

Master 1.7 Answer Key for Oscar Pistorius's Case

Four Key Questions and Statement of Position and Justification

NAME OF CASE: *Oscar Pistorius*

Part 1. The Four Key Questions

What is the ethical question?

- *Should Oscar Pistorius be allowed to compete in the Olympics?*

A broader, overarching ethical question is:

- *Which changes to the human body create an unfair advantage?*

What are the relevant facts?

- *Oscar Pistorius was born missing both fibulas.*
- *His parents chose to have both his legs amputated below the knees when he was less than one year old so that he could learn to walk with prosthetic legs and feet.*
- *Pistorius would have been wheelchair bound without the amputation and prosthetics.*
- *Pistorius is an excellent track athlete.*
- *He trains to maintain and improve his running ability.*
- *He was fitted with prosthetics to help him walk.*
- *He wears artificial limbs named Cheetahs made of carbon fiber.*
- *An alternative athletic competition exists for people with differently abled bodies called the Paralympics.*
- *Pistorius excels in competition. He has competed in the Paralympics and set world records in track events.*
- *Pistorius now requests the opportunity to compete in the Olympics.*
- *It is unclear whether the Cheetah prosthetics make athletes run faster than athletes with flesh-and-blood legs.*

Who or what could be affected by how the question is resolved?

- *Oscar Pistorius*
- *All athletes, whether they are differently abled or not*
- *Sports competition in general*
- *Coaches*
- *Referees*
- *Young children (and others) with different abilities who are thinking about their future opportunities*

Master 1.7 Answer Key for Oscar Pistorius’s Case
CONTINUED

What are the relevant ethical considerations?

• **Respect for Persons**

In Favor of Allowing Pistorius to Compete in the Olympics

Pistorius is an athlete, pure and simple; he ought to be able to follow his dream of competing in the Olympic Games if he qualifies based on time trials or other qualifying rules.

Against Allowing Pistorius to Compete in the Olympics

Pistorius is respected as an athlete and a person who has been able to follow his dream of competing at the highest levels of athletics within the Paralympics Organization.

• **Harms and Benefits**

In Favor of Allowing Pistorius to Compete in the Olympics

- *Pistorius will benefit by having the chance to test himself against the best in the world.*
- *Other athletes will benefit by being challenged by his presence in the race and, perhaps, compete at a higher level.*
- *Pistorius’s presence may help erase lines between people with physical disabilities and those without. It may bring more attention and respect to the achievements of those with different physical forms, which is a benefit to them.*
- *Pistorius’s race in the Olympics might be very inspirational to many people.*

Against Allowing Pistorius to Compete in the Olympics

- *If Pistorius qualifies to compete, he might take a spot away from another athlete who has trained for years in hopes of competing in the Olympics and, so, harm that person.*
- *By wanting to compete in the Olympics even though he is a top athlete in the Paralympics, Pistorius is saying indirectly that the Paralympics aren’t good enough—that they are inferior to the Olympics. This subtle attitude could reflect negatively on other physically disabled athletes and on the reputation of the Paralympics, and thus harm those athletes and that institution.*
- *In an effort to keep up with Pistorius’s carbon-fiber blades, other athletes might be inspired to take additional training risks that could be harmful, including using performance-enhancing drugs.*
- *Mixing in an athlete who uses technological enhancements or additions to his body with athletes who do not may forever change the nature of sport. It could become more of a competition about engineering and technology than physical achievement and effort, and thus harm the spirit of the sport.*

Master 1.7 Answer Key for Oscar Pistorius’s Case CONTINUED

• Fairness

In Favor of Allowing Pistorius to Compete in the Olympics

- *Engineers disagree over whether the carbon-fiber blades that Pistorius wears make him run faster than people with flesh-and-blood legs. Even if they did give him some small advantage with respect to speed, this is not different from the advantage gained by highly engineered track shoes. So, he does not have an unfair advantage*
- *It is unfair to discriminate against Pistorius because the obstacle to athletic victory that he had to overcome is a congenital physical malformation, correctable by surgery and prostheses.*
- *It is unfair to disqualify him from racing because he still has to train and prepare for athletic competition, just like able-bodied athletes.*
- *Fairness requires that people are not discriminated against based on irrelevant characteristics. In this context, for example, national origin and sexual orientation are irrelevant to fair play. Pistorius’s prosthetic legs are also an irrelevant consideration; his athletic ability should be the focus.*

Against Allowing Pistorius to Compete in the Olympics

- *Engineers disagree over whether the carbon-fiber blades that Pistorius wears give him an advantage with respect to speed over people with flesh-and-blood legs. If he is allowed to compete, he might have an unfair advantage.*
- *The fact that Pistorius’s physical disability means he cannot compete in the Olympic Games is unfortunate, but it is not unfair. The International Paralympics Games are a world-renowned athletic competition with top-caliber athletes who compete with a range of disabilities. It was established to provide a fair and world-class venue in which athletes with disabilities could compete.*
- *Pistorius’s participation in the Olympics is unfair to the other athletes. If he qualifies, he removes a spot for an athlete without artificial limbs who has spent years training in hopes of making the Olympic Squad. The Olympics are the highest level of competition for able-bodied world-class athletes.*
- *Pistorius’s ability to run in both the Paralympics and, perhaps, the Olympics is unfair because able-bodied athletes do not have the corresponding freedom to participate in the Paralympics.*

Master 1.7 Answer Key for Oscar Pistorius’s Case CONTINUED

- **Others? (Fill in other ethical considerations you think are relevant to this case.)**

Value, Authenticity, Spirit of Sport (particularly the Olympics)

In Favor of Allowing Pistorius to Compete in the Olympics

- *The Olympic motto is “citius, altius, fortius” or “faster, higher, stronger”; nothing about using carbon-fiber blades goes against that motto or the spirit of the Games.*
- *Every aspect of Pistorius’s life story and his dedication to sport fulfill the best and most positive aspects of athletic integrity, character, and spirit.*
- *Sport functions to inspire and entertain, and Pistorius’s participation in the Olympics will do both for people with able bodies and those with differently abled bodies.*
- *The notion of striving for excellence in sports will be supported because able-bodied competitors and other differently abled competitors will be challenged to improve to the highest degree by Pistorius’s participation.*

Against Allowing Pistorius to Compete in the Olympics

- *Tradition and expectation surrounding the Olympic Games mean that competing athletes are challenging their own and fellow competitors’ physical abilities. Refining and nurturing those talents through training and discipline are within the norms of the Games, but technological enhancements of the human body itself are outside the norms of the Games.*
- *The spirit of sport demands that the athlete stands before the challenge without artificial enhancements of his or her physical gifts. It will totally change the central notion or nature of sports—challenging oneself to excellence based on one’s natural gifts and efforts—to include technologically enhanced athletes in sports competition against athletes with bodies that have not been technologically enhanced.*
- *Other athletes might take additional risks to compete against Pistorius. His presence might induce them to use drugs or other substances to go beyond their natural talents, which is against the spirit of the sport.*

Part 2. Position and Justification

What do you recommend be done and why?

NOTE: These justifications are provided in depth as background for teachers. Most students will not provide such well-developed justifications.

Assessing Student Justifications, a table in the Introduction on pages 10 and 11, may be useful for assessing student work.

Oscar Pistorius should not be allowed to compete in the Olympic Games

Oscar Pistorius should not be allowed in the Olympic Games despite the fact that he clearly is a gifted athlete. The justification for this position is that the athletic competition at the Olympic Games is a competition that pits people against one another to see who is the strongest and fastest, has the most stamina, etc., based on each person’s genetic makeup, natural physical abilities, training and nutrition, psychological strength, and strategy. These characteristics are a mixture of gift, effort, and luck. His carbon-fiber legs create an unfair advantage when Mr. Pistorius competes against athletes with legs of flesh and blood.

At its core, sport functions allow human beings to compete against one another to see how fast or how far the human body can go—to achieve the excellence of the human body in certain categories and measured by certain criteria established through mutual consent. This competition tests the human body as it is made by nature, although clearly genetic and physical variations exist. Artificial or technological additions can’t be allowed because then, the test becomes a test of the technology or artificial body addition and not simply a test of the athletic skill or gifts of the athlete, although that skill and those gifts are usually still required.

All athletes, whatever their physical or mental abilities, have athletic drive and benefit from competition. The different advantages conferred by technology (wheelchairs and prosthetics) and the disadvantages related to physical disability require another playing field for differently abled athletes to compete in, namely, the Paralympics.

Typically, an enhancement is a technology, artificial addition, or intervention that does more than make physical or mental abilities equal to those of the person before an accident or injury. An enhancement increases a person’s abilities or capacities beyond those that are normal for a human being. (Clearly, it is difficult to define the normal level of functioning for a human being, but a range certainly exists.) An enhancement goes beyond these benchmark levels to something that provides an advantage.

Master 1.7 Answer Key for Oscar Pistorius's Case CONTINUED

The prosthetics give clear advantages to Pistorius. Because his lower legs and feet are made of carbon steel, Mr. Pistorius does not suffer from tired muscles or fatigue in that part of his body. He also has aerodynamic advantages from the blades.

