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Ethics of Performance Enhancement in Sport: Drugs and Gene Doping

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Dick Pound is the head of the World Anti-Doping Agency, WADA. In an interview with CBC Sports Online (2003), he was asked, 'What drives you in the fight against drugs in sports? Why do you feel this is such an important issue'? His reply reveals much about the motivation of the anti-doping campaigners:

> Well, sports is so important to so many people, particularly young people, and it's a precursor to how you're going to behave in other aspects of social intercourse…[I]t's very important to have some kind of activity where you can say to people 'this is on the level'. You respect the rules, you respect your opponents, you respect yourself. You play fair.
>
> I don't want my grandchildren to have to become chemical stockpiles in order to be good at sports and to have fun at it . . . It's a completely antithetical view to what sport should have been in the first place. It's essentially a humanistic endeavour to see how far you can go on your own talent.

Current dogma is that performance enhancement in sport is wrong. As Pound's response shows, this dogma is predicated mainly on the view that performance enhancement violates this 'humanistic' conception of what sport should be.

In this chapter, we will argue that performance enhancement is inevitable and unpoliceable, that it is not against the spirit of sport and that we should remove anti-doping legislation to permit safe performance enhancement. We should focus more on testing athletes' health and fitness to compete.

CURRENT GUIDELINES AND POLICY ON DOPING IN SPORT

Whatever we think that sport should or should not be, there is one good reason why the world's sporting bodies are undertaking such a concerted effort to eliminate doping in elite sport. There is one good reason why there are no 'pro doping' movements and no legal challenges to the laws against doping in sport. The reason is simply this: doping is currently the most widespread method of cheating. Professional athletes are cheating, and worse, they are using methods which quite often put their health at risk, as Table 70.1 illustrates.

These health risks give us good reasons to ban performance enhancing drugs. But not all the harmful drugs are banned, and a number of banned drugs do not threaten athletes' health. Is it possible that the sporting bodies are not worried, or not at least primarily worried, about health?

The World Anti-Doping Agency, which defines which drugs will be banned in international athletics, bans a drug if it has at least two out of three of the following criteria. First, it must have the potential to increase sporting performance. Second, it must represent an actual or potential risk to the athlete's health, and third, its use must be contrary to the 'spirit of sport', which they define in the same document (World Anti-Doping Agency, 2003b).

According to the Anti-Doping Agency's definition, you are not doping if you are taking harmful drugs which do not enhance performance or violate the spirit of sport, such as tobacco (see Table 70.2). And you are not doping if you take performance-enhancing drugs which do not harm you or violate the spirit of sport. Under the current code, for example, caffeine is not illegal, even though it can strongly increase performance. In endurance sports, caffeine helps to mobilize the fat stores of an athlete (Costill, Dalsky & Fink, 1978). It can make as much as a 20% difference in the time to exhaustion among competitive athletes. That is a massive difference. Dietary supplements such as creatine are also legal on this 2-out-of-3 rule, and they also strongly

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Table 70.1. Performance enhancers. Examples of prohibited performance enhancers for which athletes have been banned

Name	Effect	Unwanted effects
Anabolic androgenic steroids	Increased muscle growth; increased red blood cell production	Decrease in endogenous sex hormones; acne; temporary infertility; rarely, increased aggression; ventricular hypertrophy; liver damage; virilization in females; testicular atrophy and gynecomastia in males; increased risk of prostate cancer
Human recombinant erythropoietin (EPO), darbepoitin	Increased red blood cell production (increases performance in endurance sports)	Can increase blood viscosity to dangerous levels in very high doses, increasing risk of stroke or heart attack
Some stimulants (Mesocarb, Bromantan, Etilefrine, Ephedrine, Amphetamine, Cocaine, Adrenaline (new in 2006))	Improved alertness and reaction time; increased stamina; increased confidence	Cardiovascular stress, increased risk of psychosis (amphetamine); cardiac arrhythmia, insomnia, bradycardia, tachycardia, anorexia
Enhancement of oxygen transfer – blood doping, perfluorochemicals	Increased red blood cell count	Risks identical to EPO or hypoxic training
Cannabinoids such as THC	None known – likely to decrease performance	None known

