

Turning Back Time - Increasing Your Telomere Length by Dr. Garry F. Gordon, MD, DO, MD(H)

Over the past several years there have been some exciting new discoveries in genetic research, discoveries that promise to revolutionize our approach to anti-aging, much as antioxidants did ten years ago. This research has to do with the telomere length – and specifically the enzyme ‘telomerase’ – and how it relates to life span, premature aging, and disease.

What are telomeres? Telomeres are special looped sections of DNA located on the ends of chromosomes. Like the plastic ends on a shoelace that protects it from fraying, telomeres protect chromosomes from damage during normal cell divisions. Telomere length is an index of a cellular age and lifespan. Long telomeres are related to healthy aging and overall longevity. Short telomeres are associated with chronic illnesses like cardiovascular disease and diabetes, accelerated aging and premature death. What we have learned is, that by activating a special enzyme called ‘telomerase’, which works to repair and promote telomere length, the effects of aging and illness can not only be prevented – it can be reversed!

Telomerase activity is regulated through hormone function. Harvard researcher Dr. Ronald DePinho and colleagues, genetically manipulated mice so that their telomerase enzymes could be turned on and off. The mice without telomerase quickly showed symptoms of extreme aging; their organs had atrophied, their brains had shrunk, and they had lost the ability to detect noxious odors. After using a synthetic hormone to switch the telomerase enzyme back on, the researchers were amazed at the results, *"We were expecting to slow or perhaps stabilize the aging process. Instead, we saw a dramatic reversal in the symptoms of aging."* The fertility of the mice increased, their sense of smell was restored, and their organs were rejuvenated.

The Harvard group used Tamoxifen, normally an estrogen blocker, to manipulate telomerase activity in their genetically modified mice. However, the logical, safest, and most effective way to increase telomerase activity, is through the bio-identical hormone 17-beta-Estradiol, also known as estrogen. Testosterone and human growth hormone (HGH) levels are also associated with telomere length.

Detoxification and supplementation are vital in balancing and maintaining healthy hormone levels, especially as we age. Toxins like Bisphenol-A (BPA), Dioxins and PCB's function as endocrine disruptors or estrogen “mimics”, and wreak havoc on the hormone function of women and men alike. Our “inflammatory” diets of over-processed, genetically modified foods, with “neuro-toxic” artificial sweeteners and chemical additives, can severely damage the hypothalamus, our master hormone regulator. In addition, lack of exercise, sufficient sleep, and psychological stress all contribute to hormone imbalances.

The most effective remedy I have found to promote hormonal health is a tuberous herb from Thailand called ‘Pueraria mirifica’, or Thai Kudzu. Pueraria mirifica is unique in that it is the *only* plant found to contain a special phytoestrogen called ‘miroestrol’, which is similar in structure

and function to a type of estrogen called estriol. Functioning as an S.E.R.M. beta (Selective Estrogen Receptor Modulator of the Beta receptor), it provides favorable effects throughout the entire body. Another extremely beneficial hormonal adaptogen, is the Peruvian root *Lepidium meyenii*, commonly known as maca. Maca root contains two groups of novel compounds, the macamides and the macaenes – which are believed to have mood and sex-enhancing powers. Men and women with low libido feel a boost in sexual desire, and men with erectile problems notice marked improvement in sexual function. Pueraria mirifica and Maca are both recommended as part of my F.I.G.H.T. For Your Health program.

What is YOUR Biological age? Do you want to know how long your telomeres are? Telomere testing is now available through Life Length (www.lifelength.com), the world leading service provider in telomere length assessment. I recommend testing at least once per year to evaluate your own rate of aging, and help to design your own personal longevity program. I was born with distinct genetic markers causing me to suffer for many years with seriously impaired health. Today, my chronological age is 77, but biologically I am 20 years younger! I am convinced that my F.I.G.H.T. For Your Health program, incorporating PEMF assisted 'magnetically induced cellular exercise', or M.I.C.E., is the key to my achieving the best health and longevity I've ever experienced – and I am confident that it can do the same for you!

For more information please visit Gordon Research Institute at www.gordonresearch.com.

References:

DePinho RA, et al., "Telomerase reactivation reverses tissue degeneration in aged telomerase-deficient mice". *Nature*, 469, 102–106, (06 January 2011) doi:10.1038/nature09603.
<http://www.nature.com/nature/journal/v469/n7328/full/nature09603.html>