Mr. Pistorius does have a venue for his athletic abilities and is very successful there. He should continue to pursue records in the Paralympic Games. Within the Paralympics world, developing and refining prosthetic legs for the purposes of winning athletic competitions is the accepted norm. Oscar Pistorius's efforts to develop top-performing running Cheetahs are matched by the efforts of other Paralympians to refine their prosthetic devices for similar improvements in form and function. Refined prosthetic legs are acceptable enhancements and are the norm among competitors in the Paralympics. Mr. Pistorius will not be getting an unfair advantage compared with his fellow competitors. Efforts should be made to bring the Paralympics to a place that is as prestigious as Olympics locations. Paralympic athletes ought to enjoy endorsements and name recognition, too; if they did, perhaps the desire to compete across the divide of the two games would be reduced.

Oscar Pistorius should be allowed to compete in the Olympic Games.

Oscar Pistorius ought to be allowed to compete in the Olympic Games because athletic competition is about trying to overcome obstacles to do the physical best that one can as measured by agreed-upon criteria. In the races that Mr. Pistorius runs, best is measured in terms of speed. Sometimes the obstacles to reaching one's physical best are emotional, such as the death of a parent at a young age, but other times the obstacles are physical, as in Mr. Pistorius's case.

Human beings have become faster, stronger, and taller over time with better nutrition and vitamins. What is "normal" for a human being changes. Whether the change comes from advances in training or diet or our abilities to replace human function with technology should not make a difference. Mr. Pistorius must be an exceptional athlete to be able to perform at the levels he does using his carbon-fiber running blades. Using the blades demands a certain degree of athleticism and may demand more of an individual than does running on legs of flesh.

The prosthetics do not provide advantages to Pistorius. His thighs, knees, and the rest of his body are subject to the same conditions of fatigue as are those of athletes without lower-leg prosthetics. At the same time, it is true that Mr. Pistorius is unable to take advantage of natural sensors for balance because he has no feeling in his feet. According to Mr. Pistorius, he must work harder to overcome difficult weather conditions such as wind and rain because his carbon blades perform less well under those circumstances. He also must use several meters at the beginning of a race to establish his stride because the blades take some time to control; athletes with legs of flesh can get into their stride more quickly.

Master 1.7 Answer Key for Oscar Pistorius’s Case CONTINUED

Oscar Pistorius is a double amputee instead of a single amputee. He may be able to achieve greater success in running because of that fact, since his forward motion is smoother, but he might also have to work much harder to maintain balance, stability, and control because he does not have lower-leg muscles in either leg to provide that experience. Finally, the muscles that control his stride and create the power for forward movement are almost entirely located in his hips, making his stride less efficient than those of able-bodied athletes.

Another criterion for judging whether an added technology or artificial addition to the body is acceptable is whether it returns the body to the level of achievement it had before the addition or surpasses it. In this case, it is not possible to compare Mr. Pistorius’s running times with prostheses with his speed without them because he has lived his whole mobile life with prosthetics. Perhaps the traditional criterion for determining what an ethically acceptable enhancement is might be more useful. That criterion deems that an artificial or technological addition to the body is acceptable if it permits the user or wearer to function at the level that a person without such an artificial or technological addition functions. Certainly, a range exists, and Mr. Pistorius performs at a level beyond that achieved by most human beings—able-bodied or not—but he is still within the normal range for what human beings can achieve.

Mr. Pistorius, like other athletes, must train and prepare physically and mentally for competition. He must also think about strategy as he runs in high-speed sprints. His prosthetic legs have not removed these requirements. As long as Pistorius’s legs are of the appropriate size for his body, the fact that he has legs created by technology should be acceptable for competition.

If Oscar Pistorius is permitted to compete in the Olympics, he should be required to give up participation in Paralympics events. If that requirement is not enforced, Pistorius has two arenas in which to compete, an option not open to athletes without a disability or other condition. He should commit and cast his lot in only one of these arenas.

Master 1.7 Answer Key for Carl's Case

Four Key Questions and Statement of Position and Justification

NAME OF CASE: *Carl's Case*

Part 1. The Four Key Questions

What is the ethical question?

What should Carl do? Should he take the steroids?

What are the relevant facts?

Examples may include

- *the health risks of steroids;*
- *the fact that they only work to build muscle and strength if the athlete continues to train while taking them; and*
- *that they are currently illegal in the United States if used in ways not prescribed by a doctor.*

There are also facts pertinent to Carl's specific situation—such as the facts that

- *others on the team might be using steroids;*
- *he will only use them for a short period, while he is recovering from an injury; and*
- *he might get a college scholarship if he performs well this season.*

Who or what could be affected by how the question is resolved?

- *Carl*
- *Carl's family*
- *Carl's teammates (both present and future)*
- *competitors (individuals and teams competing against Carl)*
- *other students at his school*
- *the school's reputation*
- *athletic organizations and related organizations that regulate sports*
- *individuals distributing steroids*

What are the relevant ethical considerations?

• **Respect for Persons**

In favor of Carl taking the steroids:

Society should respect Carl's choices about his body, even if the use of steroids harms him, as long as no one else is physically harmed by his actions. He should have the liberty to make those decisions for himself.

Master 1.7 Answer Key for Carl's Case

CONTINUED

Against Carl taking the steroids:

Society should respect Carl's choices to a certain degree but should not allow him to make choices that can cause physical harm.

• **Harms and Benefits**

In favor of Carl taking the steroids:

- *The opportunity for Carl to have a scholarship will have important benefits for his future.*
- *Carl may help the school win sports victories.*

Against Carl taking the steroids:

- *Carl may be physically harmed by taking the steroids.*
- *Carl's use of steroids may hurt the school's reputation and may jeopardize its athletic standings. The school's eligibility to participate in athletic events may be revoked.*

• **Fairness**

In favor of Carl taking the steroids:

It is fair for Carl to use the steroids, because others on his team (or on other teams in the league) are using them and he is using them to compensate for an injury.

Against Carl taking the steroids:

- *It isn't fair for Carl to use the steroids, because fairness in sports requires using your natural abilities, and taking steroids alters you in a significant way.*
- *Competitors who have not taken steroids may lose their own opportunities for advancement or scholarships.*

• **Authenticity**

In favor of Carl taking the steroids:

Carl will still be his authentic self if he takes steroids. He would be using a naturally occurring substance and just using more of it until his body gets back to its normal levels after he recovers from the injury. Using steroids is no different from using other types of enhancements.

Against Carl taking the steroids:

- *Carl will not be his authentic self when he takes steroids since he is altering his physical condition with something that creates a dramatic effect. Any achievements reached through such efforts are not really valid because sports rely on fair play.*

• **Others?**

Students may also mention integrity of the sport, which is undermined when competitors take steroids.

Part 2. Position and Justification

What would you recommend be done and why?

Carl shouldn't take the steroids.

- *He is not remaining true to his authentic self. He will fundamentally alter his physical abilities by taking them. Even though he has had an injury, he should recuperate naturally rather than try to use steroids to alter his condition.*
- *A related reason is that taking the steroids would undermine what people most value about sports, which has to do with people challenging themselves to their maximum natural capacities and achieving their best as they naturally are. Sports rely on a shared understanding that all competitors will bring their authentic selves into the competition.*
- *Carl will also have to lie and sneak around to use steroids because they aren't publicly acceptable to use in sports; this dishonesty will further damage Carl's authenticity for himself and others, and lying is disrespectful to others.*
- *Another important reason why Carl shouldn't take steroids is that they can harm him. There is scientific evidence that steroids are physically damaging.*
- *Carl's use of steroids would damage the ideals of fair competition and sport.*
- *While it is important to respect people's desires to have control over their own bodies, if the changes are harmful to themselves or to others (for example, other competitors or the sport itself), they should not be carried out.*
- *If steroid use became legal for sports enhancement, then all athletes might begin to feel pressure to take steroids, even if they personally would not have wanted to. This would create a new bar for human performance, dependent on the drug. It would also expose more people to the physical harms associated with steroids.*

Carl should take the steroids.

- *People should be respected for what they want to do to their own bodies, even if there may be physical risks to themselves. For example, people are allowed to make the choice to smoke and ride motorcycles, which are also potentially harmful.*
- *Carl is recuperating from an injury and plans to use the steroids only until he is up to his normal level. He doesn't intend to make himself better than he was. The injury hurt his chances at a well-deserved scholarship—the temporary use of steroids would help him get back to the condition he was in before the injury. The steroids do not give him an advantage over others but, rather, equalize the playing field, since they bring him up to his normal level of operation.*
- *Taking steroids doesn't mean that Carl can be lazy. He will still have to work out and train hard.*
- *In addition, Carl has strong obligations to his team and to his school. He needs to be the best he can be for the sake of his teammates.*

Enhancement Cases and Background Information

Caffeine and Modafinil

A group of college students is staying up late together to study for exams. Several of them have been drinking coffee all day and are wide awake, although feeling jittery. One of the students, Lisa, mentions that she has recently started taking a prescription medication that helps her stay awake because of a medical condition. Lisa had previously been a heavy coffee drinker, consuming four or more cups of coffee a day in her struggle to stay awake. Since starting on the new medication, she is able to stay awake easily for a day or longer and is not experiencing any negative side effects. “It’s better than coffee,” she tells her friends, “but it is a lot more expensive.”

