

LONGEVITY



by Johanna Oosterwijk

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Contents

Abstract:	2
Introduction	3
How to increase the probability of healthy aging	3
Trends in life expectancy	4
Life expectancy across the world	5
Myths about your body and aging	6
Why do we age	7
How do we age	8
Impact of our body balance	9
Longevity	10
How is our longevity decreased	10
Stress	10
Poor diet	11
Inflammation	11
Heat and redness	12
Swelling and pain	12
Chronic inflammation	12
Arthritis	13
Arthritis and obesity	13
Hypertension	14
Diabetes	14
Sugar over-consumption	15
Drinking soda	15
Depression	15
Excitotoxicity	16
Drinking contaminated water	17
Food irradiation and energy manipulation	18
How to increase longevity	20
Exercise	20
Massage	20
Detox and rebuild your body	22
Eat healthy	23
Eat more Alkaline foods	23
Drink plenty of water	25
Filter your drinking water	27
Use plenty of vitamins and minerals	27
Increase your HGH levels	28
Balance modern medicine with Alternative medicine	28
Balance your Chakras	29
Balance your energetic field	30
How can future technology help	31
Final thoughts	33

Abstract:

The goal of longevity is to adapt to the changes that time brings and to arrive in old age with minimal deficit and discomforts. Its purpose is not to extend life in order to live longer periods of time as an "older" person, but rather to delay the onset of the aging process and give everyone a greater number of those middle, healthy years.

We want to be able to savor life in its latter years and manifest, enjoy, and share with others the genuine rewards that aging can bestow. Research believes that the average person will grow until the age of 50 and then start to decline. Our goal is to extend the growing process after 50 and slow the decline process by living healthy.

There are general factors that decrease your longevity as well as those that increase your longevity. Most of those factors are under your control. The factors that you do not have a direct influence on, such as your gene disposition can be compensated for and/or neutralized with proper measures.

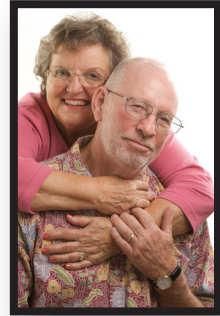
Factors that decrease your longevity include: stress, poor diet and lack of exercise. More people are developing cancer, diabetes, arthritis, Parkinson's, attention deficit, chronic fatigue and depression because of stress, bad eating habits and things out of our control such as chemicals, pesticides and radiation used in our environment. Toxins can be found in most of our waterways and our drinking water may be contaminated. Our food is lacking the nutrients and is depleted of minerals because of the overuse of chemicals and irradiation. How can we improve our health?

We can neutralize and/or compensate for most of the factors mentioned above by the following:

- Use more alkaline food in your diet and use natural organic products.
- Increase your vitamin and mineral intake and drink plenty of clean filtered water.
- Exercise regularly, at least two to three times a week. Sleep 8-10 hours every night. Meditate or take time to rest.

When a healthy person does get sick he or she can use alternative ways to promote healing such as massage, Reiki, acupuncture or biofeedback. These are all techniques that use the body's energy to promote healing without any side effects and therefore achieve longevity. Alternative medicine can complement traditional medicine.

In the end a person needs to decide for themselves the best way to prolong their life.



Introduction

Scholars and disciples have had the discussion about human longevity and its limits for a long time. As the population of the United States collectively increases, there is a greater emphasis on health, quality of life, and on maintaining a high degree of physical fitness. Healthcare professionals of all disciplines, social scientists, policy makers, and government leaders around the world all agree that one of the best ways to improve the well-being of any society is to improve the health of people. O'Brien (1996) notes: "according to the U.S. Public Health Service, 59 percent of Americans are sedentary and only 26 percent exercise regularly."¹ This inactivity is a major contributor to the increase of obesity, heart disease, hypertension and a host of other ailments that reduce the quality and quantity of life.



A healthy body can only be built with nature's perfect, unpreserved and unrefined food, pure water, fresh air, sunshine, exercise, restful sleep, and a serene mental attitude. The mind interprets physical sensations and sets physical responses into motion. Emotions seem to be the result of the interplay between body and mind. When you have energy and motivation, you can handle whatever comes your way. The spirit provides strength and hope, faith and love that create a reason for being. Body, mind and spirit are each important in life and cannot be separated. We need to take care of each in order to live a healthy life.

How to increase the probability of healthy aging

The goal of all of us is to adapt to the changes that time brings and to arrive at old age with minimal deficit and discomforts, in technical terms, to compress morbidity. Humans want to be able to savor life even in its latter years and to manifest, enjoy, and share with others the genuine rewards that aging can bestow. Our bodies grow and develop according to the genetic instructions acquired from our parents and contained within every cell. So what is happening to our bodies?

- We catch something and our body cannot fight it off, therefore we succumb to "germs".
- Our body develops illnesses in the genetically weak areas.

In both of the above cases the causes are the same.

- Our immune system is weak.
- Toxins are attacking our body.

¹ Lethbridge-Çejku M, Vickerie J. Summary health statistics for U.S. adults: National Health Interview Survey, 2003. National Center for Health Statistics. Vital Health Stat 10(225). 2005.

If we keep asking, “what caused that...,” we can only conclude that all illnesses come from one or a combination of four things.

- We have too many toxins in our body.
- We have nutritional deficiencies.
- We are exposed and negatively affected by electromagnetic chaos.
- We have trapped mental and emotional stress.

These four things cause the body to be out of balance. Our immune system is weakened and our body cannot fight off viruses and bacteria that we encounter. At the same time we have environmental toxins to worry about, such as chemicals added to food, ingredients added to improve flavor and the use of food processing techniques such as irradiation. Because of the way our bodies deteriorate, we need to look at what effects longevity and how to counteract it.

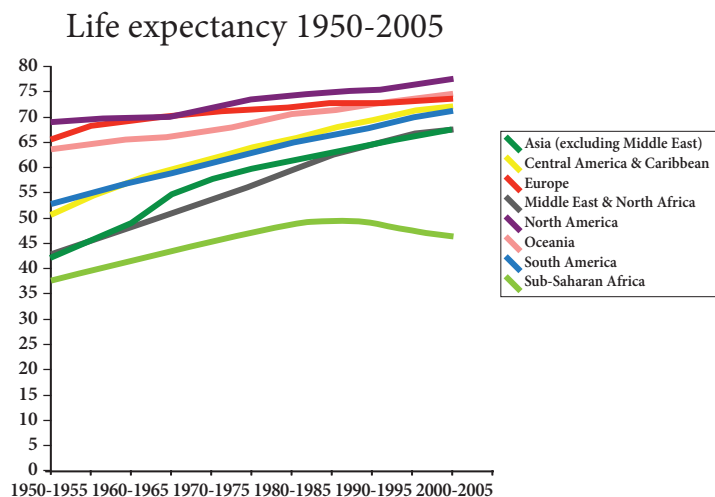
Trends in life expectancy

Life expectancy means the expected numbers of years remaining to live, and it can be calculated for any age.

Life expectancy changes as one gets older. By the time a child reaches his or her first year, his chances of living longer increases. By the time of late adulthood, ones chances of survival to a very old age are quite good. For example, although the life expectancy from birth for all people in the United States is 77.7 years, those who live to age 65 will have an average of almost 18 additional years left to live, making their life expectancy almost 83 years.²

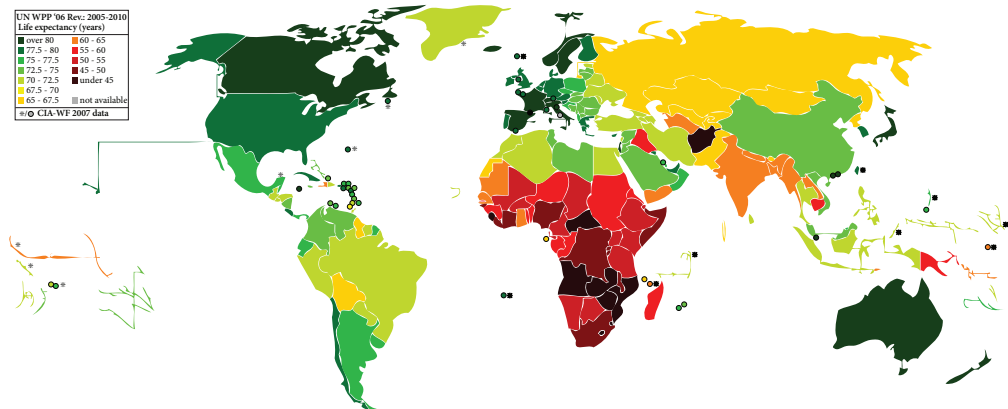
Life expectancy is defined as the expected survival of human beings based upon a number of criteria such as gender and geographic location. There is a great variation in life expectancy worldwide, mostly caused by differences in public health, medicine and nutrition from country to country.

This graph shows the supporting evidence of life expectancy up to 2005. As you can see, Africa is the country with the lowest life expectancy.



