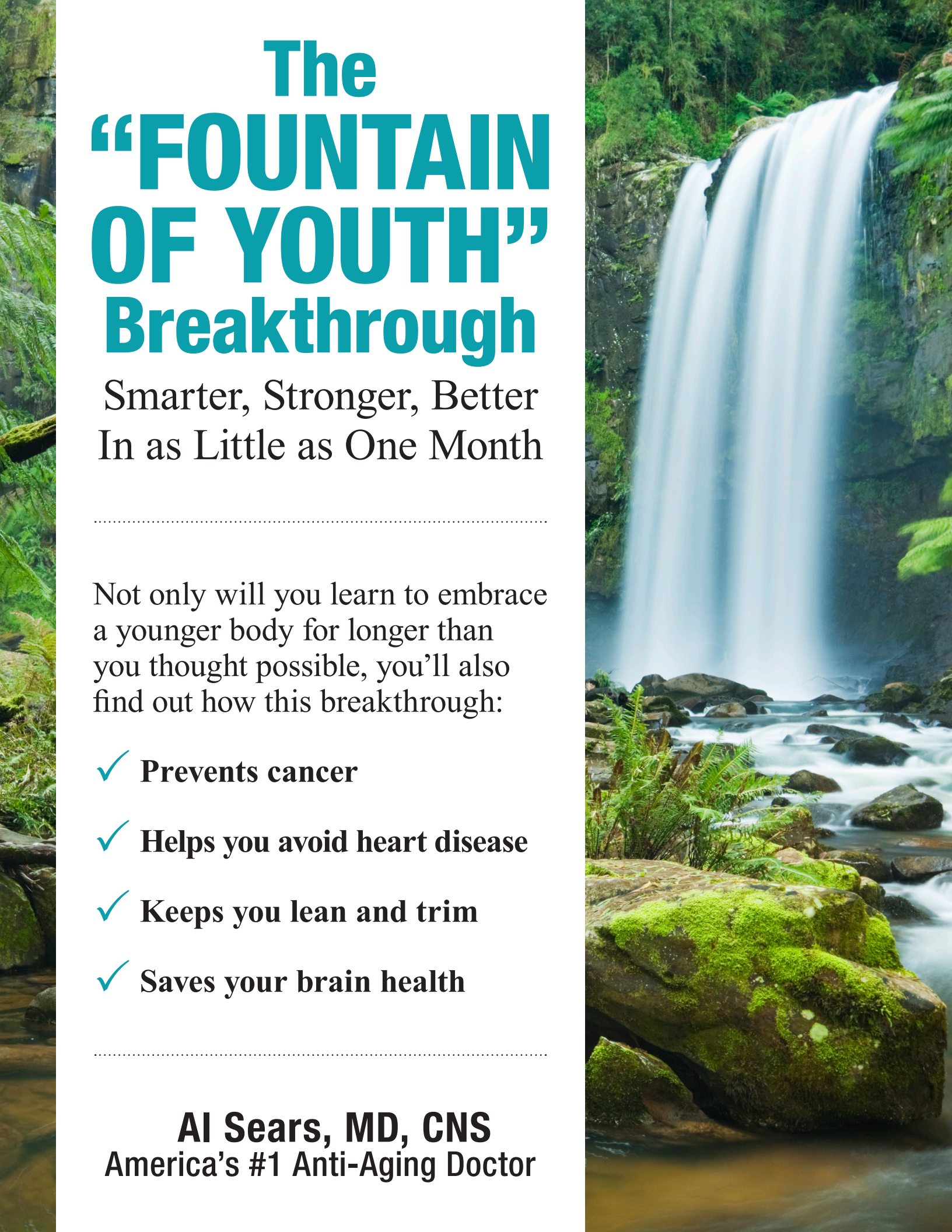


A vertical photograph of a waterfall in a lush, green forest. The water is white and frothy as it falls over dark, moss-covered rocks. The surrounding vegetation is dense and vibrant green.

# The “FOUNTAIN OF YOUTH” Breakthrough

Smarter, Stronger, Better  
In as Little as One Month

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Not only will you learn to embrace  
a younger body for longer than  
you thought possible, you'll also  
find out how this breakthrough:

- ✓ Prevents cancer
  - ✓ Helps you avoid heart disease
  - ✓ Keeps you lean and trim
  - ✓ Saves your brain health
- 

**Al Sears, MD, CNS**  
America's #1 Anti-Aging Doctor

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# Al Sears, MD

## America's #1 Anti-Aging Doctor



He's made it his life's work to challenge conventional medical beliefs and bring his patients the latest breakthroughs in natural cures and remedies to diseases once thought to be "incurable."

Dr. Sears takes a fresh, novel approach to patient health and wellness. Our environment has changed for the worse — and it's affecting your health. He helps patients escape accelerated aging caused by modern toxins, chemicals and other hormonal threats you unknowingly face every day.

Every year, he travels over 20,000 miles to the most remote regions of the world searching for natural healing secrets unknown or ignored by mainstream medicine.

Since 1999, Dr. Sears has published 35 books and reports on health and wellness. He has millions of loyal readers spread over 163 countries.

Today he writes and publishes two monthly e-Newsletters, *Confidential Cures* and *Anti-Aging Confidential for Women*, and a daily email broadcast, *Doctor's House Call*, with more than 500,000 subscribers. He has also appeared on more than 50 national radio programs, ABC News, CNN and ESPN.



Dr. Sears was one of the first to be board-certified by the American Academy of Anti-Aging Medicine (A4M). More than 25,000 patients travel from all around the world to visit him at the *Sears Institute for Anti-Aging Medicine* in beautiful Royal Palm Beach, Florida.