Should Lisa give her friends her medication? Should her friends take the medicine?

Background

The central nervous system (CNS—the spinal cord and brain) directs the functions of the body. The peripheral nervous system (PNS) takes sensory inputs and relays them to the brain, which evaluates them. The CNS then transmits messages to the appropriate organ or tissue. Drugs that act on the CNS usually do so by interacting with this messaging system, often by stimulating or inhibiting the release of neurotransmitters (the chemical messengers that travel between nerve cells).

Caffeine

Many drugs act on the CNS to enhance alertness. The most popular behavior-altering drug is the stimulant caffeine. An estimated 9 out of 10 Americans consume some type of caffeine regularly. Caffeine is well known for its ability to briefly relieve fatigue and drowsiness.

Caffeine is found naturally in more than 60 plants. It is in coffee, tea, soft drinks, and, to a lesser extent, chocolate, and it’s sometimes added to medicines. Caffeine is absorbed quickly and travels to the brain. Excreted several hours after it’s been consumed, it does not build up in the blood and is not stored in the body.

Although some people are highly sensitive to the effects of caffeine, most are not harmed by the amount of caffeine in two to three cups of coffee per day (200–300 milligrams total). More than 500–600 milligrams per day of caffeine (as much as in four to seven cups of coffee) can result in sleeplessness, headaches, irritability, anxiousness, and changes in heart rhythm. Caffeine is addictive, and individuals who consume large quantities of it exhibit withdrawal symptoms if they suddenly stop using it.

Enhancement Cases and Background Information: Caffeine and Modafinil

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Modafinil

The chemical compound modafinil (moe-DAH-fih-nill) is another CNS stimulant. It is used to treat sleepiness, especially sleepiness from disorders such as narcolepsy (which causes people to fall asleep during the day, especially when excited), shift-work sleep disorder (which can occur as a result of working nights or on rotating shifts), and sleep apnea (when someone's breathing is disrupted during sleep).

Modafinil helps people stay awake during the day and does not interfere with their ability to sleep at night or have many of the side effects of other CNS stimulants. Although the exact way modafinil works is unknown, it probably changes the amounts of neurotransmitters in the part of the brain involved in controlling sleep and wakefulness. Although it may be habit forming, its potential for abuse is considered lower than that of other CNS-stimulant drugs, such as amphetamines. It is frequently prescribed for off-label use (that is, for conditions other than those originally approved by the U.S. Food and Drug Administration). The estimated cost is over \$200/month.

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Enhancement Cases and Background Information

Myostatin (based on an actual case)

Doctors in Germany noted the birth of an extraordinary boy. While not heavy at birth (his weight was in the 75th percentile), he was unusually muscular. Muscles in his thighs and upper arms were very pronounced. Except for the fact that he had strong reflexes, his physical examination was normal. His levels of testosterone and growth factors were also normal. By age four, the boy could hold two 3-kg (6.6-lb.) dumbbells out at his side with arms extended.

His mother had been a professional athlete. She was healthy and had a normal pregnancy. Several other family members were also reputed to be very strong. Researchers analyzed the DNA of both mother and son and found a mutation in the myostatin gene, resulting in an abnormal myostatin protein. Myostatin normally inhibits muscle growth. When the protein is not functioning, that inhibition is lifted and muscles grow as a result. Myostatin inactivators might help people with muscular dystrophy and other muscle-wasting diseases or with sports injuries. However, the possibility also exists that healthy athletes would use such inactivators for enhancement purposes.

Imagine that a top athlete has that myostatin-gene mutation. A competitor is taking myostatin inactivators. Is there a difference in how these two athletes should be treated? Should they both be allowed to compete? Why or why not?

Background

Myostatin (my-oh-stat-in) is a protein that puts the brakes on muscle growth. When myostatin is somehow itself inhibited, muscles grow—although the precise mechanism by which they do so is not yet understood. A mutated form of the gene for myostatin has been found in types of cattle that are also abnormally muscular (Belgian Blue and Piedmontese) and have very little fat. Mice that have been genetically engineered to lack myostatin grow into “mighty mice”—from the increase in size and number of muscle fibers.

Scientists have come up with several approaches to blocking myostatin. One uses antibodies against myostatin to bind and block it. Another uses a smaller, incomplete version of myostatin. The incomplete version binds to many of the places in the cells surrounding the muscles that normal myostatin would otherwise bind to (competitive inhibition), thus blocking and preventing some of the normal myostatin from carrying out its normal function.

Sources

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Enhancement Cases and Background Information

Erythropoietin (EPO) (based on an actual case)

The Tour de France is considered by many people the ultimate bicycle race. It's between 3,000 and 4,000 km (1,800 and 2,500 miles) long, on a grueling course across France and over many mountain passes. Various techniques and drugs to enhance performance have become widespread among the racers. Particularly common has been the use of "blood doping." This is when athletes increase the number of red blood cells in circulation, either through blood transfusions or by stimulating the production of more blood cells. An increase in red blood cells allows more oxygen to be carried to the tissues, which enhances aerobic performance.

One of the most frequently used blood-doping substances is erythropoietin (EPO). In 1998, an entire team was banned from the race when their use of EPO was discovered. Bjarne Riis of Denmark, who won the Tour in 1996, also publicly admitted his use of EPO. Erik Zabel, a German cyclist, noted in his public admission of EPO use, "My generation will probably be remembered as generation EPO."

Some people have argued that allowing athletes to use EPO and other enhancements violates the spirit of sport. Others, such as Julian Savulescu and his colleagues, disagree: "Far from being against the spirit of sport, biological manipulation embodies the human spirit—the capacity to improve ourselves on the basis of reason and judgment.... The result will be that the winner is not the person who was born with the best genetic potential to be strongest. Sport would be less of a genetic lottery. The winner will be the person with a combination of the genetic potential, training, psychology, and judgment.... We should not think that allowing cyclists to take EPO would turn the Tour de France into some kind of 'drug race,' any more than the various training methods available turn it into a 'training race' or a 'money race.' Athletes train in different, creative ways, but ultimately they still ride similar bikes, on the same course. The skill of negotiating the steep winding descent will always be there" (Savulescu, Foddy, and Clayton, 2004).

Do you agree or disagree with Savulescu, Foddy, and Clayton? Should athletes be allowed to use EPO? Why or why not?

Should there be separate sports events for people who are taking drugs for enhancement and those who are not?

Enhancement Cases and Background Information: Erythropoietin (EPO)

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Background

Erythropoietin (e-rith-roh-POY-e-tin) (EPO) is a hormone naturally made by the kidneys. It is produced in response to a variety of conditions, such as living at a high altitude, pregnancy, or a lower-than-normal number of blood cells (anemia) or loss of large quantities of blood. EPO travels through the blood stream to the bone marrow, where it stimulates production of red blood cells. Human EPO was isolated and purified in the 1970s. Because of a strong interest in developing EPO for clinical uses, by the mid 1980s, several biotechnology companies had developed techniques to produce genetically engineered (recombinant) EPO.

Recombinant EPO is used to treat anemia (low levels of red blood cells) resulting from a host of conditions, primarily kidney failure and cancer chemotherapy. However, EPO has also been used in sports to enhance performance. One side effect of overuse of EPO is that the athlete's blood can thicken and clog in the heart or brain, causing heart attacks and strokes. EPO was officially banned in 1985. Until recently, accurate testing was not possible because of the similarities between laboratory-made and natural EPO.

In the future, it may be possible to manipulate the genes that manufacture EPO naturally. Experiments involving the transfer of genes to increase EPO production have been conducted in monkeys. Although the animals' red blood cell counts increased dramatically, their blood also thickened to such an extent that it had to be diluted regularly to prevent heart failure. If such gene-transfer or gene-manipulation techniques are developed, detection of EPO enhancement will become even more challenging.

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Enhancement Cases and Background Information

Growth Hormone

Ryan knew he was shorter than other boys, and he was beginning to feel uncomfortable about it. His father had taken him to the doctor, who assured them that Ryan was within the normal range for height, even though he was on the lower end of that range. His sisters were small for their age, too, although they weren't getting teased like Ryan was. His doctor had Ryan's blood tested, and all the results came back normal—he had adequate amounts of growth hormone.

One night, Ryan's parents asked him if he wanted to try to increase his height with additional growth hormone. They had read about the treatment for individuals with short stature and wanted to bring it up at his next doctor's appointment. Even though his hormone levels were normal, they reasoned that additional growth hormone would make him taller. Ryan's parents had heard on TV that taller men were more likely to have successful careers. Even though they weren't sure whether they could trust the TV report, they were concerned that Ryan might have fewer opportunities later in life if he was shorter than average as an adult.