2 Rosenberg, Matt: Overview of Life Expectancy, Aug 19, 2007

Life expectancy across the world



One of the biggest increases in life expectancy occurred in the 20th century. This coincides with the introduction of sewers, which greatly reduced the spread of disease, especially in developed nations. Life expectancy at birth in the United States in 1901 was 49 years. At the end of the century it was 77.7 years, a 57% increase. Similar gains have been enjoyed throughout the world. The major exception to this general pattern of improvement has been in those countries worst hit by AIDS, principally in Sub-Saharan Africa. Another exception is Russia and some former Soviet Republics after the collapse of the Soviet Union, where life expectancy of men dropped to 59.9 years (below the official retirement age), and of women to 72.43 years.

In the United States the life expectancy at birth over the past 100 years has increased by over 50%. However, the life expectancy for 60-year-old persons has only increased 10%. This means that the improvements in medical technology have done much to decrease mortality among the young but relatively little to help the elderly. In other words, although the odds of living to old age have increased, the maximum probable lifespan has not changed dramatically.

These age-adjusted statistics help to show the limits of health technology as well. It has been suggested that there is a maximum human life span of around 125 years. In other words, if a person never dies of disease or violence, we can expect death of "old age" by 125.³

Myths about your body and aging

Below are typical myths about aging, which may or may not be true.

- *You are going to lose your mental faculties:* Nearly half of all Americans older than 85 suffer from Alzheimer's disease, but there are things you can do to minimize your chances of losing brain power as you age. Start with your diet.
- *You don't need as much sleep:* Older adults need seven to nine hours of sleep per night. Go to bed at 10:00 pm and arise at 6:00 am. This allows the body to rest the deepest, rejuvenate the most and gives the person the most energy.
- *You have to give up running and jogging:* Unless years of hitting the pavement have damaged your knees and joints, keep running and jogging. Listen to your body and take care of aches and pains before they become chronic injuries.
- *Menopause will be miserable:* Not necessarily, because every woman's menopause is different. Some women have no physical symptoms.
- *You'll get a hump:* Not if your bones are strong. Spinal humps, caused by collapsing vertebrae, result from osteoporosis, the brittle bone disease. You can help prevent this with a calcium-rich diet and weight-bearing exercises such as walking or strength training.
- *Sex and aging do not mix:* Yes they do. Humans are sexual beings. Part of enjoying sex as you get older is to accept your body for what it has become.
- *It is too late to start an exercise program:* There is a growing body of evidence that shows exercise is just as important for the health and well-being of older people as it is for younger people.
- *You can say goodbye to your muscle strength:* Most adults lose about half a pound of muscle per year after the age of 20, according to the American Council of Exercise. You can reverse a significant amount of that loss by strength training.
- *Weight gain is definite:* Most women gain an average of 10 pounds around menopause, but midlife weight gain is not a given. Losing weight is harder for women after middle age because of a natural drop in metabolic rate.
- *You're going to need a hearing aid:* Not everyone experiences hearing loss as they age. About a third of Americans 65 to 74 had hearing problems in 2007. The baby boomers however have a higher risk of hearing loss. After it occurs, hearing loss is irreversible.⁴

4 "Steps Toward a Longer Life." Dallas Morning News May 1st 2007.

Why do we age

Nothing seems more inevitable than aging and death. Every plant, animal and person will eventually die, but some recent research suggests that aging as we know it, may not be inevitable. Indeed, as our understanding of aging grows, it can be seen not as an immutable reality from which there is no escape, but as the product of biological processes that we may be able to control.

We already know that some animals do not seem to age. Many cold-water ocean fish and some amphibians such as the American lobster never reach a fixed size; they continue to grow bigger, to reproduce and to live until something kills them. A Galapagos tortoise can live 200+ years.⁵ What these creatures seem to be telling us is that something in their genes—and possibly in ours—controls the pace of aging, and that death is not the fate of every living thing.



Throughout the history of life on earth, one of the most common difficulties that animals (and their cells) have faced has been a lack of food. About 70 years ago, scientists discovered that when animals are forced to live on 30 to 40 percent fewer calories than they would normally eat, something unusual happens: they become resistant to most age-related diseases—cancer, heart disease, diabetes, Alzheimer’s—and live 30 to 50 percent longer. Restricting calories slows aging.

What are the underlying genes that preserve vitality and stave off disease? No one knows for sure why aging occurs, but one important reason is the accumulation of DNA damage from radiation, mutation-causing chemicals or, in particular, oxidants. Inside every animal and human cell are many mitochondria—little “power packs” that use oxygen to generate energy. In doing their jobs, however, mitochondria produce chemical byproducts—oxidants—that damage DNA and other components inside cells. Fortunately, our human cells are not defenseless against such assaults. They have genes that spring into action to defend against DNA damage, including genes that repair damaged mitochondria.

About 15 years ago, armed with powerful new molecular-research techniques, a few scientists began to investigate these genetic phenomena. At MIT, Dr. Leonard Guarente, along with David Sinclair, discovered that adding an extra copy of a gene called Sir2, caused yeast cells to live 30 percent longer. Today many researchers suspect that Sir2 or other sirtuin genes—which are present in all animals, including humans—are responsible for the health benefits of calorie restriction, perhaps by repairing our DNA. However if, in order to kick the sirtuins into action, we had to restrict our calorie intake by 30 to 40 percent, would it be of any practical use? Few of us would be capable of restricting our

5 Oliveri Denise: Animal Life Spans, A chart to quick reference, 2007

diets so severely that we were constantly hungry; whether or not it made life longer, it would surely make life *feel* longer.

How do we age

Why do some people of the same age look younger than others? Or, in other words, why is there often a discrepancy between chronological age and biological age?

Dr. Andrew Weil believes aging has to do with complex interaction of genetics and environment. He also believes, based on evidence he has reviewed, that we have control over some of the factors.⁶ Aging does not overtake us suddenly at some point in life. We are born, grow rapidly to maturity and get to a comfortable plateau until we begin to decline. This declining process can start at a young age for some people; others don't start the decline after they reach the age of 50 or later. This is the reason why some people of the same age look older than others. The period of decline is called senescence. Cells from old organisms are different from cells of young ones and observations about how they differ are the basis of biogerontology, the new science of the biology of aging. In their view senescence is a discrete phase of cellular life coinciding with loss of the cells' ability to divide. Senescent cells can still perform many of the functions of life, but they cannot reproduce.

Until 1961 researchers believed that, in theory at least, normal cells, taken from the body and grown in laboratories, should be able to grow and divide forever if their needs were met: if they were provided with a constant supply of food and their waste products were removed. In that year Leonard Hayflick and Paul Moorhead at the Wistar Institute in Philadelphia demonstrated that this was not so, that all normal cells have a fixed limit on the number of times they can divide in order to replace themselves.



What determines how many times cells from different organisms can divide? The answers are coded in DNA, our genetic material. DNA is contained in rod-like structures called chromosomes in the nucleus of every cell. When cells are about to divide in order to reproduce and make more tissue, chromosomes replicate themselves, so each daughter cell has the same genetic formation as the parent cell. The DNA spirals that compose the chromosome uncoil so that the genetic codes can be copied to make duplicate strands, but each time this process occurs, something is lost: a piece of the end of the strand, called a telomere; a Greek word meaning end bodies. The mechanics of DNA replication are such that a portion of the telomere is lost with each cell division.

⁶ Weil, Andrew, M.D. *Healthy Aging: A Lifelong Guide to Your Physical and Spiritual Well-Being*. New York: Alfred A. Knopf, 2003.

After a certain number of divisions, the telomere is gone, and the chromosome dies. If life is to be extended, cells will need to have their telomeres replaced so that they can keep working. It may be simple to induce a cell to lengthen its telomeres, using a machine built on the same scale as the cell that can sense its state and dispense the right chemical at the right time, but this type of machine has not been developed.

When cells turn malignant, they often become immune to senescence and continue to produce and this is one of the important characteristics of cancer. Malignant growth is immortal at the cellular level and has the potential to disable and kill entire organisms prematurely, that is, before they can pass on their genes and contribute to the survival and evolution of the species. For life to continue, prevention of malignant growth must be a priority.

Early assessment of telomerase levels in tissue samples may help announce the presence of cancer in its earliest, most curable stages. If we can find a way to suppress telomerase expression of cancer cells, to turn off the gene that controls it, we may be able to stop the relentless growth. That may take too long to be a primary treatment but it may be very useful as a back-up approach to prevent metastasis, without the toxicity of conventional chemotherapy.

Impact of our body balance

In order to be in good health, every system in the body (including the systems we haven't discovered yet) must be functioning well. Furthermore, the states of each system must be in sync with each other so that they will keep functioning well for a reasonable period of time. If the lungs are working faster than muscles, blood will gain too much oxygen and lose too much carbon dioxide, which will soon throw several systems off balance. But if all your systems are working well, and working together, then you are healthy.

