

# Smart Life Forum

www.smartlifeforum.org

NEXT MEETING: Thursday, November 17, 2011, at 7pm

## Ed Park, MD, MPH

on

# Telomerase Activation & Aging

### Short Presentation:

#### **“Principles for Living Strong, Long, Healthy, and Sexy”**

**Presented by Dr. Douglas Husbands**

Dr. Douglas Husbands, a board Certified Clinical Nutritionist, Doctor of Chiropractic, board certified Anti-Aging Health Practitioner, and doctor trained in Functional Medicine, has practiced Functional Medicine in San Carlos at Holistic Health Bay Area for the past 6 years. Prior to this, he practiced in Southern California for 15 years. He is also a former competitive bodybuilder, and still works out 4 to 6 days a week, as he has for the past 37 years. He has previously taught at numerous professional venues, including The American Academy of Anti-Aging Medicine Scientific Symposium and Smart Life Forum. He's been sought for expert opinion and written numerous articles in various health and wellness publications such as Alternative Medicine Magazine, Delicious Living Magazine, Natural Health, Taste for Life Magazine, and others. He's been published in the Journal of Applied Nutrition. He writes a popular health blog and newsletter, which can be accessed at [www.HolisticHealthBayArea.com](http://www.HolisticHealthBayArea.com).

The presentation, “Principles for Living Strong, Long, Healthy and Sexy” will review the key principles towards attaining and maintaining not only a healthy muscular physique, but also optimal intellectual and sexual capacity and exceptional biochemical health into old age. Sarcopenia, or the loss of muscle tissue as we age, is associated with not only weakness and decreased bone density, but also poor immune function, impaired cognitive functions, increased susceptibility to many other chronic health disorders, and decreased sexual desire and function. This controversial review will dispel many of the widespread misconceptions many proponents of “health and wellness” maintain are essential for living a strong, long, healthy and sexy life.

Holistic Health Bay Area (in Rivera Chiropractic Group) uses a Functional Medicine approach, dedicated to the prevention, early assessment, and improved management of complex chronic disease by multi-factorial intervention to correct core clinical imbalances. This results in restoring each person's health functionality and health to the greatest extent possible. You can contact Dr. Husbands for a free 10 minute consultation at 650-394-7470, or an appointment at 650-802-8700, or go to [www.HolisticHealthBayArea.com](http://www.HolisticHealthBayArea.com).

### **Foundation for Mind Being Research (www.FMBR.org)**

Next meetings, November 25: speaker Dr Claude Swanson will present "Long Distance Healing and the Science of the Life Force". His workshop on November 26: "Life Force". December 10: Holiday Potluck.

### Presentation Location:

Cubberley Community Ctr.  
Room H1  
4000 Middlefield Rd.  
Palo Alto, California

Driving directions on our website,  
[www.SmartLifeForum.org](http://www.SmartLifeForum.org)

***For those who cannot attend  
we have live streaming  
and video archiving at  
<http://SmartLifeForum.org/live>***

### In This Issue

*Short Presentation* ..... page 1

*Meet Ed Park, MD, MPH  
main speaker* ..... page 2

*Main Presentation:  
“Telomerase Activation and  
Aging”* ..... pages 3 – 6

## Meet Dr. Ed Park, MD, MPH

Ed Park attended Harvard and graduated with honors in Biological Anthropology, the study of the origins and evolution of man. At Columbia University, he earned an MD and Masters in Public Health (MPH). Dr. Park trained in Obstetrics and Gynecology at the Harvard teaching hospital, Beth Israel, in Boston. Dr. Park continued practice in clinical Obstetrics and Gynecology for a total of fourteen years.



In 2005, Dr. Park's life was transformed when his father, who had never been sick a day in his life, was diagnosed with brain cancer. As he watched his father succumb to that disease and finally pass away in 2007, Dr. Park resolved to learn about the root causes of aging and dying.

Of all the theories, the best seemed to be erosion of telomeres through "replicative senescence," which is naturally reversed by the telomerase 'engine' in each cell's nucleus.

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Thursday, November 17, 2011

### Future Speakers:

December 15: Mark McAfee: "Health Benefits of Raw Milk"

January 19: Jacob Swilling: "pH, HCL, & Sugar in Health & Disease"

February 16: Jerry Tenant: "Healing is Voltage"

### About Smart Life Forum

Smart Life Forum, Inc. is a 501(c)(3) California nonprofit corporation whose primary mission is to provide credible health education to the public with an emphasis on optimal wellness, anti-aging medicine, and longevity.

Annual memberships in Smart Life Forum, Inc. and charitable donations are tax deductible to the extent allowed by law. For information on how to join or make a donation, please visit our website: [www.smartlifeforum.org](http://www.smartlifeforum.org).

For questions, please contact Mike Korek at (650) 941-3058.

*Main Presentation:*

# Telomerase Activation and Aging

**by Dr. Ed Park, MD, MPH**

For more information: [rechargebiomedical.com](http://rechargebiomedical.com)

Dr. Park believes aging is caused by “Replicative Senescence,” the mechanical shortening of the telomeres (protective caps present at the end of all our chromosomes.) Since chromosomes mechanically shorten with each division, ordinary cells without telomerase can only divide about 50 times, the so-called Hayflick Limit, before the erosion of the telomeres introduces so many errors that the cells are no longer viable.