Should Ryan take the growth hormone? Why or why not? What if Ryan doesn't want to but his parents want him to?

Background

When people have normal body proportions but are unusually short, they may be deficient in growth hormone. This condition, which can either be present at birth or develop later in life, is often noticed when a child's growth curve (a graph of change in height over time) indicates little or no growth. Short stature is associated with a height that is below the fifth percentile on a standardized chart. The condition can continue throughout childhood and is often associated with reduced levels of other hormones.

Growth hormone is involved in the metabolism of glucose and fat, as well as in the production of protein in growing cells. It also causes bones to grow from the growth plates at the ends of bones. The pituitary gland, which is about the size of a pea and is located at the base of the brain, ordinarily produces growth hormone. Mutations in genes that code for growth hormone can lead to a decrease in the amount of the hormone in the body. Injury to the brain and lack of a pituitary gland can also decrease the amount of growth hormone being produced. In most cases, however, the cause of the growth hormone deficiency is unclear.

Enhancement Cases and Background Information: Growth Hormone

CONTINUED

Diagnosis of growth hormone deficiency is made using blood tests. Treatment involves giving people recombinant growth hormone that has been created by genetic engineering. The treatment is generally safe and has few side effects, although it has been associated with tumors. If someone gets the hormone treatment before puberty, additional growth can occur before the growth plates fuse.

The U.S. Food and Drug Administration first approved growth hormone treatment for idiopathic short stature (short stature with unknown cause) in 2003. An NIH study had followed 68 children who had the treatments because they were simply short (and not because of any growth hormone deficiency). The children, who were given injections three times a week over an average of 4.4 years, gained an average of 1.5 inches as adults.

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Enhancement Cases And Background Information

Beta-Blockers

Juanita is an excellent violin player. Music is her passion in life, and she can't see herself doing anything professionally other than playing the violin. The biggest problem she has is that when it comes time for an important performance, her hands start to shake and she starts to feel anxious and panicky. She is embarrassed to admit that she has this problem. Recently, though, the situation has gotten so bad that she told the conductor of her orchestra about it. He recommended she see the doctor to get a medication to "calm her down" so that she can continue to perform. Juanita feels uncomfortable about taking a drug for her tremors, but she also knows that she can't continue to feel the way she does when she is on stage and the audience is looking at her.

Beta-blockers are sometimes used by musicians to minimize the outward effects of nervousness, but they are banned from some competitive sports such as archery. Is taking beta-blockers for performance anxiety fundamentally different from taking substances to enhance sports performance? Explain your position.

Background

Drugs called beta-blockers (such as propranolol) affect the response of the body to particular nerve signals. They are commonly used to treat heart conditions and high blood pressure. Because they relax blood vessels and lower blood pressure, the heart does not have to work as hard. Beta-blockers can also be used to prevent symptoms associated with anxiety.

Beta receptors, which bind the nerve-stimulating hormones such as epinephrine and norepinephrine, occur in the heart, blood vessels, kidneys, and lungs. Beta-blockers compete with the nerve-stimulating hormones to bind to the beta receptors, thereby blocking the physical basis of the flight-or-fight response.

Beta-blockers may be prescribed for social phobias or other situations when an individual has physical anxiety, such as stage fright. They are also used to treat tremors. The most common type of tremor, essential benign tremor, is often treated with beta-blockers. Beta-blockers are on the list of the World Anti-Doping Agency's prohibited substances for certain sports (such as archery) because of their ability to reduce anxiety and muscle tremors.

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Activity 6 Prompts:

Understanding the Ethical Considerations

Respect for Persons: When you show respect to someone, what do you do? What are examples of disrespectful actions?

Harms and Benefits: What are examples of harms? What are examples of benefits? Can you think of actions or policies that minimize harmful consequences? What are some examples of actions or policies that maximize beneficial consequences?

Fairness: What are examples of fair actions or policies? Can you think of examples of unfair ones?

Authenticity: What do people value about a performance in any domain (sports, music, academics)? In particular, what makes a sports performance authentic (that is, valuable and true to its essential nature)? What might make it inauthentic?

Activity 7 Questions:

Applying the Ethical Considerations to Carl's Case

Respect for Persons

- Should society respect a person's choice to use an enhancement technology even when doing so will negatively affect the person's health?

Harms and Benefits

- Are enhancements harmful or beneficial to individuals who use them?
- Are enhancements harmful or beneficial to society when individuals use them?

Fairness

- Is it fair for an individual to use an enhancement?
- Does fairness require that everyone in society have equal access to enhancements?

Authenticity

- Does using enhancements in sports performance violate what people most value about sports?

Facilitating a Good Ethical Discussion of Carl’s Case: Sample Student-Teacher Dialogue

The sample dialogue below shows how a teacher might push a student to develop a more reasoned stance about Carl and steroid use. Notice that the teacher does not provide reasons for the student; instead, the teacher asks open-ended and probing questions and periodically summarizes the student’s reasoning. Thus, the teacher facilitates and guides the student’s thought process but does not provide ideas or reasons. Also, although this sample dialogue focuses on an exchange between the teacher and one particular student, this could instead be a class-wide discussion, with multiple students participating.

In the sample dialogue below, major statements and key turning points are in bold font.

The italics represent thoughts about the student-teacher interaction.

TEACHER: **So, do you think Carl should use steroids?**

STUDENT: **Athletes have the right to do whatever they want to improve their performance.**

TEACHER: Why do you think so?

STUDENT: Your body is your body. No one can tell you what you can or can’t do with your body.

This student is implicitly invoking the ethical consideration of respect for persons (respect for personal autonomy) and likely believes it would be disrespectful for another person to get in the way of the athlete’s decision. The teacher asks an open-ended question to help the student articulate the ethical consideration behind the student’s statement.

TEACHER: Tell me more about that. You seem to be saying that it would be disrespectful not to let athletes do what they want with their own bodies.

STUDENT: Right. In fact, everyone should have that right.

The teacher becomes concerned by the student’s rigid extension of the student’s original thought.

TEACHER: **Everyone? All the time?**

STUDENT: Yes.

The teacher is worried that the student is stuck thinking in very rigid terms and sees no exceptions to the belief about respect for persons. So, the teacher asks a probing question.

TEACHER: **Can you think of any exceptions?**

STUDENT: Not really.

Facilitating a Good Ethical Discussion of Carl's Case: Sample Student-Teacher Dialogue *CONTINUED*

The teacher decides to follow up with an open-ended question.

TEACHER: Can you give me some other examples of actions that athletes take to better their performance?

STUDENT: I don't know ... maybe weightlifting and working out. Or eating energy bars.

TEACHER: Good, can you think of a few more?

STUDENT: No.

The teacher sees that the student is again stuck. The teacher resists the temptation to provide more examples for the student. Instead, the teacher frames the question slightly differently, and in a more accessible way, in hopes that the student can continue.

TEACHER: Well, then, what do everyday people do to maximize their own personal health?

STUDENT: Well, taking vitamins, getting doctor check-ups, eating healthy foods, getting enough sleep.

The teacher records the examples as the student speaks. The list can then serve as a visual reference for the student.

TEACHER: Good. I've made a list of these as you've been talking. **Is there any difference between taking steroids and doing any of these other actions?**

STUDENT: Well, the others are pretty common, and most of them don't require much money, assuming you have health insurance.

TEACHER: Yes, I agree. Are there any other differences?

STUDENT: Well, steroids can be harmful to your body, while the others don't have many risks associated with them.

TEACHER: **Okay, so should safety risks, cost, or accessibility be determining factors for whether athletes should take steroids?**

STUDENT: In terms of risk, I think that it's still the person's choice. The athlete needs to be informed of the risks, and maybe be at least a certain age. But we allow other risky behaviors: smoking, drinking, driving motorcycles.

The teacher decides to verbally summarize what the student has said so far.

TEACHER: So you're saying that we allow other risky behaviors and that it would be disrespectful of one adult to tell another adult how much risk he or she should take?

STUDENT: Yes, as long as the person is an adult who is aware of the risks.

Facilitating a Good Ethical Discussion of Carl’s Case: Sample Student-Teacher Dialogue *CONTINUED*

By asking a probing question, the teacher then encourages the student to think about exceptions.

TEACHER: Do you think any limits should be put on that?

STUDENT: Well, like I said—maybe age. Little kids shouldn’t decide stuff like that themselves.

TEACHER: Any other exceptions?

STUDENT: Well, maybe if the risks are extreme. Like people who drive motorcycles need licenses and may need to wear a helmet to keep the risk from being extreme. And certain drugs are illegal. Maybe I should learn more about the health effects of steroids...but they probably aren’t riskier than alcohol.

TEACHER: Okay, so you’re saying that the level of risk—how safe or dangerous something is—might count?

STUDENT: Right.

TEACHER: So we need to make sure that we know more about the science of steroids, and their medical risks, in order to weigh them against other types of risks that our society permits?