Heterostasis is the idea that a weakened organ can be supported by another organ to maintain the balance of the body. Heterostasis may be used when organs from another body are transported to a new body. Rather than trying to expect a new organ to function precisely like the one it replaces, it is possible to tweak the body's other systems so that they react correctly to the new organ. This raises the possibility of maintaining different organs at different physiological ages. A 90-year-old person may be able to function with a ten-year-old liver and a 25-year-old heart. In cases of extreme injury, heterostasis may be used to stabilize the body until help arrives. If an accident victim can be brought to a hospital in less than an hour, the chance of survival is greatly increased. Paramedics refer to this as the 'golden hour.' During that hour the body uses heterostasis as a survival method.

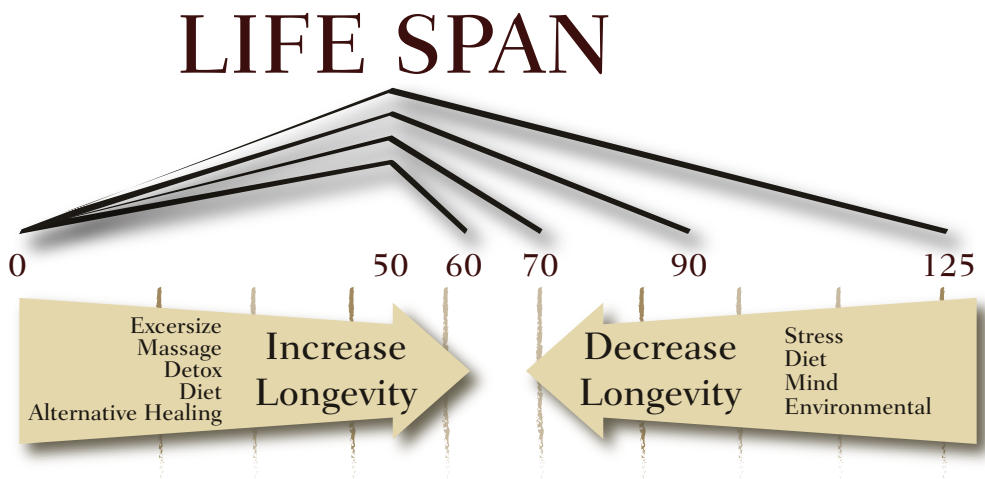
In normal circumstances the body has a mechanism called "homeostasis" that tends to pull things back to normal levels. If blood sugar gets too high, extra insulin is released. If the core temperature gets too low, blood vessels in

the skin contract to save heat. When homeostasis is interrupted, things can go wrong because the body is out of balance. In the worst case, this can result in diabetic coma, toxic shock, fibrillation, epilepsy, Cheyne-Stokes breathing, and even death. Fortunately, many of these conditions are reversible. Maintaining homeostasis has a large impact on our longevity.

Longevity

Longevity does not mean to extend life in order to live longer periods of time as an “older” person, but rather to delay the onset of the aging process and give everyone a greater quality of those middle, healthy years.

Research believes that human species will grow until they reach the age of about 50 years of age, and then gradually decline. As shown in the graph, longevity is decreased by eating the wrong food, not taking care of your body, mind and environment. We can increase our longevity by eating a healthy diet, detox, alternative healing, massage and exercise.



How is our longevity decreased

Once we reach senescence and our cells stop reproducing, we become susceptible to ailments that effect longevity. The most important ailments affecting our longevity negatively are discussed below.

Stress

A common cause of inflammation is stress. There are 2 kinds of stress; physical and psychic or mental stress.

Stress affects each of us differently and we all react differently. Some of us are better able to withstand great stress. Much of our reactions to stress depend on our upbringing, personalities, genetic makeup, coping methods and past

experiences with stress. Factors in dealing with stress depend on our strategies in coping and our social network.

Physical stress is caused by trauma, wounds, and stretching of skin from normal gravity.

Mental or psychic stress happens when we feel overwhelmed or unsure how to meet our demands. This can be just as detrimental as physical stress. When our mind is stressed our brain triggers the production of cortisol. This hormone can have dire consequences for our health when produced in large amounts. Cortisol is an emergency hormone, called into play in desperate situations (fight-or-flight). When high levels of cortisol circulate in the body for long periods of time it is toxic to our organs. It destroys brain cells, elevates blood sugar and can cause damage to the immune system.

Drinking coffee can raise cortisol levels and keep them elevated during the day. Too much cortisol can produce extensive biological damage and results in premature aging. Behavior that affects cortisol levels include: poor diet, too much caffeine, not enough sleep, and lack of exercise. Exercise of almost any kind has a powerful positive, anti-inflammatory effect on all the cells. Strenuous exercise will have a pro-inflammatory effect and should be done during the day rather than at night. Keep the evening for quiet time and meditation.

Poor diet

Another cause of the inflammation is poor diet. Food can have a positive or negative effect, i.e., either be pro-inflammatory (provoke the inflammatory response) or anti-inflammatory (suppress the inflammatory response). Pro-inflammatory foods harm our bodies by ways of a rapid rise in blood sugar, resulting in the release of insulin in the bloodstream.

Sugars and foods that quickly convert to sugars in the bloodstream include potatoes, breads, pastries, juice, chips and rice crackers and should therefore be avoided or taken in small amounts.



Inflammation

Inflammation is a common root of many chronic diseases. The word "inflammation" suggests "fire within." Heat and redness represent an influx of blood in the area. Swelling comes from changes in the walls of small blood vessels that allow plasma to seep into the tissue. Pain results from the release of messenger compounds used by the immune system to draw defensive support to an area that is injured or under assault. We perceive these changes as unpleasant, but inflammation is visible evidence of the body's healing system at work. *Normal* inflammation is the healing system's response to an attack. *Abnormal* inflammation extends beyond the appointed limits. There are four primary signs of inflammation: heat, redness, swelling, and pain.

Heat and redness

As tissue cells are damaged, they release inflammation mediators such as histamine, prostaglandins, and compounds called kinins. Some inflammation mediators cause blood vessels to dilate, increasing blood volume in the tissue which produces redness and heat. The process is important because it allows immune system cells (white blood cells) in the blood to travel quickly and easily to the site of injury.

Swelling and pain

Some inflammation mediators increase the permeability of blood vessel walls. When water leaks out of the vessel, it will cause the tissue to swell or create an edema. The pressure caused by edema triggers pain receptors. The fluid that accumulates in inflamed tissue is called inflammatory exudates and has the beneficial effect of diluting the irritant. The irritant is slowly removed by lymphatic vessels.

Inflammation at the cellular level is the first indication of signs of aging.

Chronic inflammation

Local inflammation occurs in a limited area: for example, a small cut that becomes infected. Chronic inflammation occurs when the irritant spreads through the body or when inflammation mediators cause changes throughout the body. Conditions involving chronic inflammation are classified as *inflammatory diseases*. The most common are: Arthritis, diabetes, Alzheimer's, cancer, and strokes.

Inflammation is caused by peptides and neuropeptides. Neuropeptides are intercellular messengers released by the brain. Some neuropeptides function as neuro transmitters and others function as hormones. Prior to the discovery of the neuropeptides, control of the brain and nervous system was thought to be accomplished through a complicated network of serotonin and dopamine hormones such as adrenaline and cortisol, and enzymes.

Today, we know that the brain is more complex. The brain is like a collection of integrated, high speed computers. Neuropeptides form the electrochemical communications web that keeps the computers balanced and working in unison. Cells in the brain produce various neuropeptides. They can be either pro-inflammatory or anti-inflammatory, and they actually turn on cellular function in the skin. Neuropeptides send messages to the thymus, the thymus signals the skin, and the skin communicates back to the brain. Each message has a recipient for its message, called a receptor site. The type of message delivered depends upon the neuropeptides, neurotransmitter or hormone making the call. If high levels of potentially harmful neuropeptides are released in the brain because of our diet or lifestyle, the message may be: "We are depressed. Turn on the

inflammation in our skin cells today.” This would result in accelerated aging of the skin through abnormal cell turnover as well as loss of radiance and tone.

Arthritis

Arthritis isn't just one disease; it's a complex disorder that comprises of more than 100 distinct conditions and can affect people at any stage of life. Two of the most common forms are osteoarthritis and rheumatoid arthritis. These two forms have very different causes, risk factors, and effects on the body; yet they often share a common symptom—persistent joint pain. The joint pain of arthritis can appear as hip pain, knee pain, hand pain, or wrist pain, as well as joint pain in other areas of the body. If you have joint pain, stiffness and/or swelling for more than 2 weeks, you may have arthritis.

Osteoarthritis (OA) is the most common form of arthritis in the United States, affecting an estimated 21 million adults. OA begins with the breakdown of joint cartilage, resulting in pain and stiffness. OA commonly affects the joints of the fingers, knees, hips, and spine. Other joints affected less frequently include the wrists, elbows, shoulders, and ankles.

