 - At this level, premature aging, chronic and degenerative diseases take place.
  - Note: Anti-aging medicine seeks to address issues at the earliest level possible, like level 1 instead of waiting for it to progress level 4. Oxidative stress can be measured.

Source: **The Life Extension Revolution: the new science of growing older without aging (2005) by Philip Lee Miller, MD with Monica Reinagel. (Publisher: Bantam)**

Detoxification

- As more of us, even people who eat organic foods, are getting exposed to toxins in our air, water, the soil, in food, personal care products and cleaning products, clothing, mercury in dental fillings and vaccines, and building components, our body's ability to keep up with the detoxification process gets overwhelmed.
- Whenever possible, we need to reduce our exposure to toxins.
- Detoxification (it has to be done in a safe manner) becomes an essential part of protecting our health.
- Testing is available to assess our exposure to toxins.

Detoxification – Sources of Toxins

- Our bodies can be exposed to the following toxins:
  - anesthetics
  - food additives
  - heavy metals
  - illegal drugs (heroin, cocaine, and marijuana)
  - industrial chemicals
  - legal drugs (alcohol, tobacco, and caffeine)
  - pharmaceuticals
  - 3,000 chemicals added to our food supply
  - 10,000 chemicals in form of solvents, emulsifiers, and preservatives

Source: **Breakthrough: 8 steps to wellness (2008) by Suzanne Somers (Publisher: Crown Publishers)**

Detoxification – Steps to Take

- Steps to detoxification include:
  - clean foods
  - colonic therapy
  - build immune system
  - lymphatic system - keep it active and functioning

Source: **Breakthrough: 8 steps to wellness (2008) by Suzanne Somers (Publisher: Crown Publishers)**

Digestive Health

- Digestive Enzymes - There are three main types of digestive enzymes to digest different types of food. One is called protease, used to digest proteins. The second one is lipase, used to digest fats. The third one is amylase, used to digest carbohydrates. There are other digestive enzymes.
- Dysbosis - This means that there is imbalance of good vs bad bacteria in the intestines. In this case, we don't have enough of the good bacteria, and too much of the bad bacteria. This affects nutrient absorption. (It can also be called gut dysbosis.)
- Fiber - There are two types of fiber, soluable and insoluable. Fiber has three roles. One, it helps to curb the appetite. Two, fiber excretes more calories from food. Three, fiber slows down the conversion of carbohydrates and the absorption of sugar from food into the blood stream. Ideally, we need about 35 grams of fiber on a daily basis for optimum digestive function.

Digestive Health continued

- HCI or hydrochloric acid (Stomach Acid) - According to the Gut Solutions, hydrochloric acid is one of nature's most essential antibiotics. Proper levels of hydrochloric acid are needed for nutrient absorption in the stomach. It helps absorb nutrients like vitamin B12, selenium and zinc. Stomach acid breaks down proteins into amino acids. It is also needed for kill pathogenic organisms in the stomach. The stomach lining produces pepsin.
- Metabolic enzymes - Other enzymes guide the smaller, broken-down molecules through the intestinal wall into the bloodstream. Still, other enzymes promote the formation of large, complex molecules from the small, simple ones to produce cellular constituents. Enzymes are also responsible for numerous other functions, which include the storage and release of energy, the course of reproduction, the processes of respiration, and vision. They are indispensable to life.

Source: **Gut Solutions: How to solve your digestive problems naturally, 2nd ed. (2011) by Brenda Watson with Leonard Smith, MD, Suzin Stockton, and Jamey Jones. (Publisher: Renew Life Press and Information Services)**

Digestive Health continued

- Metabolic Enzymes continued - Each enzyme is able to promote only one type of chemical reaction. The compounds on which the enzyme acts are called substrates. Enzymes operate in tightly organized metabolic systems called pathways. A seemingly simple biological phenomenon—the contraction of a muscle, for example, or the transmission of a nerve impulse—actually involves a large number of chemical steps in which one or more chemical compounds (substrates) are converted to substances called products; the product of one step in a metabolic pathway serves as the substrate for the succeeding step in the pathway.

- Probiotics - Probiotics serve a number of purposes. It protects the body from pathogens, supports immunity, maintains intestinal barrier, reduces inflammation, enhances detoxification, supports nutrient absorption, and manufactures vitamins. Before the advent of refrigeration, fermented foods were more commonly eaten, like yogurt and sauerkraut.

