



An Amputee Sprinter: Is He Disabled or Too-abled?

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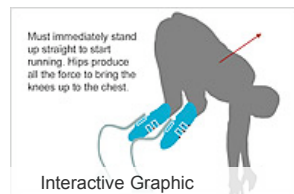
"I don't see myself as disabled," said Oscar Pistorius, a former rugby and water polo player. "There's nothing I can't do that able-bodied athletes can do."

By JERÉ LONGMAN Published: May 15, 2007

Correction Appended

MANCHESTER, England, May 14 — As Oscar Pistorius of South Africa crouched in the starting blocks for the 200 meters on Sunday, the small crowd turned its attention to the sprinter who calls himself the fastest man on no legs.

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An Amputee Advantage

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Pistorius wants to be the first amputee runner to compete in the Olympics. But despite his ascendance, he is facing resistance from track and field's world governing body, which is seeking to bar him on the grounds that the technology of his prosthetics may give him an unfair advantage over sprinters using their natural legs.

His first strides were choppy Sunday, a necessary accommodation to sprinting on a pair of j-shaped blades made of carbon fiber and known as Cheetahs. Pistorius was born without the fibula in his lower legs and with other defects in his feet. He had both legs amputated below the knee when he was 11 months old. At 20, his coach says, he is like a five-speed engine with no second gear.

Yet Pistorius is also a searing talent who has begun erasing the lines between abled and disabled, raising

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Pistorius, left, won the 200-meter race at the Paralympic World Cup. He wants to compete in the 2008 Olympics.

philosophical questions: What should an athlete look like? Where should limits be placed on technology to balance fair play with the right to compete? Would the nature of sport be altered if athletes using artificial limbs could run faster or jump higher than the best athletes using their natural limbs?

Once at full speed Sunday, Pistorius handily won the 100 and 200 meters here at the Paralympic World Cup, an international competition for disabled athletes. A cold, rainy afternoon tempered his performances, but his victories came decisively and kept him aimed toward his goal of the 2008 Summer Olympics in Beijing, even though international track officials seek to block his entrance.

Since March, Pistorius has delivered startling record performances for disabled athletes at 100 meters (10.91 seconds), 200 meters (21.58 seconds) and 400 meters (46.34 seconds). Those times do not meet Olympic qualifying standards for men, but the Beijing Games are still 15 months away. Already, Pistorius is fast enough that

his marks would have won gold medals in equivalent women's races at the 2004 Athens Olympics.

Pistorius's time of 46.56 in the 400 earned him a second-place finish in March against able-bodied runners at the South African national championships. This seemingly makes him a candidate for the Olympic 4x400-meter relay should South Africa qualify as one of the world's 16 fastest teams.

"I don't see myself as disabled," said the blond, spiky-haired Pistorius, a former rugby and water polo player who declines to park in spaces reserved for the disabled. "There's nothing I can't do that able-bodied athletes can do."

An Equalizer or an Edge?

Still, the question persists: Do prosthetic legs simply level the playing field for Pistorius, compensating for his disability, or do they give him an inequitable edge via what some call techno-doping?

Experts say there have been limited scientific studies on the biomechanics of amputee runners, especially those missing both legs. And because Pistorius lost his legs as an infant, his speed on carbon-fiber legs cannot be compared with his speed on natural legs.

Track and field's world governing body, based in Monaco and known by the initials I.A.A.F., has recently prohibited the use of technological aids like springs and wheels, disqualifying Pistorius from events that it sanctions. A final ruling is expected in August.

The [International Olympic Committee](#) allows governing bodies to make their own eligibility rules, though it can intervene. Since 2004, for example, transgender athletes have been allowed to compete in the Olympics.

"With all due respect, we cannot accept something that provides advantages," said Elio Locatelli of Italy, the director of development for the I.A.A.F., urging Pistorius to concentrate on the Paralympics that will follow the Olympics in Beijing. "It affects the purity of sport. Next will be another device where people can fly with something on their back."

Others have questioned the governing body's motivation.

"I pose a question" for the I.A.A.F., said Robert Gailey, an associate professor of [physical therapy](#) at the [University of Miami](#) Medical School, who has studied amputee runners.

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“Are they looking at not having an unfair advantage? Or are they discriminating because of the purity of the Olympics, because they don’t want to see a disabled man line up against an able-bodied man for fear that if the person who doesn’t have the perfect body wins, what does that say about the image of man?”

According to Gailey, a prosthetic leg returns only about 80 percent of the energy absorbed in each stride, while a natural leg returns up to 240 percent, providing much more spring.

“There is no science that he has an advantage, only that he is competing at a disadvantage,” Gailey, who has served as an official in disabled sports, said of Pistorius.

Foremost among the I.A.A.F.’s concerns is that Pistorius’s prosthetic limbs may make him taller than he would have been on natural legs and may unfairly lengthen his stride, allowing him to lower his best times by several seconds in the past three years, while most elite sprinters improve by hundredths of a second.

“The rule book says a foot has to be in contact with the starting block,” Leon Fleiser, a general manager of the South African Olympic Committee, said. “What is the definition of a foot? Is a prosthetic device a foot, or is it an actual foot?”