Rheumatoid arthritis (RA) is a long-term inflammatory disease of the joints. It primarily affects the joints and surrounding tissues, but also can affect other organ systems in the body. The initial symptoms of RA usually appear gradually and include fatigue, morning stiffness, muscle aches, loss of appetite, and weakness. Eventually, you may feel joint pain, with warmth, swelling, tenderness, and stiffness of the joint after inactivity. RA can cause joint destruction in as little as 1 to 2 years after onset of the disease. The bones of the joint erode, causing pain and deformity. Tendons become inflamed and may rupture (tear apart). Long-term joint inflammation can eventually affect the ability to perform daily activities and overall quality of life.

Arthritis and obesity

In recent years, obesity-related diseases have become a major public health issue in many countries. Obesity is thought to have reduced the potential for longer life expectancy by contributing to the rise of cancer, heart disease and diabetes in the developed world.

Researchers at Beth Israel Deaconess Medical Center (BIDMC) have found that baby boomers have spent more years living with obesity than previous generations. Arthritis risk soared along with obesity rates of baby boomers, and arthritis cases attributed to obesity rose from 3 percent to 18 percent between 1971 and 2002. Many factors may have contributed to this rise in arthritis, including the way physicians diagnose it over time, but researchers say the rise in obesity cannot be ignored. This study



was supported by grants from the Arthritis Foundation, the National Bureau of Economics Research, the National Institute on Aging and the Lasker Foundation.

Hypertension

Not taking care of our body can result in hypertension. High blood pressure is a blood pressure reading of 140/90 mmHg or higher. Nearly 1 in 3 American adults has high blood pressure. Once high blood pressure develops, it usually lasts a lifetime. The good news is that it can be treated and controlled. High blood pressure is called the silent killer because it usually has no symptoms. Some people may not find out they have it until they have trouble with their heart, brain, or kidneys. When high blood pressure is not found and treated, it can cause:

- The heart to get larger, which may lead to heart failure.
- Small bulges, called aneurysms (AN-u-risms) to form in blood vessels. The most common location is in the main artery of the heart (aorta). When aneurysms get large, they can suddenly burst, which is often fatal.
- Blood vessels in the kidney to narrow, which may cause kidney failure.
- Arteries throughout the body to “harden” faster, especially those in the heart, brain, kidneys, and legs. This can cause a heart attack, stroke, kidney failure, or lead to amputation of part of the leg.
- Blood vessels in the eyes to burst or bleed which may cause vision changes and can result in blindness.

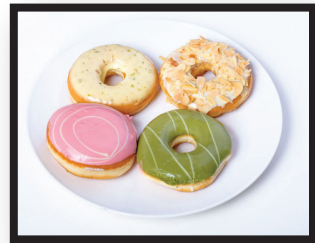
Diabetes

There are two types of Diabetes. Type 1 is usually caused by autoimmune destruction of the pancreatic beta cells which produce insulin. Type 2 diabetes is the most common form of diabetes. About 90-95% of all American cases of diabetes are Type 2 and about 20% of the population over the age of 65 has this disease.

In Type 2 diabetes, either the body does not produce enough insulin or the cells ignore the insulin. Insulin is necessary for the body to be able to use sugar. Sugar is the basic fuel for the cells in the body, and insulin takes the sugar from the blood into the cells. When glucose builds up in the blood instead of going into cells caused by the wrong diet, it can cause two problems:

- Immediately, your cells may be starved for energy.
- Over time, high blood glucose levels may hurt your eyes, kidneys, nerves or heart.

While diabetes occurs in people of all ages and races, some groups have a higher risk for developing Type 2 diabetes than others. Type 2 diabetes is more common in African Americans, Latinos, Native Americans, and Asian Americans/Pacific Islanders, as well as in the aged population.



Sugar over-consumption

The over-consumption of sugar produces stiff sugar-protein bonds, which accumulate throughout our bodies as we get older. The sugar or glucose molecules glue themselves to our collagen as well as to our veins, arteries, ligaments, bones – even our brains. This causes stiff joints, hardened arteries, and failing organs. Basically, sugars contribute to the deterioration of every bodily function.

Drinking soda

In 1850, about 13 ounces of soda were consumed per person annually in America. In the late 1980's this increased to more than 500 twelve ounce cans of soda, and in 1994 the annual report of the beverage industry showed that per capita consumption of soda was 49.1 gallons per year. When consumption of soda is encouraged by society, it is assumed that it can replace the needs of the body for water. It is assumed that just because it contains water, the body will be adequately served. This assumption is wrong. Soda is mainly a sweet drink and cannot be substituted for water.

Most soda contains caffeine and is a drug. It has addictive properties because of its direct action on the brain. Caffeine also affects the kidneys because it is a dehydrating agent. This characteristic is the main reason a person is forced to drink so many cans of soda every day and never be satisfied. The "water" of the soda does not stay in the body long enough. Caffeine indirectly stimulates more food intake because of the brain's forced use of its energy. The rest of the sugar will be stored in the form of fat if not used by muscle activity. Weight gain is one of the many results of soda consumption.

Coca-Cola was originally colored, sweetened water with two ingredients, the cola nut and coca. The cola nut contains caffeine, and the coca (from the Coca plant) or cocaine had the person physically addicted. This last ingredient was quietly removed back in the 1920s, without much fanfare or media exposure.⁷

Depression

Depression is the most common illness in the world. It appears to be an underlying component of a remarkable number of illnesses.

Anxiety, anger, and depression alter the pituitary gland and output of all the major stimulating hormones for the endocrine organs. They disturb the endocrine output rhythm, particularly of cortisol. Studies indicate that DHEA administration improves memory and cognitive processing; acts as a growth hormone in helping neurons grow new dendrites, and controls levels of the stress hormone cortisol.

7 Trudeau, Kevin. *Natural Cures "They" Don't Want You to Know About*. Elk Grove Village, IL: Alliance Publishing, 2005

When a healthy person goes to sleep, normally his stress level is significantly reduced and his cortisol levels go down. When a person awakens and begins the normal activities of the day, cortisol levels begin to rise, usually peaking at 4 PM. When an individual is depressed, this mechanism is disturbed. The adrenal glands continue to produce late afternoon levels of cortisol throughout the night so the next day begins with a higher than normal level of cortisol. Eventually the total twenty-four hour production of the hormone is increased, which causes changes in adrenalin and results in stress.

Excitotoxicity

Throughout life the need for good nutrition is a constant. Current eating habits are cause for great concern as fast food has replaced meals cooked at home. Refined and processed foods fill the shelves of supermarkets. People jump from one fad diet to the next. Healthcare professionals are not much help, because their education in nutrition, if any, is inadequate. At the same time the science of nutrition is developing rapidly. In medical journals you may find studies of how specific foods and components of food influence our health. We all know about air pollution, water pollution, radiation toxicity and have heard about chemicals in food. These are invisible, yet we know they are there and are affecting our bodies on some level.

Excitotoxins play a serious impact on the development of many neurological disorders, including: migraines, seizures, infections, abnormal neural development, certain endocrine disorders in children, neuropsychiatric disorders, learning disorders in children, AIDS, Parkinson's disease, Alzheimer's disease, and Huntington's disease. An enormous amount of clinical and experimental evidence has accumulated over the past decade supporting these findings. Yet the practice of allowing various excitotoxins to be added to the food supply, including monosodium glutamate (MSG), hydrolyzed vegetable protein, and aspartame continues. This causes immediate and long-term danger to the public. The amount of excitotoxins added to our food has increased enormously since their introduction. These are substances, usually acidic amino acids, that react with specialized receptors in the brain in such a way as to lead to destruction of certain types of neurons, such as glutamate.



Glutamate is the neurotransmitter most commonly used by the brain. It is essential for learning and for both short-term and long-term memory. Glutamate normally exists in the extra cellular fluid in very, very small concentrations. When this concentration begins to rise, our brain cells begin to fire abnormally. At higher concentrations, the cells undergo a special process of cell death known as excitotoxicity. The death of these cells causes neuro degenerative disorders such as ALS (Amyotrophic Lateral Sclerosis or Lou Gehrig's Disease), and Alzheimer's.

One way to limit glutamate is to decrease the intake of MSG.⁸ MSG is sodium salt of glutamate and should be avoided as well as aspartame and food additives, yeast extract, soy extract etc. Buy food in its most natural, unprocessed state and add fresh or dried herbs and spices.

Chemicals and metals cause neurotransmitter disruptions in the brain which can lead to depression, hyperactivity, autoimmune diseases, leaky gut syndrome, and toxicity.

Toxin-induced illnesses include some of the most threatening diseases known to humans. Fortunately, the bacterial, viral, and parasitic organisms that cause these chronic illnesses cease toxin production when they die. If the patient survives the attack, most pathogen hatched toxins will quickly flush out of the body, allowing the patient to regain his health. Although our bodies are able to overcome these toxins, what would happen if these toxins went through genetic changes because of pollution-altered environment creating altered toxins that the body could not eliminate? We can only hope that the medical profession can begin to focus on this.

