

**The Athletics Eligibility of Oscar Pistorius:
First-Hand Clarifications of a Poorly Understood History**

September 27, 2011

This is the first of two brief public statements on the Oscar Pistorius controversy put forth to provide journalists and the general public with an accurate version of the chronological and scientific facts related to our involvement. We have been moved to provide these statements by how frequently these facts have been misreported. Indeed, many of the recent media reports have been so conflicted and contradictory that even the most interested and discriminating followers have reported to us that they feel “blinded” to what the actual facts are. Some level of confusion was perhaps inevitable given a complicated history and atypically public evolution of scientific understanding. Here, we offer our first-hand knowledge in an effort to clarify the record and correct widespread misperceptions.

Two aspects of the perspective we bring are relevant. First, we respect Oscar Pistorius for his unique and unprecedented accomplishments as an athlete and for the general demeanor he has maintained through a protracted, public and trying ordeal. Second, despite many media reports that we are “for” Mr. Pistorius, and many others that we are “against” him, we are, in fact, neither. We have never held an opinion on whether Mr. Pistorius should be eligible to compete alongside intact-limb athletes or not. As scientists our role is to provide sound, data-based, conclusions on the basis of our scholarly expertise and nothing more. Policy decisions, whatever these may or may not be in response to scientific analysis, are appropriately left to the policy makers.

In this first statement we address, on an issue-by-issue basis, the most common misperceptions of the history involving us. In a second statement, we will provide a lay person’s explanation of the science that documents the artificial advantage provided by Mr. Pistorius’ prosthetic limbs.

Misreported Incorrect Item 1 - The Court of Arbitration for Sport (CAS) ruled that Mr. Pistorius’ artificial limbs **DO NOT** provide an advantage vs. intact limbs during sprint running.

Fact – The publicly available ruling of the CAS indicates that the issue the court considered was whether the specific eligibility ban imposed on Mr. Pistorius by the IAAF was scientifically valid or not (see Item A3 and A4 of the ruling).

Fact - The court **DID NOT** rule “no advantage” for Mr. Pistorius. Rather, the court overturned the IAAF’s eligibility ban due to the inadequate supporting evidence offered by the IAAF. In the very ruling that overturned the ban, the CAS specifically pointed out that Mr. Pistorius blades may, in fact, provide a competitive advantage (see item 103).

Misreported Incorrect Item 2 – Matthew Bundle and Peter Weyand testified before the CAS that the artificial limbs of Oscar Pistorius **DO NOT PROVIDE** a competitive advantage and at a later time reversed themselves and stated that Mr. Pistorius’ artificial limbs **DO PROVIDE** an advantage.

Fact – First, neither of us were present at the CAS hearing. Second, since we first reviewed the data obtained in Dr Weyand’s laboratory in the spring of 2008 we have been completely consistent in our public and scientific communications in stating:

- 1) The scientific rationale put forth by the IAAF leading to Pistorius’ ban in 2007, was not valid, and

- 2) The entirely distinct data that we collected and published with Drs. Herr, Kram and others, indicate that the carbon fiber prostheses worn by Mr. Pistorius provide major competitive advantages vs. biological limbs.

Misreported Incorrect Item 3 – The 11.9 second advantage over 400-meters provided to Mr. Pistorius by his artificial limbs is a “back of the envelope calculation” that has never been peer-reviewed.

Fact – All of the data used to quantify the advantage that Mr. Pistorius’ blades provide was published after peer-review and with Drs. Herr and Kram as co-authors. These data first appeared in an original manuscript that was published in the print version of the Journal of Applied Physiology in April 2009.

A second peer-reviewed paper presented the analysis that used the previously published data to quantify Mr. Pistorius’ 11.9 second advantage over 400-meter race. This second manuscript was a point/counterpoint contribution that also appeared in the Journal of Applied Physiology. The peer review of this second manuscript was conducted in accordance with the Journal’s policy as described on its website:

“Articles in the pro-and-con series are subject to peer-review by the editor and editorial consultants, and acceptance cannot be guaranteed in advance.”

Our point/counterpoint manuscript was reviewed and accepted by the former editor-in-chief of the Journal.

The two quantitative relationships used to determine the magnitude of Mr. Pistorius’ advantage first appeared in respective papers published in 2000 and 2003. The supporting data bases in the original and subsequent papers include hundreds of all-out running trials that validated the accuracy of these relationships to within 3.5% or less.

Misunderstood Item 4 – Why did Peter Weyand and Matthew Bundle wait until 18 months after the CAS Hearing to make their conclusions public?

Answer 4 – Because doing so was the only responsible, fair and scientifically credible way to disseminate our research findings that Mr. Pistorius’ artificial limbs do indeed provide a major competitive advantage.

The least responsible course of action would have been to release our advantage conclusion without: 1) the supporting data and analysis, and 2) without peer review by other scientists. Early public release of our conclusion without data, a supporting analysis and peer-review would have brought about confusion for all, been unfair to Mr. Pistorius, other athletes, policy makers, and the public. This course also would have violated the well-founded conventions for the ethical, responsible dissemination of scientific information and conclusions.

One result of the scientific disagreement among researchers working on the Pistorius project was that the peer-review publication process necessarily involved two steps, a first publication authored by all that introduced the relevant data, and a second in which we were able to publish our advantage analysis and conclusions alongside an alternative conclusion offered by Drs. Kram and Herr. Because each round of the peer-review

process typically takes a minimum of one to two months after the lengthy process of manuscript preparation, we were fortunate to publish the two papers as quickly as we did.

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