Eliminating Steroid Use in Adolescents and High School Students

In hope to raise awareness about the negative impact on steroids

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Summary
The use of steroids has been controversial in professional sports for several years, but now, the issue has grown to include a rising number of student athletes who are actively using performance enhancing drugs. The known effects have been found through recent research and has proven to be overwhelmingly negative. Our project is to get the word out to student athletes about the negative side effects that steroids have on youth. By speaking to youth athletic organizations about these negative aspects, we hope to show them healthy alternatives to using performance enhancing drugs.
The Issue: Steroid Awareness for Youth Athletes

Introduction (MM)
The big issue today is athletes who take steroids in professional sports. Most of the hype is surrounding baseball rather than any other sport. This may be because in baseball, all the major records such as homeruns, are focused on the individual. Football on the other hand, focuses on records like 17-0 highlighting a perfect season with a team effort. Its reasons like this that steroids are much more of a concern in baseball than any other sport.

When it comes to the sport of baseball, the entire steroid scandal began with one man, Jose Canseco. Jose Canseco is an ex baseball player who many will argue, ruined the game of baseball. He introduced steroids to players in the MLB and from there, players began to see dramatic results they never experienced before. From that, the amount of steroid use only began to grow to this day. Other big names surrounding steroids in baseball are Barry Bonds, Mark McGuire and Alex Rodriguez. The issue with players like these is that Mark McGuire and Barry Bonds both broke the total homerun records for a single season in Major League baseball’s history. In such historic milestones as these, the fans all throughout the country believe these players don’t deserve the credit they receive because they cheated and therefore, the record is tainted. It is considered unfair to all the athletes who do not use performance-enhancing drugs to better their play.

As expected, the Olympics have a zero tolerance policy regarding steroids. One notable example would be when Marion Jones was accused then admitted to using performance-enhancing drugs. She was then immediately stripped of her gold medal. Athletes who use steroids are clearly breaking the rules and getting an unfair advantage over others. Of course these athletes will have an unfair advantage, they are gaining size, strength and speed at paces other athletes cannot keep up with. These athletes who use steroids are not only endangering their own health, but they promote the use of steroids to the younger generation such as kids in high school who aspire to be like these athletes.

One sport known to accept and in fact encourage the use of steroids is Professional Wrestling. Many of today’s wrestlers are currently taking steroids to enhance their performance, their look and of course, help boost ratings. Athletes who use steroids are clearly breaking the rules and getting an unfair advantage over others. Of course these athletes will have an unfair advantage, they are gaining size, strength and speed at paces other athletes cannot keep up with. These athletes who use steroids are not only endangering their own health, but they promote the use of steroids to the younger generation such as kids in high school who aspire to be like these athletes.

How Steroids Work (SP)
Anabolic steroids are synthetic versions of testosterone, the body’s natural sex hormone. They assist athletes by facilitating efforts to gain strength and muscle mass for increased muscular endurance, power and speed. When used by athletes, the goal is to speed up the body's natural muscle-building process.

When we lift weights heavier than what we're used to, we create tiny micro-tears in muscle fibers. The body's natural repair process repairs the tear and then overcompensates by adding
bigger cells to build a stronger fiber — this is called muscular hypertrophy. Over time, this repeated process of teardown and re-build will result in muscle growth.

Natural testosterone is the body's main ingredient for this process, but anabolic steroids can serve as a supplement.


**Function & Processes**

Steroids were originally developed to treat specific medical conditions in which the above anabolic benefits would directly aid patient recovery. Although they function in different ways, the primarily method involves receptor stimulation within muscle cells which in turn activates specific genes. This is known as a “genomic effect” or “direct effect” as it involves the process known as gene transcription. Evidence of the direct or genomic effects, as well as indirect or non-genomic effects of anabolic steroids have been observed in virtually every examined form of tissue in the human body. When a steroid is consumed either orally or via injection, it travels to the androgen receptors located within the various cells. This connection activates the hormone receptor creating a messenger RNA (mRNA), which signals the DNA to construct specific proteins. These proteins travel throughout the body eliciting the aforementioned anabolic/growth responses. Although anabolism is the primary action of steroids, they also elicit many other desirable and undesirable effects.