According to the latest scientific research, many of today's toxin formers have never been observed in such numbers before.

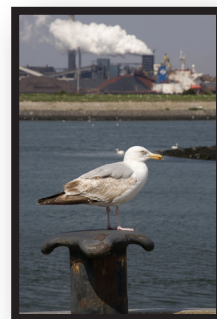
Some of these toxin are:

- Dinoflagellates, such as *Pfiesteria*, *ciguatera* and *chattonella*
- Fungi, including *stachybotrys* and *fusarium*
- Bacteria, such as *pseudomonas fluorescens*
- Spirochetes, including Lyme disease-causing *Borrelia*
- Blue-green algae, such as rapidly reproducing *microcystis* and *cylindrospermopsis*.

Drinking contaminated water

Today toxins can be found in estuaries, oceans, rivers, closed circulation buildings, chemically treated farmlands, and in millions of American backyards where insecticide spray often triggers the growth of mutant fungi or bacteria. For example in Florida the toxin producing blue green algae, *cylindrospermopsis*, was first identified in freshwater lakes in 1995. Since that time it has increased to 95% of the total algae biomass in the Ocklawaha watershed. In other words, a life form that would normally represent no more than one percent of 4,000 botanical species in that habitat now accounts for 95% of the biomass!

Dr. Norman W. Walker, who wrote a book on water, says that if a person drinks two pints of water a day in a 70-year life span, it will total 4,500 gallons. If it is not distilled, Dr. Walker estimates this water will include 200 to 300 pounds of rock, including lime, magnesium and other mineral deposits



8 Nash-Price, Barbara. *The Life Awareness Manual*. Revised edition 2000.

that the body cannot use. Much of this will be collected by the body's water, blood and lymph systems to be eliminated through excretory channels.

Responsible citizens are left to educate and protect themselves from the greatest environmental threat, chemically contaminated water.

An EPA report on the status of the nation's lakes and rivers says that while water quality is not getting worse in America, the quantity of pollution is increasing. Enforcement actions taken in 2007 led to investments of \$3.6 billion in pollution controls to remove 45 million pounds of pollutants in discharges from overflows of combined sewers and sanitary sewers. These investments are more than three times greater than those needed in 2006. During storms, overflows from inadequate combined sewers and sanitary sewers can discharge untreated sewage and industrial wastewaters into rivers, lakes, oceans, and other waterways.

EPA documents also revealed that under the proposed regulatory rollback, the Clean Harbors Baltimore facility in Baltimore, MD, will store and transport 2,077 tons of hazardous waste without complying with the stringent storage, labeling and transport requirements that apply to handling of hazardous waste. The Systech Environmental Corporation in Paulding, Ohio, will store and transport 10,450 tons of hazardous waste without complying with hazardous waste handling safeguards and the Safety Kleen Systems facility in Dolton, Illinois, just south of Chicago, will burn 1,786 tons of additional hazardous waste annually in boilers not permitted to burn hazardous waste.⁹

Another problem in the water is *Cryptosporidium*. This is a parasite commonly found in lakes and rivers, especially when water is contaminated with sewage and animal waste. *Cryptosporidium* is very resistant to disinfection, and even a well-operated water treatment system cannot ensure that drinking water will be completely free of this parasite. The EPA continues to conduct research on microbial contaminants. This information will be used for determining priorities for the drinking water program, including setting future standards and reevaluating existing standards. *Cryptosporidium* has caused several large waterborne disease outbreaks of gastrointestinal illness, with symptoms that include diarrhea, nausea, and/or stomach cramps.¹⁰

Food irradiation and energy manipulation

Foods such as fruit, vegetables, grains, meat and poultry are zapped with radioactive beams of energy to kill harmful bacteria. This irradiation changes the energetic frequency of food, giving the food a frequency that is no longer life sustaining, but rather toxic to the body. For example, take a picture of an organic apple with Kirlian photography and you will see beautiful patterns of

9 Smith, Roxanne. Polluters Agree to Spend Record \$10.6 Billion on Environmental

10 EPA Guidance for people with severely weakened immune system. Co-released by the Centers of Disease Control and Prevention, June 1999.

energy surrounding the apple. Taking a picture of the same apple that is zapped with a microwave would show the energy around the apple dramatically changed. The pattern is jagged, rough and erratic. The processing of food changes food from a healthy, natural, life sustaining fuel to an unnatural man-made poison.

Food must have nutritional value for it to be used by the body. Food also has a “vibration” and life force energy. When we genetically alter food or add chemicals we change the vibration of food and its energy life force. This may cause the body to go out of balance and can cause illness and disease.

To minimize the toxins that we get from food we should ideally eat all organic fruit and vegetables. Cooking destroys some of the living enzymes, so raw is better than cooked.

The quality of products manufactured today is lower than ever before. Food breaks down fast and the nutritional value is a lot less. Fruits, vegetables and grains are genetically modified, and herbicides and pesticides are being used. This is one of the causes of nutritional deficiencies in the majority of people.

Besides the use of chemicals we also have to deal with electromagnetic energy such as power lines, cell phones, microwaves, laptops and high definition TV's, which cause our bodies to develop disease. We cannot eliminate electromagnetic energy but we can reduce the exposure. There are devices which neutralize the negative electromagnetic energies such as a magnetic mattress pad and MegaChi pendant.



The magnetic energy of the earth is dramatically lower then it has ever been in history. Magnetism is essential for life to exist. Where the earth's magnetism is low, degeneration of cells will develop.

The bottom line here is simple, that the ever increasing use of chemicals in our contemporary lifestyle, along with changes in our physical landscape, has helped to create new “habitats” for toxin-linked microorganisms. It is not just chemicals that create new environments for these pathogens. In many ways, our high tech, increasingly mobile culture, itself, is to blame.

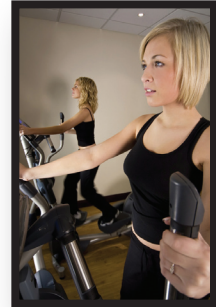
So what happens when these released toxins end up circulating through the fat-containing tissue in the human body? Chronic illnesses occur such as fibromyalgia, Lyme disease, chronic fatigue and sick building syndrome.

The grim reality is that people struggle with toxin-based illnesses and effective treatment requires a method for flushing poisons before they start to feel better.

How to increase longevity

Exercise

Until the industrial revolution in the early 1800s, strenuous physical activity was an integral part of daily life. It was present in work as well as in religious, social and cultural expression. With diminished work-related physical activity, the amount of exercise has decreased. Despite government's efforts to educate the public about the benefits of exercise, a report published by the Centers for Disease Control and Prevention revealed that in 2000 only 26.2% of adults met the government recommendations for physical activities. This increased to 46% in 2001.¹¹



A quarter of a million deaths per year are attributed in part to sedentary lifestyles. A modest change enables couch potatoes to reduce their possibility for illness and can add years to their lives.

In a study of 6,200 men conducted at the Veterans Affairs, Palo Alto Healthcare System and Stanford University, physical fitness was determined to be a more important factor in longevity than high blood pressure, sky-high cholesterol levels, or bad habits such as smoking. This was published in a 2002 issue of the *New England Journal of Medicine*. For example, researchers found that a physically fit man suffering from high blood pressure was approximately 50 percent less likely to die than an unfit man with high blood pressure. Exercise is necessary to prolong life and health; and vigorous, demanding physical activity is the best – but not overly intense. Some recommended exercises are thirty minutes of brisk walking, cycling, swimming or racket sport, housecleaning and raking leaves. Exercise reduces the risk of stroke, lowers LDL cholesterol and raises HDL cholesterol, lowers the risk of sleeping disorders, improves mood, boosts creativity, and maintains muscular strength, flexibility and balance. If possible, try to exercise at least four times a week, even if it is only for five minutes.

Massage

Studies have shown that just 15 minutes of daily massage helps premature infants gain weight faster and enables them to leave the hospital sooner than their counterparts. Massaged babies are more relaxed, active and alert. Six months later they continue to be



11 Macera CA, PhD, San Diego State Univ, San Diego, California. DA Jones, PhD, MM Yore, MSPH, SA Ham, MS, HW Kohl, PhD, CD Kimsey, Jr, PhD, D Buchner, MD, Prevalence of Physical Activity, Including Lifestyle Activities Among Adults – United States, 2000-2001. Div of Nutrition and Physical Activity, National Center for Chronic Disease Prevention and Health Promotion, CDC. Aug. 2003.

more advanced in development. Studies showed that when diabetic children are massaged for a month their blood glucose levels decrease, and they are able to reduce their medication levels. Asthmatic children have fewer attacks because of massage.

During massage, touch receptors in the skin activate the release of neuropeptides in the brain. These neuropeptides release endorphins which send a healing message to the brain.

