We have all read the recent cover stories in our major favorite news and magazines; Americans are seeking alternatives to nursing homes and healthcare that primarily focuses on disease management. To this end, anti-aging or age management medicine has become the new healthcare paradigm, a solution that aims to alleviate some of the burden of our booming older population. Indeed, *aging* is a global phenomenon. The net balance of the world's elderly population was reported to have grown by more than 795,000 people each month in the year 2000. Projections to the year 2010 suggest that the net monthly gain will be on the order of 847,000 people per month. In fact, from 2000 to 2050, there exists a steep rise in global population associated with speedy arrival at billion population markers. Moreover, due to the progressive shift in the leading causes of death from infectious disease and sanitation-related illness in early 1900's to heart disease, cancer, and stroke by late 1900's, and with the subsequent ability to prevent and manage many of these ailments, it has been predicted that the world's top average life expectancy would reach 100 within the next 50 years. Yet, anti-aging medicine is a young field. It did not even exist as a discipline few decades ago. But today, anti-aging medicine is driven by millions of Americans who desire to maintain wellness and vitality, and physicians who aspire taking medical care to a whole new level.

But what is anti-aging or age management medicine? According to the Age Management Medicine Group, age management medicine is a proactive, preventive approach to healthcare for an aging population with focus on preservation of optimum human function and quality of life making every effort to modulate the process of aging prior to the onset of degenerative diseases. Similarly, as defined by the American Academy of Anti-Aging Medicine, anti-aging medicine is a medical specialty founded on the application of advanced scientific and medical technologies for the early detection, prevention, treatment, and reversal of age-related disorders. It is a healthcare model that promotes innovate science and research to prolong healthy human lifespan.

In general, all diseases can be classified into four main categories; the first three are inherited genetic disease, infectious disease, and trauma, and they account for only about 10 % of healthcare cost in the U.S. Nearly 90 % of all healthcare dollars are spent on extraordinary care during the last 2 to 3 years of life. It has been reported that a grand total of 50 % of the U.S. healthcare budget is utilized on the degenerative diseases of aging, which include heart disease, most cancers, adult-onset diabetes, stroke, high blood pressure, osteoporosis, osteoarthritis, autoimmune disease, glaucoma, and dementia, etc. Over 100 million Americans are being treated for one or another degenerative disease at a cost of more than $700 billion per year, and the cost is expected to increase as we live longer. If we truly want to improve healthcare in this country, we must focus our attention on the degenerative diseases of aging. With early detection and appropriate intervention, most of these diseases can be prevented, cured, or even have their course reversed. This is anti-aging medicine!

The science of anti-aging medicine is multi-disciplinary. It is not only represented by advances in the fields of biochemistry, nutrition, physiology, and endocrinology, but also enhanced by contributions from disciplines such as mind-body medicine, sport medicine, molecular genetics, and biomedical engineering. It is evidence-based and

clinically sound healthcare. Anti-aging medicine is a field that truly represents the ultimate pinnacle and synergy of preventive and integrative holistic medicine, as discussed separately from my previous articles.

What are the major theories of anti-aging medicine? There are 5 prominent inter-related theories.

1. **Inflammation:** The activation of the immune system due to an infection, allergen, or toxin can lead to cellular inflammation, which is associated with the development of chronic disease. Anti-inflammation is therefore anti-aging.
2. **Lifestyle:** We are what we eat, drink, do and don't do, and what we expose ourselves to can either accelerate or decelerate the aging process. Healthy lifestyle is key in anti-aging.
3. **Hormones:** Levels of estrogen, progesterone, testosterone, DHEA, cortisol, pregnenolone, melatonin, thyroid, and growth hormone drop as we age. By increasing these hormones to their optimal levels, it is possible to improve health and slow down the aging process.
4. **Antioxidants:** As we age, we are more subject to cellular damage from unstable free radicals. Antioxidants can help protect our cells and is therefore anti-aging.
5. **Detoxification:** When the body accumulates too much toxins from our food or environment, its equilibrium is impaired, leading to the development of chronic illness. Detoxification is necessary for anti-aging.

So finally, what are some of the basic ways to live longer and healthier?

1. Early Detection: It offers opportunities to prevent or effectively alter disease progression.
2. Stay Slim: Due to medical risks associated with obesity, it is the second leading cause of preventable death.
3. Avoid Trauma: Trauma kills more people between the ages of 1 and 44 than any other disease or illness.
4. Don't Smoke: Tobacco use, especially cigarette smoking, is the single most preventable cause of death.
5. Regular Exercise: There are all too many wide-ranging benefits from reducing the risk of heart disease to countering anxiety and depression.
6. Be Social: It has been shown that social interaction leads to more satisfaction with life and decreased risk of dementia.
7. Active Sex Life: Research has shown that sexual activity associates with looking younger due to enhanced hormones release.
8. Mental Stimulation: Memorization strategies can help the brain to work more effectively and reduce age-related memory loss.
9. Stress Reduction: It is important to learn to reduce responsibilities and expectations, to exercise and to engage in healthy lifestyle and hobbies.
10. Restful Sleep: Sleep is necessary for survival and proper brain function.
11. Dietary Choices: Choose diets with low calorie intake, high vegetable and fruits consumption, and high intake of good fats and fiber.

12. Mild Alcohol Consumption: Drinking 1 or 2 alcoholic drinks each day could help reduce the risk of certain disease.
13. Take Antioxidants: Vitamins and minerals help protect cells by counteracting free radicals and beneficially altering the risk of disease.
14. Maintain Immunity: Infectious diseases are the third leading cause of death in the U.S.
15. Drink Water: Replenish lost fluids and maximize ability to eliminate toxins from the body.

In brief, anti-aging medicine is the newest clinical medical specialty, a field that focuses on wellness and longevity, thus optimal health, and employs extensive therapies and treatment, including bio-identical hormone replacement, nutrition, supplements, exercise, stress management, and detoxification, far beyond just cholesterol testing and mammograms. Indeed, anti-aging medicine signifies the paradigm shift from reactive to proactive healthcare, from disease management to health promotion. This concludes my 3 part series on preventive medicine, integrative holistic medicine, and anti-aging or age management medicine.

Footnote: Information provided by the American Academy of Anti-Aging Medicine and Age Management Medicine Group.