**Side Effects of Steroids (SG)**

Side effects can lead to many irreparable damage and mind altering problems. Anaphylactic shock, blood clotting, cancer, cardiovascular disease, Gynecomastia, kidney, and testicular issues are also common physical problems. Gynecomastia occurs due to the high level of estrogens formed in the body, which then leads to breast tissue formation. Blood pressure rises because the amount of salt retention and water increase. Blood pressure is not the only problem with one’s blood. Blood clotting leads to intense nosebleeds, which sometimes, are uncontrollable. High-density lipoprotein leads to removal of bad cholesterol in the arteries but this decreases as low density increases. This effect is a common characteristic of cardiovascular disease. Physically, Acne is a huge side effect. Anabolic steroids can lead to acne on the back, shoulders, and face. Androgenic steroids can lead to many blemishes and blotches. Muscle tears and sprains are also common side effects in steroid users.

Mentally many people will face periods in which they are not themselves. Mental stability falls to a level that can be uncontrollable and life threatening. Depression is a common cause. Androgen and estrogen levels start to fluctuate which leads to the mood swings. This is the aggression and can seriously affect ones relationships and the high testosterone levels leaves one into an uncontrollable state.

The History of Performance Enhancing Drugs (SH)
The use of performance enhancing drugs dates back to the 19th century and has a very colorful history. The first utilization of performance enhancing drugs can be traced back to a French physician, Charles Edouard Brown-Sequard. In 1889, Brown, who was 72 at the time, extracted testicular fluid from dogs and guinea pigs and injected it into himself. He claimed that the result of this was a renewed sense of youth and energy. The next significant use came in 1935 when German scientists, lead by Adolf Butenandt, formulate and develop anabolic steroids as a way to treat testosterone deficiency. Butenandt would later win a Nobel Prize for his studies.

The first malicious use of performance enhancing drugs can be seen in 1940-45. German Nazis tested anabolic steroids on prisoners, soldiers, and even Hitler himself. Nazi’s gave their soldiers steroids in order to promote physical strength and emotional aggressiveness. History points to the fact that Hitler may have been using steroids heavily due to his mental state at the end of his life. Scientists say that Hitler’s mania, violent behavior, and depression may all have been symptoms of his use of the drug.

Steroids in sports began in 1958 when John Ziegler developed an anabolic steroid product designed for strength increases in weight lifting. The product is released in the U.S.S.R. under the name Dianabol. Spurring from the heightened use of performance enhancing drugs in sports, The International Olympic Committee adds anabolic steroids to its list of banned substances in 1975. Laws against performance enhancing drugs continue to surface through the years and in 1990 The Anabolic Steroids Control Act is introduced into Congress. This law makes the drug a schedule three controlled substance, for which trafficking of will be considered a felony. People can now go to jail for selling steroids and penalties for use are also increased. In 1999 The World Anti-Doping Agency is formed to combat the use of performance enhancing drugs around the world.

From 1975 till the present, performance enhancing drugs continue to surround many scandals and controversies involving the illegal use of the substances in sports. Most recently, many Major League Baseball players have been accused of using steroids. Performance enhancing drug use continues to rapidly spread throughout the adult and youth sports world. Continued policies will probably continue to appear in order to suppress the epidemic.


Chocolate Milk: An Alternative to Performance Enhancing Drugs
When people weight lift they are exerting a substantial amount of energy that will cause a lot of liquids to leave their bodies through sweating. Also, sugar or glycogen is lost as the lifter breaks down their muscle. It is very important for the lifter to put all these lost nutrients and sugars back into the body to promote a fast and healthy recovery. Chocolate Milk contains these nutrients and is great to drink after a workout. Low-fat milk is the key ingredient in chocolate milk that produces optimal muscle recovery. Low-fat milk contains 90% water and substantial amounts of sodium and potassium, which are all lost through sweating. Low-fat milk contains calcium, phosphorous, and vitamin-d, which strengthens bones, and b vitamins that produce energy. Low-fat milk is also a very important source for key proteins that contain amino acids needed to create new proteins that help muscles heal properly and stimulate growth. Both low-fat milk and
chocolate have a high sugar content that will replenish the body with glycogen. Chocolate Milk contains carbohydrates and proteins in a proportion greater than 3 to 1, which is the optimal level to refuel the muscles with carbohydrates after strenuous lifting.