Exercise

- As we age, exercise becomes even more essential
- Four hours of physical activity are needed every day.
- There are a number of benefits for exercise. They are:
  - Boost sexuality
  - Eases anxiety
  - Helps mood and fights depression
  - Helps prevent, delay, and reduce the onset of cognitive impairment that comes with dementia, aging, and Alzheimer's
  - Helps short term memory
  - It increases circulation
  - Promotes learning and memory
  - Strengthens the brain
- Exercise can help increase human growth hormone levels, as well as DHEA, amino acids, and niacin.

Source: **Use Your Brain to Change Your Age: secrets to look, feel, and think younger every day (2012) by Daniel G. Amen, MD. (Publisher: Crown Archetype) (Added 08/08/2013)**

Hormonal Health: Major Hormones

- The major hormones (and glands) are:
  - thyroid hormones (affects all areas of the body)
  - adrenals (affects our energy and immune system, continued and unrelentless stress deplete the adrenals)
  - cortisol (depleted levels of cortisol are a setup for a heart attack)
  - insulin (high levels cause quite a few symptoms)

- Source: **Breakthrough: 8 steps to wellness (2008) by Suzanne Somers (Publisher: Crown Publishers)**

Hormones: Minor Hormones

- The minor hormones are:
  - estrogen
  - progesterone (not progestin)
  - testosterone
  - pregnenolone
  - DHEA (dehydroepiandrosterone)
  - melatonin
  - human growth hormone

Source: **Breakthrough: 8 steps to wellness (2008) by Suzanne Somers (Publisher: Crown Publishers)**

Hormones

- DHEA is considered to be an anti-aging hormone at it promotes renewal and replacement of tissues. It also a factor for neurotransmitters as well as for short and long term memory
  - regulates immune function
  - converts to steroid hormones
  - helps with moods
- Estrogen - Three types of estrogen exists, Estrone (E1), Estradiol (E2), and Estriol (E3). Estrogen deficiency manifests itself a number of ways, including loss of skin firmness and elasticity, dry skin, reduced feeling of wellbeing, memory loss and accelerated bone loss. The authors talk about balanced estrogen therapy, which uses all three types of estrogen. Estrogen dominance is not good especially for men. It can increase the risk of heart attacks and strokes in men as well as inflammation of the prostate (BPH).

Hormones continued

- Growth Hormone - This hormone declines with age, definitely by age 60. Conventional medicine considers low growth hormone levels in older patients to be "normal". Anti-aging medicine believes that growth hormone levels should correspond to levels found at younger ages. Increasing the growth hormone levels can reverse the aging process. It is tricky to measure growth hormone levels as it pulses 5 to 6 times a day in younger people and for older people, 2 to 3 times a day. Insulin-like growth factor (IGF-1) is a major marker for the growth hormone level. (Note: Professional medical guidance is needed with this hormone.)
- Pregnenolone - This hormone helps boosts progesterone.
- Progesterone - Progesterone plays a role in reducing the proliferation of cancerous breast cells. It also helps brain function and bone health. For men, progesterone helps them, too, with bone loss, prostate health, and sexual function.

Hormones continued

- Testosterone - Testosterone is an energizing hormone. Symptoms of low testosterone can manifest itself as depression, fatigue, and loss of libido. It can help with mood and can keep the cholesterol and blood pressure down. Different types of testosterone exist. One that is a problem for prostate cancer growth is testosterone metabolite DHT.
- Thyroid - Thyroid plays a number of roles including fatigue, weight gain, cold hands and feet, and more susceptibility to colds and infections. The authors cover in detail the role of the various thyroid hormones. This includes TSH, T4, and T3, reverse T3, and thyroid antibodies.

Information on Hormonal Health

- One, for optimum health, our hormones need to be on the levels experienced in our twenties and thirties.
- Two, bioidentical hormones are much better than synthetic hormones.
- Three, bioidentical hormones can reduce the incidence of Alzheimer's.
- Four, low testosterone levels means earlier death.

Source: **Breakthrough: 8 steps to wellness (2008) by Suzanne Somers (Publisher: Crown Publishers)**

Nutrition

- There is testing available to assess nutritional status.
- Avoid processed foods with a long listing of chemicals. Natural flavoring may or may not include MSG.
- When possible, use organic sources. Meats that are grass fed are much better than farmed raised meats.
- Avoid GMOs. Unfortunately, they are not labelled unless it says no GMOs. It is in a number of vegetable oils.
- Prepare your own meals and minimize eating outside in restaurants.
- For those with blood sugar issues, avoid sugar, simple carbohydrates, and keep to a minimum legumes.