influences performance. Creatine is similar to the banned drug EPO – in that it supplements an endogenous substance. Two different double-blind studies found that the time to exhaustion in anaerobic exercise could be increased by over 10% by the use of creatine (Bosco et al., 1997; Prevost et al., 1997). But creatine, like caffeine, is legal because it is not thought to harm athletes or violate the spirit of sport.

However, the Code goes on to say explicitly that *all* '[d]oping is fundamentally contrary to the spirit of sport'. In other words, if a drug is banned because it is both harmful and performance enhancing, it is necessarily considered to violate the spirit of sport as well. This statement contradicts the 2-out-of-3 rule because it adds this spirit-violating property to *every* banned group. Perhaps this is a mistake, but if it is not, then WADA and its supporters are not seriously worried about health risks. Neither are they seriously worried about performance enhancement. If either of these concerns were important to WADA, it would sometimes consider banning a drug just because it was harmful like tobacco or just because it was performance-enhancing like creatine. In fact, the WADA code is functionally identical to a single-criterion code which defines doping as 'any substance or method which violates the spirit of sport'. This obsession with the spirit of sport is echoed in Pound's rationale, quoted above.

So what is WADA's conception of the spirit of sport?

WADA defines the 'spirit of sport' using a long list of words (World Anti-Doping Agency, 2003a):

(1) Ethics, fair play and honesty
(2) Health
(3) Excellence in performance

Table 70.2. Examples of legal performance-enhancers

Name	Effect	Unwanted effects
Creatine	Improves time to exhaustion in anaerobic exercise. Faster recovery from training	May lead to muscle cramping
Caffeine	Assists mobilization of fat stores, during exercise, improving time to exhaustion; assists alertness and concentration, especially on repetitive motor tasks	Insomnia, tachycardia, gastrointestinal complaints, increased blood pressure (high doses); withdrawal symptoms include headache and fatigue
Hypoxic/altitude training	Increases endogenous EPO, boosting the production of red blood cells	Excessive use can increase blood viscosity to dangerous levels in some individuals
Some stimulants – pseudoephedrine, nicotine, buproprion, pipradrol	Increase alertness and concentration	Carcinogenic (cigarettes); increased stroke risk, insomnia, tachycardia, anorexia (Pipradrol, pseudoephedrine)
LASIK eye surgery	Improves eyesight	Some risk of vision damage during surgery

(4) Character and education
(5) Fun and joy
(6) Teamwork
(7) Dedication and commitment
(8) Respect for rules and laws
(9) Respect for self and other participants
(10) Courage
(11) Community and solidarity.

This may be a good list of features that embody the aspirational 'spirit of sport'. But as a way to choose which drugs to ban, it is terrible.

Many of the terms on this list refer only to the amateur sport, not the elite sport where the anti-doping effort is focused. Fun and joy, for example, seem to be only a very weak requirement in elite sport. Similarly, elite athletes do not compete to improve their health or their education. Some of the terms on the list represent concepts that are not threatened by doping at all. For example, it is hard to see how teamwork is threatened by doping, especially when a whole team is doping. In one way, we might even think it courageous, dedicated or committed to take a harmful drug in the pursuit of sporting success, especially where that success also benefits one's team. Finally, some of the terms on the list are not threatened if every athlete is doping or if doping is legal. Excellence in performance is only threatened by doping when doping is against the rules. If a drug is legal there is no threat to an athlete's 'character'. And 'solidarity' is not threatened in cycling, where we assume that almost every athlete is taking EPO or blood doping.

The only terms on the list that are threatened by doping are those concerned with cheating. 'Respect for rules and laws' is at the heart of what motivates the crusade against doping. If we retain the WADA code, but cut away the irrelevant parts of their 'spirit of sport', doping is just using a substance or a method which is against the rules of the sport. That is, doping is just cheating by using drugs.

