7 Steps to a more Youthful Life

By Dr. Al Sears, MD

About the Author

Al Sears, MD continues to see patients at his integrative clinic and research center in Florida where he has developed novel exercise and nutritional systems transforming the lives of over 20,000 patients.

He has written over 500 articles and 6 books in the fields of alternative medicine, anti-aging and nutritional supplementation. He enjoys a worldwide readership of millions spread over 123 countries, has appeared on over 50 national radio programs, ABC News, CNN and ESPN.

His third book, ***The Doctor's Heart Cure***, exposed the real causes of the modern epidemic of heart disease with practical how-to advice for building real heart strength and resistance to disease without drugs. It is available in 9 languages and remains a best-seller 3 years after its publication.

In 2005, Dr. Sears' ***12 Secrets to Virility*** shed light on the huge environmental and nutritional problems with virility in our modern world, gave men a step-by step guide for maintaining health, strength and masculinity as they age, and became a bestseller during its first month of release.

He publishes a monthly newsletter – ***Health Confidential*** – addressing the issues of aging, nutrition and sexual health for men and women, a weekly e-letter called ***Doctor's House Call*** and is the health columnist to a circulation of hundreds of thousands in the popular self-help letter ***Early to Rise***.

Dr. Sears is board certified as a clinical nutrition specialist and was appointed to the international panel of experts at **Health Sciences Institute**, (HSI) a worldwide information service for alternative nutritional therapies.

A master gardener and herbalist, Dr. Sears maintains an herbal apothecary of over 250 organic herbs used for research, education and treatments. Dr. Sears is the founder and director of The Wellness Research Foundation, conducting original research evaluating natural alternatives to pharmaceutical therapies.

Dr. Sears is a member of the American Academy of Anti-Aging Medicine and is Board Certified in Anti-Aging Medicine. As a pioneer in this new field of medicine, he is an avid researcher and sought after lecturer to thousands of doctors and health enthusiasts.

He is a member of the American College of Sports Medicine and the National Youth Sports Coaches Association. As well as being a sports and fitness coach and a lifelong advocate of exercise programs, Dr. Sears is an ACE certified fitness trainer.

For more information about Dr. Sears, please visit: http://www.alsearsmd.com

When you were young, you probably said you never wanted to get old. I can understand why. As you age, you are ever more likely to get cancer, heart disease, Alzheimer's, deafness, blindness, incontinence, osteoporosis, arthritis and impotence. Aging conjures up fears of becoming a weak and feeble invalid, a burden to your loved ones because you can no longer take care of yourself.

Imagine though, if you could live to a ripe old age of 100 or so, yet retain the same body you had at say, 35. Imagine if you recaptured all the energy, strength, and resistance to disease that you had when you were young.

Fortunately, medical science is currently discovering how and why the human body ages. Within the next few decades, it looks like science will learn how to put an end to the suffering of old age. And right now, there is enough known to significantly stall or even reverse certain aspects of the process of aging.

In this report, I'm going to show you some very advanced tools you can use to slow down the rate at which you age. You'll even discover a brand-new technology that makes it possible to get *younger* as you get older.

The more slowly you age, the more youthful you remain. This cannot only extend your life but also save you from suffering from "old age," disease and disability. It will also help you look and feel years younger.

How and Why You Age

When I lecture on anti-aging, I have learned from the audience to clarify one thing first. Anti-aging is not the same thing as life extension. That would make it anti-death. But aging and death are two different things.

Aging is the process by which you gradually weaken and lose function. Anti-aging seeks to understand this process and intervene to preserve youthful characteristics. The recently discovered genetic control of aging has opened up a completely new world of possibilities.

The Most Important Medical Discovery of All Time

History may mark the beginning of the 21st century as the time when we finally unlocked the secrets of aging... and learned how to stop the process. It will change the course of human history.

Your body is constantly renewing, rebuilding, and repairing itself throughout your life. With all this constant renewal, you should stay young forever. But you don't. We all age. Even newly minted cells from an 80-year old are readily recognizable as cells from an aging body. These brand-new cells look and act *older* than cells from a younger person.

How can this be?

In 1990, *Nature* published a groundbreaking article based on something called the *telomere.* It changed forever our understanding of the aging process.

Previous theories of aging, such as free radical damage, glycosylation, collagen cross-linking or other proposed mechanisms, now appear to be simply *features* of the aging process but not the true *cause*.

To say that we age because of free radical damage is analogous to the FAA announcing that the cause of a plane crash was gravity. Clearly, the force of gravity pulled the plane to the ground. But gravity exerts equal force on every plane in the sky, most of which safely reach their destination.

In the same way, our bodies are assaulted by free radicals from the day we are born. We have mechanisms that effectively quench free radicals and correct the damage. We must understand why they stop.

The story begins with Leonard Hayflick's accidental discovery that cells divide about 80 times and then slow down and stop. This is now known as the "Hayflick Limit." [1]

We now know why our cells stop dividing. It turns out that there is a mechanism built into each cell, a sort of clock that limits the number of times a cell can divide. It is controlled by the telomere, which is a stretch of DNA that occurs at the end of every chromosome.

Every Time Your Cells Divide the Clock Is Running Down

Most of the cells in your body have the ability to reproduce at will. But, contrary to a century of scientific doctrine, we now know that each daughter cell does not receive a *complete* copy of the parent cell's DNA. Each time a cell divides a portion of the telomere at the end of the chromosome is lost. [2]

Each new generation of cells has slightly shorter telomeres than it's parents. In fact, you can judge the age of a cell by measuring telomeric length. When the telomere gets sufficiently short, the cell enters programmed cell death.