The teacher wants to affirm the value the student places on respect for personal choices, but the teacher also wants to help the student see that there may be other ethical considerations to take into account. In the sequence below, first, the teacher affirms the student’s emphasis on the importance of respecting personal decisions when confronted with risks, but then immediately introduces another ethical consideration: fairness.

TEACHER: **Okay, you’ve said that in general we should allow adults to make decisions for themselves, even if there’s risk involved, but you might want to place limits on their choices if the risks are extreme. So we’ll do more research on the science, and come back to this question.** But I want to go back to another point that you mentioned when you were brainstorming this list of actions that people take to improve their personal health or performance.

The teacher again points to the list the student generated.

TEACHER: You mentioned that using steroids differs from these other actions (sleeping, taking vitamins, exercising, etc.) in terms of their accessibility. **What do you think about this issue of accessibility?** Vitamins and sleep are relatively accessible, but steroids aren’t. **Is it fair for some athletes to take steroids, since steroids aren’t available to all athletes?**

Facilitating a Good Ethical Discussion of Carl’s Case: Sample Student-Teacher Dialogue CONTINUED

STUDENT: That’s where I’m getting confused. If steroids aren’t easy to get, some people will have access and some won’t. **Maybe the need for fairness matters, too, meaning that people can no longer do whatever they want, even though they are doing it to their own bodies.** If a few students gain access to steroids and then break a school record, that wouldn’t be fair. I’ll have to keep thinking about that one.

The teacher notices that this student began thinking about Carl’s Case in a rather rigid way—thinking only about one of several important ethical considerations—for example, only about respect for persons or autonomy. Through carefully structured questions and positive give and take, the teacher helped introduce concerns about safety (minimizing harms when risks are high) and about fairness, another ethical consideration relevant to the case. The teacher wraps up this part of the conversation to help make sure the student is aware of what has happened.

TEACHER: You’ve done a nice job thinking about multiple ethical considerations: showing respect for persons by allowing them great latitude in making choices about their own behaviors, minimizing harms if risks are high, and fairness. **You began with the blanket statement that “athletes have the right to do whatever they want to improve their performance” and moved to a more complex thought, that there could be instances when a loss of freedom is necessary to reducing potential harms or ensuring fairness.** Tomorrow, when we have more scientific facts about the safety issues and we’ve had a chance to think a little more about the fairness issues, we will talk about this case again.

Point-Counterpoint: Should Performance-Enhancing Drugs Be Banned in Sport?

Drugs, Sport, and Ethics

By Thomas H. Murray

When the Olympic Games return to Greece this summer, the results at the drug testing laboratory may get as much attention as what happens at the Olympic stadium. The history of drugs, and drug control, at the Olympics is discouraging—a farrago of ill-informed rules, outright state-sponsored cheating, and half-hearted and erratic attempts at enforcement.

A new model has recently revived hope for effective drug control by moving testing and enforcement from the direct control of the International Olympic Committee and the national governing bodies to the World Anti-Doping Agency and similar organizations at the national level. The U.S. Anti-Doping Agency, for example, played a central role in uncovering a new synthetic steroid known as THG linked to a California firm catering to Olympic and professional athletes.

But the renewed hope will be frustrated unless we can respond effectively to the ethical challenge. No amount of interdiction will suffice if we do not explain clearly what, precisely, is wrong with using performance-enhancing drugs in sport.

There are three compelling reasons to ban such drugs: assuring all athletes that the competition is fair; preserving the integrity of the athlete; and safeguarding what gives sport its meaning and value.

Young Olympians devote their lives to their sport for the opportunity to match themselves against the world's most gifted and dedicated athletes. The difference between gold medalist and also-ran may be measured in fractions of seconds or inches. A tiny advantage can make all the difference. What if that advantage comes from using a performance-enhancing drug?

For athletes who want to compete clean, the threat that they may be beaten by a competitor who is not faster, stronger, or more dedicated, but who takes a drug to gain the edge, is profoundly personal. When drugs are prohibited but some athletes use them anyway, the playing field tilts in favor of the cheater. If we prohibit drugs in the Olympic Games, we owe it to the athletes to deter, detect, and punish those who cheat.

Integrity seems like an old-fashioned idea, but it is at the heart of who we are and how we live. Performance-enhancing drugs affect the individual athlete's integrity in two ways. First, if drugs are banned, then choosing not to use them is a test of one's character. A person of integrity does not behave dishonestly. A person of integrity does not seek to prevail over his competitors by methods that give him an illegitimate advantage.

Second, the concept of integrity implies wholeness, being unbroken, moral soundness, and freedom from corruption. When an athlete wins by using a performance-enhancing drug, what does that mean for the athlete's own understanding of what happened? Am I the world's best? Or was my supposed victory hopelessly tainted by the drug's effects? The meaning of a drug-aided victory is ambiguous and elusive even for the athlete. It is the result of corruption and brokenness, the very opposite of authentic victory.

What makes a victory authentic? What gives sport its meaning and value? We expect the winning athlete to combine extraordinary natural talents with exemplary effort, training, and technique. These are all forms of human excellence. Some we are born with—or not. As much as I loved playing basketball, I was destined never quite to reach six feet in height. An accurate jump shot and the willingness to take punishment never made up for my size and mediocre leaping ability.

Whatever natural abilities we have must be perfected. We achieve this—or not—through a combination of virtues such as fortitude in the face of relentless training, physical courage as we persevere through pain, and cleverness when we outsmart our opponents, along with other factors such as helpful coaching, optimized equipment, and sound nutrition.

Natural talents should be respected for what they are: the occasionally awesome luck of the biological draw. Courage, fortitude, competitive savvy, and other virtues rightfully command our moral admiration. The other factors—equipment, coaching, and nutrition—contribute to an athlete's success but don't evoke the same awe

Point-Counterpoint

CONTINUED

or esteem. When we watch a sprinter set a new Olympic record in the hundred meter dash, it's not the shoes he or she wears that command our admiration. Nor is it the coaching received or the energy bar consumed just before the event.

All of these contribute to the record, just like a good camera was necessary for Ansel Adams' unforgettable photos of the American West, or good marble and sharp chisels for Michelangelo's sculpture of David. But what we care about most, what gives that achievement its meaning and value, is the ineffable combination of remarkable natural talents and extraordinary dedication.

Performance-enhancing drugs disguise natural abilities and substitute for the dedication and focus that we admire. Performance-enhancing drugs cheapen sport, making winners out of also-rans, and depriving virtuous and superior athletes of the victories that should be theirs.

Getting performance-enhancing drugs out of sport will not be easy, and success is not assured. But the effort is worthwhile as long as we care enough about fairness, integrity, and the meaning and value of sport.

Thomas H. Murray is the president of the Hastings Center.

Source: Murray, T.H. 2004, Drugs, sports, and ethics. Retrieved February 16, 2009, from <http://www.project-syndicate.org/commentary/murray1>. Reproduced with permission from the BMJ Publishing Group.

Performance enhancing drugs

Why we should allow performance enhancing drugs in sport

J Savulescu, B Foddy, M Clayton

The legalisation of drugs in sport may be fairer and safer

In 490 BC, the Persian Army landed on the plain of Marathon, 25 miles from Athens. The Athenians sent a messenger named Feidipides to Sparta to ask for help. He ran the 150 miles in two days. The Spartans were late. The Athenians attacked and, although outnumbered five to one, were victorious. Feidipides was sent to run back to Athens to report victory. On arrival, he screamed “We won” and dropped dead from exhaustion.

The marathon was run in the first modern Olympics in 1896, and in many ways the athletic ideal of modern athletes is inspired by the myth of the marathon. Their ideal is superhuman performance, at any cost.

DRUGS IN SPORT

The use of performance enhancing drugs in the modern Olympics is on record as early as the games of the third Olympiad, when Thomas Hicks won the marathon after receiving an injection of strychnine in the middle of the race.¹ The first official ban on “stimulating substances” by a sporting organisation was introduced by the International Amateur Athletic Federation in 1928.²

Using drugs to cheat in sport is not new, but it is becoming more effective. In 1976, the East German swimming team won 11 out of 13 Olympic events, and later sued the government for giving them anabolic steroids.³ Yet despite the health risks, and despite the regulating bodies’ attempts to eliminate drugs from sport, the use of illegal substances is widely known to be rife. It hardly raises an eyebrow now when some famous athlete fails a dope test.

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.⁴

Much of the writing on the use of drugs in sport is focused on this kind of anecdotal evidence. There is very little rigorous, objective evidence because the athletes are doing something that is taboo, illegal, and sometimes highly dangerous. The anecdotal picture tells us that our attempts to eliminate drugs

from sport have failed. In the absence of good evidence, we need an analytical argument to determine what we should do.

CONDEMNED TO CHEATING?

We are far from the days of amateur sporting competition. Elite athletes can earn tens of millions of dollars every year in prize money alone, and millions more in sponsorships and endorsements. The lure of success is great. But the penalties for cheating are small. A six month or one year ban from competition is a small penalty to pay for further years of multimillion dollar success.