In 1916, Dr. Mennell showed that massage affects our bodies in four ways:

- By aiding venous return of blood to the heart
- By promoting lymph movement out of the tissue
- By stretching the connective tissue (e.g., tendons, scar tissue)
- By mechanical stimulation of the stomach, small intestine and colon.

Mennell also maintained that certain forms of tactile stimulation, such as stroking and light touch, stimulated reflex arcs causing muscles to relax or contract according the type of stroke. He theorized that both smooth and skeletal muscles were under the control of such reflexes. Experimental research now supports the theories of Ling, Mennell, and others that massage has a relaxing, stimulating effect on the body.

There are several methods of massage bodywork, and each one has different results.

- *Oriental Asian Approach*: acupressure, Shiatsu, Jin Shin Do, Watsu, Thai massage and Hoshino. These compressive manipulations and stretches focus on specific areas of the body and elicit responses in the nervous and circulatory systems.
- *Structural and Postural Integration Approach*: Rolfing, Hellerwork, Looyen, Soma, Bowen therapy and Bindegewebs massage. These techniques focus more specifically on the connective tissue structure to influence posture and biomechanics.
- *Neuromuscular Approach*: Neuromuscular technique, Trager, Myotherapy, Reflexology, Trigger points, Strain/counter-strain and Orthobionomy. These are European approaches based on the work of Dr. Stanley Leif and Dr. Boris Chaitow. As the name implies, the approach is a nervous and reflexive method, it relaxes the muscle.
- *Manual Lymphatic drainage*: Vodder lymph drainage. This is lymph movement with both mechanical and reflexive techniques to stimulate the flow of lymphatic fluid.
- *Energetic (Biofield) Approach*: Polarity, Therapeutic Touch, Reiki and Zero Balancing. These systems, which are based on ancient concepts of body energy patterns, recently were formalized by Dr. Randolph Stone, Dr. Dolores Krieger, Dr. Fritz Smith, and others. Subtle energy medicine is under study at the Menninger Foundation in Topeka, Kansas, by Dr. Elmer Green and by other researchers. Polarity and similar energetic

approaches use near touch or light touch to initiate reflexive responses, often with highly effective results.

- *Craniosacral and Myofascial Approaches*: Craniosacral therapy, Myofascial therapy, soft tissue mobilization, deep tissue massage and connective tissue massage. These systems focus more specifically on the various aspects of both mechanical and reflexive connective tissue functions. Dr. William Garner Sutherland was the first to formalize the concept of minute movement of the cranium and dura. Dr. John Upledger and John Barnes P.T. have expanded and formalized his work. Both light and deep touch is used, depending on the method.
- *Applied Kinesiology*: Touch for health, Applied Physiology, Educational Kinesiology and Three in One Concepts. Dr. George Goodheart formalized the system of applied kinesiology within the Chiropractic discipline. This approach blends many techniques but works primarily with the reflexive mechanism. A specific muscle testing procedure is used for evaluation.
- *Integrated Approaches*: Sports massage, infant massage, equine massage, on-site or seated massage, prenatal massage and geriatric massage. These styles of bodywork focus on a specific type of population and are combinations of methods rather than physiologic interventions.¹²

These methods used individually, or in combination, will help increase longevity through the release of toxins.

Detox and rebuild your body

All people are different, so detox will be different for everyone. However, here are some basics guidelines.

- Eat and drink clean, natural foods, cold pressed organic oils, vitamin C, trace minerals, and acidophilus (good bacteria in yogurt).
- Sweat through exercise, dry heat or infrared sauna.
- Use herbs, homeopathy or other energy work to clean out metals, solvents and chemicals that get stuck in fat cells.
- Lose weight if needed. When you lose fat some of the chemicals, metals and pathogens stored in fat go into the blood and lymph system for disposal. This is where exercising and sweating help by releasing toxins through your skin, considered the second kidney in Chinese medicine.
- Colonics, i.e., flushing the intestinal tract can assist the body in detoxifying.
- Take detox baths using ½ cup Dead Sea salt or Epsom salt and ½ cup baking soda in a hot bath. Soak 20 minutes and then take a cool shower.

¹² Fritz, Sandy, Kathleen Maison Paholsky, and M. James Grosenbach. *Mosby's Basic Science for Soft Tissue and Movement Therapies*. St. Louis: Mosby, 1999.

Eat healthy

Knowing what to eat can be confusing. Everywhere you turn, you hear news about what is or isn't good for you. Some basic principles have weathered the fad diets, and have stood the test of time. Here are a few tips on making healthful food choices for you and your entire family.

- Eat lots of organic vegetables and fruit. Try picking from the rainbow of colors available to maximize variety. Eat non-starchy vegetables such as spinach, carrots, broccoli or green beans with meals.
- Choose whole grain foods over processed grain products. Try brown rice with your stir fry or whole wheat spaghetti with your favorite pasta sauce.
- Include dried beans (like kidney or pinto beans) and lentils in your meals.
- Include fish in your meals 2-3 times a week, (not farm grown because they carry mercury and other environmental toxins).
- Choose lean meats like cuts of beef and pork that end in "loin" such as pork loin and sirloin. Remove the skin from chicken and turkey.
- Choose non-fat dairy such as skim milk, goat milk, non-fat yogurt and non-fat cheese.
- Choose water and instead of soda, fruit punch, sweet tea and other sugar-sweetened drinks.
- Choose liquid oils (olive oil or coconut oil) for cooking instead of solid fat that is high in saturated and trans fat. Remember that fat is high in calories. If you're trying to lose weight, watch your portion sizes of added fat.
- Cut back on high calorie snack foods and desserts like chips, cookies, cakes, and ice cream.



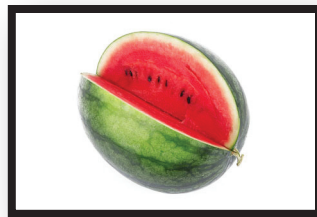
Eating too much of even healthful foods can lead to weight gain. Watch your portion sizes.

Eat more Alkaline foods

When we burn wood, ash is left over at the end. This is the same for our bodies after digesting food. The ash from our food should be alkaline. People who are very sick or have cancer usually have ash that is very acidic. These people need more alkaline food in their diet. Below is the list of products ranging from highly alkaline to highly acidic. The more alkaline the food, the healthier you become.

Extreme alkaline:

Lemons and watermelon.



Alkaline forming:

Cantaloupe, cayenne, celery, dates, figs, kelp, limes, mango, melons, papaya, parsley, seaweeds, seedless grapes (sweet), watercress, asparagus, fruit juices, grapes (sweet), kiwifruit, passion fruit, pears (sweet), pineapple, raisins, umeboshi plums and vegetable juice.

Moderate alkaline:

Apples (sweet), alfalfa sprouts, apricots, avocados, bananas (ripe), currants, dates, figs (fresh), garlic, grapefruit, grapes (less sweet), guavas, herbs (leafy green), lettuce (leafy green), nectarine, peaches (sweet), pears (less sweet), peas (fresh, sweet), pumpkin (sweet), sea salt (vegetable), apples (sour), beans (fresh, green), beets, bell peppers, broccoli, cabbage, carob, cauliflower, ginger (fresh), grapes (sour), lettuce (pale green), oranges, peaches (less sweet), peas (less sweet), potatoes (with skin), pumpkin (less sweet), raspberries, strawberries, squash, sweet corn (fresh), turnip and vinegar (apple cider).

Slightly alkaline:

Almonds, artichokes (Jerusalem), Brussels sprouts, cherries, coconut (fresh), cucumbers, eggplant, honey (raw), leeks, mushrooms, okra, olives (ripe), onions, pickles (homemade), radishes, sea salt, spices, tomatoes (sweet), vinegar (sweet brown rice), chestnuts (dry, roasted), egg yolks (soft cooked), essene bread, goat's milk and whey (raw), mayonnaise (homemade), olive oil, sesame seeds (whole), soy beans (dry), soy cheese, soy milk, sprouted grains, tofu, tomatoes (less sweet) and yeast (nutritional flakes).

Neutral:

Butter (fresh, unsalted), cream (fresh, raw), cow's milk and whey (raw), margarine, oils (except olive) and plain yogurt.

Moderately acidic:

Bananas (green), barley (rye), blueberries, bran, butter, cereals (unrefined), cheeses, crackers (unrefined rye, rice and wheat), cranberries, dried beans (mung, adzuki, pinto, kidney, garbanzo), dry coconut, egg whites, eggs whole (cooked hard), fructose, goat's milk (homogenized), honey (pasteurized), ketchup, maple syrup (unprocessed), milk (homogenized), molasses (unsulfured and organic), most nuts, mustard, oats (rye, organic), olives (pickled), pasta (whole grain), pastry (whole grain and honey), plums, popcorn (with salt and/or

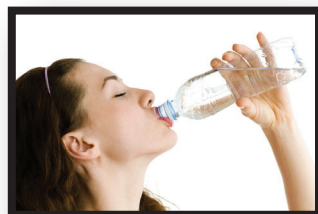
butter), potatoes, prunes, rice (basmati and brown), seeds (pumpkin, sunflower), soy sauce and wheat bread (sprouted organic).

