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"Dunks, Doubles, Doping: How Steroids Are Killing American Athletics" by Nathan Jendrick (2006, The Lyons Press)

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"Dunks, Doubles, Doping: How Steroids Are Killing American Athletics" looks at the issues involving anabolic androgenic steroid use in the United States. It takes a more balanced view of steroid use. In the introduction, the question of why people use steroids is examined. To improve appearance, a quick fix in performance, fame, financial compensation, and placebo effect are all motivating factors for steroid use. It is natural to want to be the biggest and the strongest and some people will use steroids to get there. While Mr. Jendrick downplays the health concerns involved in steroids, his biggest concern is youth using steroids and premature closure of epiphyseal growth plates (stunted growth). In Chapter 1, Jendrick suggests a zero tolerance policy in sport associations to send the appropriate message to our youth. Jendrick suggests warning youth about stunted growth, not other health consequences like shrunken testes, would stem the increase steroid use by our children. Drug testing high school athletes is recommended in Chapter 2.

The section of Chapter 4 by Dr. Roland Carlstedt, "A Clinical Look at the Psychology of Steroid Use," might be more interesting for sport psychologists or sport psychiatrists. Dr. Carlstedt points out that doping has not been shown to improve

performance in any non-strength/combat sport and is only based on anecdotal evidence. Steroids disrupt the mind/body balance and make athletes more prone to choking. Dr. Carlstedt draws comparisons of the front lobe function found in steroid-using athletes to people who suffer with addictions. Measures of hypnotic susceptibility, neuroticism, and subliminal coping could predict those athletes who are susceptible to choosing steroids. He suggests practicing neurobiofeedback or working on psychological skills would improve performance more than using steroids. Dr. Carlstedt implores the field of sport psychology to be grounded more in neuroscience and move away from strictly teaching mental skills.

In Chapters 5-12, Jendrick explores the legalities and social impact of steroid use and who is being prosecuted. He points out that athletes in the United States are not being prosecuted, casual cosmetic users are. In Italy, except when the Olympics are in town, athletes are jailed for steroid use and their youth use steroids less. Jendrick claims by making steroid use illegal and not prosecuting athletes, we are teaching our youth to cheat. He interviews athletes on their views of steroids and cheating. I am impressed by the feelings of guilt expressed by some athletes who used steroids and won, but knew they cheated. Weak policies, poorly funded testing programs, and greed for more ratings, attendance, and money all lead to turning a blind eye by owners, leagues, players, and fans.

Chapters 13 and 14 focus on genetic doping. Jendrick suggests the Chinese, who have been aggressive in their use of steroids, have already dabbled in genetic doping. We are not yet well-equipped to deal with the varied, challenging ethical dimensions of gene therapy and when it crosses the line to genetic doping in the pursuit of performance enhancement. Experts are interviewed and sound rather confident that testing could be devised to detect genetic doping.

The author makes a strong argument for cosmetic steroid use in adults. If physicians can perform tummy tucks, liposuction, or botox injections, which may have more serious medical complications than the use of steroids, why should the government limit the prescribing of steroids? Would steroids find their way into the hands of children?

Reading this book as an addiction and sport psychiatrist, who has worked with athletes who have used steroids, I cannot help but wonder where Jendrick is getting his medical data. There are very few and vague references to scientific data. Because it is doubtful that any Institutional Review Board would approve of steroid studies at supra-physiologic doses, good study data is limited. However, poling bodybuilders is not good science. One bodybuilder he interviewed in his book intimated that bodybuilders are less than trustworthy. The only physicians the author interviews in his book involve the topic of genetic doping. How could you write a book on steroids and not interview Harrison Pope, M.D. from Harvard, the leading expert on anabolic steroids?

Jendrick dismisses the medical consequences of steroid use, blaming the media for sensationalizing and spreading misinformation about steroids. While I agree that the media uses scare tactics to alarm the public and grab more ratings, his claim that 99% of testicular shrinkage returns to previous size after discontinuation of steroids is more irresponsible. When an athlete asks me if his "balls will grow back," I'm honest. I say I don't know. There's little to no reliable data. Steroid dealers probably give out more misinformation than the media. Looking at the data to treat HIV-wasting syndrome, depression, or gonadal failure is not appropriate because they use approximate physiological doses, not the doses that many athletes use. The human hormonal feedback loops can be sensitive and unpredictable. The effects of steroid use on fertility are also confusing and unknown.

Despite improved athletic training, injury preventive measures like safety equipment, pitch counts, extra days of rest, and sports medicine imaging and procedures, joint-related injuries and trips to the disabled list have been on the rise. There's little doubt that this coincides with steroid use. Just because some bodybuilders claim they have not had joint-related injuries, does not mean the relation between the two can be dismissed. Supporting structures do not respond to steroids as quickly as larger groups of muscle. Ligaments and tendons do not have the testosterone receptors that muscles have.

This book dismisses the mental health consequences of steroids. I know I have a sample bias, but the ramifications can be significant. Most of my athletes who have used steroids found them stimulating and calmed themselves with alcohol, marijuana, or opiates. Steroids can be addictive. I have had a few patients meet DSM-IV criteria for

steroid dependence. Some Vietnam veterans I've worked with report that steroids were a gateway drug and an introduction to injecting drugs. Preventing addictions is another legitimate reason to ban steroids. Especially in steroid users who have personal or family histories of mental illness, steroids can worsen the progression of mental illness. Withdrawal from steroids can cause acute depression, while steroid use has been associated with aggression, mania, and psychosis. Testosterone and cortisol are in balance with each other. High levels of cortisol have been associated with many mental disorders. No sport psychiatrists were interviewed in Jendrick's book.

The cloud of steroid use has marred American sports. Who's using, who's clean? Should records be wiped off the books for steroid use? Where is the line drawn between performance enhancement and cheating? This book looks at the many different angles of steroids with excellent reviews of public cases of steroid use. Despite some of its deficiencies, I would recommend reading "Dunks, Doubles, Doping: How Steroids Are Killing American Athletics" by Nathan Jendrick.