

Original Article

Bio-medical wars in Canadian sport: issues in the prevention and detection of anabolic steroid use

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Abstract:

Despite efforts of league administrators to present a clean image of sport where athletic doping is under control, the use of steroids and other performance-enhancing drugs remains and is often not detected by doping control officers. Drawing on interviews with 59 male athletes eligible to be tested by doping control officers of the Canadian Centre for Ethics in Sports, as well as 22 administrators in sport, this paper highlights some of the ongoing issues in the current tests. Specifically, it examines how players are able to beat the test through numerous strategies such as playing the odds, timed drug cycling, using sustained low dosages, supplementing with epitestosterone, using masking agents, ingesting cleansers and diuretics, engaging in urine replacement, and using undetectable designer substances. This paper concludes with strategies to eradicate these issues.

Key words: sport, doping, qualitative research.

Introduction

In Canadian sport, and sport more generally, a battle is waged off of the field of play between those who make, take, and test for performance-enhancing drugs. This battle can be termed a “bio-medical war in sport.” In this context, sport becomes a competition of biology, medicine, chemistry, technology, ethics, and the economic incentive to win at all costs. Describing this competition, one junior football player interviewed in this study stated, “The drug testers will just never be able to keep up to the drug takers. They are always just one step behind.” In this paper, this biomedical war in sport is further examined, looking at the ongoing issues that doping control officers face in preventing and detecting the use of steroids in Canadian sport.

The interview data used for this study pertains specifically to the sport of football in Canada. It can, however, apply to sport in Canada more generally as the testing procedures for other sports remain the same, as do the issues in prevention and detection. In Canadian football, and Canadian sport more generally, steroid testing is conducted by the Canadian Centre for Ethics in Sport (CCES). The CCES abides by provisions set out by the World Anti-Doping Agency (WADA), which took over responsibility for developing international standards and prohibitions of performance-enhancing drug use from the International Olympic Committee (IOC) in 1999. The national governing bodies for sport support and enforce the disciplinary decisions of the CCES. The governing bodies also help the athlete who is facing disciplinary sanction for using a banned substance to understand the sanction and to file an appeal to the CCES. The drug testing procedure is carried out at random. A doping control officer from the CCES will arrive at a team practice or game and select a few players at random for the test. Players can also be tested, at random, during anytime during the season or the off-season. A single team can typically have between zero and twenty players tested in a single season.

Players and coaches are not given any advance warning that their team will be tested on a specific date. The testing process begins with a doping control officer selecting several players on a team at random, typically during a team practice. After a CCES doping control officer makes his random selections, a team coach or trainer will notify the players who are to be tested. A CCES supervisor greets each player and remains with the player until he has removed any equipment and is ready to take the test. Players are asked to urinate into a cup. Players must pull their shirts above their chest and pants below their knees to ensure that they are not tampering with the urine sample in any way. The CCES supervisor watches the sample collection at all times. After the CCES supervisor has secured the sample, he informs the player about the testing process and asks the player to fill out a consent form. Players are then given a free t-shirt and towel from the Canadian Centre for Ethics in Sport for their participation. Players who refuse to take the test automatically fail and face disciplinary review by the CCES.

If a player tests positive for a banned substance, the Canadian Centre for Ethics in Sport imposes a penalty on the player depending on the severity of the offense and playing level. Players at junior and university playing levels typically receive a one-year suspension for first-time offenses. In professional football, a first time offence is met with an option to undergo drug counseling but includes no suspension. A second offence results in

a three-game suspension. A fourth offence results in one year suspension. A fourth offence results in a lifetime ban from the league.

Traditional inquiry into steroid use in sport has examined topics such as: correlates of steroid use (Miller *et al.*, 2002), risk perceptions of steroid use (Denham, 2009), effects of steroid use on athletic performance (Husak & Irschick, 2009), long-term health risks (Pärssinen, & Seppälä, 2002) scientific problems with drug testing results (Saey, 2008), prevalence of steroid use in sport (Berning *et al.*, 2004), and ethical issues related to doping and doping control (Møller, 2010). This study makes an important contribution to the literature on doping in sport by looking at the problems and issues faced by doping control officers in the detection and prevention of steroid use.

Method

Two main forms of data were used in this study including unobtrusive data and interview data. Unobtrusive measures involve a particular type of data collection that does not involve direct human contact between the researcher and the individuals or groups being studied (Webb *et al.*, 1981). Furthermore, such measures involve the investigation of data that were not constructed for the purpose of academic research. This form of data collection can also be referred to as a “non-reactive” approach (Webb *et al.*, 1981).

The unobtrusive data sources used for this study include media files, Canadian legal cases, meeting minutes at the university playing level, disciplinary review reports at the junior and university levels, Internet blogs of Canadian football players, the rule books of each league, policy and procedures manuals for each league, depictions of football in popular mass media such as film and literature, disciplinary infraction reports for each league, player contracts at the professional level, video clips, extant literature, and published autobiographies of professional football players.