And that is probably as good a definition of doping as we will get, but it begs the question – why do we need rules against these drugs and training methods? Cheating is bad for sport because a sport is defined by its rules, but eradicating doping is not the only way to eradicate drug cheats. The other way is just to erase the anti-doping rules.

FAILURE OF CURRENT POLICY

It would be much easier to eliminate the anti-doping rules than to eliminate doping. The current policy against doping has proved expensive and difficult to police. In the near future it may become impossible to police.

It is difficult even to estimate how much illegal performance enhancement occurs at elite level. We are all familiar with the regular doping scandals at each major sporting event. In some sports, such as cycling, it is said to be endemic. In 1992, Vicky Rabinowicz interviewed small groups of athletes. She found that Olympic athletes, in general, believed that *most* successful athletes were using banned substances (Rabinowicz, 1992). Only about 10–15% of participating athletes are tested in each major competition (International Association of Athletics Federations, 2004). This testing costs WADA alone over $US 20 million.

Newer designer drugs are constantly being developed (see Table 70.3). Growth hormone is very difficult to detect. Myostatin is a growth factor which controls muscle growth. One family has been identified with a genetic mutation resulting in no myostatin production (Schuelke, et al., 2004). This resulted in extraordinarily strong and developed muscles in the child affected. Genetically modified mice which do not produce myostatin have enormous muscles and have been called Schwarzenegger mice (Lee, 2004). Administration of myostatin blockers cause significant increase in muscle mass in mice (Lee & McPherron, 2001). Genetic manipulation to stop myostatin production

Table 70.3. Examples of prohibited performance enhancements for which no athlete has tested positive, but believed to be in use

Name	Effect	Unwanted effects
Gene doping	Wide range of possible effects, including increased red blood cell count, localized increase in muscle growth or growth of fast-twitch muscle fibres, and so on	Depends on gene chosen and vector for genetic enhancement
Luteinizing hormone (LH)	Increases testosterone production in men, increasing muscle growth and stamina	None known other than risks stemming from increased testosterone
Growth hormone	Increased height if used in children or adolescents; increase in muscle mass; increased red blood cell production	None established – possible links to diabetes, acromegly, hypertension and so on
Beta blockers	Decrease natural tremor and reduce effects of 'stage fright'	Hypotension, heart failure, shortness of breath, depression, and so on

or administration of blockers would be expected to significantly increase strength in athletes and are likely to offer real potential for doping in the future. Insulin-like growth factor injected into the muscles of mice increases strength. Direct injection into the muscles of athletes would be simple and very difficult to detect as DNA would be taken into muscle DNA, requiring muscle biopsy to detect it. As gene doping becomes more efficient, it is likely to offer great opportunities for doping in sport and 'for all intents and purposes, gene doping will be undetectable' (Andersen, Schjerling & Saltin, 2000). Detection will likely require not blood or urine tests (as occurs now), but invasive, difficult and dangerous muscle biopsies. As gene therapy works in animals nowadays (for example inserting the EPO gene), there is no reason why it could not be attempted by athletes.

HEATH RISKS IN CURRENT POLICY

As we have shown, the WADA code is focused on cheating rather than harm. But the present system actually creates an environment of risk for the athlete. This gives us another reason to change it.

Because doping is illegal, the pressure is to make performance enhancers undetectable, rather than safe. Performance enhancers are produced or bought on the black market and administered in a clandestine, uncontrolled way with no monitoring of the athlete's health. Allowing the use of performance enhancers would make sport safer as there would be less pressure on athletes to take unsafe enhancers and a pressure to develop new safe performance enhancers and to make existing enhancers more effective at safe dosages.