Stem Cell Treatment (Regenerative Medicine)

- There are three types of stem cells, fetal, umbilical, and adult stem cells. The possibilities of what these stem cells can cover are addressed.
- They can be used for heart disease, hair growth, orthopedic uses in joints such as knee replacements.
- Fetal stem cells are not effective and should not be used.

Source: **Breakthrough: 8 steps to wellness (2008) by Suzanne Somers (Publisher: Crown Publishers)**

Steps to getting well as well as anti-aging

- Eight steps are listed to get well as well as anti-aging. They are:
  - Avoid chemicals and do periodic detoxification
  - Avoid pharmaceutical drugs unless absolutely necessary, use natural alternatives
  - Exercise
  - GI Tract (a functioning and healthy gut is essential)
  - Nutrition
  - Sleep
  - Supplement your diet
  - Use of bioidentical hormones replacement

Source: **Breakthrough: 8 steps to wellness (2008) by Suzanne Somers (Publisher: Crown Publishers)**

Addendum

- Bibliography (one covering anti-aging medicine and one on herbs that combat anti-aging)
- Biomarkers of Aging
- Glossary
- Herbal Treatment
- Medicinal Mushrooms
- Organizations, Anti-Aging
- Organs Involved with Hormonal Health
- Psychological Issues
- Testing for Anti-Aging Medicine
- Top Anti-Aging Foods

Addendum: Bibliography

- Bombshell: explosive medical secrets that will redefine aging (2012) by Suzanne Somers (Publisher: Crown Publishing)
- Breakthrough: 8 steps to wellness (2008) by Suzanne Somers (Publisher: Crown Publishers)
- http://www.anti-aging-plan.com/en/biomarkers_of_aging
- https://www.britannica.com/science/protein/Role-of-enzymes-in-metabolism
- https://www.emedicinehealth.com/anatomy_of_the_endocrine_system/article_em.htm#what_is_the_endocrine_system
- The Biology of Belief: unleashing the Power of Consciousness, Matter, and Miracles (2008) by Bruce H. Lipton, Ph.D. (Publisher: Hay House, Inc.)
- The Life Extension Revolution: the new science of growing older without aging (2005) by Philip Lee Miller, MD with Monica Reinagel. (Publisher: Bantam)
- The Woman's Guide to Good Health, High Energy & Ideal Weight: eating wisely for hormonal balance (2004) by Sonia Gaemi, Ed.D., RD (Publisher: New Harbinger Publications)
- UPDATE ANTI AGING MEDICINE AND CLINICAL APLICATION Chandrawati, dr, M.Biomed.AAM (powerpoint)
- Use Your Brain to Change Your Age: secrets to look, feel, and think younger every day (2012) by Daniel G. Amen, MD. (Publisher: Crown Archetype)

Addendum: Bibliography focusing on herbs

- https://food.ndtv.com/health/anti-ageing-herbs-8-ayurveda-herbs-to-slow-down-ageing-1823887
- https://www.doctoroz.com/article/top-10-anti-aging-herbs-and-spices
- https://www.yinovacenter.com/blog/live-longer-live-stronger-10-of-the-best-herbal-adaptogens-for-anti-aging/

Addendum: Biomarkers of Aging, version one

- Under the anti-aging protocol, we have a list of factors that are considered biomarkers of aging. They are:
  - body composition
  - cognitive function
  - disease risk factors
  - hormone levels
  - mood
  - nutrient status
  - organ function
  - performance

Source: Philip Lee Miller

Addendum: Biomarkers of Aging, version two

So far, around 24 factors have met the criteria and can be considered biomarkers. They may be indicated especially for males or for females, and figures may vary between the sexes. Here is their list:

1. 17-ketosteroid/ 17-hydroxycortiosteroid ratio (male)
2. Ascorbic acid
3. Basal Metabolic Rate
4. Blood pressure- pulse
5. Blood pressure- systolic
6. Body Mass Index (female)
7. Caries index
8. Creatinine clearance
9. DHEA-S
10. Fibrinogen
11. Hair baldness (male)
12. Hair grayness
13. Handgrip strength
14. Hemoglobin A1C
15. Lung capacity- FEV1
16. Lung capacity- FVC
17. Maximum oxygen update (male)
18. Near vision
19. Noradrenaline- plasma (male)
20. Peridontal index
21. PSA total (male)
22. Skin elasticity
23. Testosterone free (male)
24. Zinc- serum