Drugs are much more effective today than they were in the days of strychnine and sheep’s testicles. Studies involving the anabolic steroid androgen showed that, even in doses much lower than those used by athletes, muscular strength could be improved by 5–20%.⁵ Most athletes are also relatively unlikely to ever undergo testing. The International Amateur Athletic Federation estimates that only 10–15% of participating athletes are tested in each major competition.⁶

The enormous rewards for the winner, the effectiveness of the drugs, and the low rate of testing all combine to create a cheating “game” that is irresistible to athletes. Kjetil Haugen⁷ investigated the suggestion that athletes face a kind of prisoner’s dilemma regarding drugs. His game theoretic model shows that, unless the likelihood of athletes being caught doping was raised to unrealistically high levels, or the payoffs for winning were reduced to unrealistically low levels, athletes could all be predicted to cheat. The current situation for athletes ensures that this is likely, even though they are worse off as a whole if everyone takes drugs, than if nobody takes drugs.

Drugs such as erythropoietin (EPO) and growth hormone are natural chemicals in the body. As technology advances, drugs have become harder to detect because they mimic natural processes. In a few years, there will be many undetectable drugs. Haugen’s

analysis predicts the obvious: that when the risk of being caught is zero, athletes will all choose to cheat.

The recent Olympic games in Athens were the first to follow the introduction of a global anti-doping code. From the lead up to the games to the end of competition, 3000 drug tests were carried out: 2600 urine tests and 400 blood tests for the endurance enhancing drug EPO.⁸ From these, 23 athletes were found to have taken a banned substance—the most ever in an Olympic games.⁹ Ten of the men’s weightlifting competitors were excluded.

The goal of “cleaning” up the sport is unattainable. Further down the track the spectre of genetic enhancement looms dark and large.

THE SPIRIT OF SPORT

So is cheating here to stay? Drugs are against the rules. But we define the rules of sport. If we made drugs legal and freely available, there would be no cheating.

The World Anti-Doping Agency code declares a drug illegal if it is performance enhancing, if it is a health risk, or if it violates the “spirit of sport”.¹⁰ They define this spirit as follows.¹¹ The spirit of sport is the celebration of the human spirit, body, and mind, and is characterised by the following values:

- ethics, fair play and honesty
- health
- excellence in performance
- character and education
- fun and joy
- teamwork
- dedication and commitment
- respect for rules and laws
- respect for self and other participants
- courage
- community and solidarity

Would legal and freely available drugs violate this “spirit”? Would such a permissive rule be good for sport?

Human sport is different from sports involving other animals, such as horse or dog racing. The goal of a horse race is to find the fastest horse. Horses are lined up and flogged. The winner is the one with the best combination of biology, training, and rider. Basically, this is a test of biological potential. This was the old naturalistic Athenian vision of sport: find the strongest, fastest, or most skilled man.

Training aims to bring out this potential. Drugs that improve our natural potential are against the spirit of this model of sport. But this is not the only view of sport. Humans are not horses or dogs. We make choices and exercise our own judgment. We choose what kind of

Point-Counterpoint

CONTINUED

training to use 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 judgment that competitors exercise when they choose diet, training, and whether to take drugs. We can choose what kind of competitor to be, not just through training, but through biological manipulation. Human sport is different from animal sport because it is creative. Far from being against the spirit of sport, biological manipulation embodies the human spirit—the capacity to improve ourselves on the basis of reason and judgment. When we exercise our reason, we do what only humans do.

The result will be that the winner is not the person who was born with the best genetic potential to be strongest. Sport would be less of a genetic lottery. The winner will be the person with a combination of the genetic potential, training, psychology, and judgment. Olympic performance would be the result of human creativity and choice, not a very expensive horse race.

Classical musicians commonly use β blockers to control their stage fright. These drugs lower heart rate and blood pressure, reducing the physical effects of stress, and it has been shown that the quality of a musical performance is improved if the musician takes these drugs.¹² Although elite classical music is arguably as competitive as elite sport, and the rewards are similar, there is no stigma attached to the use of these drugs. We do not think less of the violinist or pianist who uses them. If the audience judges the performance to be improved with drugs, then the drugs are enabling the musician to express him or herself more effectively. The competition between elite musicians has rules—you cannot mime the violin to a backing CD. But there is no rule against the use of chemical enhancements.

Is classical music a good metaphor for elite sport? Sachin Tendulkar is known as the “Maestro from Mumbai”. The Associated Press called Maria Sharapova’s 2004 Wimbledon final a “virtuoso performance”.¹³ Jim Murray¹⁴ wrote the following about Michael Jordan in 1996:

“You go to see Michael Jordan play for the same reason you went to see Astaire dance, Olivier act or the sun set over Canada. It’s art. It should be painted, not photographed. It’s not a game, it’s a recital. He’s not just a player, he’s a virtuoso. Heifetz with a violin. Horowitz at the piano.”

Indeed, it seems reasonable to suggest that the reasons we appreciate sport at its elite level have something to do with competition, but also a great deal to do with the appreciation of an extraordinary performance.

Clearly the application of this kind of creativity is limited by the rules of the sport. Riding a motorbike would not be a “creative” solution to winning the Tour de France, and there are good reasons for proscribing this in the rules. If motorbikes were allowed, it would still be a good sport, but it would no longer be a bicycle race.

We should not think that allowing cyclists to take EPO would turn the Tour de France into some kind of “drug race”, any more than the various training methods available turn it into a “training race” or a “money race”. Athletes train in different, creative ways, but ultimately they still ride similar bikes, on the same course. The skill of negotiating the steep winding descent will always be there.

UNFAIR?

People do well at sport as a result of the genetic lottery that happened to deal them a winning hand. Genetic tests are available to identify those with the greatest potential. If you have one version of the ACE gene, you will be better at long distance events. If you have another, you will be better at short distance events. Black Africans do better at short distance events because of biologically superior muscle type and bone structure. Sport discriminates against the genetically unfit. Sport is the province of the genetic elite (or freak).

The starkest example is the Finnish skier Eero Maentyranta. In 1964, he won three gold medals. Subsequently it was found he had a genetic mutation that meant that he “naturally” had 40–50% more red blood cells than average.¹⁵ Was it fair that he had significant advantage given to him by chance?

The ability to perform well in sporting events is determined by the ability to deliver oxygen to muscles. Oxygen is carried by red blood cells. The more red blood cells, the more oxygen you can carry. This in turn controls an athlete’s performance in aerobic exercise. EPO is a natural hormone that stimulates red blood cell production, raising the packed cell volume (PCV)—the percentage of the blood comprised of red blood cells. EPO is produced in response to anaemia, haemorrhage, pregnancy, or living at altitude. Athletes began injecting recombinant human EPO in the 1970s, and it was officially banned in 1985.¹⁶

At sea level, the average person has a PCV of 0.4–0.5. It naturally varies; 5% of

people have a packed cell volume above 0.5,¹⁷ and that of elite athletes is more likely to exceed 0.5, either because their high packed cell volume has led them to success in sport or because of their training.¹⁸

Raising the PCV too high can cause health problems. The risk of harm rapidly rises as PCV gets above 50%. One study showed that in men whose PCV was 0.51 or more, risk of stroke was significantly raised (relative risk = 2.5), after adjustment for other causes of stroke.¹⁹ At these levels, raised PCV combined with hypertension would cause a ninefold increase in stroke risk. In endurance sports, dehydration causes an athlete’s blood to thicken, further raising blood viscosity and pressure.²⁰ What begins as a relatively low risk of stroke or heart attack can rise acutely during exercise.

In the early 1990s, after EPO doping gained popularity but before tests for its presence were available, several Dutch cyclists died in their sleep due to inexplicable cardiac arrest. This has been attributed to high levels of EPO doping.²¹ The risks from raising an athlete’s PCV too high are real and serious.

Use of EPO is endemic in cycling and many other sports. In 1998, the Festina team was expelled from the Tour de France after trainer Willy Voet was caught with 400 vials of performance enhancing drugs.²² The following year, the World Anti-Doping Agency was established as a result of the scandal. However, EPO is extremely hard to detect and its use has continued. Italy’s Olympic anti-doping director observed in 2003 that the amount of EPO sold in Italy outweighed the amount needed for sick people by a factor of six.²³

In addition to trying to detect EPO directly, the International Cycling Union requires athletes to have a PCV no higher than 0.5. But 5% of people naturally have a PCV higher than 0.5. Athletes with a naturally high PCV cannot race unless doctors do a number of tests to show that their PCV is natural. Charles Wegelius was a British rider who was banned and then cleared in 2003. He had had his spleen removed in 1998 after an accident, and as the spleen removes red blood cells, its absence resulted in an increased PCV.²⁴

There are other ways to increase the number of red blood cells that are legal. Altitude training can push the PCV to dangerous, even fatal, levels. More recently, hypoxic air machines have been used to simulate altitude training. The body responds by releasing natural EPO and growing more blood cells, so that it can absorb more oxygen with



Point-Counterpoint

CONTINUED

every breath. The Hypoxico promotional material quotes Tim Seaman, a US athlete, who claims that the hypoxic air tent has “given my blood the legal ‘boost’ that it needs to be competitive at the world level.”²⁵

There is one way to boost an athlete’s number of red blood cells that is completely undetectable:²⁶ autologous blood doping. In this process, athletes remove some blood, and reinject it after their body has made new blood to replace it. This method was popular before recombinant human EPO became available.