Allowing performance enhancers would not eliminate risk to athletes' health but it would reduce it. Some would still seek an advantage through the use of unsafe, illegal enhancers. Some would still take safe enhancers in unsafe dosages. But it would narrow the performance gap between those athletes who wish to avoid health risks, and those who do not. This would also reduce the coercive force to take unsafe enhancers. If this were coupled with greater focus on evaluating fitness to compete and health, as suggested in the later section, rather than drug detection, there would be an even greater improvement in athlete health.

A PROPOSAL

We should develop safer drug options that are as effective and as cheap as the harmful substances of today. There is a real practical difficulty with this because all drugs are harmful if taken in megadose quantities. Even nandrolone is safe enough if taken in a small dose. Even water is lethal if taken in a very large dose. Ideally, we need drugs which are as effective as existing drugs at a safe dose, but which do not become significantly more effective at an unsafe dose.

But as we will discuss, elite athletes are always pushing the boundaries of personal risk. Safe alternatives will help those few elite athletes who are risk – averse, but we suspect that elite athletes can and will always find new boundaries to push and new risks to take, whether or not drugs are allowed. The point about doping is to take more of a substance than your competitors – if taking more does not work, then you take more of something else. The reason why athletes take risks is because they are strongly motivated to have the best performance.

With that in mind, we *could* try to lower the incentives for winning, by reducing prize money and limiting athletes' earnings. If we deliberately underpaid them, we would make winning less valuable to athletes, and this would in turn make their health relatively more valuable to them. But athletes' wages are not usually decreed by some governing body; they are a function of the money that the athletes can make for their sponsors and team owners. Thus, this solution would likely be impossible to enact.

If athletes will always be so strongly motivated to win that they will take severe risks, a better risk-reduction strategy would be to exclude athletes for health reasons, as we currently do in cycling. In cycling, if your haematocrit is too high (over 50%), you cannot compete because your blood viscosity puts you at risk, whatever the cause. Similarly, if athletes have left ventricle hypertrophy from steroid use or other cause or if their testosterone levels are above a certain limit, they should be informed of the risk. It would be possible to exclude them, even if the drug itself was legal, or even if they just had a naturally high level of testosterone. In Melbourne, boxers are excluded from competition if they have measurable brain damage on magnetic resonance imaging (Spriggs, 2004).

Exclusion would give athletes an incentive to look after their bodies. We could fund medical spot checks using the enormous funds we currently spend in a doomed attempt to find drugs in athletes' blood and urine. WADA alone costs around $22 million per year – just to test around 15% of the athletes (IAAF, 2004).

It is not as though these suggestions have never been made before. In 1998, the president of the International Olympic Committee, Juan-Antonio Samaranch, suggested that athletes be permitted to use safe performance-enhancing drugs (Downes, 1999). However, every time these suggestions are raised, they face a familiar list of objections. We could go through these objections one by one, but in our view they are all united in their dependency on a smaller number of misconceptions about sport and about what makes a sport good or bad.

The current doping controls also depend on these misconceived beliefs. We have compiled a list of seven. Once we recognize these misconceptions, the current doping controls begin to look much worse than our simple proposal to revise anti-doping controls.

SEVEN MISCONCEPTIONS ABOUT DRUGS IN SPORT

MISCONCEPTION 1

If every sportsperson takes legal safe drugs, sport will be decided by drugs, not human ability.

Jonathan Vaughters wrote this in *Cycling Weekly*:

> To argue that if everyone is doping and using the same dope, then it's fair, is bunk. Different drugs affect different metabolisms in different ways and some people will always benefit more from certain drugs than others. This is why doping must end, or we will not get to see who is truly the best (Vaughters, 2004).

This last sentence reveals a popular belief – that doping stops us from seeing who is truly the best.

Why should not differences in metabolisms decide who is best at a sport? Metabolisms are part of who is good and bad at sport, with or without doping. If I metabolize carbohydrates better than my opponent, it will give me an advantage, just as I will gain an advantage if I metabolize steroids more effectively. Athletes have genetic differences in their metabolic rates (Bogardus et al., 1986) and different gene – nutrition interactions (Heck et al., 2004) that already form part of what makes them 'truly the best'.