Source: http://www.anti-aging-plan.com/en/biomarkers_of_aging

Addendum: Glossary

- Biomarkers – A biological molecule found in blood, other body fluids, or tissues that is a sign of a normal or abnormal process, or of a condition or disease. A **biomarker** may be used to see how well the body responds to a treatment for a disease or condition. It is called molecular marker and signature molecule.
- Collagense - Collagense is an enzyme that breaks down collagen. Cells become less responsive with age to signals that tell them to increase production of fresh collagen. This plays a role in joint health. (Source: Philip Lee Miller)
- Cortisol - Cortisol is an enzyme that is produced by the adrenals. High levels of cortisol causes a number of problems, including raising the blood sugar. (Source: Philip Lee Miller)

Addendum: Glossary continued

- Homocysteine - Homocysteine are a more accurate risk measure for potential heart attack risk instead of cholesterol. Elevated homocysteine levels are associated with:
    - Cancer
    - Depression
    - Inflammatory bowel syndrome
    - Low thyroid function
    - Parkinson's
- Immune systems - two types of systems, one is the innate immune system and the second one is the adaptive immune system
- Metabolism determines the rate you age. There are two types:
    - Anabolic metabolism - regeneration and restoration activity
    - Catabolic metabolism - breakdown and degeneration activity

Addendum: Glossary continued

- Mercury – It behaves as an estrogen and is also a xenoestrogen. A urine test can measure mercury levels (a highly toxic metal and known as a heavy metal).
- Methylation - Proper methylation is essential for health. Methylation is the transfer of a methyl group (one atom of carbon attached to three atoms of hydrogen) from one molecule to another. Methylation does:
  - Detoxify carcinogens and other poisons
  - Form new cells
  - Manufacture nutrients that can help with methylation
  - Repair damaged DNA
- mTOR – It is a messenger service for cells, a cell-signaling molecule. It transfers information inside cells.

Addendum: Glossary continued

- Nanotechnology - Nanotechnology uses patches to deliver medicine. There are several types: glutathione patch (helps with detoxification), carnosine patch (repairs cells), sleep patches, and pain patches. (Suzanne Sommers)
- Regenerative Medicine - Regenerative medicine is a branch of translational research in tissue engineering and molecular biology which deals with the "process of replacing, engineering or regenerating human cells, tissues or organs to restore or establish normal function“.
- Senescence - Senescence cells are dying cells and a factor in age-related disease. Senescence can be reversed.
- Statins drugs – Statin drugs are used to reduce cholesterol. Statin drugs have a number of side effects. They include memory loss, brain dysfunction, increased cancer risk, and peripheral neuropathy. Statin drugs depresses testesterone and depletes the body of coenzyme Q10.

Addendum: Glossary continued

- Telomeres - are the tails end of chromosomes. Cells can be replicated fifty times, then the cell can no longer replicate itself and it dies. (People with AIDS have shorter telomeres.) One test to measure telomeres is polymerase change reaction test (PCR test).
- Telomerase - an enzyme that determines a cell's ability to regrow or lengthen the telomeres
- Vitamin K2 - prevents the calcification of the aorta valve (Note: Europe uses a balloon catheter procedure to replace the aorta valve.)
- Zeolites - natural volcanic rock that can attract toxins and safely remove toxins from the body.

Addendum: Herbal Treatment

- A number of herbs are known to help with anti-aging.
- **Amalaki -** Amalaki, or Amla, is an excellent source of Vitamin-C and antioxidants that help your body fight various diseases. Also, it helps you keep safe from age-related macular degeneration and cataracts.
- **Ashwagandha** – High in antioxidants and used in Ayurvedic medicine for its infection fighting properties. Ashwagandha is also used to address depression and reduce the effects of stress. Ashwagandha helps in rapid cell regeneration and rejuvenation that in turn helps in delaying signs of aging, especially pertaining to the skin.
- **Brahmi-** Brahmi, or Bacopa, is a memory enhancer, especially useful for those who may be suffering from age-related memory loss. It is believed to have refreshing effects on your brain.

Note: This information is for informational purposes. Seek the services of a knowledgeable herbalist and health care practitioner.