Extremely acidic:

Artificial sweeteners, beef, beer, breads, brown sugar, carbonated soft drinks, cereals (refined), chocolate, cigarettes and tobacco, coffee, cream of wheat (unrefined), custard (with white sugar), deer, drugs, fish, flour (white wheat), fruit juices with sugar, jams, jellies, lamb, liquor, maple syrup (processed), molasses (sulphured), pasta (white), pastries and cakes from white flour, pickles (commercial), pork, poultry, seafood, sugar (white), table salt (refined and iodized), tea (black), white bread, white vinegar (processed), whole wheat foods, wine and sweetened yogurt.¹³

Drink plenty of water

Water makes up more than two thirds of the weight of the human body, and without it, humans would die in a few days. The human brain is made up of 95% water; blood contains 82% and lungs 90%. A mere 2% drop in our body's water supply can trigger signs of dehydration, fuzzy short-term memory, trouble with basic math, and difficulty focusing on smaller print, such as a computer screen. (Are you having trouble reading this? Drink more water!) Mild dehydration is also one of the most common causes of daytime fatigue. An estimated seventy-five percent of Americans have mild to chronic dehydration. Water is important to the mechanics of the human body. The body cannot work without it, just as a car cannot run without gas and oil. In fact, all cell and organ functions made up in our entire anatomy and physiology depend on water for their functioning.



Scientific research shows that water has many other properties besides being a solvent and a means for transport.

- Water serves as a lubricant.
- Water forms the base for saliva.
- Water forms the fluids that surround joints.
- Water regulates body temperature, as the cooling and heating is distributed through perspiration.
- Water helps to alleviate constipation by moving food through the intestinal tract and thereby eliminating waste, the best detoxifying agent.
- Water regulates metabolism.
- Water has an essential *Hydraulic* role in all aspects of body metabolism-water dependent chemical reactions (hydrolysis). This is similar to the

chemical powers of water that makes seeds grow and produces a new plant or a tree.

- At the cell membrane, the osmotic flow of water through the membrane can generate “hydroelectric” energy (voltage) that is converted and stored in energy pools in the form of ATP and GTP, two vital cell energy sources of the body. Energy generated by water is used in the manufacturing of ATP and GTP which are then used in neurotransmission.
- Water forms a particular structure, pattern and shape that works as the adhesive material in the bondage of the cell architecture. It sticks solid structures in the cell membrane together.
- Products manufactured in brain cells are transported to their destination through “waterways” to the nerve endings for use in the transmission of messages.
- Proteins and enzymes of the body function more efficiently in hydrated bodies.¹⁴

In addition to the body’s use of water as a means for transport, it is clear that histamine and neurotransmitters created by the body initiate water intake.

The human brain is roughly 1/50th of the total body weight and contains about nine trillion nerve cells. Twenty percent of circulation is allocated and made available to the brain.

Non-infectious, recurring, or chronic pains should be viewed as indicators of body thirst. Not recognizing thirst signals will undoubtedly produce complicated problems. Chronic pains include dyspeptic pain, rheumatoid arthritis pain, angina pain, low back pain, intermittent claudicating pain (leg pain while walking), migraines and hangover headaches, colitis pain and constipation. These pains indicate that daily water intake might need to be adjusted.

In conclusion, your body needs an absolute minimum of six to eight 8-ounce glasses of clean water per day, preferably through the use of a reverse osmosis system. Alcohol, coffee, tea and caffeine containing beverages don’t count as water.

The best times to drink water are a glass one half hour before eating and 2 ½ hours after each meal. For the sake of not shortchanging your body, two more glasses of water should be taken around the heaviest meal or before going to bed.

In addition to the daily maintenance of our bodies, water also plays a key role in the prevention of disease. Drinking eight glasses of water daily can decrease the risk of colon cancer by 45%, bladder cancer by 50% and it can potentially even reduce the risk of breast cancer.

14 Batmanghelidj, Fereydoon. *Your Body’s Many Cries for Water: You are Not Sick, You are Thirsty*. Falls Church, VA: Global Health Solutions, 1995.

Filter your drinking water

Air pollution can cause water contamination. A few years ago in California, methyl tertiary butyl (MTBE), a chemical used in gasoline to help purify the air, had ill effects on drinking water. MTBE is a carcinogen, and also gives water a bad taste and smell. This chemical entered waterways by leaking into ground water from broken pipelines and storage tanks, as well as from the oil from broken down cars and especially boats in the waterways. At present, more than 20 public drinking water wells in California have ceased water production for this reason.¹⁵

The best prevention against illness caused by contaminated water is to practice safe water practices. Most important, this means drinking clean water. The Centers for Disease Control states on their website that all reverse osmosis filters protect the best against crypto and other bacteria. Some other filters may work, but they must say "absolute 1 micron."

Use plenty of vitamins and minerals

Vitamins and minerals go hand in hand when promoting a healthy diet. During the period from 1935-1945, many vitamins became available in pure form at reasonable prices. In the beginning of the 19th century sulfa drugs and antibiotics were developed to treat infectious diseases such as tuberculosis. After the development of these drugs, the interest of vitamins decreased. Now because of the overuse of sulfa drugs and antibiotics, people are developing a resistance to these drugs. The trend is now to go back to those vitamins that were used early on. Unfortunately the vitamins in our food are not what they used to be. Through the use of chemicals we see depletion of both vitamins and minerals in our food.



Our body needs about 70 different minerals to carry out all the functions a body is required to do. But many may not realize there are two types of minerals: organic and inorganic.

Organic minerals: these were once living, or are living and can bring life to cells. Organic minerals contain carbon, and their electrons spin clockwise, just like those of the human body. Additionally, these cells can form an ionic bond with the body and can easily break down into materials to help with bodily function, such as tissue repair. Because of the depletion of organic minerals in our soil it is recommended to add liquid minerals to our drinking water.

Inorganic minerals: these were never living, are without carbon and cannot bring life to cells. The body treats these minerals like toxins that are

15 Wilt, Gloria. Sleuthing MTBE with statistical data. April 1999.

tightly held together; they cannot be easily broken down. Their electrons spin counterclockwise, out of sync with the rest of the body.

Inorganic minerals are picked up as our water supply runs through the ground. These inorganic, or non-living, minerals cannot be utilized by humans or animals. Inorganic minerals that pass into our drinking water cannot help us and can, in fact, harm us. This is because inorganic chemicals cannot be absorbed as nutrition into the cell walls and thus get deposited elsewhere in the body. This can cause arthritis, joint pain, kidney stones and gallstones and even clogged arteries. Lime (calcium carbonate) is one of these minerals.

Increase your HGH levels

The thymus gland controls the immune system. When foreign invaders arrive, such as infection, bacteria and tumors, thymic production goes up. Unfortunately, by age thirty, the thymus gland has typically decreased its mass by two-thirds and its T cell content by 90 percent. By age 60, functionally thymic tissue has almost completely disappeared.

Thymic gland hormones increase the quantity and quality of the body's T cells and T cells secrete growth hormone (HGH). Thymic peptides also stimulate the pituitary gland to release HGH. After the age of 23, your natural HGH levels begin to decline and you may start to experience the effects of aging. This includes weight gain, a decrease in energy, lack of sex drive, low endurance, muscle atrophy and more. The proposed link between higher HGH levels in the body and a potential "Fountain of Youth" has become the latest fad. With higher HGH levels comes improved elasticity of the skin, strengthened nails, and enhanced skin rejuvenation. With popularity, however, comes confusion. One of the main ingredients to look for in all the HGH releasing products available is L-Arginine. L-Arginine is involved with the production of new skin and connective tissue. It is essential to the formation of collagen and boasts many benefits that relate to skin repair and rejuvenation.

Balance modern medicine with Alternative medicine

Energetic medicine practices are among the most controversial of CAM (Complementary and Alternative Medicine) practices because balancing energy fields has not effectively been therapeutically demonstrated by any biophysical means. Yet, energy medicine is gaining popularity in the American marketplace and has become a subject of study at some academic medical centers.

Traditional medicine is based on biochemistry. Energetic medicine is based on biophysics. They are two totally different fields. However, energetic medicine can complement traditional medicine; by correcting problems in the informational field,



it can help speed up the healing process. While energetic medicine is non-invasive, it can work hand in hand with modern medicine to redirect the body's informational field into a healing matrix. More than 2,000 years ago, Asian practitioners postulated that the flow and balance of life energies is necessary for maintaining health, and they described tools to restore them. Throughout history, the idea of universal energy has been studied by many western Scientists. This vital energy was first recorded in western literature around 500 B.C. by the Pythagoreans. They thought that light could produce a variety of effects on the human body, including the cure of illnesses.