In total, 81 football players and administrators were interviewed for this study. Of these, 59 were players and 22 were administrators. The term administrator is used as a broad term to incorporate any non-player involved in the organization, governance and/or delivery of football in Canada. For ethical reasons, the job title of administrators has been left out to ensure confidentiality of participation. When these administrators are quoted, only the level they are involved with is noted.

This study has a broad sample of participants who were interviewed across Canada from Victoria to Halifax. Participants had a wide range of experience in football. One player had only played football for a few months after making a switch from hockey, while some administrators had well over 30 years of involvement in the sport in various capacities. The participants in the study were overwhelmingly male, with only two female administrators interviewed. This gender disparity is most likely a function of the organization of football in Canada, rather than a result of the research design of the study. Three of the individuals who were interviewed were retired football players. The interviews were filled with critical reflection and insight into football in Canada, and performance-enhancing drug use in particular.

Results

A majority of players interviewed in this study, across all three playing levels, reported that the drug testing policies and procedures in their leagues are ineffective and insufficient. According to the players, the random drug tests conducted by the Canadian Centre for Ethics in Sport do little to curb steroid use because players realize how small the likelihood is that they will be selected for a test, and even if they are tested there are various means to avoid a positive test. The various approaches described by players to beat the test included playing the odds, timed drug cycling, sustained low dosages, supplementing with epitestosterone, using masking agents, ingesting cleansers and diuretics, urine replacement, and using undetectable designer substances.

Many players indicated that the low likelihood of being tested is the primary way that players are able to use steroids without detection. According to a university quarterback, “There have been years where we haven't got tested, and we have never been tested more than once.” One junior defensive tackle stated: “Considering in two seasons I've never seen a member of our team take a test, I'm not sure [testing procedures] are effective.” At the junior and university playing levels, it is very possible that teams can go without being tested. Even when a team is selected for testing, the likelihood of being one of the few players selected at random is small. As such, athletes can play the odds, use steroids, and hope that they will not be tested. This appears to be the simplest, most straightforward approach to avoiding detection of steroid use in Canadian sport.

A method described by players to increase their chances of beating the odds was to time their steroid use in ways that would decrease the likelihood that they would be selected at random. One way to do this would be to use steroids while in the off-season and away from the team. While testing can be done in the off-season, players believed that it was done far less frequently and that if they were not in the same location as the team they would not be tested, e.g. a university athlete living with his or her parents in a different city or country in the off-season. Furthermore, no interviewed players knew of any teams having been tested more than once in a single season. A university quarterback suggested that since players know their team will only be tested once during the year, they can just wait until their team has been tested, and then start taking steroids for the remainder of the season.

The athletes also described methods that would enable the use of steroids without a concern for beating the odds of being tested. One way was to take low dosages of anabolic steroids to allow for some performance benefits without the risk of testing positive. The understanding of the doping test that players reported was that the test measures a ratio of testosterone to epitestosterone (T:E ratio). At the time of the interviews, it was reported that players could have up to a 6 to 1 ratio of testosterone to epitestosterone. The ratio test is in place to allow for different natural levels of testosterone. Players could use small amounts of steroids without raising their testosterone level to a point where they would fail the test. A similar approach tied to this understanding of the testosterone to epitestosterone ratio that athletes suggested was to supplement steroid use with epitestosterone. While testosterone levels will increase through the use of steroids, the ratio can be counter-balanced by supplementing with epitestosterone. Through this approach, athletes can fall within the optimal T:E range that is not prohibited in Canadian sport.

Another approach that allows players to use steroids but not fail a doping control test is the use of masking agents. In a basic sense, a masking agent effects kidney processes in such a way that when a steroid using player undergoes a urine test who has consumed a masking agent, the presence of a banned substance will not be detectable. Masking agents mask or hide the use of anabolic steroids. Similarly, players reported that various vitamins, minerals, and diuretics can be consumed that dilute the presence of banned substances in the urine. The basic premise behind this approach is to have really watered down urine that makes the detection of banned substances unlikely.

Players also referred to processes that involved the physical alteration of urine to beat the test. There was mention of previous generations of football players sneaking bottles of clean urine into the testing facility and simply filling the sample cup with it. However, the players indicated that this approach would no longer work as the doping control officer watches the filling of the cup too closely. Players indicated that to do this now, an athlete would have to catheter clean urine into his bladder. While sounding far-fetched, former professional football player Tim Green (1996) indicated that this is an approach that some players have used.

The final approach raised by the majority of players was a notion that anabolic steroids might in fact be becoming a relic of the past in Canadian sport, with new undetectable designer substances used for performance-enhancement becoming the norm. Anabolic steroids have been used in sport and been under scrutiny for decades. Doping control officers and testers have become wise to detecting them making it harder to beat the tests. The simple solution, then, is to use substances that are not yet detectable and possibly not even known about by the individuals involved in doping control in Canadian sport, or where the tests are simply too expensive to perform on limited budgets.