Recently, Dr. Sears proved you can affect the way you age by controlling the length of your telomeres. He made history as the first MD to introduce the Nobel prize-winning, anti-aging breakthrough of our time, telomere DNA therapy, to the general public. And now he's working with the leading scientists in the field of telomere biology to further define how this incredible technology will shape the future of anti-aging medicine.



# The “Fountain of Youth” Breakthrough

**Smarter, Stronger, Better In as Little as One Month**

By Al Sears, MD

They had lost their intelligence. Every one of them had performed poorly on tests, and they all had shrunken brains.

They had become infertile and lost their desire for sexual activity.

Their hair had changed from glossy and youthful to dull and gray.

Their vision was dimming, with a loss of peripheral vision.

*Then, one by one, each of those signs of aging was reversed.*

They became sexually active again and actually fertile. At the equivalent of a very elder age they had healthy offspring.

Not only did their intelligence come back, it reverted back to youthful. And the atrophy of the brain – the shrinkage – reversed. They grew back a normal, youthful brain.

Their hair became shiny and thick again. And their eyesight returned.

What caused this remarkable reversal of aging?

Telomerase.

It's the enzyme that helps you rebuild the biological clocks at the end of your DNA called telomeres.

Research into telomeres and how telomerase works is so groundbreaking that it won the Nobel Prize for medicine in 2009.

Today, I'm going to show you how to tap the remarkable power of your telomeres and the age-reversing enzyme that helps maintain them. That way, you can keep doing everything you want.

## **A Younger Body for Longer Than You Thought Possible**

The first real solution to aging itself starts deep within your DNA, the building block of every cell in your body.

**At the end of each strand of DNA is a little bit of genetic material called a telomere (tee-lo-meer). The length of these telomeres determines how old or young a cell acts.**

As your cells divide, the telomeres get shorter, and your body produces cells that are older, weaker, and more decrepit.

It's programmed old age, and everything that comes with it.

In fact, the shorter your telomeres, the "older" your body is, regardless of your actual age.<sup>1</sup>

**By slowing the countdown, you may be able to extend your lifespan, and feel younger longer.**

How do we know this?

At first, we only knew that telomeres shorten with age. So we know there's an association between short telomeres and aging. They happen concurrently.

But if we take telomeres and we artificially shorten them, we accelerate aging. So we know there's some causal relationship. That it's not just coincidental. There's a cause and effect we can prove.

Then we can show that if we turn on the enzyme called telomerase, we can slow the shortening of telomeres in a cell. You can take an aged heart cell, an aged brain cell, and all these different cell lines, and they all respond to telomerase.

And that's where the story I told you earlier becomes important. It proved for the first time that telomerase reverses features of aging in a whole organism.

The study was published in the prestigious journal *Nature* and authored by Rod DePinho, professor of genetics at Harvard Medical School and director of applied cancer science at the Boston-based Dana-Farber Cancer Institute.

When the mice had their telomerase turned on, they were rejuvenated after only one month.

Their telomeres were longer, and the telomerase levels increased. Brain cells that were dormant came back to life, producing new neurons. Their shrunken organs, like spleens and even testes and brain, grew in size.

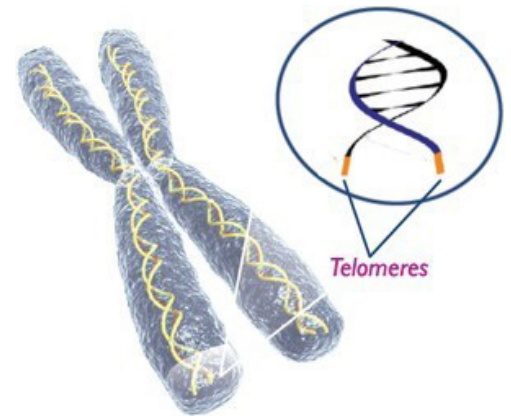
Key organs functioned better, and the mice got their sense of smell back. The males also produced new sperm cells, and their mates gave birth to larger litters.

The mice went on to live long healthy lives.<sup>2</sup>

After DePinho and his colleagues had taken mice and made them young again, he said the study produced results that were the equivalent of finding the famed fountain of youth.

But there's even more to it... because we can show that if we switch telomerase totally on, in a cell culture, we create immortal cells.

So we know that if you change your telomeres, you change the aging process.



Fortunately, there are a few simple steps you can take that together promote longer telomeres and can slow the aging process. You don't have to make any radical changes, and there are no impossible, insane workouts or dieting that will deprive you of anything.

It's important because maintaining and even lengthening your telomeres can help you live healthier and longer, plus dramatically slash your risk of serious diseases.

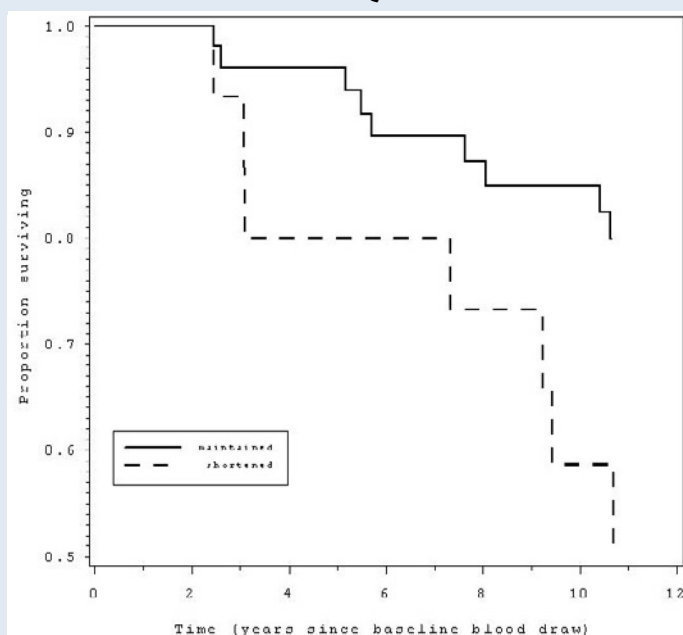
For example, the famous MacArthur Health Aging Study found that those who experienced telomere shortening within only two and a half years of being measured at age 70 had a 300% greater chance of dying than those who maintained their telomere length.<sup>3</sup>