So the telomere serves as a counter, or clock, for the cell. But the telomere does more than just tell time. As the telomere shortens, it changes the behavior of the cell. Cells with shorter telomeres begin to slow down. The signals that control hormone output and immune function become weaker. They start to act old.

When enough cells act old, they create a ripple effect. Eventually, the damage progresses to the point that your body can no longer defend itself and succumbs to disease.

There are strategies and treatments that you can put into play now that will help slow the aging process and even reverse it.

Keep Homocysteine Levels In a Healthy Range

Homocysteine is an amino acid that accumulates in the tissues. If you have high levels of this dangerous substance in your bloodstream, you greatly increase your risk of heart disease, Alzheimer's disease, Parkinson's disease and impotence.

It's no coincidence that homocysteine levels have been correlated with the most common degenerative diseases of aging. Researchers have discovered that high homocysteine *tripled the amount of telomere length that was lost during cell division*. This is tripling the speed at which your body is aging. [3]

There is more reason than ever to closely monitor and correct high homocysteine levels in your blood. Your doctor can measure homocysteine with a simple blood test. It is very easy and inexpensive to correct high homocysteine levels with the following nutrient protocol. You can get these nutrients at any health food store.

Vitamin B12	500 mcg
Folic Acid	800 mcg
Vitamin B6	25 mg
Riboflavin (B2)	25 mg
TMG (trimethylglycine)	500 mg

Reversing Human Aging

Many argue that aging is a natural phenomenon that should be accepted as the natural order of things. Aging may be normal, but that doesn't make it desirable.

There can be no doubt that the aging process is the root of serious health problems. We die because we get sick. And we also get sick because we get old. But there's a way to get around this.

It's now possible to reset your biological clock with a new technology that is available for the first time in medical history. It actually lengthens the telomere. And it turns out that our bodies already hold the answer.

We are all born with the capacity to make an enzyme called *telomerase*. It can rebuild the telomere during each cell division so the new daughter cells will behave no older than the parent cell. We all have the gene for this enzyme but it is switched off.

Eternal Youth

A biotechnology company called Geron Corporation owns the patent for telomerase. Since founded in 1990 they've been at the forefront of cutting-edge telomere biology and have lead the research on the use of telomerase as an anti-aging therapy. (It is also researching the development of telomerase inhibitors as a cancer treatment. If a cancer cell could have its telomerase turned off, it would grow old and die like a normal cell.)

Geron's years of research have paid off. They cracked the code of aging by discovering a way to switch on telomerase and rebuild an aging telomere to lengths more typical of younger cells.

This is possible with an ancient Chinese herb called *astragalus*. It turns out that astragalus contains small amounts of a molecule named TA-65 that activates the gene that makes telomerase.

But you can't just take astragalus and expect it to stop the aging process. It has to be in a highly concentrated form of TA-65 extract that is pure, free of toxins, and comes from only a certain species of astragalus.

Geron researchers conducted a study of a group of men between the ages of 60 and 85

using this new concentrated extract of TA-65. The results were astounding. After just six months the men in this study showed remarkable changes with improved immune strength, significantly improved eyesight, better sex life, and more youthful and radiant skin.

In an earlier study Geron took cells from old mice and restored their telomeres to youthful lengths. These cells looked and acted in every way like young cells.

Initially Geron had safety issues to consider. One major concern was that the stimulation of telomerase would trigger or promote cancer. The abnormal presence of telomerase is sometimes seen in the development of cancer. But the results have been promising.

The University of Texas and Geron both tested telomere-restored cells. Cells were monitored for cancer development. The immortalized cells were even exposed to cancer-causing proteins to see if they could provoke cancerous behavior. All of the cells were found to be stable and cancer-free. [4]

From their research, telomeres don't appear to affect normal cells the way they do cancer cells. It lengthens the telomeres and makes it possible for the cell to live much longer and divide many more times, but it does not cause the cell to become abnormal or cancerous.

I am currently working with a company called TA Sciences that's licensed by Geron and holds the patent on TA-65. They found the specific astragalus species containing TA-65 in a small region of China. Here they harvest plants from a group of select farms that contain double the normal concentration of TA-65.

They use a unique process for extracting this anti-aging molecule in its purest form and then test it for any environmental toxins. The final result is a TA-65 extract that is more than 90% pure.

As of this writing, TA-65 is only available through two clinics. My *Center for Health and Wellness* is one of them. I recently received a license from TA Sciences to be one of the first doctors in the United States to provide TA-65 therapy. And together we created a 12-month course of therapy through a system we call the *Patton Protocol*.

I've also contracted to use another new technology that will measure and monitor the length of your telomere during TA-65 treatment. This allows you to actually see your cells grow younger.

Everything we currently associate with aging – heart disease, arthritis, hearing loss, failing eyesight, Alzheimer's disease and osteoporosis – could become as rare in 70-year-olds as they are now in 30-year-olds.

TA-65 makes it all possible. There's absolutely nothing else like it in the world today and it is going to change the field of anti-aging medicine forever.

In the meantime, your cells are dividing, your telomeres are shortening, and you are getting older. As I told you before, that homocysteine actually speeds aging by accelerating the shortening of your telomeres. Keeping your homocysteine levels low is a good first step to ensure you don't accelerate aging. But there are other simple steps that slow the shortening of the telomere.

