What are telomeres?

Telomeres are the end caps of our DNA. More specifically, they are sections of genetic material at the end of each chromosome whose primary function is to prevent chromosomal “fraying” when a cell replicates. By design, each time a cell divides its telomeres become shorter. Over time the telomeres become too short causing the cell to malfunction leading to illness and eventually cell death.

Unfortunately, unlike some crustaceans such as lobsters which have the ability to restore telomere length via the enzyme telomerase, almost all cells in our body (except sperm) lack active telomerase and are not able to regenerate telomere length. But fortunately, we know that the genes for telomerase enzyme exist in every cell and science is learning how to turn these genes for telomerase on!

Why test telomere length?

Think of the length of your telomeres as a trust fund given to you by your grandparents. How long it takes to use up the money given to you will depend on the size of the trust fund but also how much you spend, save and invest. The same goes with telomeres. While, you can thank your grandparent’s genetics and their lifestyle and nutrition for the length of your telomeres, how long your telomeres last is up to you. Just as you can spend all of your money foolishly, even if you are lucky to have long telomeres, know that they are not endless and the wear and tear due to lifestyle stressors, diet, exercise, stress, sleep and/or nutrition will catch up to us all.

Most of know our cholesterol, blood sugar and maybe even our iron levels and while these are useful to detect the presence of disease, they are dated and not very useful in understanding how our bodies are aging. But by tracking our telomere length over time (like our bank balance), we have a unified global marker that can tell us how our lifestyle, dietary, physical, mental and nutritional habits are effecting how you age and your risk of all disease.
How are your telomere results determined?

Your telomere score is calculated based on the average telomere length of the cell samples obtained from inside of your mouth (buccal mucosal). This score is then compared to the telomere lengths from a population sample and provided to you both as raw numbers and a graph.

This result shows a 48 year-old with a telomere score of 7.2 (red square) which is higher than average for their age. It can be seen on the graph that this score is an average for somebody twenty years younger.

Why you need to track and track your results over time?

While average telomere length has been clearly shown in populations to correlate with increased risk of disease and aging, for an individual, a single measurement is not predictive. The data shows us that each person’s average telomere length is unique to them and the absolute number is much less important than how the length changes over time.

This is a plot of results from our testing. Even in this small data set, there are wide variations in telomere length for people close to the same age. In addition, there are two men in their early 20’s with short telomere length. Interestingly, both are high level baseball players and extremely fit. Is this a coincidence? Or maybe their high level of training and stress have taken a toll.

Here is another graph with many, many more data points. You can see that for every age there is a large variation in telomere length and many chronologically younger people have shorter average telomere length than those much older.
Is the Titanovo saliva telomere test reliable?

Research shows that saliva and serum average length telomere assessments correlate well. And with any lab test, even ones as commonplace as cholesterol, glucose and vitamin D, there will be variations over time and from lab to lab. It is encouraging to learn that Titanovo is finding only narrow range variation with repeat assessments. This confirms that their methodology is valid.

What about longevity genotyping?

Titanovo offers the option to add on an assessment of three key longevity genes-- APOE, ACE, and APOC3. The results obtained indicate which variation of these genes you were born with and then provides a calculation predicting the odds of reaching 100 years in comparison to the general population. We have seen results come back as low as 41% to has high as 300%.

You can thank your grandparents if you have strong longevity genes, as they have gifted you with an advantage. But I recommend that you don’t pay much attention to the odds as there are too many factors involved in this calculation and the data is continually changing. For example, a woman born in 1995 has 27% chance of reaching 100 while a man born in 1940 would only have a 5%! And this increases, for example, if you are Japanese. You can see the rest of the data here.

Since there isn’t anything you can do to directly change these genes, tracking your percentage of short telomere and average length over time is much more valuable information.

Why it is best to know your percentage of short telomeres?

As discussed previously, your telomere score is obtained from the mean length of the telomeres taken from a wide population of cells.

There are a number of issues then with only looking at average telomere length.

1. Telomere length not only varies from cell to cell but each of the 23 chromosomes pair ends in a single cell can have different telomere lengths.

2. We now understand that it is the shortest of the short telomeres that are responsible for inflicting the permanent and deleterious damage to the cell causing aging and its collateral effects.
3. When we only assess average telomere length we are not specifically "identifying" these premature or critical telomere shortening.

4. When we only assess average telomere length, we do not measure the important small changes in the percentage of short telomeres that occur with aging, lifestyle or life quality.

**The Upshot:** While saliva telomere assessments is a convenient and inexpensive way to track average telomere length over time, **if you really want to know how you are aging, it is important to combine this with an assessment of your percentage of critically short telomeres.**

And by using something called quantitative telomeric FISH (HT-QFISH) it is not only possible to know your percentage of short telomeres, but to measure the telomere length in all 23 pairs of chromosomes in one single cell! **Life Length Lab** offers the only large scale telomere analysis technology that allows the quantification of the percentage of critically short telomeres to measure your individual risk and cause of aging. Learn more [here](#).

**So what is your next step?**

**Step 1: Perform or Repeat your saliva assessment.**

In order to confirm your first results and track changes, repeat your **Saliva Titanovo Teleomere Assessment** twice over the next year. Use the code TELO79 to save $20 off the regular price of $99.

**Step 2: Assess your short telomeres.**

In order to determine both mean and percentage of the critically important short telomeres, perform at least one **Serum Life Length Telomere Assessment** Use the code TEL0450 to save $145 off the regular $595 price.