Another study of 60- to 75-year-olds showed those with *short telomeres* had a 318 percent higher death rate from heart disease. They also had an 854 percent higher death rate from infectious diseases.<sup>4</sup>

But if you take action now, you can turn that dial to “slow burn” and enjoy a more youthful, healthier life. For example, with longer telomeres you can:

- **Prevent cancer** – A study published in the Journal of the American Medical Association found that longer telomeres can dramatically reduce your risk of cancer. They found that it didn't matter what other risk factors you had, the longer your telomeres, the less likely you were to get *any kind* of cancer.<sup>5</sup>

### Shortened Telomeres Mean Early Death



Those with earlier telomere shortening (the dashed line) were three times more likely to die over the next 12 years compared to those who maintained their telomeres (solid line).

- **Avoid heart disease** – The younger your cells act, the less likely you are to suffer from cardiovascular disease.

A study in the journal The Lancet, people who had the shortest telomeres were 40-50% likelier to have a coronary heart disease event than people with the longest telomeres.<sup>6</sup>

- **Protect your lungs** – A European study found that people with lung disease (COPD, or Chronic Obstructive Pulmonary Disease) had shorter telomeres than both smokers and non-smokers.<sup>7</sup>
- **Stay lean and trim** – A study done just a few months ago found that children who are obese have telomeres that are 24% shorter than non-obese children.<sup>8</sup>
- **See more clearly for longer** – Longer telomeres mean a nearly 50% reduced risk for the eye disease. And people with cataracts who had longer telomeres had less severe cases than

those with shorter telomeres.<sup>9</sup>

- **Use blood sugar properly** – People with diabetes have significantly shorter telomeres than people without. The longer your telomeres, the better chance you have of avoiding diabetes. Also, among those with diabetes, longer telomeres mean less a severe case with fewer complications.<sup>10</sup>
- **Have a healthy mouth** – Most people don't think of disease originating in the mouth, but your gums are a direct path to the rest of your body. Gum disease is an indicator of inflammation in your body. People with gum disease had 23% shorter telomeres. Those with longer telomeres had no gum disease, and lower markers of inflammation.<sup>11</sup>
- **Sleep more soundly** – In China, they looked at the immune systems of people with sleep apnea compared to people who slept normally. The ratio of white blood cells with longer telomeres was significantly higher in healthy people than for people with sleep apnea.<sup>12</sup>
- **Keep your joints strong and pain-free** – Telomeres appear to shorten faster for people with rheumatoid arthritis. Longer telomeres are associated with lower risk for the immune disease.<sup>13</sup>
- **Have more robust kidneys** – A study from the Netherlands found that shorter telomeres were associated with reduced renal function.<sup>14</sup>
- **Keep your brain healthy** – Four studies have linked shorter telomeres with Alzheimer's disease. One found that people with the shortest telomeres were seven times likelier to die from dementia than those with the longest telomeres.<sup>15</sup>
- **The famous Nurses' Health Study** looked at the telomeres of 2000 women, and found that those with longer telomeres had less cognitive decline. Each unit increase in telomere length is like your brain acting a year younger.<sup>16</sup>

Also, did you know that people who look younger than their actual ages also live a longer and healthier life than those who look older than their years?

In a long-term study involving 913 pairs of twins, Danish researchers discovered that the twins who looked younger than their true age had better health and longer survival rates than their older-looking siblings. And the larger the difference in perceived age, the more likely it was that the older-looking twin died first.

What did the researchers find was the reason for this difference?

*The people who looked younger had longer telomeres.*<sup>17</sup>

Now, thanks to cutting edge research and nutritional breakthroughs, having longer telomeres so that you can stay young and vibrant isn't just an accident of genetics. You can keep your telomeres from shortening as you age and enjoy all the benefits that go with having a mind and body that act years younger.

Just take these steps, and you'll boost your chances of enjoying your extra years living a more youthful and disease free life.

## Step 1: Boost Telomerase

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Even a decade ago, we knew very little about how to do this.

Scientists have since learned that you can delay the shortening of the telomere by activating an enzyme that rebuilds them. The discovery of this substance, called telomerase, was such a breakthrough that it won the 2009 Nobel Prize in Medicine.

Telomerase is in all your cells, but it's usually turned off. The key to slowing or even reversing the aging process is activating it.

Telomerase's job is to make a blueprint so your telomeres can rebuild themselves when your DNA makes copies. This way, your telomeres don't get shorter. Sometimes they even get longer.

Researchers also built on this discovery. They developed a therapy called the "Patton Protocol" – a natural dietary supplement that can activate telomerase.

It uses a nutritional supplement synthesized from a rare molecule of the astragalus plant.

In a study on the effect of the Patton Protocol, people took this supplement for a year. Researchers then took a look at their disease fighting white blood cells.

These immune cells, called T-cells, are an important marker of aging. That's because when you get sick, your immune system makes copies of T-cells. These cells divide over and over again to fight off the bacteria or virus that's invading your body. Older people have fewer, less active T-cells. So the older your immune system acts, the older your body is acting.

After taking the supplement, though, the people had more working immune cells, and those cells had a lower percentage of short telomeres. Researchers wrote in the study that the people had immune systems that looked like they belonged to someone up to 20 years younger.<sup>18</sup>

I should know... I'm one of them.

After using this for over two years, I can tell you there's nothing else like it. I can document from my own blood tests that I have the pulmonary age of a 25-year-old. I was born in 1956, but my cardiovascular age is only 35. More importantly, the telomere length of my T-lymphocytes correlates to that of a 35-year-old.

