

# THE HEALTH NUGGET



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## To Be Taken Seriously, Part 2

Men are thought to be at their physiological peak by the age of 25. This is the age when testosterone is at its zenith. Some men hold on to their youthfulness a little longer than others. There are those who have demonstrated how exercise, attention to healthy eating and drinking habits, and an energetic outlook on life can make some 70-year-olds feel as close to 25 as possible. But there is another element we are learning about that may also play just as significant a role in retaining health and vitality —testosterone.

By the time men reach their mid 30s to mid 40s, testosterone levels are decreasing at an estimated rate of 10 percent per decade. A man in his 70s may have less than half of the testosterone levels he had in his youth. Some men in their 80s retain a mere 25 percent. On top of this age-related decline, there has also been an overall generational decline in testosterone levels over the past 50 years.

In the Massachusetts Male Aging Study, researchers tracked over 1,500 randomly selected men, aged 45-79. Men born more recently were found to have testosterone levels that were surprisingly lower than their counterparts at the same age. Sixty-year-olds of 2003 were found to have about 15 percent less testosterone than the 60-year-olds of 1988. Dr. Thomas Travison, leader of the study, was unsure of why testosterone levels in the US today would be substantially lower than they were 15 years ago. Had they made some kind of mistake?

Then in the summer of 2006, Travison attended a meeting where another researcher, Dr Antti Perheentupa, from the University of Turku, in

Finland, presented evidence of a similar decline. “The Finnish results suggested the change was happening among younger men as well. A man born in 1970 had about 20 per cent less testosterone at age 35 than a man of his father’s generation at the same age. ‘When I saw another group reproducing our results,’ recalls Travison, ‘that was convincing to me that we were seeing a true biological change over time, as opposed to just some measurement error.’”<sup>1</sup>

According to Dr. Ron Rothenberg, specialist in preventive and regenerative medicine and Clinical Professor of Family and Preventive Medicine at the University of California, San Diego, School of Medicine, “We are just half the men that our father’s were.”<sup>2</sup> Grandfathers of today’s generation had much higher testosterone levels and sperm counts at the same age.

Apparently there are a number of factors that can be responsible for this demise. Stress affects hormonal status. “High-powered men with high-powered jobs is a recipe for burning out hormones, and age has little to do with it.”<sup>3</sup>

Excessive body fat has been found to result in low total and free testosterone, which further encourages the depositing of more fat around the mid section. This increase in fatty tissue stimulates aromatase activity. Aromatase is an enzyme that converts testosterone into estrogen. A vicious cycle can ensue of continued weight gain and elevated aromatase.

Researcher Plamen Penev, MD, PhD of the University of Chicago observed from her research that lack of sleep among older men resulted in lower

testosterone levels in the morning. The results showed that “the more sleep the men got, the higher their testosterone level, and those with less sleep had lower testosterone levels (the range of sleep was four hours to eight hours with an average of six hours).”<sup>4</sup>

Then there is the increasing amount of chemicals and toxins in our society. Pesticides, herbicides, chemicals in our food supply, plastics, even medications, all have hormonal affects. I believe the chemical contamination of our society has a much larger influence upon our hormones than we realize yet.

While scientists have not put their finger on any one item responsible for testosterone’s descent, they are beginning to understand how important its adequate presence is in a number of areas.

One study found that older men with higher testosterone levels have better mental performance. Kristine Yaffe, UCSF assistant professor of psychiatry, neurology and epidemiology and biostatistics, and chief of geriatric psychiatry at San Francisco Veterans Affairs Medical Center observed that men with higher levels of bioavailable testosterone, the testosterone that can reach the brain, did significantly better on cognitive tests than men with lower levels.<sup>5</sup>

Memory, muscle strength, and bone mass have been found at optimal levels in men with the highest levels of free testosterone. Low levels of testosterone have been identified as a risk factor for hip fractures.

Type-2 diabetes has been independently associated with low testosterone levels as well, even after adjusting for other variables. Lower concentrations of free and bioavailable testosterone even in the normal range are associated with diabetes.

Basically, hormone loss leads to deterioration. And while we have focused on testosterone, they all work together.

When getting hormone levels tested it is important to remember that testosterone can be free, bio-

available, readily usable by cells; or it can be bound by sex-hormone binding globulin (SHBG), and while there may be plenty of testosterone, when bound it is virtually useless.

One study, published in the *American Journal of Epidemiology* (144:642-44, 1996), reports that caffeine increases SHBG, that binds to testosterone.<sup>6</sup> Advertisements for beer, cigarettes, and drink, like Red Bull, depict these as substances for real men. They are for the hunks of the land. Yet, they are the very substances robbing men of the chemical that defines their manhood! They are testosterone zappers!

Regular exercise and lifting weights are testosterone boosters. Reportedly, men who lift weights regularly experience a 49 percent boost in their free-testosterone levels. “As you strengthen your muscles, the amount of testosterone your body produces increases,” says Dr David Zava, CEO of ZRT Laboratory.<sup>7</sup>

There are some men in their 80s who have managed to maintain testosterone levels usually seen in young men. Moses must have been one of these men. His *natural force* had not abated even at the age of 120. Sounds to me like he maintained his testosterone levels.

1 “Testosterone Under Attack.” *Australian Men’s Health*. <http://au.lifestyle.yahoo.com/b/mens-health/4033/testosterone-underattack/>.

2 Somers, Suzanne. *Breakthrough*. Crown Publishing Group, 2008. p. 113.

3 *Ibid*. p. 158.

4 Warner, Jennifer. “Poor Sleep Tied to Declining Testosterone Levels Among Older Men.” *WebMD Health News*. April 2, 2007. <http://men.webmd.com/news/20070402/less-sleep-may-lower-testosterone>.

5 Boyd, Kevin. “Testosterone Aids Older Men’s Brains, Study Finds.” *UCSF Today*. April 17, 2002. <http://pub.ucsf.edu/today/cache/news/200204161.html>.

6 “The Science Behind the Effects of Caffeine with Testosterone.” *FitFlex*. <http://www.fitflex.com/caffeinetestosterone.html>.

7 Loeb, Heather. “Become Mr. T.” *Australian Men’s Health*. April 11, 2008. <http://au.lifestyle.yahoo.com/b/mens-health/4028/become-mrt>.