Addendum: Herbal Treatment continued

- **Cordyceps** – High in antioxidants, Cordyceps has been used for thousands of years in China where it is revered for it's immune boosting properties and it's ability to enhance energy. Recent research has shown that cordyceps can reverse some of the effects of aging in mice. (A mushroom)
- **Ginko Biloba –** Like turmeric, ginko improves circulation and can be used to protect against Alzheimer's and other conditions that affect memory and cognition. It can also be used to prevent heart disease and macular degeneration.

Addendum: Herbal Treatment continued

- **Ginseng –** In Chinese herbology, Ginseng is a qi tonic so it has long been prized for giving energy and increasing vitality. It seems to offset the effects of stress on the body and there is good scientific evidence that ginseng improves the immune system.
- **Green Tea** – Studies have shown that tea polyphenols have a protective effect against free radicals, cardiovascular damage, some cancers and infections. There has been some positive research that has looked at how drinking green tea can protect the skin from sun damage and so reduce wrinkles.
- **Guduchi -** Guduchi, or Giloy, is known to revive our skin tissues and resolve inflamed skin conditions by its anti-inflammatory properties. Guduchi is responsible for promoting mental clarity and enhance our immune system.

Addendum: Herbal Treatment continued

- **Guggulu -** Guggulu is a powerful and potent herb that is derived from the flowering tree Mukul Myrrh. Its anti-inflammatory properties help in combating various diseases and inhibit the growth of free radicals in the body.
- **Fo-ti** -This Chinese herb is also known as he shou wu which translates as “black-haired Mr. He”. This name refers to a famous folk story of an old man called Mr. He who took fo-ti and restored his black hair, youthful appearance and vitality. Fo-ti is used for fatigue, immune dysfunction and to treat premature aging, particularly premature grey hair.
- **Holy Basil** – Another ayurvedic herb, holy basil supports the cardiovascular system, balances insulin and even improves the moisture level of the skin. It helps to reduce the effects of stress by lowering cortisol levels.

Addendum: Herbal Treatment continued

- **Rhodiola** – Widely used by Russian athletes and cosmonauts to improve energy and performance, rhodiola helps your body to manage stress. It is calming and plays a role in normalizing heart rate after stress or exercise.
- **Royal Jelly** – This creamy substance produced by young nurse worker bees is used as a nutrient-rich food for the queen bee. It is these nutrients that have given it a reputation as a longevity tonic. High in antioxidants, royal jelly is used to strengthen the immune system and priced for its ability to reduce inflammation.
- **Turmeric** – used in both Chinese and Ayurvedic medicine, turmeric has been shown to protect against Alzheimer's disease when paired with vitamin D. It also promotes circulation, relieves aches and pains, reduces inflammation, can prevent certain cancers and protects the liver.

Addendum: Medicinal Mushrooms

- Chaga – An immune boosting tonic herb that optimizes full body health and wellbeing. Also, it is a rich source of betulinic acid, melanin, B vitamins and zinc. Melanin protects DNA from free radicals and supports cell regeneration.
- Cordyceps – Increases energy through improving cell function. Increases endurance and stamina by supporting respiratory function and increases oxygen levels.
- Lion's Mane – Benefits the brain, nerves, and immune system. Helps cognitive function and neuron protection and repair.
- Maitake-Helps the immune system and activates beta-glucan compounds. Also, helps with blood sugar levels, cholesterol and cell growth.

Source: Happy Wholefoods, www.happywholefoods.com

Addendum: Medicinal Mushrooms continued

- Oyster – Modulates blood cholesterol levels, and reduce triglycerides and LDL cholesterol. Also, anti-bacterial.
- Reishi - Nourishes all three pillars of health, boosts the immune system, calms the nervous system, balance the mind, and helps with stress
- Shitake - An potent anti-oxidant, anti-inflammatory, anti-bacterial, and anti-fungal. A rich source of B vitamins and helps with cholesterol and atherosclerosis.
- Turkey Tail - Helps the body to fight off infections, colds, and the flu. Also contains prebiotics, beneficial to the gut flora.

