

Listen to Your Hormones: A Doctor's Guide to Sex, Love and Long Life Especially for Men. By Abraham Harvey Kryger. WellnessMD Publications, Monterey, California, 2004, 316 pp., \$24.95.

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We all know that pollution, lack of exercise, obesity, and an unhealthful diet can shorten and reduce the quality of life. Less well-known is that inadequate levels of hormones can contribute to many age-related conditions such as diabetes, high cholesterol, thyroid deficiency, weight gain, and depression. How does this happen? Environmental pollutants create estrogen-like effects that diminish those hormones essential for normal functioning. While hormone replacement therapies may favorably influence many of the effects of aging, the foods we chose are even more important in preventing age-related health problems. The value of *Listen to Your Hormones: A Doctor's Guide to Sex, Love and Long Life Especially for Men* is that the author provides advice as to how hormones can be used to slow down the aging process and how the average person can implement this advice. The book also provides much needed guidance for clearly communicating this information to physicians, who can then assist in the process of achieving an optimal hormonal balance. *Listen to Your Hormones* presents a

vast amount of information about specific hormones and how they influence our emotions, libido, and aggression.

The first chapter introduces the reader to the function of these powerful chemicals called hormones in the human body. Several steroid hormones which originate from cholesterol are discussed. Melatonin triggers a hormonal chain that eventually results in the production of testosterone by sensing changes in the intensity of light in the environment. The chain to testosterone consists of cholesterol, pregnenolone, progesterone, and androstenedione. The author refers to testosterone and its byproducts, estrogen and DHT (dihydrotestosterone) as the "sex hormone trio".

The effects of testosterone on sexual behavior are described in Chapter Two. Testosterone acts on men to make them masculine but since it can turn into estrogen, it also affects sexual function in women. Testosterone regulates the production of nitric oxide which creates erections, low levels of which are associated with a loss of early morning erections. This is where Viagra and the erection enhancers play a role. Testosterone also affects the prostate, men's second most important sexual organ next to the penis. Again light exerts profound effects over testosterone's activity through the action of prolactin, the "suckling" hormone, and melatonin.

As noted in Chapter Three, the balance of sex hormones is critical to maintain normal moods, behavior and function. A low level of any of the sex hormones can cause depression and its attendant bad moods, difficulty with concentration, sleeping disorders and fatigue. Sorting out whether depression is caused by hormonal imbalance or neurotransmitter deficiency, or both, is difficult but necessary. Not surprisingly, since hormones naturally decrease with age, increasing depression in the later years is a

common finding for both men and women. A condition in men called “andropause” is equivalent to the female menopause but occurs comparatively much later in life. This is due to a natural loss of testosterone over the years. Men need testosterone to maintain their normal sexual functioning, a sense of well-being and the ability to increase muscle mass and maintain erections. Various forms of testosterone delivery are mentioned and the importance of certain neurotransmitters such as dopamine, the “pleasure” hormone, are discussed.

If our hormone balance is so critical for normal functioning, how is it that an imbalance all too frequently occurs in our contemporary world? Chapter Four explains that drugs play a role. These drugs include not only “social” drugs like alcohol, nicotine and cannabis, but environmental drugs like dioxin. Dioxins are a by-product of any process involving the burning of chemicals, including the burning of fossil fuels such as gasoline. However, the primary source of dioxin in the environment results from the manufacture of plastics such as vinyl. Dioxins are thus unintentionally consumed in harmful amounts by every citizen of an industrialized nation. These environmental pollutants act like the female hormone estrogen in the human body and brain creating havoc for men, resulting in low sex drive and increased cancer in both sexes due to excess estrogen effects. Fortunately, dioxin can be removed from the body with certain fat soluble compounds like Olestra but it is much better to prevent its accumulation by following a plant-based diet low in animal fats, the primary source of dioxin in the food chain.

Chapter Five is concerned with the formal diagnosis of a testosterone deficiency. With men losing their testosterone due to environmental toxins the question becomes how does a physician diagnose this deficiency early enough to correct the problem before it becomes serious and irreversible. There is considerable controversy as to whether testosterone replacement therapy is safe or increases the risk of prostate cancer in men. Evidence is presented that suggests that testosterone replacement therapy is not only safe but also protective against heart disease, osteoporosis and prostate cancer. This is most evident in men with family history of prostate cancer; their risk is increased if they develop low testosterone levels. Using testing for the free and bioavailable forms of testosterone, any physician can determine if a patient is suffering from low testosterone levels.

Chapter Six attempts to dispel several myths concerning testosterone. For example, one myth concerns the relationship between male baldness and testosterone: DHT, rather than testosterone, actually regulates hair loss in both sexes. The role of testosterone in gender development and sexual orientation is reviewed in Chapter Seven. In particular, this chapter considers the question whether sexual orientation is heredity or hormonally based. Consideration of how hormones might influence sexual orientation further underscores the importance of maintaining an environment that promotes hormonal balance.

“The Testosterone Conspiracy” is a depressingly apt title for Chapter Eight. To put it simply, according to the author, testosterone is getting an undeservedly bad reputation. The government has stepped in to regulate it as a dangerous drug equivalent to narcotics and sleeping pills. The abuse of testosterone by men who cannot get it from

their doctors has created an underground market for this hormone. As a result, the FDA has over-regulated this hormone to the detriment of the patients who need it. Other consequences of FDA meddling are dramatic increases in the price of testosterone and its haphazard availability. (Currently, only one pharmaceutical company in the United States manufactures injectable testosterone).

The current popularity of human growth hormone (HGH) for slowing down the aging process is critiqued in Chapter Nine. HGH has been promoted by "anti-aging" doctors as the product which could deliver this goal. However long-term studies have proven that although it is relatively safe, HGH does not prolong aging, nor does it reverse it. The main action of HGH is to increase availability of those same sex hormones, testosterone, estrogen and DHT. The author concludes that the only way to slow down aging is through eating a plant-based diet and vigorous exercise program throughout life.

Anabolic steroids are the specific focus of Chapter Ten. The desire of men into the "sport" of bodybuilding to control their own hormone levels has created a quest for the perfect anabolic (bodybuilding) steroid. Synthetic testosterone products which produce increased anabolic effects are being abused. Unfortunately, hormone supplementation is complex and thus as the author argues, should not be placed in the hands and syringes of inexperienced, young men who want to boost their strength and power, without really understanding the future repercussions. As the author points out, initially the extra hormones might work and produce more muscle, higher and increased sex drive, but with time, the continued abuse of self-injected steroid hormones burns out the sensitive self-regulating endocrine system creating the opposite of the desired effect.

The book concludes in Chapter Eleven with an important message: People who are concerned about how they look and how they feel should devote more energy to including a plant-based diet of organic food and avoiding the environmental sources of estrogen. Self-medicating with too much testosterone simply increases the extra estrogen present in animal fats.

Listen to Your Hormones is well referenced and contains a glossary and online resources for those who wish to learn more about hormones and health. This book should appeal to a wide audience, and I highly recommend it to medical professionals, scientific researchers, and laypeople who are concerned with optimizing their health. *Listen to Your Hormones* successfully combines scientific rigor with a commendably clear writing style, achieving its purpose of informing its readers of the critical influence hormones have on the quality of their lives.