Chocolate milk is being used increasingly more in sports today. The drink meets the sport supplement guidelines of the National Collegiate Athletic Association for distribution to college athletes and is therefore becoming more and more common in the training facilities of many college athletic programs. Michal Phelps is also known to be a big advocator of chocolate milk as a post-exercise drink. He was seen drinking chocolate milk between races in the 2004 Olympics. Many youth are now drinking chocolate milk after recreational sports, as well. The drink is perfect for kids because it is very good for the body, delicious, and a lot less expensive than other sports drinks and supplements.

**The Service Project: Educate 8th graders**

For our community service project we presented a presentation to an 8th grade Little League Baseball team. The purpose of this presentation was to convince these young kids to avoid the use of performance enhancing drugs at all costs. We used a tri-board as a prop for this presentation that had bullet points and pictures on it. First, we talked about the problem of steroids in sports and then we transitioned to the issue and effects of steroids. We used examples of professional baseball players who have used steroids and hindered their career because of it. Specifically, we often referenced Roger Clemens and how he was going to be known as one of the best pitchers of all time until the authorities discovered he used performance enhancing drugs. We explained to these kids that because Clemens used steroids, people will now always be speculative of all his career accomplishments and he will never be revered as much as he once was. We also gave these kids some alternate ways they can help build their muscles without using performance enhancing drugs. At the end of the presentation, we gave each of them chocolate milk and told them that if they drink this after their workouts they will be encouraging muscle growth in a healthy way.
The Facts of Steroids

Dear Editor,

After many recent incidents of high school steroid use, I feel something needs to be done to address the matter at hand. Just a week ago in Tennessee, an assistant football coach has been sued for providing steroids to one of his players.

Events like this need to get more attention because of the seriousness in the issue at hand. Knowing of the consequences that steroids can have, three friends and myself have made the effort to bring change to the high school and youth community to inform them of the terrible problems performance enhancing drugs can have.

I was once a high school athlete and I’m aware of other students who had begun trying out steroids. I have seen firsthand some of the effects and now I want to make a difference to help others avoid that path. Starting locally in southern New Jersey, with the help of GNC, we will begin a campaign to instruct student athletes of the alternatives to steroid use. Many alternatives can have equal or higher quality results. Protein powders, nutritious diets, and other supplements are all healthy alternatives to using performance enhancing drugs.

We need the help of parents, teachers, and friends to make this campaign successful. Teaching kids the negative effects is the first step to approach this issue. Next, knowing the signs of steroid use to diagnose a child using drugs is equally important. Together we can keep kids off of performance enhancing drugs, and make a safer environment for our kids.

Matthew P.
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Steve H.
Editorial
Professor Fagan
Rutgers Students Take A Stand Against Performance Enhancing Drugs!

When you hear people mention performance enhancing drugs, they are no longer just referring to abuse in professional sports; they are now talking about high school gyms and even middle school athletes. Steroid abuse has infected adolescents like a cancer. The results of a study done by the University of Michigan state that 1.6% of eighth graders, 1.8% of high school sophomores, and 2.7% of high school seniors have admitted to trying steroids at least once in their lifetime. And these are only the students that admitted to it…just imagine how many others (probably too scared to admit to it) could have possibly tried the drug!

With the help of three other Rutgers University students, I took action against performance enhancing drug use in our youth. Based on personal adolescent experiences, we have come to the conclusion that the lure of these drugs starts to gain significant strength in eighth grade. As a group my fellow students and I presented a presentation to an eighth grade Howell Little League Baseball team. During this presentation we first informed the players about performance enhancing drugs (the history of them, usage statistics, ways they are put into the body, etc.) and then we talked about all the harmful short and long term side effects of these drugs (roid rage, psychological problems, etc.). There were also points in the presentation where we bought up examples of other athletes who have used steroids and have had negative consequences because of it, such as Roger Clemens. The absolute goal of the presentation was to persuade these young athletes to avoid performance enhancing drugs at all costs and I feel as though we accomplished this goal! We also gave each one of the kids chocolate milk after the presentation, to represent a healthy muscle building alternative to steroids, and I think this summed up our presentation and made them all very happy.