I was the first doctor in the country licensed to administer this natural supplement, called TA-65. And it's still one of only two commercially available treatments specifically for activating telomerase to help maintain human telomeres.

There's also another called Telomere Length Complex with T-activator 100 from Telomere Biosciences. The T-activator 100 is also a telomerase activator. But Telomere Biosciences is taking a different approach with a broader spectrum solution that addresses the involvement of the entire body.



So it's not only a powerful telomerase activator, but it addresses other causes of telomeric shortening, which I'll tell you more about in a minute.

There's also another product called Product B by Isagenix. It's a "telomere support" supplement that helps fight oxidative stress. Telomeres are very sensitive to oxidative stress – inflammation – and Product B has antioxidants that target your telomeres and help maintain them.

I like that TA-65 doesn't have anything but a telomerase activator, which means you can add it to whatever else you want, like Product B, and Telomere Length Complex is more of a combination of the two.

But, these telomerase activator supplements can be expensive.

However, even if you are taking a telomerase activator, I would still urge you to follow the rest of these steps! Especially this next one...

## Step 2: Use Space Flight Discovery to Help Your Body Make Telomerase

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Did you know that your cardiovascular system ages ten times faster in space than it does on earth?

In space, you have more oxidative stress, insulin resistance, and inflammatory conditions. In animals they've tested, you even find significant endothelial injuries and damage to mitochondria, the energy producing centers of your cells.

These are all the same symptoms you would find in someone with shortened telomeres.

In large studies of both astronauts and cosmonauts, they've found that there is a single nutrient more important than any other to keep the space travelers healthy. It stabilizes DNA and promotes DNA replication and transcription because your body relies on it to be able to make telomerase.

What is this miracle nutrient?

It's magnesium.

They know this because on Earth it takes a while to notice changes to your telomeres, but in space, it all happens much more quickly. They've found that after 6 months in space, magnesium has dropped by 35% loss in some leg muscles and you lose 1%–2% from your bones per month.

So before and after a space mission, telomere lengths and telomerase enzyme activity can be determined and compared with age-matched controls on Earth. And studies show that telomere synthesis is sensitive to the amount of magnesium you have. Not only that, but in order to bind to shortened DNA, telomerase is dependent on magnesium.

### Do You Get Enough?

60% of Americans don't get enough magnesium. But if you look at modern medical literature, you won't find a deficiency reported. Why is that?

A study from the Medical University of Ohio nailed it right on the head when they wrote that a deficiency has not been recognized is because they've established a "normal" level from serum samples... but only 1% of magnesium is in the serum!<sup>19</sup>

That's why, in a study of elders for example, serum magnesium levels were within the normal range in all people tested. Then, when they looked a little deeper at the intra-erythrocyte magnesium levels, the measurements were low in almost 60% of the people.<sup>20</sup> Just as you would expect.

In another study, when measuring the total serum magnesium concentration as people aged, there was no apparent change. But when the researchers looked at intracellular free magnesium concentration, there was clearly a progressive decrease.<sup>21</sup>

So the odds are, you are not getting enough magnesium, especially if you want to promote youthful telomere length and fight off aging and the diseases than can go with it.

Maybe that's why new research even finds that if you do get enough magnesium you have a lower risk of dying from *any cause*.

The study followed 4,203 people over 10 years, and found that the rate of death from all causes was *10 times higher for people getting the least magnesium*.<sup>22</sup> And the rate of death from heart problems was more than 50% higher for those with low magnesium.

You can get more magnesium by eating nuts, seeds, dairy products and dark green, leafy vegetables. But modern farming practices have depleted much of the mineral content in our soil, so there's not much magnesium in vegetables any more.

Magnesium used to be in your drinking water but water with high mineral content – hard water – fell out of favor because most people don't like the taste.

If you can't get enough magnesium through food, you can take a supplement. I recommend between 600 and 1000 mg a day. Take it with vitamin B6. It will increase the amount of magnesium that accumulates in your cells.

### Step 3: Raise Your HDL

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A recent study took a group of people and measured their telomere length. They weren't surprised to find that those with shorter telomeres were likely to have a family history of cardiovascular disease.

But when they looked a little deeper, they found that separate from any other measurement, those with the highest HDL had the longest telomeres.<sup>23</sup>

I've been telling my patients and anyone who will listen about the importance of high HDL for 15 years now. It doesn't surprise me that high HDL would be associated with longer telomeres and a longer, healthier life. In fact, the higher your cholesterol, the lower your chances are of dying from *any cause*.<sup>24</sup>

I was able to raise my HDL to 105 by doing three things. All you have to do is follow the same three easy steps and you can raise your HDL just like I did:

**First, eat a lot of garlic.** A decade worth of studies prove garlic raises HDL. With so much evidence, you'd think modern medicine would stop ignoring garlic's benefits and start recommending at least two cloves a day.

**Second, take niacin (vitamin B3) as a supplement.** I've been prescribing niacin for years. I have tested its effectiveness in thousands of patients in my 20 years practicing medicine. And in study after study, niacin has proven itself to be an HDL-raising warrior. In one study, researchers showed how niacin raised HDL by a remarkable 24 percent.<sup>25</sup> Start taking it every other day and slowly work up. In my clinic, I often gradually increase to up to 2 grams per day.

**Third, work out with a focus on capacity, not endurance.** Endurance exercises like "aerobics" mimic stress. Intense, short periods of exertion like I describe in my P.A.C.E. program will strengthen your heart and reliably boost HDL. For example, one study looked at Navy personnel going through intense training. After only 5 days, their HDL had increased 31%.<sup>26</sup> Which brings me to step number 4...