I.A.A.F. officials have also expressed concern that Pistorius could topple over, obstructing others or injuring himself and fellow competitors. Some also fear that, without limits on technological aids, able-bodied runners could begin wearing carbon-fiber plates or other unsuitably springy devices in their shoes.

Among ethicists, Pistorius’s success has spurred talk of “transhumans” and “cyborgs.” Some note that athletes already modify themselves in a number of ways, including baseball sluggers who undergo laser eye surgery to enhance their vision and pitchers who have elbow reconstruction using sturdier ligaments from elsewhere in the body. At least three disabled athletes have competed in the Summer Olympics: George Eyser, an American, won a gold medal in gymnastics while competing on a wooden leg at the 1904 Games in St. Louis; Neroli Fairhall, a paraplegic from New Zealand, competed in archery in the 1984 Olympics in Los Angeles; and Marla Runyan, a legally blind runner from the United States, competed in the 1,500 meters at the 2000 Olympics in Sydney. But Pistorius would be the first amputee to compete in a track event, international officials said.

A sobering question was posed recently on the Web site of the Connecticut-based Institute for Ethics and Emerging Technologies. “Given the arms race nature of competition,” will technological advantages cause “athletes to do something as seemingly radical as having their healthy natural limbs replaced by artificial ones?” wrote George Dvorsky, a member of the institute’s board of directors. “Is it self-mutilation when you’re getting a better limb?”

Limits and Accommodations

Historically, the I.A.A.F. has placed limits on devices that assist athletes. It prohibits an array of performance-enhancing drugs. And it does not allow wheelchair athletes into the Olympic marathon, given that wheels provide a clear advantage in speed.

But the governing body has also embraced technological advances. For instance, it permits athletes to sleep in tent-like devices designed to simulate high altitude and increase oxygen-carrying capacity.

As disabled athletes improve their performances, the I.A.A.F. is certain to be faced with more decisions about accommodating them. Last February, Jeff Skiba, who has one leg amputated below the knee, competed in the high jump at the United States indoor track and field championships.

Some I.A.A.F. officials say Pistorius’s application should not be treated dismissively. Although he would not be considered a medal candidate, his appearance at the Beijing

Games could provide an inspiring story.

“There is no real grounds to say he should not be allowed to compete” in the Olympics, said Juan Manuel Alonso of Spain, who heads the I.A.A.F.’s medical and antidoping commission. “We’d like to have more information and biomechanical studies.”

His own fear, Pistorius said, is that the governing body, which has not contacted him, will ban him on supposition, not science.

“I think they’re afraid to do the research,” Pistorius, a business student at the University of Pretoria, said. “They’re afraid of what they’re going to find, that I don’t have an advantage and they’ll have to let me compete.”

Pistorius, whose stated height is 6 feet 1 ¼ inches while wearing his sprinting prosthetics, says that the devices are within an allowed range determined by the length of his thighs. The peak length of his stride, he said, is 9 feet, not 13 feet as some I.A.A.F. officials suggest.

There are many disadvantages to sprinting on carbon-fiber legs, Pistorius and his coach said. After a cumbersome start, he needs about 30 meters to gain his rhythm. His knees do not flex as readily, limiting his power output. His grip can be unsure in the rain. And when he runs into a headwind or grows fatigued, he must fight rotational forces that turn his prosthetic devices sideways, said Ampie Louw, who coaches Pistorius.

“The I.A.A.F. has got no clue about disabled sport,” said Louw, who has coached Pistorius since 2003.

Insufficient credit is given to Pistorius’s resolve in the weight room and on the track, Louw said, describing one intense workout that requires him to run 350 meters in 42 seconds; 300 meters in 34.6 seconds; 200 meters in 22 seconds and 150 meters in 15.4 seconds. “The kid is a born champion,” Louw said. “He doesn’t settle for second best.”

Having worn prosthetics since infancy, Pistorius did not have to adjust to artificial legs after he began competing, as many disabled athletes do. He won a gold medal in the 200 at the 2004 Paralympics in Athens.

“These have always been my legs,” he said. “I train harder than other guys, eat better, sleep better and wake up thinking about athletics. I think that’s probably why I’m a bit of an exception.”

One who is attempting to broaden the definition of an Olympic athlete.

“You have two competing issues — fair competition and basic human rights to compete,” said Angela Schneider, a sports ethicist at the University of Western Ontario and a 1984 Olympic silver medalist in rowing.

The I.A.A.F. must objectively define when prosthetic devices “go from therapy to enhancement,” Schneider said. The danger of acting hastily, she said, is “you deny a guy’s struggle against all odds — one of the fundamental principles of the Olympics.”

Correction: May 16, 2007

A sports graphic yesterday with the continuation of a front-page article about Oscar Pistorius, a South African athlete who wants to be the first amputee runner to compete in the Olympics, carried incorrect renderings in some copies of the “take-off” phase of running. A [corrected version](#) can be found online.

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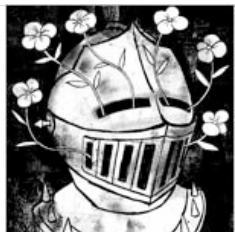
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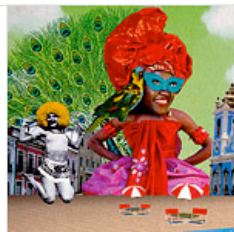
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