

Performance-Enhancing Drugs in Professional Sports and
Eliminating Anabolic Steroids
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Abstract

Anabolic steroids, famous as performance-enhancement drugs, are synthetic derivatives of testosterone, modified to enhance its anabolic actions (promotion of protein synthesis and muscle cell growth). Athletes use anabolic steroids during competition to increase muscle mass and overall athletic performance. Using these substances unfold adverse physical, psychological, and behavioral consequences. Aside from harmful side effects, laws must be in place prohibiting steroid use in all sports and levels of competition. Research has provided sufficient evidence supporting steroid prohibition in athletics.

Keywords: anabolic steroids, testosterone, doping, performance-enhancing drugs (PED)

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Even before sports were televised, controversy about the use of steroids for performance enhancement was a hot topic. Professional athletes in particular, are constantly looking for new ways to one up their opponents during competition. Among these tactics is the illegal use of anabolic steroids. When it comes to winning, professional athletes will risk it all despite the inevitable consequences. Comprehensive research and experimental results provide clear evidence that professional athletes should not be allowed to use anabolic steroids for performance enhancing purposes because the use of steroids negatively alter both the physical and psychological health of the athlete, children's perception of an ideal role model, and the integrity of the game itself.

Anabolic-androgenic steroids, better known as anabolic steroids, are synthetic derivatives of testosterone, modified by individuals for athletic performance enhancement purposes. According to Dr. Larry Creswell (2013), an educating adult heart surgeon at the University of Mississippi School of Medicine describes anabolic steroids are like other medically prescribed steroids as anabolic steroids have legitimate medical uses for certain conditions under the supervision of health care professionals. Conditions include different forms of anemia, which is a deficiency in red blood cells, and very low testosterone levels in men. However, individuals who are taking anabolic steroids without prior medical authorization are taking double the doses approved by doctors for specific medical illnesses, not to mention that steroids are very rarely recommend for medical treatment as they are a last resort for medication because the side effects of consumption outweigh the benefits.

In order to comprehend exactly why steroids should not be allowed in professional sports, individuals must fully understand how these drugs work once ingested in the human body. According to Dr. Daniel Peterson (2009), a certified American Board of Neurological Surgeons, anabolic steroids create “minuscule micro-tears within the muscle fibers” allowing for tissue repair to occur. In his article, *How Steroids Work*, Dr. Peterson illuminates how the human body is already accustomed to a natural muscle repair process, repairing the torn tissue and overcompensating for this damage by adding bigger cells building a much larger and stronger fiber. The process begins as steroids are absorbed into the muscle tissue “via special androgenic receptors, allowing for them to interact with the muscle cell’s DNA” (2009). This interaction stimulates protein synthesis, which essentially promotes cell growth. After repeating this process of breaking down muscle and re-building it via protein synthesis, muscle growth results.

Along with muscle growth, Dr. Peterson also provides information regarding the effects steroids have on the post-recovery of an athlete. Anabolic steroids increase recovery time of an athlete due to a result of decreased muscle fatigue. Within a muscle cell, anabolic steroids “block cortisol from binding to receptor sites, which inhibits muscle breakdown, therefore decreasing muscle fatigue” (2009). With that being said, anabolic steroids are drugs commonly used by athletes to increase muscle mass and overall athletic performance without having to cope with being sore or tired after an intense workout. Using these substances in such a manor unfolds additional physical health consequences as these steroids prevent the body from resting and replenishing its muscles after an intense workout.

Professional athletes should not be permitted to use anabolic steroids due to the severe and usually fatal physical and psychological side effects. George Y. Wu, MD, PhD, a professor of medicine, chief of the hepatology section, and Herman Lopata chair in hepatitis research at the

University of Connecticut Medical Center in Farmington preaches his concern for athletes using anabolic steroids because “they have many side effects, including liver damage” (Illiades 2009).

Damage to the liver itself is extremely dangerous as it functions to serve many of the core systems in the human body, including digestion, metabolism, immunity and nutrient storage.