Addendum: Organizations, Anti-Aging

- American Academy of Anti-Aging Medicine at https://www.a4m.com/
- The World Health Network at https://www.worldhealth.net

Addendum: Organs involved with hormonal health

- Adrenal Glands
- Hypothalamus
- Parathyroid Glands
- Pancreas
- Pineal Body
- Pituitary Gland
- Reproductive Glands
  - Ovaries (female)
  - Testes (male)
- Thyroid Gland

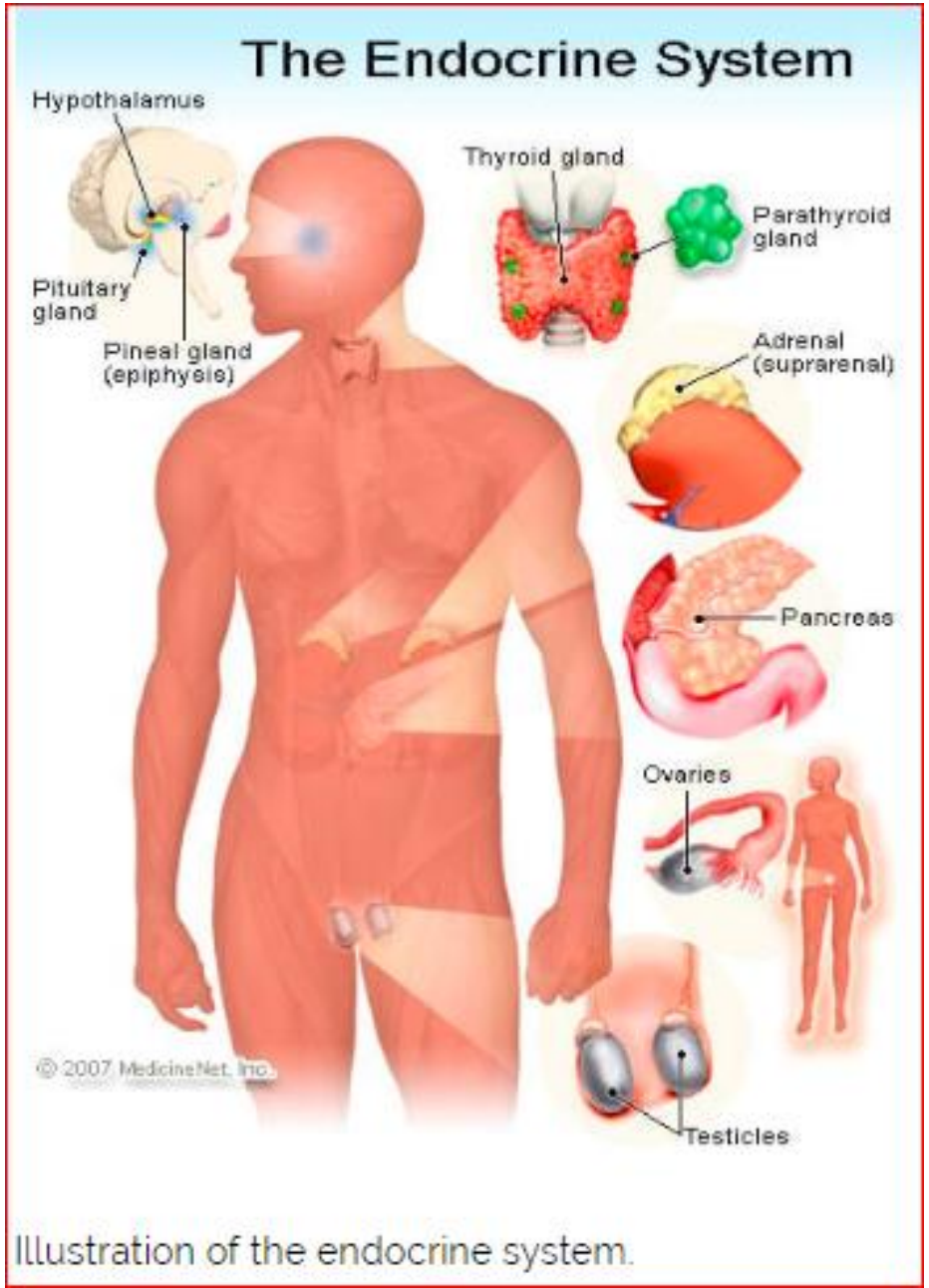

Illustration of the endocrine system.

Source: https://www.emedicinehealth.com/anatomy_of_the_endocrine_system/article_em.htm#what_is_the_endocrine_system

Addendum: Psychological Issues

- One consideration, is that our society is deluged with ads and commercials advertising drugs for various health issues as well as services for aging like home health care services. This sends a message that declining health as part of getting older is normal. There are societies where their seniors are able to remain active and functional to the end of their lifespan.
- Second consideration is that our bodies have both a conscious and subconscious mind. The subconscious mind can have a major effect on our behavior as well as on our health.
- Third consideration is the role of the placebo effect as well as the nocebo effect (opposite of placebo).