Telomerase is an enzyme that adds DNA base pairs ("TTAGGG" in all vertebrates) to the ends of DNA strands at the protective telomeres found at the ends of chromosomes.

This telomere damage is irrelevant and even desirable in ordinary cells but not so in stem cells that serve as master copies. By using telomerase activation, stem cells try to preserve their DNA. Eventually, even the relatively protected telomerase-active stem cells acquire DNA errors because of shortened and damaged telomeres.

## **Telomere erosion damages chromosomes.**

If the telomere ends become too short, the cell’s repair mechanisms misinterpret them as severed ends and splice them into double chromosomes.

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The next time one of those fused double chromosomes lines up and is pulled apart for cell division, the genetic material will be pulled apart in the wrong place. There are an infinite number of ways that chromosomes can be damaged and fragmented once the telomeres become critically short and improperly spliced together.

Ordinary cells will die off from this unavoidable consequence of replicative senescence, but stem cells efficiently preserve and protect their DNA by using telomerase activation.

But just as the best original documents will degrade after repeated photo-copying from other photo-copies, so the information of the stem cells' DNA will deteriorate over time.

Dr. Park has a theory that the uncapping, splicing and tearing apart of chromosomes in our stem cells is the root cause of aging and leads to diseases such as high blood pressure, diabetes, arthritis, cancer and Alzheimer's.

### **Telomerase**

The Nobel Prize for medicine was awarded in 2009 to the three discoverers of telomerase, reflecting the importance of this enzyme complex to all life on Earth. There are over 13,000 published articles about telomeres and their relation to human health and disease, indicating that telomere biology is the subject of active research across the world.

Since telomerase is the key enzyme needed for protecting telomeres, how does one enhance its activity?

Although run-of-the-mill cells can't activate telomerase, there are exceptions. Some rapidly dividing cells can also activate telomerase. Those include the cells that typically die off during chemotherapy, such as the blood cells, intestinal cells, and hair follicles.

Healthy lifestyle choices seem to keep us young by activating telomerase in our stem cells.

In 2002, the Menlo Park-based life science company, The Geron Corporation, discovered that the TA-65 molecule from a Chinese herb (Astragalus) could increase the activity of telomerase.

There are other molecules discovered that also enhance telomerase activity, but TA-65 seems to have a very safe profile because it activates the fewest genes. Consuming the Astragalus root alone does provide a trace amount of this particular molecule, but not the concentration that may be needed to reverse the accumulated stem cell damage associated with aging.

## **Possible Benefits**

Although results vary depending on dose, timing, and how it's taken, the following changes are frequently reported after consuming TA-65, according to Dr. Park.

Immediate improvements include more restful sleep and more vivid dreaming (if taken before sleep and with active input from a physician). Sleep duration is also normalized – if a patient tends to sleep a lot, they will sleep less, and if they tend to sleep too little, they will sleep more.

After a few days, mood, energy, and recovery of joints and muscles improve. These effects wane after several days of discontinuation.

Over the long term, assuming an adequate absorption/dosing level, patients may also see more dramatic changes in cartilaginous joints, appearance, and visceral fat.

Lab results reflecting metabolic improvements with cholesterol, hormones, glucose tolerance, and immune function can happen at any time.

Dr. Park believes that the changes that result from stem cell APOPTOSIS (self-destruction with more youthful replacement) are permanent.

## **Telomeres and Cancer**

Because cancer cells activate telomerase, there have been theoretical concerns about using an activator of telomerase. To date, there have been no reported cases of a new cancer forming despite thousands of active users of TA-65.

Because telomere uncapping results in chromosome instability, there is also a strong argument for telomere lengthening being protective against cancer.

Telomerase in dogs is the same as in humans. Dr. Park will show a video relating the anecdotal “curing” of advanced cancer in a dog by the use of telomerase activation. The placebo effect in dogs is less plausible, especially when it comes to highly aggressive osteosarcoma.

## **Holistic benefits**

In human patients, Dr. Park has anecdotally noticed an “upward spiral” in patients taking TA-65. As energy and mood improve, many patients start making better choices around nutrition and exercise. Improved appearance and confidence then leads to better energy and mood, which then feeds back into the virtuous cycle.

**Nature versus nurture**

In another anecdotal case, two identical twins are interviewed. After six months, both have improved health in slightly different ways. Also, they actually began to look more “identical” again, highlighting that genetic changes and damage are constantly occurring, long after conception.

**Summary**

Telomerase activation is Nature’s universal method of keeping stem cells intact and healthy. It is required in all plants and animals and its absence in the premature aging syndrome of Dyskeratosis Congenita proves that our own lifespan without telomerase is a mere 12 years.

In contrast, trees with high telomerase activity can live longer than 5,000 years!

Astragalus has been taken for over 2,000 years in traditional Chinese medicine. Pharmaceutical companies have no interest in developing a naturally-occurring molecule that they cannot own. Synthetic derivatives will take years of testing and may have side-effects that have thankfully not been seen in the thousands of people who have already taken TA-65.

Telomerase activation, whether by diet and lifestyle, supplements like TA-65, or future therapies hold great promise for increasing healthy lifespan.