The liver’s primary function is to filter blood coming from the digestive tract as well as producing essential proteins for blood clotting. During filtration, the liver breaks down and creates nutrients making them readily available for energy use. Liver damage can be expressed in a variety of forms but are most commonly tumors. Cancerous tumors found within the liver, called cholestasis, prevent the digestive fluid, bile, from flowing to its normal destination. This results in this digestive acid leaking into the body’s blood circulation. Immediate side effects such as nausea, loss of appetite, and severe dehydration are all components athletes take precaution to prevent normally. Aside from the cancer itself, athletes whom abuse anabolic steroids suffer severe weight loss and malnutrition as a result of these side effects despite efforts taken to replenish lost electrolytes and nutrients. These minor side effects not only draw back the athlete from competition, but also are ignored until it is too late.

There have been an outrageous number of cases reported regarding the death of professional athletes whom suffer from liver cancer as a consequence of steroid abuse. This in itself is scary, but the fact that most of these athletes do not even make it to age thirty brands this dilemma as more alarming. The death of a professional body builder, whose identity was kept confidential, was reported in March of 1986. The autopsy results stated that “he died at age twenty-six, after three years of illegal steroid use” for athletic enhancement purposes (Press 1985). On the outside, professional athletes, such as this body builder in particular, may look healthy, but after taking a deeper look inside, it is quite the opposite as looks are deceiving.

Mike Matarazzo, another professional bodybuilder openly talked to the press about his personal experience with anabolic steroids. Matarazzo explains why he strongly believes “that they are the underlying cause to his drastic physical health decline” (Colucci 2016). At only age thirty-eight, Matarazzo underwent triple-bypass open-heart surgery, as well as a heart attack at age forty-one. During an interview concerning the increase in anabolic steroid use among professional athletes, Matarazzo shares that “most guys think nothing bad will ever happen to them. But you watch. You’ll be seeing more and more serious heart problems, and worse, once these guys hit 40” (Colucci 2016). It is extremely heartbreaking that he is 100% accurate because just a few years later, at age forty-seven, Mike Matarazzo died waiting for a heart transplant.

Generally speaking, athletes who use anabolic steroids face similar physical adverse effects in their cardiovascular health, and for that reason, they should not be allowed in professional sports. An article regarding the National Football League’s drug policy provided information on the Pittsburgh Steelers defensive lineman Steve Courson. The article states “he admitted to having used steroids prior to his death in 2005, in which he blamed his heart condition on his use of steroids” (Johnson 2017). In football, especially, players are expected to weigh a certain amount for specific positions and will do anything at all costs to meet the criteria, even if that means risking their physical health for a few extra pounds.

Furthermore, The American Heart Association conducted a recent study in 2010 revealing that long-term anabolic steroid use deteriorates the heart more than previously thought. Aaron L. Baggish, M.D., lead author of the study and instructor in the Department of Medicine at Massachusetts General Hospital in Boston, explained his findings after discovering that “the left ventricle, which is the main pumping chamber within the heart, was drastically weaker during systolic contraction in those participants who had taken steroids compared to the group of

non-steroid users” (2010). The evidence concludes that 83% of steroid users in the 12-person study had a low pumping capacity discharging less than the average ejection amount of 55%-70% of the blood filling the heart (Baggish 2010). This study has linked lower pumping capacity directly with anabolic steroid use, further increasing the risk of congestive heart failure and sudden cardiac death.

In addition, the study also verified that the group of steroid users in the study also exhibited impaired diastolic function, which is a disruption during the relaxation of the left ventricle as it fills with blood. Researchers of the American Heart Association discovered the following, “ventricle relaxation among steroid users, as demonstrated by the left ventricle’s ratio of early-to-late blood filling, was reduced by almost half (0.93 compared with 1.80 among non-users)” (Baggish 2010). This becomes a significant issue because if the ventricles do not relax properly, then they cannot fill with blood and fluid will consequently accumulate in unwanted parts of the body. Improper ventricular relaxation also causes pressure to build within the ventricle walls, increasing pulmonary vessel pressure ultimately causing fluid in the pulmonary vessels to leak into the alveoli of the lungs. As a result of fluid leaking into the area where gas exchange occurs, individuals will experience an increase of shortness of breath with simple daily activities, such as walking. Without urgent and proper medical attention, this condition eventually leads to death. Overall, diastolic dysfunction is very dangerous because more often than not it does not cause any prominent warning signs until it is too late and the body’s vital organs have already begun to shut down at which point treatment is ineffective.