Despite His Critics... Linus Pauling was Right

The Noble Prize winning scientist Linus Pauling was the first to claim that vitamin C could extend your life. Dr. Pauling took between 12,000 and 18,000 mg of vitamin C every day for 40 years.

Pauling's theory was dismissed until the 1980's when scientists discovered that antioxidants could protect cells from oxidative damage. The free radical theory of aging became popular. Vitamin C was found to be among the nutrients that protect cells from free radicals.

But oxidative damage to cells can be repaired. It is the oxidative damage to telomeres that is not repaired. This results in further shortening of telomeres. This very specific effect of free radical damage helps drive the aging process.

In 1998 a Japanese study tested vitamin C's effect on telomeres. It was found that raising the level of vitamin C in the cells could slow down the loss of telomeres by up to 62%. [5]

The Recommended Daily Allowance of 60mg of Vitamin C per day is not enough to slow telomere loss. You must take larger doses. The telomere preserving, anti-aging benefit of vitamin C appears to begin at a dosage of about 500 mg, twice a day. This is also the minimum dosage that vitamin C begins to provide its anti-oxidant benefit. Personally, I have taken 1,000 to 2,000 mg twice a day for 25 years.

Burn Energy Like a 20 Year-old – Yet Live to Be 100

You, like all animals on the planet, get your energy through a process called oxidation. Oxidation occurs outside of living systems as well. When oxidation occurs very rapidly, we call it fire. Fire derives enormous energy very quickly but is of course, a very destructive process.

This is analogous to what happens inside your body. You have to burn energy through oxidation to live. But oxidation damages surrounding tissues. The higher the rate of oxidation, the greater the damage. In other words, the faster you live, the more damage you do to yourself.

In fact, we are learning that oxidative damage correlates with the negative effects of aging in each organ system. For instance, it's not the amount of cholesterol you have that correlates to cardiovascular disease but the oxidation of LDL cholesterol.

This is the underlying reason for the paradox inherent in the statistics of living longer. Many of the things the statisticians tell us will make us live longer, **are tantamount to not living at all.** They admonish us to avoid this or that until there is nothing left for fun.

You would likely live longer if you shut yourself in, didn't smoke or drink, ate very little, went to bed early, abstained from sex and never allow yourself to become excited – if you can call that living. But swearing off wine, women, and song is not my idea of the good life.

This brings me to the real point. My patients often ask me, *"Doctor, which vitamins do you take?"* This is what I tell them: I have taken a multivitamin every day for the last 30 years. But the most important change in all that time has been the accumulation of evidence for the benefits of antioxidant supplements.

Playing with Fire without Getting Burned

Nature has provided protection against oxidation. We call these naturally occurring fire fighters *antioxidants.* They are a group of diverse vitamins, minerals, and enzymes that do much more than provide needed nutrients. They protect your delicate biomachinery from the fire of living. The problem is that the longer you live and the harder you live the more you overwhelm your natural antioxidant systems.

I don't want to stop living hard. I don't really even want to slow down. And I've always been uncomfortable advising my patients to do anything that I'm not willing to do myself. My solution for them and myself has been the supplementation with an ample and aggressive antioxidant regimen.

Many antioxidants are also your body's free radical fighters. Free radicals destroy the cells in your body. Free radicals are fragments of oxygen, which are byproducts of normal oxidative processes. Your body is constantly making free radicals every time it produces energy.

Through research and testing, I have sorted through the hype and found which antioxidants are really proven to work. The seven most important antioxidants are Vitamin A, Vitamin E, Vitamin C, Alpha Lipoic Acid, CoQ10, Lutein, and Lycopene.

You can live longer by living the life of a monk or if you chose to live your life at a more robust pace, you might want to do as I do and take "The Magnificent Seven" battery of antioxidants.

Vitamin A

Vitamin A is in a family of compounds called carotenoids. It is fat-soluble and very important for maintaining a healthy and youthful body. Vitamin A is best known for aiding in good eyesight. But this vitamin is good for much more than that. Here are some other attributes of Vitamin A:

- **Prevents night blindness** by preventing free radical damage in the eye.
- **Lowers the risk of macular degeneration, which** is the most common cause of blindness in the elderly.
- **Decreases the risk of lung and breast cancer** by supporting the immune system.
- **Maximizes skin health** by playing a key role in the integumentary system.

Vitamin A can be found naturally in meat, milk, eggs, liver, carrots, and spinach. I recommend taking 2,500 IU of Vitamin A per day.

Vitamin E is Not What We Used to Think

The term "Vitamin E" is perhaps outdated. It is best used as a generic word to describe

a group of eight compounds. These compounds include four types of tocopherols and four types of tocotrienols. Put simply, tocopherols and tocotrienols are specific types of Vitamin E-like compounds. Vitamin E:

- **Fights free radicals** that cause diseases of inflammation (such as rheumatoid arthritis)
- **Lowers risk of heart disease** by increasing blood circulation
- **Lowers risk of cancers** in the prostate, colon, and breast

The best way to get Vitamin E is as a mix of the four tocopherols and the four tocotrienols. It is important to note that too much of one tocopherol in the body can stop the absorption of the other tocopherols. So a good mix is to your greatest advantage. I recommend 400 IU of Vitamin E a day.

Vitamin C

I talked about Vitamin C as the only substance shown to preserve the age controlling telomere. But no discussion of anti-oxidants could be complete without discussing the unique role of Vitamin C.