“By allowing everyone to take performance enhancing drugs, we level the playing field.”

There is no difference between elevating your blood count by altitude training, by using a hypoxic air machine, or by taking EPO. But the last is illegal. Some competitors have high PCVs and an advantage by luck. Some can afford hypoxic air machines. Is this fair? Nature is not fair. Ian Thorpe has enormous feet which give him an advantage that no other swimmer can get, no matter how much they exercise. Some gymnasts are more flexible, and some basketball players are seven feet tall. By allowing everyone to take performance enhancing drugs, we level the playing field. We remove the effects of genetic inequality. Far from being unfair, allowing performance enhancement promotes equality.

JUST FOR THE RICH?

Would this turn sport into a competition of expensive technology? Forget the romantic ancient Greek ideal. The Olympics is a business. In the four years before the Athens Olympics, Australia spent \$547 million on sport funding,²⁷ with \$13.8 million just to send the Olympic team to Athens.²⁸ With its highest ever funding, the Australian team brought home 17 gold medals, also its highest. On these figures, a gold medal costs about \$32 million. Australia came 4th in the medal tally in Athens despite having the 52nd largest population. Neither the Australian multicultural genetic heritage nor the flat landscape and desert could have endowed Australians with any special advantage. They won because they spent more. Money buys success. They have already embraced strategies and technologies that are inaccessible to the poor.

Paradoxically, permitting drugs in sport could reduce economic discrimination. The cost of a hypoxic air machine and tent is about US\$7000.²⁹ Sending an athlete to a high altitude

training location for months may be even more expensive. This arguably puts legal methods for raising an athlete’s PCV beyond the reach of poorer athletes. It is the illegal forms that level the playing field in this regard.

One popular form of recombinant human EPO is called Epogen. At the time of writing, the American chain Walgreens offers Epogen for US\$86 for 6000 international units (IU). The maintenance dose of EPO is typically 20 IU per kg body weight, once a week.³⁰ An athlete who weighs 100 kg therefore needs 2000 IU a week, or 8600 IU a month. Epogen costs the athlete about US\$122 a month. Even if the Epogen treatment begins four years before an event, it is still cheaper than the hypoxic air machine. There are limits on how much haemoglobin an athlete can produce, however much EPO they inject, so there is a natural cap on the amount of money they can spend on this method.

Meanwhile, in 2000, the cost of an in competition recombinant EPO test was about US\$130 per sample.³¹ This test is significantly more complex than a simple PCV test, which would not distinguish exogenous or endogenous EPO. If monetary inequalities are a real concern in sport, then the enormous sums required to test every athlete could instead be spent on grants to provide EPO to poorer athletes, and PCV tests to ensure that athletes have not thickened their blood to unsafe levels.

UNSAFE?

Should there be any limits to drugs in sport?

There is one limit: safety. We do not want an Olympics in which people die before, during, or after competition. What matters is health and fitness to compete. Rather than testing for drugs, we should focus more on health and fitness to compete. Forget testing for EPO, monitor the PCV. We need to set a safe level of PCV. In the cycling world, that is 0.5. Anyone with a PCV above that level, whether through the use of drugs, training, or natural mutation, should be prevented from participating on safety grounds. If someone naturally has a PCV of 0.6 and is allowed to compete, then that risk is reasonable and everyone should be allowed to increase their PCV to 0.6. What matters is what is a safe concentration of growth hormone—not whether it is natural or artificial.

We need to take safety more seriously. In the 1960s, East German athletes underwent systematic government sanctioned prescription of anabolic steroids, and were awarded millions of dollars in compensation in 2002. Some of the female athletes had been compelled to

change their sex because of the large quantities of testosterone they had been given.³²

We should permit drugs that are safe, and continue to ban and monitor drugs that are unsafe. There is another argument for this policy based on fairness: provided that a drug is safe, it is unfair to the honest athletes that they have to miss out on an advantage that the cheaters enjoy.

Taking EPO up to the safe level, say 0.5, is not a problem. This allows athletes to correct for natural inequality. There are of course some drugs that are harmful in themselves—for example, anabolic steroids. We should focus on detecting these because they are harmful not because they enhance performance.

Far from harming athletes, paradoxically, such a proposal may protect our athletes. There would be more rigorous and regular evaluation of an athlete’s health and fitness to perform. Moreover, the current incentive is to develop undetectable drugs, with little concern for safety. If safe performance enhancement drugs were permitted, there would be greater pressure to develop safe drugs. Drugs would tend to become safer.

This is perhaps best illustrated by the case of American sailor Kevin Hall. Hall lost his testicles to cancer, meaning that he required testosterone injections to remain healthy. As testosterone is an anabolic steroid, he had to prove to four separate governing bodies that he was not using the substance to gain an advantage.³³ Any tests that we do should be sensitive to the health of the athlete; to focus on the substances themselves is dogmatic.

Not only this, but health testing can help to mitigate the dangers inherent in sport.

For many athletes, sport is not safe enough without drugs. If they suffer from asthma, high blood pressure, or cardiac arrhythmia, sport places their bodies under unique stresses, which raise the likelihood of a chronic or catastrophic harm. For example, between 1985 and 1995, at least 121 US athletes collapsed and died directly after or during a training session or competition—most often because they had hypertrophic cardiomyopathy or heart malformations.³⁴ The relatively high incidence of sudden cardiac death in young athletes has prompted the American Heart Association to recommend that all athletes undergo cardiac screening before being allowed to train or compete.³⁵

Sometimes, the treatments for these conditions will raise the performance of an athlete beyond that which they could

Point-Counterpoint

CONTINUED

attain naturally. But safety should come first. If an archer requires β blockers to treat heart disease, we should not be concerned that this will give him or her an advantage over other archers. Or if an anaemic cyclist wants to take EPO, we should be most concerned with the treatment of the anaemia.

If we are serious about safety in sport, we should also be prepared to discuss changes to the rules and equipment involved in sports which are themselves inherently dangerous. Formula One motor racing, once the most deadly of sports, has not seen a driver death in over six years, largely because of radical changes in the safety engineering of the tracks and the cars. Meanwhile, professional boxing remains inherently dangerous; David Rickman died during a bout in March 2004, even though he passed a physical examination the day before.³⁶

CHILDREN

Linford Christie, who served a two year drug ban from athletics competition, said that athletics “is so corrupt now I wouldn’t want my child doing it”.³⁷ But apart from the moral harms to children in competing in a corrupt sport, should we withhold them from professional sport for medical reasons?

The case where the athletes are too young to be fully autonomous is different for two important reasons. Firstly, children are much less capable of rejecting training methods and treatments that their coach wishes to use. Secondly, we think it is worth protecting the range of future options open to a child.

There is a serious ethical problem with allowing children to make any kind of choice that substantially closes off their options for future lifestyles and career choices. If we do not consider children competent for the purposes of allowing them to make choices that cause them harm, then we should not allow them to decide to direct all of their time to professional gymnastics at age 10. The modifications such a choice can make to a child’s upbringing are as serious, and potentially as harmful, as many of the available performance enhancing drugs. Children who enter elite sport miss large parts of the education and socialisation that their peers receive, and are submitted to intense psychological pressure at an age when they are ill equipped to deal with it.

We argue that it is clear that children, who are not empowered to refuse harmful drugs, should not be given them by their coaches or parents. But the same principles that make this point obvious should also make it obvious

that these children should not be involved in elite competitive sport in the first place. However, if children are allowed to train as professional athletes, then they should be allowed to take the same drugs, provided that they are no more dangerous than their training is.

Haugen’s model showed that one of the biggest problems in fighting drug use was that the size of the rewards for winning could never be overshadowed by the penalties for being caught. With this in mind, we can begin to protect children by banning them from professional sport.

CLIMATE OF CHEATING

If we compare the medical harms of the entire worldwide doping problem, they would have to be much less than the worldwide harms stemming from civilian illicit drug use. And yet, per drug user, the amount of money spent on combating drugs in sport outweighs the amount spent on combating civilian drug use by orders of magnitude.

We can fairly assume that if medical harms and adherence to law were the only reasons we felt compelled to eradicate doping, then the monetary value we placed on cleaning up sport should be the same, per drug user, as the monetary value we place on eradicating recreational drug use. And yet it is not.

Because of this, it should be obvious that it is not medical harms that we think are primarily at stake, but harm to sport as a whole, a purported violation of its spirit. It is a problem for the credibility of elite sport, if everyone is cheating.

If it is this climate of cheating that is our primary concern, then we should aim to draft sporting rules to which athletes are willing to adhere.

PROHIBITION

It is one thing to argue that banning performance enhancing drugs has not been successful, or even that it will never be successful. But it should also be noted that the prohibition of a substance that is already in demand carries its own intrinsic harms.