## Step 4: Get Intense

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A little bit of exertion goes a long way. And more intense exertion goes an even longer way. But that doesn't mean you have to run a marathon or bore yourself to death with long, grueling workouts to have longer telomeres.

Recently a study of 2,401 twins found that physical activity was related to telomere length. Vigorous exertion created much longer telomeres than either zero exercise or extended exercise.<sup>27</sup>

People got to choose the kind of exercise they liked to do. They did things like running, swimming, or tennis. Those who exerted themselves intensely for around 100 minutes a week, had telomeres that looked 5 or 6 years younger. Those who exerted themselves with even greater intensity had telomeres that looked 9 years younger.<sup>28</sup>

Researchers in Germany found that intense exercise keeps your cardiovascular system from aging by preventing shortening of telomeres.<sup>29</sup>

And in a study done at the University of California in San Francisco, people who exercised vigorously had lower levels of perceived stress and were likelier to have longer telomeres.<sup>30</sup>

The problem with aerobics and traditional workouts is that they are "moderate intensity" workouts.

Sure, you might run for a long time, but long duration doesn't equal high intensity. When you jog on and on, you do it at low or medium power, which doesn't help slow telomere loss.

What you want to do instead is exert yourself with an entirely new category of exercise I developed after years of research that I call P.A.C.E.

P.A.C.E. is the first anti-aging fitness system, designed give you the intensity you need to maintain long telomeres and slow their loss. It makes an exciting workout accessible to anyone, regardless of your current condition. You can start out with walking if that's your level of fitness, and progress from there for longer telomeres and a more youthful body.

P.A.C.E. stands for Progressively Accelerating Cardiopulmonary Exertion. All you have to do is boost the

intensity of your exertion incrementally through time. You control your progression and can even alter the type of workouts you do to keep it fun and interesting.

To show you exactly how to work out using the principles of P.A.C.E., I created ***PACE Express***. It's a six-DVD program where I show you step by step how to do exactly the kind of vigorous workout that will maintain your telomeres and help your body live younger starting today

In fact, here's a telomere-maintenance workout you can try right now, taken straight from ***PACE Express***:

The first is called the **“Marching Squat.”** I recommend using your legs for as many workouts as possible because they're the biggest muscles in your body and give you the most benefit.

1. Start with your legs a little wider than shoulder width apart.
2. Raise your arms into an “L” shape, so that your hands are pointed up and your upper arms are parallel to the floor.
3. Raise your left knee toward your body, and at the same time twist your torso, pulling your right arm toward your raised leg.
4. Switch legs and repeat with the opposite arm and leg. Use this alternating motion for the rest of your set.

You can also try the **“Squat and Butt Kicker.”**

1. Start off with your feet shoulder width apart and do a standard squat, adding in raising your arms straight out in front of you as you lower yourself.
2. As you rise back up, pull your arms in as if you were rowing, and raise your right leg behind you as if you were going to literally kick yourself in the butt.
3. Lower your leg, do another squat and repeat the butt kicking with your left leg.

During your next P.A.C.E. session, time yourself again and shoot for doing them a little faster, or, in taking the same amount of time, adding more reps before your breaks.

And that's the key to P.A.C.E. – Aim to progressively accelerate the intensity of the exertion, NOT the duration. You should never exert yourself for more than a total of 12 minutes. More exertion in a shorter amount of time is the key to longer telomeres.

## Step 5: Clear Out the “Waste”

Homocysteine is an amino acid that accumulates in your tissues. It's a natural byproduct of cell metabolism – think of it as a “waste product.” If your homocysteine levels are high, you're at greater risk for Alzheimer's, Parkinson's, heart disease, and impotence.



Certified P.A.C.E. trainer Rob shows how to do the “marching squat” in my new ***PACE Express*** program.



There's a reason why: Researchers have found that people with high homocysteine levels *tripled the amount of telomere length that was lost during cell division*.<sup>31</sup> No wonder it's linked to so many age-related diseases!

You can measure your homocysteine levels with a simple blood test. And you can lower homocysteine naturally, without drugs. Here's what you should take to keep it in check... you can find these nutrients at most health-food stores.

**Amounts are daily**

Vitamin B12 – 500 mcg

Folic Acid – 800 mcg

Vitamin B6 – 25 mg

Riboflavin (B2) – 25 mg

TMG (trimethylglycine) – 500 mg

You can find these at your local health food store. If you don't want to take them all separately, you can use [the formula I give my patients](#).

## Step 6: Avoid Processed Meats

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Do you grab a deli sandwich for a quick meal? Do you often eat other pre-cooked and pre-packaged meats like hot dogs, bacon and breakfast sausage, pepperoni and lox, and especially soy proteins? If you do, you're shortening your telomeres.

That's because when your body breaks down these cured proteins, a byproduct can combine with the nitrites used in meat processing to make *nitrosamines*. Nitrosamines can also enter your body through toxins in the environment like cigarette smoke.

A new study finds that the more nitrosamines you expose yourself to, the shorter your telomeres become.<sup>32</sup>

To avoid nitrosamines and their telomere-shortening effect, stick to eating meat from grass-fed animals like beef, buffalo and elk. Also, eat wild-caught fish, free-range chicken and turkey, and cage-free whole eggs. These are the purest forms of meat and protein you can get, and have the most nutritional value.

I get my grass-fed beef from U.S. Wellness Meats ([www.grasslandbeef.com](http://www.grasslandbeef.com)), a group of family-owned organic farms that sell high-quality meat from animals raised in their natural environment.

Another good source is the Ted Slanker Ranch ([www.texasgrassfedbeef.com](http://www.texasgrassfedbeef.com)).

For an alphabetical listing of pasture farms near you, visit Eat Wild ([www.eatwild.com](http://www.eatwild.com)) and click on "shop for local" on the left hand side.