We hope that our presentation will continue stick inside these athletes’ heads. The presentation was especially important and personal for me because my younger brother is on the team and I want to make sure he doesn’t fall victim to the enticement of steroids. My group and I hope that we convinced all these adolescents to never go near steroids and it pleases us to know that we took a positive action for the youth in our community.

To Sports Illustrated Magazine,
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Three of my fellow Rutgers University students and I have acknowledged the indescribable and horrific effects of steroid use in today’s younger generation. Steroids have become a controversial issue in today’s society. The issue has intensified in the past decade due to the wide abuse in sports. It is important to mention that steroids in professional sports are not the most integral conflict spreading in today’s society. Yes, the MLB and Olympic Committee have been involved with much conflict due to the abundant use of steroids.

However, this is not the main issue in the fight against anabolic drug use. When analyzing anabolic steroid use in today’s society, the main concern should be the youth of today.
Barry Bonds, Mark McGuire, Jose Conseco and others were some of the top role models in the sport of baseball in the past. Since their recent accusations, the sport of baseball changed forever. However, the youth culture’s views may have not. The influence of anabolic-supplements, pro-hormones, fat-burners, and other performing enhancing supplements have started a new era of youth drug abuse. This anabolic epidemic is not only dangerous because of the current short-term proven side effects, but has the unknown long-term anatomical pros and cons.

This irreparable damage some people are facing in their physical, mental, and public life is crushing. The younger youth of today are our saviors and imitate what their predecessors do. The problem has leaded us to helping young children learn how to maintain a good diet and workout regimen as an alternative to steroids. One of our teammates has a brother on an 8th grade baseball team. This was the perfect opportunity to help young adults learn what the consequences are and teach them a little on safety when trying to improve one’s body. We presented it with a tri board starting with an everyday topic, sports. All children watch sports so we decided to talk about the issues that some of their idols faced. A lot of the issues have lead to physical problems but we also presented the idea of public scrutiny. Life is about working hard and achieving your goals. Therefore, to lose the recognition for your life’s work leads to irreparable damage. We presented ways to achieve their goals safely and gave them chocolate milk at the end of the presentation. We wanted to tell them food has plenty of nutritional value and will work with a steady diet.

Steven G.

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Many kids all throughout the country partake in extracurricular sports, whether be baseball, football, basketball, etc. As it is important to have young kids involved and active in sports it is equally important to make sure these kids are educated on the hazards and life threatening consequences of steroids. The issue surrounding performance enhancing drugs has only become worse as the years go on. In professional baseball particularly, steroids has become an epidemic spiraling out of control. In efforts to fix this problem, the Mitchell Report was released unveiling all the professional athletes known to have experimented with steroids. Turns out, these aren’t just ordinary players, but baseball’s most prominent figures in the game.

The problem here is that these baseball superstars are considered idols to kids all over America. These are the guys that young kids all throughout little leagues and high schools strive to become. The fact that younger generations are looking up to athletes on performance enhancing drugs is only sending the wrong message to these kids. They obviously want to
become just like these superstars and become the best, therefore they see how well steroids are working for these athletes, it makes them wonder, what can it do for me?

Along with the incentive to be like their idols, these young kids also have to battle with their competitive edge. They see the results steroids have on professional athletes and want to see results like these for themselves. The problem here is that these kids do not know or realize the consequences of taking steroids, they see the positive outcomes from steroids but don’t care to look at the negative consequences. This is why it is imperative to educate younger kids on all the hazards and life threatening conditions that come with taking steroids. Speaking with young kids on teams and educating kids in health classes are both ways we can start educating kids on steroids to try and keep them away from them.

- Mark M.