Discussion

With various strategies at the disposal of athletes, it appears difficult for doping control officers to effectively detect the use of anabolic steroids in Canadian sport. As one university coach remarked, "If guys are going to cheat, they are probably smart enough to not get caught." It is difficult to estimate the prevalence of steroid use in Canadian sport, as athletes will not openly disclose their use, and failed tests are often not reported. It is the policy of the Canadian Football League (CFL) that failed drug tests will not be publicized, and no suspension is given to a first-time offence. It is also difficult to estimate just how effective the strategies the players described really are, or how widely used they are. Anabolic steroids are not only banned in Canadian sport, but they are illegal by Criminal Law (via the Controlled Drugs and Substances Act) to obtain without a medical prescription, possess in significant quantities, or distribute without a license. However, every athlete interviewed in this study indicated that they knew of at least one player who was currently using or had previously used anabolic steroids.

Doping control officials in Canada are faced with the task of creating more effective strategies for preventing and detecting the use of anabolic steroids, and other banned performance-enhancing drugs, in Canadian sport. One approach that could be taken would be to simply not test, and let sport truly become a bio-medical battle between chemically augmented athletes. The countries that succeed in the Olympics would be the ones with the best scientists able to create the best performance-enhancers, rather than the best masking agents and undetectable substances. This approach does, however, raise ethical and safety concerns. Many athletes in this study played in the Canadian Football League before the league began testing in 2011, and were adamant that this approach was not what they wanted. According to the players, one result of not testing is that more players will use anabolic steroids. This, in turn, puts more pressure on other players to use. As a result, everyone becomes more susceptible to health issues arising from steroid use.

A second option would be to test all players rather than a select few at random. The doping control officers who were interviewed in this study indicated that testing all players is cost-prohibitive and simply not possible within their budget. Random testing is the result of budgetary constraints. This approach would require significant additional funds. However, even if every player were tested there are still techniques players can employ to beat the test. Presumably, if players knew they would be tested they would continue to develop new, creative strategies to beat the test.

A third option could be strategic testing. Not all players would be tested, requiring no enhanced budgets, but the tests would no longer be at random. One university football player suggested that all players who make the playoffs should be tested. He states:

This would ensure that those teams that are succeeding aren't using any forms of steroids or anabolic agents. And limiting to playoff teams would cut costs, but also deter the whole league from using. If you can't win a Vanier (The Vanier Cup is the championship of Canadian university football) by cheating then what would be the point. It is also in playoffs where most players get their CFL exposure.

The limitation of this approach alone would be, however, that players could possibly use steroids earlier in the season and then be clean by playoffs and not test positive for a banned steroid. The timed cycling approach described earlier in this approach would negate the effectiveness of this approach. A different strategy could be to test only the top, high-performing players. However, the reports from players in this study indicate that the pay structure in Canadian football actually makes it less likely for higher performing players to use steroids. The top players in the CFL make over \$100,000CDN a year and can afford to train year round, hire a nutritionist, and build speed and strength through natural means. Lower performing players make under \$50,000CDN per year and often need to work at a second job. For these players, steroids could be a way to keep up with their higher paid counterparts who have more time and resources to dedicate to building their bodies to excel at sport.

A fourth strategy could be to implement the use of future testing. Both blood and urine samples could be taken for current tests, but then saved for the purposes of future testing. While the drug producers and users appear to be steps ahead of the testers, the retention of samples could eliminate this advantage. Players would know that it would likely be a matter of time before they would test positive for substances they have used. Knowing that long-term success would be jeopardized through future tests could serve as an effective deterrent to substance use in the present.

A fifth strategy is the development of more education programs that are aimed at helping athletes to understand and use safer methods of achieving effective performance-enhancement in sport that does not require using banned substances, e.g. nutrition, sleep, hydration, sports psychology, etc. The CCES currently requires Canadian athletes to take a short, online course. The athletes interviewed in this study indicated that it did not engage their attention and was easy to flip through in a matter of minutes without absorbing the information. An important component to developing a comprehensive prevention strategy should be enhancing this and other education programs.

Conclusions

If we think of doping control in sport as a competition, a battle, or war between drug testers, drug designers, and athletes, then designers and athletes appear to have a sizable advantage and are winning the bio-medical war. The testers are restricted by budgetary constraints, limited testing technologies, and the need to keep up with ever changing bio-medical advances. Furthermore, athletes are motivated and equipped with knowledge, strategies, and techniques to feel confident that the tests can be beaten. A reactive approach on the part of doping control officials does not and cannot work effectively. Yet, this is the primary approach that continues to be used. An effective strategy for the prevention of anabolic steroid use in Canadian sport should rest on increasing testing budgets and resources, using future testing as a deterrent, and placing strong emphasis on educating athletes about the potential harms of anabolic steroid use, as well as teaching them safer alternatives to achieving their athletic goals.

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