## Step 7: Live Younger with the "Essential" Fat

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A study in the *Journal of the American Medical Association* looked at patients from the Heart and Soul study and followed them for 5 years. Those with the lowest levels of omega-3 (DHA+EPA) had the fastest telomere shortening. Those with the highest omega-3 levels had the slowest telomere shortening.<sup>33</sup>

There's more than one kind of omega-3.

Plant-based omega-3s are mainly alpha linoleic acid (ALA). Your body breaks this down into the two types of omega-3 you need for maximum health: Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA).

Animal based omega-3s aren't just ALA. They also contain EPA and DHA.

It's important to get omega-3s from both plants and animal sources because the ability to convert ALA from plants into EPA and DHA can vary from person to person. So getting an animal source is essential.

Animal sources of omega-3 are cold-water, high-fat fish like mackerel, wild salmon, lake trout and herring. Or you could take Cod Liver Oil.

Also, you can eat plenty of raw nuts and seeds. Walnuts, Brazil nuts, almonds and pumpkin seeds are some of my favorites. I also love Sacha Inchi oil. Packing more than 48% ALA, Sacha Inchi oil is one of the richest plant-based sources of omega-3 in the world. That's 5.15 grams of linoleic acid in each tablespoon full.

You should try to get 3-5 grams of omega-3 every day.

## Step 8: Catch Some Rays

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The *American Journal of Clinical Nutrition* looked at more than 2,000 women of all ages. The more vitamin D they had in their bodies, the longer their telomeres were. On top of that, people who supplemented with vitamin D had longer telomeres than those who didn't.<sup>34</sup>

To get some vitamin D in your system, spend some time in the sun for 20 minutes each day. If you don't see the sun too much in the winter, you can eat some of those same cold-water, fatty fish that give you omega-3. There's also vitamin D in egg yolks and orange juice.

If you'd like to get your vitamin D in a supplement, make sure it's vitamin D3 (Cholecalciferol). I usually start my patients with 2,000 IUs a day and work up from there if blood levels aren't responding. Blood levels are helpful to tell you how much you need to take.

## Step 9: Beat Stress and Regain Youth

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Depression is now associated with cell aging. The longer your telomeres, the less likely you are to be depressed no matter your age.<sup>35</sup>

In several other studies, researchers have found shortened telomere length to be associated with depression, childhood trauma and other conditions. A study of 43 adults with chronic post-traumatic stress disorder, whose average age was about 30, and 47 healthy control subjects, found shorter telomere length in the PTSD group that equated to an estimated 4.5 years of accelerated aging. The study was published last year in *Biological Psychiatry*.

In separate research, scientists in Sweden found similar results. The study compared 91 people with major depression to 451 healthy people. They found that shortened telomere length was associated with depression and greater perceived life stress.<sup>36</sup>

## One of the best ways to beat stress is to use what I call the “anti-stress” hormone.

Most hormones decline with age but the hormone you produce when you’re anxious and under stress – cortisol – actually increases with age.

Cortisol then plays havoc 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 candles at both ends.

DHEA is the natural counter to cortisol. The “anti-stress” hormone.

DHEA 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.

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.

If you want to turn back the effects of our stressful modern environment and keep your telomeres from shortening, you can supplement with DHEA. I use it 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. After your levels have been checked, you can determine optimal dosing. A common starting dose that I use 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.

## Step 10: Power Up Your DNA

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A study published in the *American Journal of Clinical Nutrition* found that multivitamins can keep you younger, longer. It shows that people who take a daily multivitamin had younger DNA and had 5.1 percent longer telomeres than people who did not take a multi.<sup>37</sup>

In fact, this study was full of good news. It turns out that vitamin B12 supplements increase telomere length. And vitamins C and E prevent telomere shortening, which increases the life span of cells.

Why are B12, C, and E so effective at maintaining telomere length?

It’s their powerful antioxidant activity. Your telomeres are extremely vulnerable to oxidative stress. And that’s exactly what antioxidants protect you against. This helps keep your telomeres long. And that, in turn, will help you live a longer and healthier life.

These vitamins can be easily and inexpensively added to your supplement regimen. Plus, it’s always a good idea

to start with a diet full of foods that give you as many of the vitamins and minerals that keep you healthy. Here's a list of good food sources of telomere-supporting vitamins B12, C, and E:

### Food Sources of Vitamins B12, C, and E

| Vitamin B12      | Vitamin C                | Vitamin E     |
|------------------|--------------------------|---------------|
| Beef (Grass-fed) | Kiwi                     | Turnip Greens |
| Beef Liver       | Strawberry               | Spinach       |
| Salmon           | Orange                   | Broccoli      |
| Haddock          | Grapefruit               | Almonds       |
| Tuna             | Mango                    | Peanuts       |
| Trout            | Red & Green Bell Peppers | Olive Oil     |
| Milk             | Raspberries              | Kiwi          |

But diet alone won't give you the level of vitamins that you need to prevent your telomeres from shortening and to maintain health and longevity. That's why you need to supplement your diet.

### Get Your Vitamins from the Best Sources

**Before rushing out to buy these supplements, here's some information to help you make the best buying decision:**

**Vitamin B1** – I recommend taking at least 100 mcg per day. Although, I have advised my patients to take as much as 500 mcg per day or more for improving things like brain function and energy levels.

**Vitamin C** – Based on my own experience, taking up to 3,000 mg per day is a good amount if you're currently in good health. I always recommend pregnant women get at least 6,000 mg per day. And in times of stress or sickness, you can take up to 20,000 mg.

You also want to make sure that you get the natural form of vitamin C and not the synthetic form. In one particular study, natural vitamin C was 148% more effective than the synthetic form. And it stayed in the test participants' systems longer.<sup>38</sup>

**Vitamin E** – You want your vitamin E to be "mixed tocopherols." It's also important to watch out for the kinds of tocopherols that are in it. Your body is better able to absorb them in their organic "d" form.