Humans are among only a handful of animals that do not naturally produce Vitamin C. You are dependent on getting Vitamin C from your diet. Here are some of Vitamin C's important functions:

- **Fights free radicals** before they can do damage
- **Maintains body structure** by being an important ingredient in collagen (collagen's integrity is dependent on Vitamin C)
- **Helps the immune system** by stimulating antibodies and other immune system cells
- **Aids the nervous system** by contributing to the production of amino acids that regulate the nervous system.
- **Helps to break down histamines,** which are the inflammatory element of allergic reactions

Vitamin C is found in an array of foods including oranges, strawberries, broccoli, and bell peppers. You can get your minimum daily requirement from food. But to get antioxidant amounts, you'll have to take a supplement. I recommend at least 500 mg twice a day.

Many of my anti-aging patients are taking 2,000 to 5,000 mg per day in divided doses. Take it with food to avoid an upset stomach.

Alpha Lipoic Acid

Alpha lipoic acid (ALA) was discovered in 1951. It plays a vital part in the production of cellular energy. It has been dubbed the "Universal Antioxidant." It is unique because it can fight free radicals in both the oil and water areas of cells. Here are some other functions of ALA:

- **Lowers the risk of atherosclerosis, lung disease, and neurological disorders** by fighting the specific free radicals that contribute to these afflictions.
- **Recycles and extends the life of other free radicals** like Vitamin C, E, and CoQ10.

ALA is one of the most effective free radical fighters known. It is most commonly found in red meat. I recommend taking 100 mg of alpha lipoic acid every day.

Coenzyme Q10

CoQ10 is crucial in the creation of energy that cells use to exist. Your major organs use CoQ10 as energy. The body cannot survive without the presence of CoQ10. In nature's clever design, CoQ10 simultaneously provides energy guzzling organs with "high octane" fuel and protects them from the resultant oxidation. Coenzyme Q10:

- **Destroys free radicals** in the cell membranes.
- **Prevents arteriosclerosis** by protecting against the accumulation of oxidized fat in blood vessels.
- **Successfully treats heart disease, high blood pressure, and high cholesterol.**

CoQ10 is found in fish and in the organ meat of animals. I highly recommend taking 30 mg of CoQ10 every day.

Lutein

Lutein is related to vitamin A and beta-carotene. It is a member of the carotenoid family. Carotenoids give bright colors to your vegetables. Lutein contributes to pigment in your retina. It is a critical nutrient for eye health. It's known to:

- **Protect vision** by neutralizing free radicals in the lens and retina.
- **Act like sunglasses** by shielding the eye from harmful sunlight.
- **Lower the risk of cancer and cardiovascular disease** by stopping free radical damage that contributes to these diseases.

Lutein can be found in red grapes, egg yolks, squash, peas, and oranges. I recommend taking 20 mg of lutein every day.

Lycopene

Lycopene is also part of the carotenoid family. It is the pigment in many vegetables. It is most commonly found in tomatoes. Once absorbed, lycopene is widely distributed in the body. It is concentrated most in the liver, lungs, prostate, colon, and skin. Lycopene's many functions include:

- **Prevents coronary artery disease** by stopping the oxidation of LDH (bad) cholesterol.
- **Reduces the risk of prostate and pancreatic cancers** by fighting free radical damage.
- **Aids in preventing macular degeneration** by neutralizing free radicals in the eye.

Lycopene is found in tomatoes, guava, peppers, watermelon, and pink grapefruit. I recommend taking 20 mg of lycopene a day for maximum health.

It is possible to get some of these vitamins from your food. But in order to get the antioxidant levels, supplements are necessary. For example, antioxidant doses of vitamin E are virtually impossible to get in the diet. You would have to eat 2 pounds of sunflower seeds every day!

All of these antioxidants (except for Vitamin C) are oil soluble. They should be taken in gel cap form. Try to find as many of them as you can together in a single supplement. Take them with a teaspoon of flaxseed oil or peanut butter for best absorption. Or taking them during a meal with fat or oil in it will do the trick.

Taking these antioxidants will help quench oxidative damage. Remember that antioxidants slow age-associated changes to your cells. They will help you look and feel younger as well.

The Most Scientifically Validated Life Extending Solution

If you want to increase your chances of living longer, eat less.

Restricting calorie intake is absolutely the most proven method to extend life. It works in every animal model that has yet been tested. Mice, rats, Guinea pigs, rabbits, dogs, and fruit flies all live about one-third longer if you feed them less.

In humans, this would amount to an additional 25 years of life. Not only do calorie-restricted animals increase life span but they also look and behave younger.

The work of Drs. Wolf and Pendergrass at the University of Washington, Seattle, shows that caloric restriction slows the rate of cell division. Remember that, in a cell, age is measured not in elapsed time but in the number of cell divisions. If you slow cell division, you slow aging because fewer cell divisions mean less shortening of telomeres.

Dr. Ray Walford is also experimenting with caloric restriction.He has extended the lives of various small animals. Dr. Walford is a professor of pathology and a physician at UCLA Medical School. He is a firm believer that people can extend their life through manipulating their diet. Dr. Walford is so convinced that he has volunteered his own body for a life-long experiment. He is now in his late seventies and has been restricting his own calories for the past 15 years.

Simple Doesn't Always Mean Easy

There are some obvious problems with employing this most fundamental anti-aging strategy. For one, it's very tough to do. Additionally there are some tradeoffs to living longer through permanent calorie restriction. You will grow smaller, your metabolic rate will drop and your sex hormones will plummet.