One part of the meaning of sport comes from this kind of comparison of athletes' biological potential. This was the old naturalistic Athenian vision of sport – to find the strongest, fastest or most skilled man. This is what Dick Pound appealed to when he said "[Sport is] essentially a humanistic endeavour to see how far you can go on your own talent" (CBC Sports Online, 2003).

Training aims to bring out this potential. Drugs which improve our natural potential are against the spirit of this model of sport. But sport is not just a test of biological potential. Central to human sport is the competitive spirit. Humans are not horses or dogs. We make choices and exercise our own judgement and other mental abilities. We choose the kind of training required and how to run our race. We can display courage, determination and wisdom. We are not flogged by a jockey on our back but drive ourselves. It is this judgement that competitors exercise when they choose diet, training and whether to take drugs.

Sport is not a test of biological potential when some competitors enhance their biology whereas others do not. This enables the biologically inferior cheaters to win. But that can only happen when enhancement is not permitted. If enhancement is permitted, competitors need no longer be drug discordant.

MISCONCEPTION 2

That clean sport is fair as in 'a level playing field'.

Obviously if we remove the bans on all doping, this levels the playing field in one way because every athlete can obtain the same drugs. But some will still claim that the best drugs will only be available to the richest athletes, that this would make sport unfair and that it would create an unlevel playing field.

There are a number of different kinds of inequality in elite sport. Differences in socioeconomic status from one country to the next, and from one individual to the next, limit access to top-class training and equipment. In this sense, drugs *level* the playing field – for example, illegal EPO is more affordable for third-world athletes than legal hypoxic training facilities (Savulescu, Foddy & Clayton, 2004).

But differences in genetic endowment can also make a huge difference in elite sport and cannot be redressed. Elite sport can be fair if 'fair' is interpreted to mean that 'the rules are applied equally'. It can never be fair if 'fair' is interpreted to mean 'level playing field'.

There is no genetic level playing field – sport is a test of genetic inequality.

People have different capabilities, genetic and financial. That is a fact that cannot be changed. We *could* create separate leagues for people with different amounts of money or different degrees of genetic talent. But we think it is better to accept variations in capability. We should worry more about sport being 'fair' in the sense that 'the rules are applied equally to everyone'.

MISCONCEPTION 3

Training and diet, unlike drugs, do not tend to be harmful. Clean elite sport is not harmful and tends to promote good health.

The WADA Copenhagen Declaration's preamble says that '. . . sport should play an important role in the protection of health' (World Anti-Doping Agency, 2003c). More broadly, any time the health risks of performance-enhancing drugs are mentioned, there is an assumption that these risks are significant in comparison to the baseline risks of 'clean sport'. But this assumption is not correct.

Elite sport can be extremely harmful. Even clean elite athletes have to accept serious harms to be competitive. These risks are usually reduced or absent in amateur competition, so just like drug risks, they are risks which are *extrinsic* to

a sport – they are not a necessary part of the sport. There is nothing special about a drug-related risk which demands that we intervene, if we permit these unnecessary non-drug risks to exist.

One group has written that there is a limit to human cardiac adaptation to sports training, placing some athletes at risk of sudden cardiac death (Claessens et al., 1999). This risk is elevated if exotic training schemes are undertaken to increase an athlete's haematocrit, such as altitude or hypoxic tent training. Athletes who are stressed or over-trained also suffer a depletion in their immune systems (Gleeson, 2000; Nieman, 2000). Normal amounts of exercise increase the effectiveness of a person's immune system. But when we begin to overtrain, the effect is reversed. In elite sports, athletes are at heightened risk of infection. One Norwegian study found 15% of gymnasts were anorexic (Sundot-Borgen, 1994). Christy Henrich is one example: she was an American gymnast who died of multiple organ failure from anorexia when she was 22. Some elite sports require an unhealthily large body shape. Many American footballers have bodyweights that correspond to a dramatically increased mortality (Harp & Hecht, 2005). Dysfunctional eating also seems to create a high incidence of menstrual dysfunction and stress fractures in female athletes. The rates are shockingly high – Beals studied a group of female college athletes and found that 37% had suffered some form of menstrual dysfunction and 37% had suffered a stress fracture (Beals, 2001). A number of sports have a high risk of mild traumatic brain injuries – boxing and football are predictable examples, also skiing, snowboarding, cycling and horse-riding (Freeman et al., 2005). One group found that the brains of athletes with these injuries could not be differentiated from the brains of people who were abusing recreational drugs (Iverson, Lange & Franzen, 2005).