But many vitamin manufacturers use the inferior synthetic "dl" form. Studies show that natural vitamin E has twice the bioavailability of the synthetic form.<sup>39</sup> That means your body is able to absorb more of the vitamin. So be sure to get the natural "d" form.

I recommend 200 to 400 IU of mixed tocopherols a day. Unlike vitamins B12 and C, vitamin E is a fat-soluble vitamin. That means it needs fat to get absorbed in your body. So be sure to take it with food.

You can take each of your supplements separately. Or you can take a multivitamin that combines all of these vitamins at these levels.

But if you want to use a multi-vitamin, shop with caution.

The study revealed that iron supplements have a negative effect on telomeres. It causes them to shorten. So you'll want to stay away from any multivitamin that contains iron.

While you're shopping, keep in mind that most brands usually don't contain more than 100% of the RDA for most nutrients. The RDA is the minimum you need to prevent nutrient deficiencies. But it's not usually enough to lower your risk of serious disease or have a positive impact on your telomeres.

For vitamins B12, C, and E, the RDA for adult males is 2.4 mcg, 90 mg, and 22.5 IU, respectively. These numbers are well below the levels that were found to be beneficial in the study. So you'll need to be a smart shopper when it comes to selecting the right multivitamin.

When looking for a superior multivitamin, you want it to have at least 500 mg of vitamin C. It should also contain 200 IU of vitamin E and 100 mcg of B12. This will give you much more than the RDA amounts.

The multivitamins on drugstore and supermarket shelves may not be the best choice for you. They often fall short of the vitamins and minerals you need most. They can also fall short in terms of quality, since many of them are synthetic instead of natural. You can check out my formula that has just the right dose of anti-aging nutrients.

I always say that taking a multivitamin is the first step to better health for everybody. It's inexpensive and easy to add to your daily routine. And now, we have proof that taking one can actually help you change your genetic age.

## Step 11: Ten Minutes to Turn on Telomerase

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Besides the natural supplement I mentioned earlier, meditation is another way to activate telomerase.

In a recent study at the University of California-Davis. Researchers looked at people who were at a wellness retreat and found that after three months, people doing meditation training had 33 percent higher telomerase activity in their white blood cells than those who weren't meditating.<sup>40</sup>

Here's a breathing exercise you can do to help you meditate right now, wherever you are:

The first step is to **clear your mind**. The goal is to get rid of all the excitatory energy that your environment is pummeling you with all the time.

The second step is to **focus your conscious attention on your breathing**. Think about the cadence of your breath, and exclude other thoughts. Constantly re-focus your attention on the breath.

This is the way you train your mind and increase telomerase activity – by constantly clearing your thoughts and re-focusing on your breath. Distractions are going to happen. But you don't waste any energy over them. You don't form an opinion on whether it's good, bad or indifferent. Each time it happens, you gently redirect your



focus back to your breath.

And each time that happens, you can take a little credit, because you're gaining more and more control over the process.

Step three is to **observe your breathing**. Observe how long it takes you to inhale and exhale. Observe the cadence. Where does inhaling stop? Where does exhaling begin? Focus on the change and how it feels to go from inhaling to exhaling.

The fourth step is to **elongate the exhalation**. This is where you start to exert control over your breathing to help you relax. Make sure you've inhaled fully, using your abdomen and lungs. Then, push out all of your breath slowly and fully. This is the part we usually forget, but it's the most crucial. As you exhale, you will feel yourself relax.

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.

## Step 12: Take Control of Your Telomeres

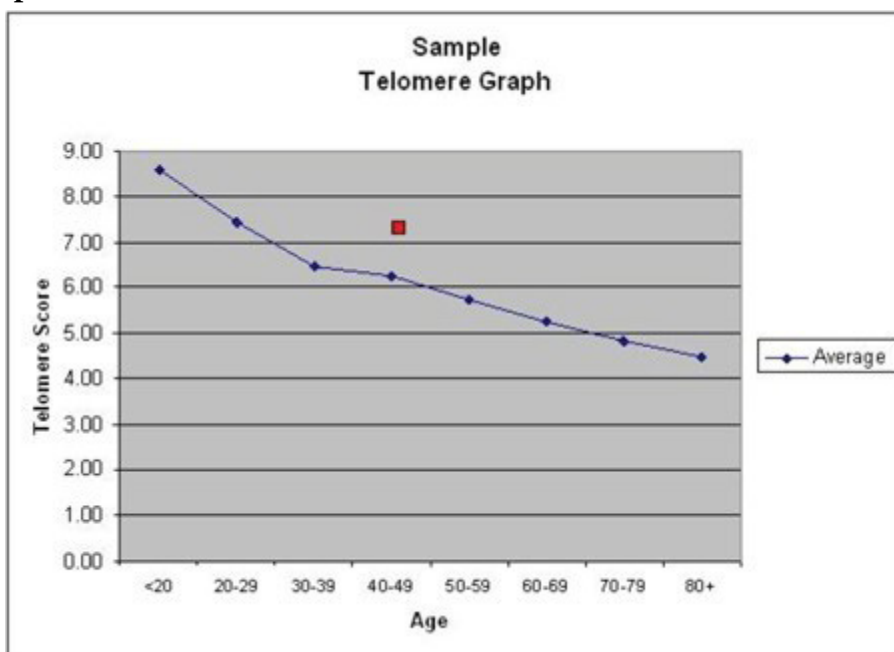
If you'd like to get your telomere length tested, there are several companies that can do that for you.

- The first is Spectracell Laboratories, which we have used at my clinic in South Florida.

You can go to their website at [spectracell.com](http://spectracell.com) and find a local lab that will draw your blood. It gets sent to Spectracell, which tests it and gives you a Patient Telomere Score, based on your telomere length on white blood cells (T-lymphocytes).