The drop in testosterone in both men and women suppresses sex drive. If continued it causes a reversal of sexual characteristics like body hair and breast development. It appears nature doesn't want you to begin a family if you are starving.

To employ this strategy, you must permanently reduce your caloric intake to about 2/3 of what it takes to maintain your current weight. An initial weight loss tapers off as the metabolism adjusts to a lower metabolic rate.

It is not possible to test this in the traditional model of controlled studies. You would have to control everything a person ate for an entire lifetime. There are, however, a small but growing group who have decided to use themselves to test long-term calorie restriction.

They call themselves "cronies." It's short for "calorie restriction with optimal nutrition." Cronies have experimented with calorie restriction to the point that it is their only way of life. They know that the diet is working by monitoring their vital signs.

Cronies look for drops in their temperature, sugar levels, blood pressure, and cholesterol. Long-living monkeys and rats placed on calorie-restricted diets experience the same drops in vital signs.

This extreme approach to diet will extend life. It is, however, no surprise that it has not become popular. It is not my idea of "living." But there are important principles here that can be applied to less extreme approaches.

Lengthening Your Life Safely

If you are highly motivated to slow aging, especially in the anticipation of the advent of more user-friendly anti-aging therapies within the next several years, you might want to consider shorter-term caloric restriction as an interim strategy. I practice and advocate a modified version of caloric restriction, consisting of regular fasting for one or two days every 10 to 14 days. For many, this is more realistic.

And regular fasting has other anti-aging benefits. Short-term fasting triggers increased production of human growth hormone, one of the most important anti-aging hormones, and one that declines dramatically after the age of 30.

In September 2001, Proceedings of the National Academy of Sciences made an exciting announcement. A new study revealed that short-term calorie restriction lengthens life. The scientists looked at 11,000 mouse genes that showed the effects of calorie restriction. Short-term calorie restriction showed up in the genes very rapidly. The youthful effects could even be seen in older organisms that had never been previously calorie restricted. [6]

Under eating is anti-aging. And overeating is age accelerating. The emerging evidence for the cellular mechanisms for caloric intake to affect aging is one more good reason to avoid overeating.

Here are some strategies that will stop you from overeating and help you to work toward restricting your calories.

- Avoid high calorie foods
- Avoid eating late at night
- Stop eating once you are satisfied (leaving extra food on the plate)
- Don't eat while you are distracted (as when reading or watching TV)
- Try short-term fasting (for about two days at a time)

Muscle Is Youth

Did you know that you are losing about 3 pounds of muscle mass per decade? Most people don't. They don't notice because the lost muscle is replaced with fat. You should be concerned over this loss of muscle – and you should build it back.

Loss of muscle is interconnected with the mechanisms by which you age. The amount of muscle you have is a key factor in regulating other metabolic activities.

Muscle is important in maintaining each of these body functions:

- Supporting bones
- Reducing osteoarthritis
- Aiding in sexual health
- Thyroid hormone production
- Maintaining adrenal production
- Controlling metabolic rate
- Stimulating human growth hormone
- Preventing chronic aches (like back pain)

A Finnish study, the Evergreen Project, is currently studying the effects of muscle on the aging process. Men and women between the ages of 65 and 94 are participating in the study. It is proving wide-ranging benefits that go hand in hand with muscle building. The

participants with the most muscle are experiencing better mental function, fewer chronic illnesses, and longer life spans. [7]

Reversing the Age-Associated Loss of Muscle

The most powerful tool for building muscle is exercise. But it must be the type of exercise suited for that specific goal. The right exercise can reverse just about every change of aging. Each of the following symptoms of aging can be reversed through a specific exercise.

Symptom of Aging	Benefit of Exercise
Increased susceptibility to disease	Improves immune system function
Loss of muscle and increased body fat	Aids in loss of fat and builds muscle
Increased risk of a cardiac event (heart attack, stroke)	Lowers blood pressure, improves circulation, lowers cholesterol
Slowing of mental function and alertness	Improves reaction times and mental clarity
Insomnia	Improves quality of sleep
Depression	Relieves stress, improves self-esteem and outlook
Immobility and susceptibility to falls	Improves balance and coordination

Resource: Klatz, R. Hormones of Youth 1999

Every one of these benefits has been shown to occur regardless of the age of the participants. For example, the Human Nutritional Research Center on Aging at Tufts University studied the effect of muscle building exercise in elders. They were between the ages of 63 and 98. Most required walking aids or were in wheelchairs.

Over 10 weeks, a marked increase in muscle strength was reported. The participants also noticed improved stamina and stability. Many participants were able to walk unaided after the muscle building exercise therapy. [8]

Forget Wear and Tear Exercise

Of all the benefits of exercise, I have come to believe that maintaining youthful muscle mass is the most generally health enhancing. This is particularly evident in elders. Building muscle keeps you young.

Long endurance exercise is a waste of your time if your goal is to reverse the changes of aging. Long duration exercise will not build an ounce of muscle. It causes wear and tear on your body. Your joints become sore. Muscles are fatigued but not given an effective signal for growth.

Here are some strategies I've learned from sports training that have proven effective for building muscle in elders as well.

- Work the large muscle groups first (think legs and back)
- Perform strength training exercises only 3 times a week
- Perform the exercises at high intensity for short duration
- Progressively increase your work load to stimulate muscle growth
- Use slow and smooth movements to prevent injury

Here Are 10 Areas an Ideal Anti-Aging Exercise Program Should Address . . .

