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The Juice Isn't Worth the Squeeze

What You Don't Know About Anabolic Steroids Can Hurt You

BY PARVIZ K. KAVOUSSI, M.D.

GROWING UP as a kid in Austin in the late '70s and '80s, my movie heroes were guys like John Matrix (Arnold Schwarzenegger in "Commando") and Rocky Balboa (Sylvester Stallone). At a young age, I decided that I wanted to look like my heroes. Soon thereafter, harsh reality hit—I didn't have the genetic predisposition or muscle-gaining ability to achieve that build no matter how much time I spent in the gym, and that was that. Later on, I began playing high school football and, as I watched other teams and athletes play around the state, I saw kids

who seemed to gain muscle like those icons. The hum of anabolic steroid use arose.

As of 2011, as many as three million people in the United States were using anabolic steroids and that number is believed to be increasing. An estimated three to 12 percent of male athletes in the U.S. have used anabolic steroids, and the incidence is as high as 14 percent among collegiate athletes and 30-75 percent in professional athletes and recreational bodybuilders. Most anabolic steroids are synthetic substances similar to the male sex hormone, testosterone, or are testosterone itself. While testosterone does promote growth, increased muscle

mass, and bone metabolism, most users believe that steroids optimize enhancement of these features of testosterone and will make them into super-athletes or bodybuilders.

The immediate dangers of anabolic steroids are typically not well understood by many men who use them. Most worry a bit about their testicles shrinking and getting soft with steroid use and so will back off and then start back up again in an attempt to alleviate that side effect. But this is not effective. When a man uses steroids, his body cannot necessarily tell the difference between that steroid and the testosterone that his testicles naturally produce. As a re-

sult, his body is fooled into thinking that the testicles are producing all of this androgen, which signals the testicles to shut down. The function of the testicles declines or even quits, and the testicles can shrink and become soft in consistency. This may or may not be reversible; it depends on the dose of steroids, the length of the cycles of use, and the number of cycles. When a man has a normal testosterone level and uses anabolic steroids, his testosterone levels can go above the normal range and that can pose some serious health risks, such as cardiomyopathy, heart arrhythmias, heart attacks, blood clots forming in the heart or veins, strokes, blockages of blood vessels in the retina that can cause blindness, and unsafe rises in the concentration of red blood cells in the blood vessels. Death from such factors related to the use of anabolic steroids is estimated to be 4.6 times higher in users than in nonusers. Other common side effects of anabolic steroids can include depression, irritability, aggressive behavior (termed "roid rage"), acne, alopecia (hair loss), liver toxicity, and anxiety. There have been reported cases of psychosis with high doses as well. Men can also develop enlarged, fatty breast tissue as these high doses of steroids can be converted to estrogen in the man's body and thus impact the breasts' composition.

As a practicing reproductive urologist specializing in men's health, I see patients in my clinic every week that are suffering from the consequences of prior steroid use. These men come in complaining of inability to father children, decreased energy levels, increased fatigue, difficulty with erections, decreased sex drive, depressed mood, tiredness, lack of motivation, sleep disturbances, difficulty with spatial cognition, difficulty concentrating, hot flashes, increased fat mass, decreased muscle mass, decreased bone mineral density and the risk of osteoporosis, deterioration of skin and hair, and

decreased exercise tolerance. This is the clinical presentation of hypogonadism (low testosterone). The real trouble for patients is that, again, depending on the dose, the length of the cycles, and the total duration of steroid use, all of the cells in the testicles may not ramp back up once men are no longer using. The recovered native testicular function of producing testosterone and sperm may not be as good as it was prior to being shut down with steroid use, and this can create a permanent lasting effect on fertility; while these patients may regain some sperm production through medication, there is no guarantee that those efforts will be successful. If regaining fertility potential is not a priority, normal testosterone levels can be achieved through testosterone replacement therapy, which will typically be required as life-long therapy.

There are a number of other popular products or compounds on the market that are touted to increase testosterone levels and its effects. A word of caution: the majority of these substances fail to increase testosterone levels and fail to demonstrate strength-enhancing properties in multiple studies. Some of these products have been shown to have dangerous side effects as well. While I am not saying that I disagree with supplementation of any type, we need to be careful when using products that have not gone through the stringent clinical trials required by the FDA, as these trials and subsequent FDA approval help us understand the effectiveness and safety of products.

My closing recommendation is that a well-balanced diet gives men the building blocks they need to be fit. While I have conceded that I may never look like Rambo, I would just ask guys to keep in mind that the juice now may not be worth the squeeze on the body in the future. *afm*

Dr. Parviz Kavoussi is fellowship trained in reproductive urology and andrology and practices at Austin Fertility & Reproductive Medicine with a focus on male infertility, sexual health, and microsurgery. He has published peer-reviewed articles in multiple journals, written chapters in urologic textbooks, given numerous lectures and scientific presentations around the world, reviewed journal articles for publication in *The Journal of Urology* and *The Journal of Sexual Medicine*, and has a seat on the American Society of Andrology public affairs and policy. Dr. Kavoussi is currently acting as editor in chief of the first edition textbook *Clinical Urologic Endocrinology*.



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