Depending on the sport, at elite levels athletes are always at high risk of some sort of accidental injury. In American football, there is nearly one 'significant' injury per game – meaning it caused them to miss at least one game (Nicholas, Rosenthal & Gleim, 1998). In the Australian Football League from 1997 to 2000, teams of 40 players had around 40 *new* injuries per Season (Orchard & Seward, 2005). Playing these sports at an elite level commits you to about one injury every year. If a drug were suspected of having this kind of risk, there would be a major witch-hunt. But these baseline risks are imposed on every athlete who accepts a place in one of these teams. Some sports have chronic health conditions in almost every elite participant – for example, top-tier trampolinists have an 80% incidence of stress urinary incontinence (Bo, 2004) which is no less serious a problem than the oft-cited gynaecomastia which can result from steroid use.

Injuries are not limited either to ankle sprains or concussion. From 1990 to 1999, 14 people died playing Australian Rules football, mostly from brain injury following collisions between players (McCrory, Berkovic & Cordner, 2000). None of the deaths were drug-related. Australian Rules is a comparatively dangerous sport, but it comprises only a tiny fraction of the total number of sportspeople worldwide who play high-impact, contact sports.

Playing sport at an elite level is not suicide, but neither is steroid use. To be sure, elite athletes are healthier on average than any morbidly obese person. But elite athletes in some sports can expect to have a serious medical problem every year or two. This is not true of EPO, taken at a reasonable dosage. Even at very high dosages, and even if we take into account the poorly-substantiated rumours of EPO-related deaths, EPO does not present any risks that cannot be found from just over-training or especially from hypoxic training. If you have a low haematocrit for genetic or dietary reasons, EPO could actually improve your health (Fairbanks & Tefferi, 2000).

Elite sport *without* performance-enhancing drugs is not safe. It will continue to get less safe as athlete wages go up and they push the limits of human performance.

It is not made significantly less safe through the use of existing performance-enhancing drugs, even if everyone uses them. It is inconsistent to crack down on drugs for health reasons when we are indifferent to the serious risks athletes are exposed to all the time.

If we – unlike WADA – are mostly concerned about athletes' health, we should test athletes for health indicators rather than for drugs. It is far easier to test haematocrit, or the red blood cell level in the blood, than it is to try to detect EPO or whether someone has been using a transfusion machine. We can set a safe limit, as we do in cycling, and ban anyone whose haematocrit is unsafe, whatever the cause. We can evaluate heart size and function, heart rhythm and other cardiac parameters and disqualify athletes who are at risk, whether the cause is natural variation, training or use of steroids or growth hormone. And we could consider the limits on damage that will have later effects – we could evaluate joint structure and function and disqualify athletes if they were likely to get arthritis in the future, if we thought that health was very important.

The question is – what risks should athletes be exposed to? It is not – what is the origin of that risk?

MISCONCEPTION 4

Widespread introductions of radical technology change sport for the worse.

The universal adoption of doping would represent a radical technology changing the performance of athletes across the board. To some, this is offensive in its own right.

The US Anti-Doping agency has a booklet that promotes '6 pillars of ethical decisionmaking'. Pillar 6 begins with the claim: 'Play by the rules. Sport is defined by the rules. Without the rules, it ceases to be the same sport.'