Along with physical health concerns doctors have with the use of anabolic steroids, there have been multiple cases in which individuals experience intense psychological health setbacks. Anabolic steroids have continued to show behavioral issues in users such as increased aggression

and sexual desires. An article covering the history of steroids posted on *LiveStrong* mentions that in the 1930s, anabolic steroids were developed by German scientists to enhance aggression in Nazi soldiers (Hooley). As you can imagine, anyone with raging violent behavior, especially professional athletes who believe they are entitled with a narrowed vision of winning, can be extremely dangerous. For example, if an athlete loses a competition or a referrer makes a *bad* call, the athlete often cannot control his or her actions because they are so amped up in the moment of the game, especially when their aggression is now intensified from being jacked up on steroids.

Anabolic steroids should not be permitted in professional sports because they are known to cause psychiatric disorders in a once mental healthy and stable human being. Doctors have found a high correlation between psychiatric disorders, like psychosis, leading to violent mood swings, anxiety attacks, uncontrollable aggression, depression, and in some cases suicide. Whitney Hooley, an ACSM-certified personal trainer and a former NCAA Division I swim coach, defines psychosis as a “mental break with reality,” (2013) leading users to believe that they are “all-powerful, invincible and capable of anything” (Hooley 2013). Along with behavioral concerns, the few professional athletes that do openly talk about their use of anabolic steroids say it is almost impossible to quit.

Similar to almost all drugs, anabolic steroids have been known to cause severe dependence, addiction and withdrawal symptoms in individuals when they attempt to quit using. Chris Johnson published an article in *Sports Illustrated* about Lyle Alzado, an NFL defensive lineman for the Denver Broncos and Oakland Raiders on his first hand experience with intense drug dependence. The article mentions Alzado’s death in 1992 from a brain tumor, which he attributed to his use of anabolic steroids. At the young age of only forty-three, Alzado weighed

98 pounds – an unrealistic and unhealthy weight for a man of his age in general, never mind the fact he was playing in the NFL. During an interview with *Sports Illustrated*, Alzado voiced that he “started taking anabolic steroids in 1969 and never stopped, steroids are addicting, mentally addicting” (Johnson 2017). In hopes to demolish the use of steroids in sports, Alzado delivered the following message to all viewers, “We’re not born to be 300lbs or jump 30 ft. I became very violent on the field and off it. I did things only crazy people do. Once a guy sideswiped my car and I beat the hell out of him. Now look at me. My hair’s gone, I wobble when I walk and have to hold onto someone for support, and I have trouble remembering things” (Johnson 2017). He knew that taking these steroids was making him a *better* player, or so he thought until his physical and psychological health began to plummet almost as fast as his weight did. He leaves behind his friends and family with one last wish, “That no one else dies this way,” further proving to other professional athletes that anabolic steroids have no place in sports. (Johnson 2017). Now, if the immense list of physical and psychological side effects are not convincing enough as to why anabolic steroids should not be allowed in professional sports, then the fact that young children are now taking part in this risky and unhealthy behavior certainly will.

Children are encouraged to play sports as a positive way to maintain physical and mental health, but their perception of a role model is negatively altered when they look up to professional athletes who use anabolic steroids to enhance their performance during competition. Greg Schwab, former University of Oregon offensive tackle football player, gave his perspective on steroids during his testimony for the hearing *Steroid use in Professional Baseball and Anti-Doping Issues in Amateur Sports* on June 18th 2002. Schwab explained to the jury that “for many male high school athletes, pro athletes are major influences. They are the role models. They choose the jersey numbers of their favorite professional players. They emulate their training

regimens. They emulate their style of play. And they are influenced by their drug use” (Oliver 2016). Children aspire to be like their favorite professional athletes, pushing themselves to achieve greatness, even if that means consuming steroids like professional athletes do.

