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Everyone who reads this article comes to it at a different age, a different level of health, a different idea of nutrition, and a different prognosis for their own health pathway and even life expectancy. No matter what your chronological age, you also have a real age that may be more or less than that number.

If you have spent some effort taking care of yourself--eating a healthful diet; supplementing with nutrients, herbs, and hormonal therapy; taking regular exercise; minimizing stress; and avoiding toxins and a dangerous lifestyle--then you will have a real age which is lower than your chronological age. Can you change your real age to a number that is lower than your chronological age? Yes!. If you do, you can change your current health pattern, your outlook for improving your health pattern, and your prognosis for life expectancy. If you do not, you are looking at the possibility of degenerative diseases and even a threat to your life expectancy.

All of us are "programmed" to live a certain lifespan, and this is determined genetically. However, we can change our genes' influence by altering our lifestyle in either a negative or positive way. For example, giant turtles are genetically programmed to live about 150 years, humans up to 120 years, and mice up to about 2 years. However, if mice are subjected to caloric restriction with a high nutrient diet, their lifespan can be doubled. While your genes pre-determine your health and aging, the penetrance can be altered. All life forms respond to caloric restriction by a longer life span.

We do know that aging comes from many influences. Free radicals from exposure to toxins, smoking, too much alcohol, poor diet, too much fat, cosmic radiation, stress, traces of chemicals in food and water, and even medicines can shorten your life and allow diseases to occur. If your genes are programmed to get heart disease, cancer, arthritis, or Alzheimer's disease, free radicals can alter the onset, and avoidance can help prevent their development.

It's really a battle between free radicals and antioxidants. Individual cell walls in our bodies are composed mostly of fatty acids which oxidize easily due to free radical exposure. The damaged cell walls then can neither transport nutrients, oxygen, or water, nor transport waste products out. Each cell has its own individual function depending on which organ or system it works in. The smallest working element in a cell is mitochondria, which make nutrients out of available materials, make enzymes, and metabolize and burn glucose for energy. Immune cells are no different, and they are definitely injured by free radicals, by increased insulin, and by other trauma to the cellular structure. Signs of damage to the immune system include fatigue, recurrent infections, and allergies. Autoimmune diseases such as multiple sclerosis, rheumatoid arthritis, and even cancer can come from an immune system which does not thrive

because of too many free radicals and not enough antioxidants. Cumulative free radical elements can cause wrinkled skin, stiff joints, and hardening of the arteries prematurely. Additionally, if there is cellular damage, then the DNA can also be damaged to the point that cells cannot renew themselves. For example, if skin, muscle or brain cells suffer DNA damage, renewal of these cells cannot occur, causing progressive and steady deterioration.

Renewal of these cells all over your body is possible given the right circumstances. What is renewal, and how do you get it? If cells are injured from infection, broken bones, a skin or muscle wound, or other type of trauma, these cells are capable of renewing themselves, healing, and even rebuilding some of the damaged structures. This is true of bones, blood vessels, liver, the lining of the GI tract and oral cavity, and brain. However, unlike the salamander if we lose an arm we cannot replace it by growing a new one.

How does renewal occur? Basically your body needs amino acids, complex carbohydrates, essential fatty acids, 32 essential vitamins and minerals, phytochemicals from plants, and good genetic programming. If you are eating the SAD (Standard American Diet), including processed foods, traces of pesticides, hormones, and antibiotics as well as devitalized foods which are lacking in nutrients and full of free radicals, you will not undergo this renewal process as well. How about a vegetarian diet for this? It may be helpful in some cases to reduce the amount of meat that is eaten, but generally these diets do not have enough complete protein, not enough B12, and too much phytic acids from grains. On the other hand, a meat-based diet may be too acid, not have enough nutrients, and still have the problem of traces of pesticides, antibiotics, and hormones. There is a balance somewhere in-between that can be struck with a smaller amount of meat protein with every meal and a larger amount of vegetables, particularly fresh and some raw ones. Of course, antioxidants should include A, C, E, selenium, copper, and zinc. Also C_0Q_{10} , glutathione, phytochemicals, and herbs. There are nutrients that are specific for the central nervous system including acetyl-L-carnitine and phosphatidylserine.

Renewal is the best thing that our body does for us during our lifetime. If the proper circumstances are not available for this renewal, you will age faster, develop degenerative diseases, and not enjoy your later life very much. Think about it and take care of yourself!