The Prohibition of Alcohol in America during the 1920s led to a change in drinking habits that actually increased consumption. Driven from public bars, people began to drink at home, where the alcohol was more readily available, and the incidence of deaths due to alcoholism rose or remained stable, while they dropped widely around the world in countries without prohibition.³⁸ Furthermore, as the quality of the alcohol was unregulated, the incidence of death from poisoned alcohol rose fourfold in five years.³⁹

Even when prohibition leads to a decrease in consumption, it often leads to the creation of a black market to supply the continuing demand, as it did in the Greenland study of alcohol rationing.⁴⁰ Black markets supply a product that is by definition unregulated, meaning that the use is unregulated and the safety of the product is questionable.

The direct risks from prohibiting performance enhancing drugs in sport are similar, but probably much more pronounced. Athletes currently administer performance enhancing substances in doses that are commensurate with the amount of performance gain they wish to attain, rather than the dose that can be considered “safe”. The athletic elite have near unlimited funds and the goal of near unlimited performance, a framework that results in the use of extremely unsafe doses. If athletes are excluded when their bodies are unsafe for competition, this kind of direct consequence from prohibition would be reduced.

THE PROBLEM OF STRICT LIABILITY

Lord Coe, a dual Olympic champion, has defended the doctrine of “strict liability”, as it is currently applied to athletes who use a banned substance:⁴¹

“...The rule of strict liability—under which athletes have to be solely and legally responsible for what they consume—must remain supreme. We cannot, without blinding reason and cause, move one millimetre from strict liability—if we do, the battle to save sport is lost.”

The best reason for adhering to this rule is that, if coaches were made responsible for drugs that they had given to their athletes, then the coach would be banned or fined, and the athlete could still win the event. In this situation, other athletes would still be forced to take drugs in order to be competitive, even though the “cheat” had been caught.

But the doctrine of strict liability makes victims of athletes such as those of the East German swim team, who are competing in good faith but have been forced to take drugs. It also seems dogmatically punitive for athletes like British skier Alain Baxter, who accidentally inhaled a banned stimulant when he used the American version of a Vicks decongestant inhaler, without realising that it differed from the British model.⁴²

It seems that strict liability is unfair to athletes, but its absence is equally unfair. Our proposal solves this paradox—when

Point-Counterpoint

CONTINUED

we exclude athletes only on the basis of whether they are healthy enough to compete, the question of responsibility and liability becomes irrelevant. Accidental or unwitting consumption of a risky drug is still risky; the issue of good faith is irrelevant.

ALTERNATIVE STRATEGIES

Michael Ashenden¹³ proposes that we keep progressive logs of each athlete's PCV and hormone concentrations. Significant deviations from the expected value would require follow up testing. The Italian Cycling Federation decided in 2000 that all juniors would be tested to provide a baseline PCV and given a "Hematologic Passport".

Although this strategy is in many ways preferable to the prohibition of doping, it does nothing to correct the dangers facing an athlete who has an unsafe baseline PCV or testosterone concentration.

TEST FOR HEALTH, NOT DRUGS

The welfare of the athlete must be our primary concern. If a drug does not expose an athlete to excessive risk, we should allow it even if it enhances performance. We have two choices: to vainly try to turn the clock back, or to rethink who we are and what sport is, and to make a new 21st century Olympics. Not a super-Olympics but a more human Olympics. Our crusade against drugs in sport has failed. Rather than fearing drugs in sport, we should embrace them.

In 1998, the president of the International Olympic Committee, Juan-Antonio Samaranch, suggested that athletes be allowed to use non-harmful performance enhancing drugs.⁴⁴ This view makes sense only if, by not using drugs, we are assured that athletes are not being harmed.

Performance enhancement is not against the spirit of sport; it is the spirit of sport. To choose to be better is to be human. Athletes should be given this choice. Their welfare should be paramount. But taking drugs is not necessarily cheating. The legalisation of drugs in sport may be fairer and safer.

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Sample Completed Point-Counterpoint Summary

Should performance-enhancing drugs be banned in sports?

Ethical Argument	Yes	No
<p>Fairness: to assure all athletes that the competition is fair</p>	<ul style="list-style-type: none"> • Athletes who do not want to use drugs will not be put at an unfair advantage by those who do use drugs. 	<ul style="list-style-type: none"> • Such drugs even out the unfair advantage in sports that some people get through their genes (that is, they reduce the effects of the genetic lottery), permitting more fair competition. • Money now used to test and detect the use of illegal substances could instead be used to underwrite enhancement costs for poorer athletes who might otherwise not be able to afford them, thereby creating fair access. • Regulated and monitored use of safe and legal drugs means that all athletes can use the drugs without fear of detection or safety.
<p>Athletic integrity: to preserve the integrity of the athlete</p>	<ul style="list-style-type: none"> • Choosing not to use banned, but effective, drugs is a test of character because people with integrity do not behave dishonestly. • Using drugs undermines the “wholeness,” “unbrokenness,” “moral soundness,” and “freedom from corruption” of an athlete relying only on his or her own skills and training. 	<ul style="list-style-type: none"> • Human sport is more than mere biological determinism; it involves reason, choice, judgment, and creativity about how to train and how to compete—including whether or not to use drugs to improve or enhance human biology. • Unlike sports involving other animals, humans make choices and use judgment in their training and decisions about how to run a race; more than genetic potential is required for success—athletic success is the result of creativity, determination, and skill.
<p>Nature of sport: to safeguard what gives a sport its meaning and value</p>	<ul style="list-style-type: none"> • Athletes ought to win because of their natural talents, their training, and their skill—not because of the effect of a drug. • People value athletic victory based on the combination of “extraordinary natural talent with exemplary effort, training, and technique” and because of virtues such as courage, fortitude, and competitive savvy. 	<ul style="list-style-type: none"> • To choose to be better is to be human and is in the spirit of sport. • Athletes can still display virtues of courage, determination, and wisdom even while choosing to manipulate their biology using drugs. • Nothing about performance-enhancing drugs in themselves goes against any of the qualities of sport defined by the World Anti-Doping Agency code.

Continued

Sample Completed Point-Counterpoint Summary
CONTINUED

Ethical Argument	Yes	No
<p>Additional information</p>	<ul style="list-style-type: none"> • Efforts to control drugs at the Olympics have been undermined by poor rules, state-sponsored cheating, and weak and erratic enforcement of bans on certain substances. • New national and international agencies offer promise that drugs may be effectively identified and discouraged in sport. • It won't be easy to eliminate performance-enhancing drugs, and success is not guaranteed. However, it is important to try to eliminate such drugs from sports to maintain fairness, integrity, and the meaning and value of sport. • Murray notes the hope that drugs can be effectively controlled in sports because testing and enforcement has been moved to the World Anti-Doping Agency (a new agency) and similar national-level anti-doping agencies (2004). • "Performance-enhancing drugs disguise natural abilities and substitute for the dedication and focus that we admire. Performance-enhancing drugs cheapen sport, making winners out of also-rans, and depriving virtuous and superior athletes of the victories that should be theirs." (Page 2.) 	<ul style="list-style-type: none"> • Using the illustration of the marathon story from Ancient Greece, Savulescu et al. argue that the idea of sport has always meant "superhuman performance, at any cost" (2004). • Drugs have been part of sports for a long time; athletes have always sought out legal and illegal ways to improve their performance, including drug use. • Efforts to eliminate drugs from sports have failed. People need to decide what to do in light of that reality. • In sports, the financial and popular rewards of success are great. That fact, in combination with the facts that drugs are more effective and the chance of being caught cheating is small because of the low rate of testing and the difficulty of detecting some substances, means that using performance-enhancing drugs is very attractive. • Savulescu et al. (2004) argue that performance-enhancing drugs that are safe should be legalized so that all athletes may use them and their use and effects can be monitored. • Children should not be involved in elite competitive sports or given harmful drugs because they are not able to reject methods for training and treatment suggested by their coaches and because children's future options for life should be kept open to the extent possible. However, if they are allowed to be professional athletes in training, they should be allowed to take drugs as long as they are not harmful.

Continued

Sample Completed Point-Counterpoint Summary
CONTINUED

Ethical Argument	Yes	No
		<ul style="list-style-type: none"> • “If a drug does not expose an athlete to excessive risk, we should allow it even if it enhances performance.... Performance enhancement is not against the spirit of sport; it is the spirit of sport. To choose to be better is to be human. Athletes should be given this choice. Their welfare should be paramount. But taking drugs is not necessarily cheating. The legislation of drugs in sport may be fairer and safer.” (Savulescu et al. 2004, page 670.)

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Notes

- Murray’s three arguments against permitting performance-enhancing drugs in sports are made in terms of fairness, athletic integrity, and the meaning and value of sport (which is similar to the ethical consideration of maintaining authenticity in a sport’s performance).
- Savulescu et al. use some of the same or similar terms to characterize their arguments in favor of permitting performance-enhancing drugs in sports, such as fairness, the spirit of sport, and safety.
- The argument headers are from Murray’s 2004 article.

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