When a professional athlete comes forward about using steroids and how they would not have made it to the professional leagues without the *help* of anabolic steroids, children believe this is what is standing between them and their dreams – not actual hard work, persistence, and dedication. Jay R. Hoffman, PhD, Chair and Professor at the Department of Health and Exercise Science of the College of New Jersey conducted a study surveying adult males between the ages 18-25 about taking appearance-and performance-enhancing drugs such as anabolic steroids (Oliver 2016). The results were astonishing, 1 in 5 males indicated “these drugs are the only way to make it in professional sports” and an additional 24% of men surveyed said that anabolic steroids are “critical to enhancing one’s athletic performance” (Oliver 2016).

During a similar study, Hoffman reported a whopping 77% of the males interviewed strongly believe that the use of appearance-and-performance-enhancing drugs in professional sports “puts pressure on young athletes to use drugs to get ahead” (ProCon, 2013). It is distressing that these athletes seem to forget they are more than just a basketball player or a member of a soccer team; they are role models for young children. Professional athletes who use anabolic steroids are leading young athletes and children to believe that these drugs are safe to use and will bring them to professional sports teams, making them successful and wealthy.

Finally, professional athletes should not be allowed to use anabolic steroids for performance-enhancing purposes because it ruins the integrity of the game. According to the Australian Sports Commission, sport integrity can be recognized as “honest and genuine in its dealings, championing good sportsmanship, providing safe, fair and inclusive environments for

all involved” (Australian Sports Commission). Allowing steroids in professional sports will only grant athletes an unfair advantage against opponents who chose not to use these harmful drugs. If legalized, athletes who choose not to use them or cannot afford them for that matter are already at a drastic disadvantage depriving them of an equal opportunity to compete.

Also, under the integrity of The National Football League, it writes that “we always look to make the right call” even when no one is looking. They “demand accountability and expect fair play”(NFL). Fair play is not giving one athlete an unfair advantage through the use of steroids to increase his/her muscle mass, completely altering one’s previous ability to the point where these athletes are praised as super human.

Furthermore, using anabolic steroids for performance-enhancement is deemed as cheating. In the official student news article at Trinity Western University, Andrew Heming, professor and strength coach for the Trinity Western University Spartans argues, “Steroids also seem to speed recovery and allow an athlete to do a greater amount of work without overtraining” (Cheating is cheating 2014). This significantly fast improvement to an individual’s athletic performance gives the user an unfair advantage as the drug circulates through the body. For instance, if an athlete is training for their regular season, such as football, baseball or any other sport, they are able to train longer at a higher intensity than usual under the influence of steroids. Along with the actual promotion of muscle growth, the post-recovery repair process drastically increases. Anabolic steroids also create a faster post-workout recovery for a professional athlete, leading to an unfair advantage of faster recovery time. With less time required to recover from strenuous exercise, an athlete is able to increase the duration and intensity of their workouts compared to normal.

Though research and experiments concerning the use of anabolic steroids and the negative effects are still underway, there is substantial evidence clearly proving anabolic steroids should not be allowed in professional sports. Experimental data only continues to demonstrate that anabolic steroids taken by professional athletes for performance-enhancement purposes leads to severe negative physical and psychological side effects, a poor image and role model for children, and ruins the integrity of the game itself. The harmful nature of anabolic steroids ricochets to more than just the user, but also to those individuals all around. It is our job as a society to create a safe and hopeful environment for future generations, especially in the realm of sports. For this to be done, steroids must to be eliminated from the sports arena entirely.

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STEROIDS IN SPORTS

APPENDIX A

Percent of Students Reporting Steroid use 1991 - 2002

Year	Eighth grade	Tenth Grade	Twelfth Grade
1991	1.9%	1.8%	2.1%
1999	2.7%	2.7%	2.9%
2002	2.5%	3.5%	4.0%

The “Monitoring the Future” study conducted in 2002 determined that since 1991 there has been a significant increase in (anabolic) steroid use by children in grades 8th, 10th, and 12th. This study was supported by the NIDA and conducted by the Institute for Social Research at the University of Michigan. Children in the United States were surveyed and the results conclude a significant increase in reported steroid use since 1991. For all three grades, the percent of students in 2002 represent a drastic increase from 1991.