This statement is of course trivially true. But the implication here is that it is a deeply undesirable outcome for a sport to become a different sport – that we want sport to stay the same and not be changed by drug use. The implication is that, by allowing certain kinds of progress, the character of a sport is changed in a way that invalidates it or makes it worse. This argument stated slightly differently claims that we are on a 'slippery slope' towards a point where sportsmen are like robots – bizarre cyborgs. The French philosopher Robert Redeker (2002) said,

> Cycling is becoming a video game; the onetime 'prisoners of the road' have become virtual human beings… The type of man once promoted by the race, the people's man, born of hard toil, hardened to suffering and adept at surpassing himself, has been substituted by Robocop on wheels, someone no fan can relate to or identify with.

Of course, advances in equipment, clothing and training put us on this slope as well. In tennis, large head tennis racquets changed the game. This allowed players to hit the ball harder from a wider range of places on the court. Ultimately, this, together with other changes to the game, reduced the spectacle as male players were hitting – particularly serving – the ball so hard that there were no rallies. Subsequently, the pressure of the balls was reduced to slow them down. The increase in the size of the racquet head was allowed because it was thought to be in the spirit of tennis at the time. However, double strung tennis racquets were never permitted. They would have allowed too much spin and would have changed the game in a radical way that people could not accept.

Though we resist some changes, sport has changed drastically over the decades. Provided those changes are modest and gradual, they seem to be acceptable and indeed form a part of the evolution of sport. One radical change that has afflicted almost every sport is the current obsession with catching drug cheats. These controversies overshadow each Olympic games; our favourite athletes are removed from the field, and an enormous amount of airtime is given to these issues instead of to the coverage of sport. We are all made poorer when our favourite athletes are banned for drug use. Sometimes in our fight to maintain the status quo, we can make the status quo worse. This is an intangible but serious cost of doping controls.

MISCONCEPTION 5

Athletes should have a right to compete – and win – without taking risks they would prefer not to take.

One popular argument against legal doping is that it harms clean athletes by forcing them to take harmful drugs against their will, by coercion.

The President's Council on Bioethics (2003) wrote this:

> Should the use of an enhancing agent become normal and widespread, anyone who wished to excel in a given activity . . . might 'need' to use the same (or better) performance-enhancements in order to 'keep up'. Anecdotal evidence suggests that this 'soft coercion' may already be a problem.

Here is a quote from Laura Morgan, which gives a rationale for why this coercion is wrong.

> . . . not giving your best effort for any given game is wrong. This seems to require taking steroids if one's opponent is. But one who is morally committed to the ethics of competition and fair play should not be obligated to incur unnecessary health risks (Morgan, 2004).

We already outlined the extreme (and unnecessary) risks which elite athletes take to win. These risks are not there by chance. Partly these risks are due to the limitations of the human body. But mainly, they are defined by how badly athletes want to win. If they want to win very badly, they will inevitably be willing to take great risks. To play any athletic sport at its highest level, you therefore need to accept a certain degree of risk. If you find that level of risk unacceptable, you cannot succeed at the highest level. How much success can a sprinter achieve without risking stress fractures or leg injuries? How much success could a gymnast achieve without dieting to stay light?

The idea of 'soft coercion' could only have some sort of validity if it were true that the drugs were substantially more harmful than the sports themselves. As we have suggested, this is not clearly the case. We did say that health should be our first priority when considering doping. But if the health risks are relatively low, then perhaps they are just none of our business. For us to step in and say 'you may not take this risk' to a consenting, informed adult is the kind of strong medical paternalism which we have all but abandoned in every other sphere.

It may be that many athletes are only poorly informed about the side-effects of performance-enhancing drugs because their coaches administer them, and that their consent is thus limited. If this is true, there may be truth to the claim that athletes are coerced (or more accurately, deceived or *tricked*) into accepting these minor risks.