**Step 3: Learn more.**

Grab **The Telomerase Revolution: The Enzyme That Holds the Key to Human Aging...and Will Soon Lead to Longer, Healthier Lives** on Amazon. And stay current on all longevity matters with Josh Mittledrof’s **Age Matters** blog.

**Step 4: Take action.**

There is no exact scientific formula for living a longer, healthier, and happier life. But recent research reveals that long-lived societies follow the ten health and life-enhancing tips to follow. We hope that you will be inspired to implement these simple—yet significant—suggestions into your daily health and fitness routine! You can download those [here](#).
But unfortunately, even if followed perfectly, none of these lifestyle or nutrition habits have the ability to extend your maximum genetic lifespan. But this is changing rapidly! Just in the past year, a number of exciting advanced therapies have starting to pop up. These include gene therapy, blood factor transfusion therapy, stem cell therapy, pharmaceutical therapy, corporate research initiatives, artificial intelligence and more!

But currently they are either not commercially available, cost prohibitive or still in early research stages. But effective, economic option are available. Since we aren’t getting any younger, a urge you to check it out the Core 4 Nutrition Longevity Club.

The Core 4 Nutrition Longevity Club

This unique club offers Live Long, an advanced telomere restorative nutritional formula, in combination with regular saliva Titanovo and serum Lifelength assessments to track telomeres changes over time.

The club first opened in August 2015 with 8 members and so far the subjective improvements have been all very positive. They include changes in sleep depth, reduction in gray hair, improvements in strength and recovery, increases in lean muscle and reduction in body fat.

While it will be many months until we will see objective proof of changes in telomere length, with the knowledge that people are already physically benefiting from using the formula, we are ready to open up the club to another 10 members.

And it gets even better, the second phase of the club will offer the following enhancements:

A. Upgrades to the Live Long Formula

Live Long is a proprietary blend of three different Astragalus extracts along with seven other synergistic botanicals from around the world that have been used for thousands of years to promote health and longevity. These include:


Based on current research in telomere science and cell aging, we combined these together in a base of honey and coconut oil to allow it to dissolve in the mouth to increase the absorption into the body.

Upgrade #1: Both the Astragalus IV 20% and Astragalus IV 98% extracts are now provided in a liposomal form. This not only significantly improves absorption into the body but greatly enhances its ability to get into the cells where it can activate the telomerase enzyme needed to restore telomere health.
**Upgrade #2:** We have added a special form of vitamin C called Asc2P (20 times more potent than regular ascorbic acid) which has the ability to penetrate easily into the cell protecting against oxidation and supporting telomere health.

**Upgrade #3:** Live Long will now be packed in Miron Violet Glass, which unlike other glass colors has the unique properties that to block any visible light from passing through not only keeping things fresher longer but preserving the dynamic energy of what is stored inside. Because of these properties Miron Violet Glass is frequently used for storing healing substances, elixirs, and homeopathic remedies.

**B. Free Serum and Saliva Assessments**

Both Titanovo saliva and Life Length serum telomere assessments are now included **FREE** with your program! In addition, reduced pricing on assessment for other critical supportive longevity factors including vitamin D, omega 3. nitric oxide and inflammation.

**C. Four Longevity Club Options**

In order to offer the benefits of the club to a larger group of people, we are now offering four different monthly membership fees ranging from $69 to $279 depending on the dose of Live Long and the frequency of saliva and serum assessments.

**Which to choose?** If you have used TA65 and/or very committed to optimizing telomere length, consider the Restore and Restore Plus plans. If budget is a factor, you are less than 50 years old or you just want to start more conservatively, then consider the Prevent and Prevent Plus plans.

**Restore Plus** – over 50 with short telomeres, anyone with a high percentage of short telomeres or for those who want and can afford the most powerful dosing.

Three jars of Live Long every four months  
Saliva: Free every 4 months  
Serum: Free every 12 months. Additional reduced price offer of $450 at beginning of the program.  
**Price:** $279 a month

**Restore** -- under 50 with short telomeres or over 50 with greater than average telomere length.

Two jars of Live Long every four months  
Saliva: Free every 4 months  
Serum: Free every 18 months. Additional reduced price offer of $450 offered yearly.  
**Price:** $199 a month
**Prevent Plus**- on a budget or under 50 with greater than average telomere length.

One jar of **Live Long**  every four months
Saliva: Free every 4 months
Serum: Free every 24 months. Additional reduced price offer of $450 offered once yearly.
**Price:** $109 a month

**Prevent**- on budget or want to start slowly.

One bottle of **TeloSC*** monthly
Saliva: Free every 12 months plus two additional yearly at $50 each.
Serum: Reduced price of $450 offered once yearly.
**Price:** $69 a month

*TeloSC™* is a novel proprietary developed by Maxlife Solutions and Longevity Enthusiast, David Kekich. It contains a blend of medicinal herbal extracts delivered in a cyclodextrin base to enhance absorption to support telomerase, stem cells and inhibit mTOR, an important cell regulator. TeloSC is a blend of Astragalus, Pterocarpus marsupium, Pterostilbene, Milk Thistle, Pine bark OPCs and L-Theanine.

**Want to learn more or get started?**

Please contact me directly by [email](mailto:info@maxlifesolutions.com) or telephone at 360.450.3768 to ask questions or determine what program is best for you.

I plan to place an order for our next round of supplies by the of the year so don’t delay if you are ready to take the next step in supporting your telomere health and instead of getting a year older, perhaps get a year younger!