1. **Metabolic Rate**. As you age, your metabolism slows down. But just about any regular exercise—even walking 20 minutes a day—will raise your metabolism.

2. **Muscle Mass**. Choose exercises with weights that you can comfortably repeat 10 to 15 times. You only need to work each body part once a week to make a significant difference. For more serious training, your diet should include extra protein, and possibly supplements of creatine, glutamine, and HMB.

3. **Bone Density**. Once you hit age 35, your bones slowly start to lose density. Weight-bearing exercise—such as stair stepping, backpacking, mountain hiking, weight training, or even tennis—help signal your body to retain bone mass.

4. **Fat Gain**. As your metabolism slows with age, you tend to gain more body fat. Ten to twenty minutes of cardio-vascular exercise before and after breakfast will help burn this fat off efficiently. Exercising for longer periods will burn off muscle in addition to fat, and should be avoided.

5. **Flexibility**. Regular stretching exercises will help keep your body limber as you age. Beginner's level yoga or martial arts classes often teach excellent stretching exercises.

6. **Strength**. Training for strength is different than training for muscle mass. For strength, you exercise for shorter durations—4 to 6 repetitions only.

7. **Growth Factor**. You can actually increase your body's production of growth factor by short, intense exercise followed by sound sleep.

8. **Lung Volume**. To increase your lung capacity, you must use your lungs at their full capacity. That does not mean long intense cardiovascular workouts, which unfortunately burn off needed muscle. Pushing a car for 10 feet, for example, is a much better workout for your lungs.

9. **Heart Fitness**. Ten to twenty minutes of strenuous cardiovascular exercise will build your cardiac reserve capacity. Stair stepping, bicycling, and swimming are much better than jogging. Start slow and build up.

10. **Co-ordination**. Leading a sedentary lifestyle allows your neuromuscular co-ordination to deteriorate. Exercises such as dance, sports, or martial arts counteract this tendency. But remember this principle . . . don't play sports for exercise, exercise to play sports. Playing sports when you're out of shape can lead to injury.

Please note that for most of the areas on this list, exercising for short durations is better. It's also much easier to fit short exercise sessions into your schedule.

Keeping Your Most Important Organ Young

As you age, it becomes more apparent that your most important organ is your brain. Did you know that too much stress kills brain cells? Research is showing stress to be one of the leading causes of mental deterioration with aging.

For most people, effective anti-aging has to address living better as we age, not necessarily living longer. We want to retain the independence and abilities of our youth. For the elders I talk to, loss of mental capacity is the most frightening symptom of aging.

Fortunately, the loss of mental faculties is not inevitable. The most important thing you must do to keep your brain healthy and your mind sharp is avoid excess stress.

The Physiology of Stress

Stress has serious physiological effects on the body. When you are stressed, your body produces a hormone called cortisol. In moderate amounts, cortisol is not very harmful. But cortisol is secreted excessively in response to chronic stress. In these larger amounts, cortisol is extremely toxic.

Cortisol actually kills and disables your brain cells. Over your life span, cortisol ruins your brain's "biochemical integrity." Chronic exposure to cortisol causes the mental haziness, forgetfulness, and confusion that is associated with aging.

In anti-aging, most hormonal manipulation involves supporting declining levels. Almost all hormone levels fall as you age. Cortisol is one of the very few exceptions. Cortisol actually rises as you grow older. To regain and keep a youthful mind, you must lower the cortisol levels in your body.

Attain and Keep Your Mental Clarity

You can lower levels of cortisol in the body by reducing stress. Here are some simple, but effective, ideas to lessen stress:

Use breathing techniques: Breathing techniques can help to calm your body. They aid in releasing stress. I often recommend breathing techniques to my patients. They are simple to do, and are very effective. Once you learn the techniques, you can do them anywhere.

Let it out: Writing down problems or talking about them is also effective stress management. Write down your problem and how you feel about it. You will be surprised at the therapeutic effect.

Talking through your problems can also help. An understanding friend or a family member can make a good listener.

Do your favorite thing: Most people have one thing in life that they like to do most. It is the thing that relaxes you and lets you forget about your worries. Golfing, painting, gardening, visiting a special place, or having a picnic can release your mind of the stress of daily living. Set aside time for your favorite thing and do it more often.

Meditate: Meditation can be very simple. It is a time that you use to focus within yourself. Sit or lie in a comfortable position. Listen to your breathing and follow it. Or repeat a word or short phrase that means something. You can speak it or just think it in a rhythm that is comfortable. Clear your mind of worries, and focus on relaxing. Take 10 or 15 minutes out of your day to do this. You can even meditate as you lie in bed at night. It will be time well spent.

Take care of yourself: Eat a healthy diet and make sure to exercise. Remember to take your multivitamin and antioxidants. A healthy body and mind go hand in hand.

With these techniques, you should be able to reduce your stress. This eliminates the number one age-associated killer of brain cells. It will help you keep a sharp and focused mind at any age.

The Anti-Stress Hormone: DHEA

I call DHEA the "anti-stress hormone". DHEA stands for *dehydroepiandrosterone*. Don't let that tongue-twisting name bother you, everyone refers to it as DHEA. It is the most abundant product of the adrenal glands. DHEA is the precursor used by your body in producing sex hormones like testosterone, estrogen, and progesterone. It is produced in large quantities in youth but its production dwindles with age.

Remember, most hormones decline with age but cortisol actually increases with age. Cortisol then plays havoc on your body. Your body need not worry about long-term maintenance like building your immune system or laying down new bone or muscle when you are running from a lion.