Allowing *safe* performance enhancement would reduce coercion in sport. *Safe* performance enhancement would encourage full disclosure to athletes. Athletes will still need to take drugs to remain competitive, but this will be no more coercive than their need to eat a special diet or to train in a certain way. Offering safe performance enhancement is no more coercive than offering prize money.

MISCONCEPTION 6

What is good and bad for amateur sport is what is good and bad for elite sport.

One of the most common arguments against legal doping is that children in amateur sport will be harmed if we legalize doping in professional sport. Another version of this argument claims that allowing doping will send the wrong 'message' to the public, and that sportspeople should set an example, telling us that winning should not be so highly prized, and that drug use should be reviled.

This idea is revealed in WADA's Copenhagen declaration:

> . . . sport should play an important role in the protection of health, in moral and physical education (World Anti-Doping Agency, 2003c)

Recall some terms from WADA's definition of the 'spirit of sport' (World Anti-Doping Agency, 2003a):

- Health
- Character and education
- Fun and joy
- Community and solidarity.

Even without drugs, elite sport does not promote these qualities. Is the 100 m lessened by the agony of the defeated or the seriousness with which they contest the race? Is professional boxing degraded by the competitive spirit with which it is played? And do professional gymnasts really compete for their health?

Amateur sport is relevantly different to professional sport. We do not perform drug testing in amateur Sunday-league sports. This is partly due to lack of resources. It is partly because amateur athletes have a relatively weak incentive to win. But they also have a stronger incentive *not to cheat* because the goals of amateur sport are different and are more strongly compromised by cheating.

In amateur sport, it is important that a good match is created. We try to match amateur tennis players to players of similar skill to ensure an interesting game. But this is never done in professional tennis – in fact, the seeding system ensures that most games are lopsided until the final rounds. In an amateur game, we have a concept of giving the opponent a 'sporting chance' – self-handicapping to increase enjoyment. Elite sport is not about the players' enjoyment. Elite sport is mainly about the spectators' enjoyment – after all, they foot the enormous bill. In amateur sports, what is interesting to the spectators is of no importance. Amateur sport is often about health. Elite sport is deleterious to health. Elite sport already sets some very bad examples, as well as some good ones.

MISCONCEPTION 7

People will lose interest in sport if every athlete takes drugs.

It is sometimes claimed that the prosecution of a war on doping preserves the public level of interest in a sport. As we have argued, enhancements occur already in sport to an extent that it is largely undetected or will soon become practically undetectable. What removes interest is cheating. An athlete is cheating whenever we declare a rule prohibiting some substance that the athlete is taking.

There is a kind of common misconception that there is a clear line which marks where legal supplements end and performance enhancing drugs begin. The use of caffeine and creatine is now extremely widespread, and both enhance performance. Why is this not boring? Hypoxic training tents have exactly the same effect as blood doping or EPO, and they are similarly widespread among wealthy teams. Yet these teams are never accused of being boring.

If legal performance enhancements do not make a sport boring, then we can stop doping from being boring by making it legal.

CONCLUSION

The removal of doping controls would have major benefits: less cheating, increased solidarity and respect between athletes, more focus on sport and not on rules.

Most of the 'costs' of abolishing doping controls depend on false beliefs.

There will still be a small number of arguments against abolishing doping controls which do not depend on any kind of misconception. But in order to justify the current doping controls, these arguments have to justify the ban's yearly multi-million dollar cost, *and* the intangible costs, and they must outweigh the benefits we would get if we abolished doping controls. We should focus on health of athletes, not performance enhancement.

Rather than attempting to detect undetectable enhancers, we should spend our limited resources on evaluating health and fitness to compete. There are good reasons to allow performance enhancement, to make sport fairer (in the sense that the rules are equally applied) and to narrow the gap between the cheaters and the honest athletes. It would provide a better spectacle, be safer and less coercive.

We cannot prevent sport from evolving, but we can and should begin to direct its evolution for the better.

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