

## **What is the significance of the 2009 Nobel Prize in Medicine?**

In 2009, the Nobel Committee awarded the Nobel Prize in Medicine to three scientists who showed how telomerase works to lengthen the telomere portion of our DNA. They showed how telomerase achieves youthful cell replications and perpetual non-dying cells in the laboratory.

The telomerase is activated by bio-identical hormones in our bodies, such as human growth hormone (HGH).

The 2009 Nobel Prize in Medicine essentially created a new field of treatment called **Telomerase Activating Therapy**.

The details of this Telomerase Activating Therapy were originally described in my book *Age Reversal*, first published in January 1998. There I described the mechanism in which bio-identical hormones play a role in activating telomerase. The telomerase in turn prolongs the telomere portion of our DNA. This process keeps the cells young and healthy, or turns old cells into youthful cells. It gives the cells the ability to stay healthy and young, achieving longevity, if we set that as a goal.

Even though the prize went to three scientists, thousands more deserve to share the prize, especially the group at the University of Texas, Southwest Division, who reached the amazing goal of making human cells live “forever” in laboratory conditions (*Science*, Vol 279, January 16, 1998).

My respect also goes to the following scientists:

1. Dr. Gomez Sanchez and his group at La Paz University, Spain, who showed that growth hormone directly activates telomerase. (*Journal of Endocrinology*, Vol 185, June 2005, pages 421-428) That is exactly why human growth hormone (HGH) has become popularly used in anti-aging and longevity medicine to lengthen the telomeres of DNA. The safety of HGH, when administered properly by specialists, is further elucidated by Dr. Michael Sheppard, Vice-Dean of the University of Birmingham Medical School, who says: “Growth hormone therapy *does not* induce cancer.” (*Endocrinology and Metabolism*, Oct 2005, Vol 2 No 10)

2. Dr. Scott Brouillette and his group, who showed that telomere length is a predictor of the onset of coronary heart disease. (*Lancet*, Vol 369, January 13, 2007)

3. Dr. Xu and his group at the National Institutes of Health, who showed that the use of multivitamins is associated with longer telomere length in women. (*AM Journal of Clinical Nutrition*, Vol 89, 2009, pages 1857-1863) They validated our practice over the last fifteen years of prescribing daily multivitamins and multi-minerals to our patients.

4. Drs. Williams and Boggess at the University of North Carolina, who showed that progesterone (not progestin or Medroxy-progesterone) inhibits endometrial telomerase activity, validating our position for years that progesterone inhibits and prevents breast, uterine, and prostate cancers. (*Journal of Clinical Endocrinology and Metabolism*, Vol 86, August 2001, pages 3912-3917)

5. Dr. Kaszubowska at the University of Gdansk, Poland, who showed that centenarians have long telomeres in their cells (lymphocytes). This proved our position that lengthening telomeres *does not* cause cancer. (*Journal of Physiology and Pharmacology*, December 2008, Vol 9, pages 169-186)

6. The scientists at the Johns Hopkins University School of Medicine, who showed that bio-identical male hormone testosterone activates telomerase and lengthens telomeres.

The science of Telomerase Activating Therapy makes our dreams of longevity (making cells live perpetually) and biological age reversal (old cells changed into new, young cells) come true.