When you are under stress, cortisol tells your body "just get through the moment, damn tomorrow." Since it inhibits maintenance and repair, cortisol accelerates aging. It's like burning your candle at both ends. DHEA is the natural counter to cortisol.

You secrete DHEA when times are good – when you are well fed, secure, and free of stressors. The more DHEA in your body, the less effect stress will have on you. The problem is your adrenal capacity to produce DHEA declines with age. Yet the modern environment stresses your body every day. Cortisol is overproduced and aging is accelerated.

Levels of sex hormones decrease as you age. DHEA boosts the production of sex hormones and creates a slew of health benefits. It is a crucial part of being youthful. Like hormones, DHEA declines with age.

Declining DHEA

People with DHEA deficiency have been documented to experience:

- Shortened life spans
- Immune deficiencies
- Inflammatory diseases
- Cancer
- Heart disease
- Osteoporosis
- Depression
- Cognitive decline
- Aged appearance

A 1998 study published in the *Journal of the American Geriatric Society* studied DHEA's effects on aging. People between the ages of 60 and 80 were tested for DHEA levels. The participants also took cognitive and strength tests.

Researchers found that those with the highest levels of DHEA performed better on both the cognitive and physical assessments. Study authors admitted that those with higher levels of DHEA seemed younger. [9]

DHEA and Youth

As I said before, DHEA levels decline as you age. The rate of decline is surprising. By the time you are 65 years old, you'll only have about 10% of the DHEA that you had when you were 20. [10]

People with higher levels of DHEA experience:

- Less stress
- Enhanced energy
- A boost in immune system function
- Reduced body fat
- Increased libido
- Sharper memory
- Halt in wrinkles and signs of physical aging [11]

You can raise your levels two ways: 1). by reducing levels of Cortisol, and 2). by DHEA supplementation.

DHEA is becoming more popular as a supplement. I use DHEA at my Wellness Clinic regularly. DHEA therapy has successfully treated many of my patients who suffer from lack of energy, depression, and chronic fatigue syndrome.

It is important for you to get your DHEA levels checked. Your doctor can perform the simple test. Youthful levels of DHEA for men range from 400 to 560.

After your levels have been checked, you can determine optimal dosing. A common starting dose is 10 mg daily. DHEA is absorbed well and can be taken at any time but best mimics the natural daily fluctuation when taken first thing in the morning.

Restoring Masculinity

Men have always known their bodies dramatically change as they age. It wasn't until recently that science revealed that nearly all of these changes are intentionally "signaled" to occur by changing hormones.

As you get older, genes turn on and off, partly according to a preprogrammed sequence and partly in response to your environment. Which genes are turned on determine hormone levels and they affect your metabolism and capabilities. They can even affect your physical form. It is the principle reason that you are physically different at 60 than you were at 18.

Hormones also affect mood, memory, mental clarity, and energy. The most important hormones for male health and masculinity are:

- DHEA
- Androstenedione
- Testosterone

We all know that testosterone is the hormone that makes a man a man. But this hormone does much more than that. Testosterone helps to control body fat, mood, energy, sexual desire, cognitive function and aging.

Testosterone doesn't decline all of a sudden like female hormones do at menopause. The decline is gradual but over time just as profound. Testosterone levels are at their peak in your twenties. By the time you reach 80, your testosterone levels decrease between 50% and 70%. [12]

Testosterone can:

- Improve sexual performance
- Promote libido
- Stimulate muscle growth
- Increase energy levels
- Improve memory, mood and mental clarity
- Build stronger bones
- Keep urinary and reproductive systems healthy

Before tinkering with testosterone, you should consult with your doctor. Have all of

the male hormones listed above measured in your blood. Once you do that, it is possible to boost your own levels of male hormones including testosterone naturally.

Restoring Testosterone Naturally

Because you make all of your sex hormones from DHEA, taking a DHEA supplement is often a good place to start. Note: DHEA is a hormone. Hormones always act as "double-edged swords." Too little or too much can both be bad. Never take any hormone without having blood levels checked. See Health Alert 40 for more information about DHEA.

The athletes call androstenedione "andro." But unlike DHEA, they are not available over-the-counter at nutrition stores. The FDA banned androgens in 2004. Why? They knew they worked. And they created competition for the big drug companies.

Andro is the immediate precursor to testosterone. They use it as a sports performance and muscle building aid. It is effective but they don't measure blood levels and they take too much. If they take too much the excess is converted to estrogen. With the constant exposure to environmental estrogens, this is the last thing aging men need.

Androgens are still available by prescription. But it's unlikely your doctor will be aware of them. If you plan to take them, you must have your blood levels checked. My experience is that 5 to 10 mg is all men need to restore youthful levels.

For many men in my clinic, the preferred way to restore testosterone has been with the natural herb Tribulus.

Tribulus terrestris has long been used to boost testosterone in Asia. It has been given to men who have weak muscle and sexual problems. It was reintroduced to the world by East German Olympic athletes. Tribulus gently boosts testosterone levels, which explains both its aphrodisiac effect and its sports performance enhancing effect.

One study analyzed the effect of Tribulus on healthy men. The men experienced an average 30% increase in testosterone levels after just 5 days of oral supplementation. [13] This is about the average rise in testosterone that I have experienced in my clinic. I use a starting dose of 250 mg once a day.