Addendum: Testing for Anti-Aging Medicine

Listing of tests for Anti-Aging Medicine or Advanced Medicine			
Female Hormone Levels	Male Hormone Levels	Reversible Risk Factors	Blood Chemistry
• **Cortisol**	• Cortisol	• C-Reactive Protein	• Albumin
• **DHEA-S**	• DHEA-S	• Cholesterol (total)	• Albumin/Globulin (A/G) ratio
• **Estrogen**	• Estradiol	• Fibrinogen	• Bilirubin
• **Free T3**	• Free T3	• HDL	• Blood urea nitrogen (BUN)
• **Free T4**	• Free T4	• Homocysteine	• Calcium
• **IGF-1**	• IGF-1	• LDL	• Creatinine
• **Progesterone**	• Progesterone	• LDL/HDL ratio	• Fasting Blood Sugar (FBS)
• **Total Testosterone**	• Total Estrogen	• Lp(a)	• Fasting Insulin
• **TSH**	• Total Testosterone	• TG/HDL ratio	• Ferritin
	• TSH	• Total/HDL ratio	• Globulin
		• Triglycerides (TG)	• Hermatocrit
			• Mean corpuscular volume (MCV)
			• Potassium
			• Sodium
			• Uric acid
			• White blood cell (WBC)

Source: Philip Lee Miller

Addendum: Testing for Anti-Aging Medicine

- Anti-Aging #1 Baseline Blood and Urine Test Panel (one for women and one for men)
- Dementia Blood Test Panel
- Anti-Aging #2 Essential Blood and Urine Panel (one for women and one for men)
- Anti-Aging #3 Extreme Blood and Urine Test Panel for Men
- Anti-Aging #4 Comprehensive Blood and Urine Test Panel for Women
- Top 12 Important Blood Test Panel (one for women and one for men)
- Prostate-specific Antigen (PSA) Hormone Blood Test Panel
- Arthritis Comprehensive Blood Test Panel, Women
- Arthritis Wellness #2 Blood Test Panel
- Erectile Dysfunction (ED) #1 Baseline Blood and Urine Blood Test Panel
- Erectile Dysfunction (ED) #2 Essential Blood and Urine Blood Test Panel

Addendum: Testing for Anti-Aging Medicine continued

- Lipid Panel Blood Test with LDL:HDL Ratio
- NMR LipoProfile Blood Test with IR Markers and Lipids
- Lipid Panel Blood Test with Non-HDL
- Weight Management Blood Test Panel (one for women and one for men)
- Inflammatory #1 Baseline Blood Test Panel

- Note:
- LabCorp: Online lab testing is prohibited in MA, MD, NY, NJ and RI. Quest Diagnostics: Online lab testing is prohibited in NY, NJ and RI.
- Source: https://www.walkinlab.com/anti-aging.html

Addendum: Top Anti-Aging Foods

Listing of Foods

- Avocado
- Blueberries
- Bone Broth
- Chaga Mushrooms
- Collagen Protein
- Dark Chocolate
- Figs
- Maca
- Nuts
- **Salmon**
- Turmeric

Benefits

- Lower risk of heart disease
- Skin protection
- Support cognitive function
- Aid bone health
- Vision protection
- Improved gut health

Source: https://draxe.com/anti-aging-foods/?rs_oid_rd=9636832913158 64&utm_campaign=20190206_week06_curated_product&utm_source=smart+blast&utm_medium=email

Conclusion

- The current American Health Care System is crisis oriented. It is not really geared to promoting health. When health insurance companies limit visiting time to seven minutes with a health care practitioner, you have ask yourself is this quality medical care? Does this give the practitioner enough time to read the patient's records? The focus on prescription drugs, surgery, and vaccinations with little attention on nutrition is not helping our country to be healthy.
- Our country is overdue for a universal health care system. 27 industrialized countries provide some form of universal health care for their citizens.
- From a public economics point of view,in taking a look at the total costs of ill health in our society, the costs are staggering. Most of the bankruptcies are due to medical costs. Furthermore, we need to remember people who take care of their family members, time spent in nursing homes and rehabilitation places, and not to mention hospitals.