



# Wellness Minute

Health Information You Can Use On Your Path To Wellness



## 2 Simple Ways To Slow Cellular Aging

**“People who slept 6 hours or less per night had a 12% decrease in their telomere length... equivalent to 9 years of biological aging!”**

Telomeres act as the aging clock for every cell. For the general public, telomeres will only become popular when a drug becomes available, and they see the ads on TV. But for those of us in the wellness field, telomeres are another indicator of health and vitality.

Telomeres are like the protective caps on shoelaces that protect the laces from unraveling. Only these caps are at the end of our chromosomes and protect DNA from unraveling during cell division. Due to the process involved, telomere shorten with each cell division, and when the telomere is eroded all the way, the cell dies.

Cell division is not the only thing that shortens telomeres.

Inflammation, low grade infection, and cortisol increased by stress cause massive amounts of free radicals. Free radicals shorten telomeres, making cells more prone to damage and premature cell death.

The loss of telomeres leads to “chromosomal instability” which means cells age faster and are more likely to mutate into cancer cells. On the other hand, telomeres are lengthened by enzymes called telomerase. As we age, the enzyme telomerase is depleted.

How can we apply this information? I want to share 2 insights that center around excess cortisol and telomere shortening. First, the role of high dose fish oil to reduce

inflammation and protect telomeres.

Let’s look at this study from Ohio State, a randomized, controlled trial examined the impact of omega-3 supplementation on cellular age-related biomarkers following a laboratory speech stressor. In total, 138 sedentary, overweight, middle-aged participants, 93 women and 45 men, received either 2.5 grams or 1.25 grams of omega-3 or a placebo for 4 months.

Before and after the trial, participants were stressed with a laboratory speech stressor. Saliva and blood samples were collected once before and repeatedly after the stressor to measure salivary telomerase. Cortisol, the stress hormone,

This is a transcript from a “video magazine” we send out each week called the Wellness Minute. If you’re not getting our Wellness Minute videos each week, sign up at the front desk.

anti-inflammatory markers, and pro-inflammatory markers were also measured to see the effects of fish oil.

The results: omega-3 supplementation positively altered both telomerase and the anti-inflammatory markers. Omega 3s also reduced overall cortisol and inflammatory markers. The placebo group experienced post-stress effects as both telomerase and anti-inflammatory markers decreased.

Remember, telomerase is the enzyme that lengthens telomeres. One quick comment regarding this study that we should remember. The authors point out the greatest benefits were seen by patients with the highest omega 6:3 ratio. Most viewers realize the higher the omega 6:3 ratio, the more inflammation present. In other words, they had the most to gain, as omega 3 levels became increased so too, the telomere length.

If a person is sufficient in fish oil, they will not experience the same benefits as someone who is deficient. Nutrients are not drugs; they don't force changes even if they are good changes like increased telomeres. Having said that, one of the easiest ways to get the amount of fish oil in the study is with a tsp. of Biomega-3 Liquid. Each tsp. supplies 2500 mg of EPA-DHA. Biomega-3 is the cleanest fish oil available.

This leads me to my second insight. The role of sleep and the relationship to telomere shortening. Harvard researchers measured telomere length in 4,117 people. Compared with those participants who got the most sleep, the people who slept 6 hours or less per night had a 12% decrease in their telomere length. That might not seem like a significant number, but researchers say a 12% reduction in telomeres is equivalent to 9 years of biological aging!

Sleep protects your telomeres. Authors point out that one of the ways sleep protects telomeres is by reducing cortisol. Other authors have shown that elevated cortisol is associated with a significant reduction in telomerase activity. So, cortisol also sabotages telomerase, the enzyme that rebuilds your telomeres.

I would remind you that sleep is where true repair and rebuilding takes place. Speaking of sleep, new studies show that melatonin has amazing antioxidant as well as antiviral effects. Consult with your wellness clinician about their favorite sleep aids.

Along with omega 3 fish oils, many other nutrients will also increase telomerase activity; Lipoic acid, curcumin, vitamin D, gota kola, polyphenols, B vitamins, ashwagandha, and astragalus have shown promise. But keeping optimal cortisol levels, supplementing with omega 3 oils, and maintaining good sleep are essentials we don't want to forget.