A Powerful Anti-Aging Treatment

In 1990, Dr. Daniel Rudman accomplished something that had never been done before. He conducted a study that reversed human aging. Wrinkles disappeared. Grey hair began turning black again. Energy levels soared. And seventy-year-olds had resurgence in sexual appetite.

He was investigating the effects of a pituitary protein called human growth hormone on healthy adults. Twelve men, ages 61 to 81, volunteered for the trial. They received injections of human growth hormone for 6 months.

As we age our skin grows thinner, we lose muscle and bone and gain fat. The men in the study grew thicker skin, developed bigger muscles and denser bones and lost fat. On average, the participants experienced:

- 14.4% decrease in fat tissue mass
- 8.8 % rise in lean body mass
- 7.1% increase in skin thickness
- 1.6% rise in bone density

When Rudman's study was published in the *New England Journal of Medicine*, he wrote:

> *"The effects of six months of human growth hormone on lean body mass and adipose-tissue mass were equivalent in magnitude to the changes incurred during 10 to 20 years of aging."* [14]

Why We Call It the Fountain of Youth

HGH (human growth hormone) is the most powerful weapon in an Anti-aging physician's arsenal. Your body produces high amounts of HGH as a child but the production declines throughout your adult life. This orchestrated decline causes and controls many of the changes of aging. When you reverse the decline of HGH, you reverse many of the consequences of aging.

Several other studies have now confirmed Dr. Rudman's findings. The benefits of HGH include:

- Increased energy
- Enhanced sexual performance
- Muscle gain
- Fat loss
- Stronger bones
- Diminished wrinkles
- Improved immune function
- Enhanced mood
- Decreased cholesterol
- Improved vision

HGH is FDA approved for growth hormone-deficient adults, but conventional medicine has been on the fence when it comes to HGH. The concern is that we don't know its effect with long-term use. But the results of a recent 10-year study helped to prove its long-term effectiveness.

Researchers analyzed a group of men receiving HGH for ten years. The men were compared to a group of men of the same age who did not receive HGH. The men receiving HGH had more lean muscle mass, less fat, more energy, and more stable emotional health than the men who did not receive HGH.

In other words, the benefits seen in the many short-term studies on HGH continued throughout the 10 years, without any negative side effects. The men taking HGH had appeared to turn back the clock, safely. [15]

Boost Your Levels of HGH Without Injections

You can restore HGH to youthful levels. I have researched the effectiveness of HGH through my *Wellness Research Foundation*. I have found that HGH can be elevated naturally:

- **Eat more protein:** When you eat high amounts of protein, your HGH levels actually rise. This is a mild elevation, but nonetheless, it is effective.

- **Perform strenuous exercises:** Strenuous exercise also increases levels of HGH in your body. I'm talking about gut-wrenching exercises here like heavy squats and dead lifts. This is not a tip for the faint of heart.

If you think you may be a candidate for HGH, talk to your doctor. It's only available by prescription. To be used safely, you must have blood levels checked. And you should only deal with a doctor who is familiar with HGH.

I have used HGH for 10 years to treat patients with HGH deficiency. I've used it in patients from 35 to 95 years old. Some use it in short cycles like athletes. Others elect more long-term intervention in the aging process.

I've seen some remarkable changes with HGH therapy. Patients come in flabby and frail, and in a matter of weeks, are strong, healthy, and active.

If you would like to know more about HGH, or any other anti-aging therapy mentioned in this report you can contact my research center at support@alsearsmd.com

Don't procrastinate. Start applying these strategies today. I've seen them work with thousands of patients. Stick with it and you'll experience the difference.

Reference

1 Fossel M "Telomerase and the aging cell: implications for human health" Journal of the American Medical Association June 3, 1998, pp. 1732-5

2 Zglinicki T, "Telomeres influencing the rate of aging." Annals of the New York Academy of Science Nov 20, 1998, vol 854, pp. 318-27.

3 Xu et al. "Homocysteine accelerates endothelial cell senescence," FEBS Letters 2000, vol 470, pp. 20-24.

4 Morales CP, et al. "Absence of cancer-associated changes in human fibroblasts immortalized with telomerase." Nature Genetics 1999; vol. 21, pp. 111-118.

5 Furumoto K. et al. "Age-dependent telomere shortening is slowed down by enrichment of intracellular vitamin C via suppression of oxidative stress." Life Science 1998, vol. 63, no. 11 pp. 935-48.

6 Cao S. et al., Genomic profiling in short- and long-term caloric restriction effects in the liver of aging mice. Proceedings of the National Academy of Sciences, Sept. 11, 2001; 98(19): 10630-10635.

7 Fozard J, et al., Epidemiologists try many ways to show that physical activity is good for seniors health and longevity: review of special issue of the Journal of Aging and Physical Activity: The Evergreen Project. Exp Aging Res 1999; 25: 175-182

8 Klatz, R. Hormones of Youth 1999 Chicago

9 Klatz,R. Ibid p. 93

10 Klatz R. Ibid. p. 93

11 Adapted from Regelson W and Colman C, The Super-Hormone Promise, Pocket Books: New York 1996

12 Wright J. Maximize Your Vitality and Potency, Smart Publications, CA: 1999

13 Muscle and Fitness, 1996 Sept; 140: 224

14 Klatz, R. Grow Young with HGH Harper Collins, NY: 1997

15 Gibney J. et al., The effects of 10 years of recombinant human growth hormone (GH) in adult GH-deficient patients J Clin Endrocrinol Metab 1999 Aug; 84(8): 2596-2602