Other universal energy phenomena were observed in the 1800s by Helmont and Mesmer, who originated Mesmerism, later known as Hypnotism. Up to the 20th century, studies were conducted observing different characteristics of an energy field surrounding humans and other objects. While the field of energetic medicine has been evolving since the 1930s, the scientific proof of its validity was not established until the early 1970s in Germany. Today there is ample scientific proof of the existence of the human energetic aura carried out by research at many major universities of the world. We now have instruments which can measure aspects of the human energetic body. Energetic medicine is now taught at medical schools around the world, but energetic medicine is not as well known in the United States as in Europe, where the field evolved. This new order of reality is now accepted as a property of quantum physics.

Later, in 1988, Dr. Hunt discovered several more zones or energy fields and the zones of these energy fields appear as different colors. These colors correlated with a specific frequency/wave pattern. Knowing this, alternative practitioners can utilize frequency/wave patterns to help balance the body.

Balance your Chakras

The human body has energy centers within the body. There are seven major energy centers, called Chakras. They correlate with the colors of the rainbow. The colors are: red, orange, yellow, green, blue, violet and white. Each chakra corresponds to a part of the body where it is located.

- The first chakra is called the root chakra and is located at the base of the spine. It is linked to the immune system, physical survival and family identity.
- The second chakra is called sacral and correlates to the reproductive system, creativity, balancing fluids, chronic low back pain and urinary problems.
- The third chakra is called solar plexus and is located at the navel area. This energy center is associated with criticism, fear, rejection, self esteem, strength of character, arthritis, diabetes and other dysfunctions.



- The fourth chakra is called the heart chakra. This represents love, joy, forgiveness, heart and respiratory problems, upper back, and shoulder pain.
- The fifth chakra is called the throat chakra. This energy center is linked to speech, faith, self knowledge, thyroid and throat problems.
- The sixth chakra is called the brow or third eye. It is associated with intuition, introspection, judgment, learning disabilities, seizures, and neurological disturbances.
- The seventh chakra is called the crown. This one is for faith in the presence of divine, inner guidance, devotion, genetic disorders, and multiple sclerosis.¹⁶

Reiki means Universal Energy and works with chakras. The goal of Reiki is to balance the seven major chakras by bringing in Universal Vital Life Force Energy through laying on of hands. The practitioner places his or her hands over a Chakra and lets energy flow through their hands into the energy center to bring the frequency of the chakra back to a healthy level.¹⁷

When a person is sick, the body has less energy and the frequency of the organs slow down. When the illness is chronic or in prolonged stress, the body's frequency will stay low for a long period of time causing the organs not to function properly. Reiki would be very appropriate to use at this time. When the Chakra's are balanced, the surrounding organs will receive all the nutrients and energy they need to function properly. A recent National Center for Health Statistics survey indicated that approximately one percent of participants had used Reiki.

Balance your energetic field

Besides energy centers the human body also has an energy field. Energetic medicine can be used to prevent health problems by detecting imbalances in the energetic field. It can also be used to create optimum health, which is important for longevity and quality of life.

Practitioners of energy medicine believe that illness results from disturbances of subtle energies (the biofield). Biofields are not measured by conventional instruments but rather felt by practitioners.

Examples of practices involving energy fields include:

- Qi gong, a Chinese practice, which includes a combination of different breathing patterns and various physical postures and motions of the body.
- Healing touch, in which the therapist identifies imbalances and corrects a client's energy by passing his or her hands over the patient.

16 Caroline Myss, *Energy Anatomy the science of personal power, spirituality and health*. Sounds True Audio 1996 cassette tapes.

17 Bodo J. Baginski/Shalila. *Reiki: Universal Life Energy Self-treatment and the home professional practice Teleotherapeutics/spiritual Healing*, Sharamon, 1985.

- Acupuncture, which stimulates specific points on the body by a variety of techniques, including the insertion of thin metal needles through the skin. It is intended to remove blockages in the flow of qi and to restore and maintain health.
- Cupping, which is believed to act by correcting imbalances in the internal biofield, such as by restoring the flow of qi through meridians to reinstate health. Some therapists emit or transmit vital energy (external qi) to a recipient to restore health.
- QXCI. The Quantum QXCI System, developed by Dr. William Nelson, addresses the unique bio-individuality of each individual. It is able to measure the unique informational field that organizes and controls their entire body. According to Dr. Bill Nelson, founder of the QXCI, these frequency/wave patterns also correlate with a specific organ. Organs therefore, can be treated with complementary frequency. It was not until the evolution of the microcomputer chip in the 1980s that a practical way of correcting the ultra-fine energies of the human system became possible.
- Intercessory prayer, in which a person intercedes through prayer on behalf of another.



How can future technology help

A few thousand years ago, the people lived about thirty years. Compared to them, we have already extended our lives to an amazing degree. However, from where we stand today, we can see that we still have an opportunity to live longer. Some people still die in their 40's from cancer, heart attacks, strokes or infections. This is tragic and frustrating. Today's medicine is only somewhat able to deal with these and other conditions—and it has barely started to attack the problem of aging. But there is hope for the future.

Fifty years from now, what causes of death will be preventable? That will depend largely on the technology we will have available. It may help to project some technology trends. Gene sequencing and identification may become as easy as a blood sugar tests. Medical devices such as artificial hearts and insulin pumps may be implantable and well-integrated with the body's natural demands. Surgical instruments may be more delicate and less destructive. What today is major surgery, may be completed in an office visit. Computers may be millions of times faster than today's machines. Last but not least, we may even have the ability to build strong, useful, complex machines out of individual atoms and molecules. This is already being developed and is called "nanotechnology" or simply "nanotech," and it will make us healthier in several important ways.

Currently, state of the art surgical technique uses instruments inserted through small tubes placed in small incisions. For example, at the University of Texas M.D. Anderson Cancer Center and Rice University carbon nanotube inserted into small incisions into cancer cells were able to destroy the infected cells using noninvasive radiowaves that heated up the nanotubes while sparing untreated tissue.¹⁸ Nanobots should be able to re-form molecular bonds that hold cells together and thus repair wounds almost immediately. A nanomachine may even be able to scan each cell's DNA to search for and repair damage, or perhaps simply replace chromosomes periodically with new error-free copies.

Although surgical robots are coming into use for certain delicate operations, the robots are considerably bigger than the area they operate on. We don't yet have robots that could fit through the tubes and do complicated operations on-site. Nanotech can eliminate this problem. A remarkably complex surgical robot could be inserted through a hole so small it doesn't even bleed.

18 Merville, Scott . Radio waves fire up nanotubes embedded in tumors, destroy liver cancer. Special to the Rice News. Nov. 2007.

Final thoughts

Healthy aging is not to extend life in order to live longer but to delay the onset of the aging process and to give everyone a greater number of middle, healthy years. However, we are born with our individual genetic DNA. Our bodies will grow and develop according to the genetic instructions acquired from our parents. Throughout our lives we are exposed to toxins in the environment that may influence our bodies. How do we overcome these toxins and prolong our lives?

In 1993 a small group of physicians and scientists founded the A4M. (American Academy of Anti-Aging Medicine). They dedicate their research into slowing and eventually halting the aging process.

Anti-aging Medicine is a combination of hormone replacement therapy, nutritional supplements, high dose antioxidants and vitamins, and a custom designed exercise/rehabilitation program. In addition to these tools patients are asked to seek revolution in their personal attitude.

A critical part of this revolution is that we need to have a purpose for living; if there is no purpose, there is no motivation to prolong live. Then we have to consider what we eat and drink. For food, organic is best. Our body consists of 85% water so it is very important to also drink at least 8 glasses of clean water (spring or reverse osmosis) per day. Each body has its own weakness so we all have to plan our own individual treatment. There are several options for balancing and regenerating the body such as Reiki, massage, biofeedback or acupuncture. Stress is a common problem in our lives. How do we deal with this? Do we recognize stress? Diet has a lot to do with stress. Are we willing to change our diet?

We should not rely solely on healthcare providers to make decisions about us; rather, they should be consultants to help us make informed decisions about our health and longevity. We need to be in charge of what is happening with our body. We are the only ones who can decide what is best for us.

Live a long and healthy life!

Johanna Oosterwijk

About the Author

Johanna started her career as an RN in the Netherlands, working in a Community Hospital and with the Red Cross. After being diagnosed with thyroid cancer, Johanna wanted to discover alternative treatments to these types of diseases. This led her to research alternative healing methods that integrate the body, mind and spirit. Simultaneously she started her own practice, Serenity, which has grown over the past 15 years to include different modalities such as Reiki, Polarity, Clinical Hypnotherapy and Quantum Biofeedback. Johanna finished her Doctor of Naturopathy degree at Trinity College of Natural Health in 2008 and is currently using the latest technology, Quantum Biofeedback, in her practice.



She currently lives in Cross Roads, Texas with her husband Herman and her dogs Sajiv and Victoria.