This is the average compared to telomere length on lymphocytes from a sample of the American population in the same age range. The higher the telomere score, the "younger" your cells are acting.

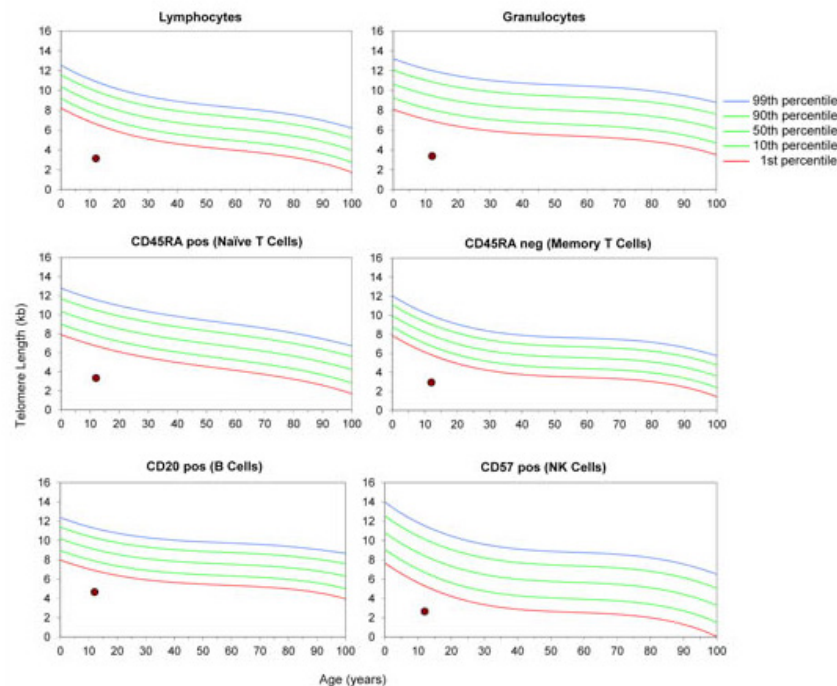
**Here's a sample:**



You want your telomere length score to be above the line, or longer than average.

- Another company with a bit more detailed telomere test is Repeat Diagnostics.

Visit [repeatdiagnostics.com](http://repeatdiagnostics.com) and you'll see they have two tests. The basic test measures two kinds of immune cells. The more detailed test measures telomere lengths are measured for lymphocytes and granulocytes plus B-cells, naïve and memory T-cells and NK cells. The results would look like this:



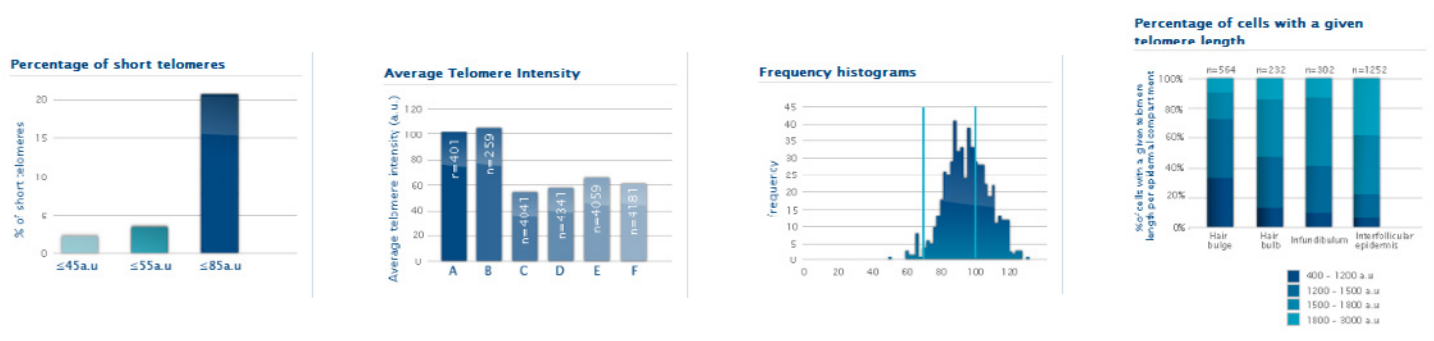
You would want your telomere length (represented by the red dot) to be as close to the blue line as possible.

- A third company is called Life Length. It is the only s the only company that can measure percentage of short telomeres in individual cells from both blood and tissue samples.

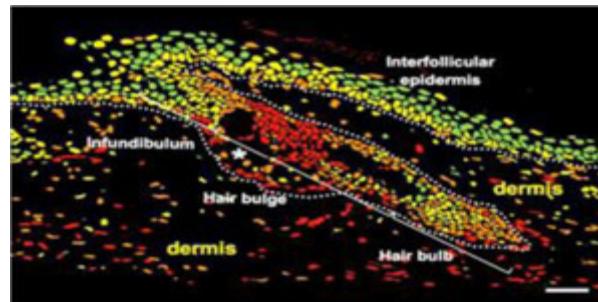
Life Length's Telomere Analysis Technology (TAT) was developed by Dr. Maria Blasco, one of the world's leading researchers on telomeres, and the 2004 European Molecular Biology Organization Gold Medal winner.

Dr. Belasco has published a peer-reviewed study in the Proceedings of the National Academy of Sciences that validated the accuracy of Life Length's testing method.<sup>41</sup>

On the next page is a sample of the very detailed results you'd see:



Life Length can also show you a unique “telomap” from your tissues, a sample of which is below:



By getting your telomere length tested and knowing what you have to do in advance, you can be in control of your health and your life, and live younger no matter your numeric “age.”

If you want to have your telomere length tested at my Sears Center for Health and Wellness in South Florida, please call us at 561.784.7852.

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