

Blood on Their Hands: Flawed Statistical Modeling Endangering Athletes Everywhere

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(Berlin) – “There are lies, damn lies, and statistics,” the term, popularized by Mark Twain, so clearly revealed. Olympic athletes and others are now in danger of prosecution from a single, blood parameter in their blood profile even if it is only one percent off, slightly outside a statistics-based threshold, (well, it depends on how you calculate it, and there are different ways).

It also depends on who wants to prosecute it, and who makes the decision and how. A number of people, or institutions can. Not just your NADO (national anti-doping agency) or your own national sport federation (NF).

An athlete, 100% clean, never doping, (never even *thinking* of it), carefully watching their diets, supporting numerous charities, getting good grades in university, is now not a strong enough defense against a false allegation and possibly a CAS prosecution and a long entanglement clearing your name and career, if a doping-related blood parameter lay slightly outside a statistical threshold.

The longer your career and the increase in the number of entries in your blood profile or blood passport system, you will most likely have an abnormal value occur in the future. “With lots of testing, you will eventually have a value outside the norm due to chance,” stated one expert.

We are not talking about athletes who cheat. We are not talking about athletes who dope, or who miss out-of-competition, anti-doping tests. Not at all. We are not even talking about athletes with questionable moral values, or those with personal relationships or associations that raise concerns.

We are talking about clean, healthy, athletes who now are “on the radar screen,” and others who are allegedly the victims of flawed, statistics-based, prosecution behind the blood passport system and other procedural, decision-making fallacies in the course of their prosecution.

One expert said, “Approximately, 250,000 samples are evaluated each year in sports. A certainty level of only 95% means you will automatically have nearly 12,500 bogus doping cases each year.”

“Adding the values of the blood passport system into the prosecution for PEDs (performance enhancing drugs) makes everything more complicated, and the expertise hasn’t caught up yet,” said one anti-doping expert.

Even defense attorneys can sometimes have a wrong mindset, and pursue a wrong target, jeopardizing time, resources and an Appeal. It takes an entire team approach to handle the new challenges.

Take for instance Olympian Claudia Pechstein, who was banned for two years by the ISU (International Skating Union) in July, 2009, until February 9, 2011. Pechstein was subsequently stripped of her fifth and fourth place finishes in the 500m and 3000m speed skating races at the World All Around Championships in February, 2009.

The Pechstein case is not a “biological passport case,” as some say. Its not a “doping case,” as others say. It’s a “statistical value case,” and the efforts to justify bringing it to court, and the extensive and laborious analysis of the blood parameters, creating a global stage for experts to postulate about “doping possibilities” that are only guess work, to justify their opinions and the legal action. No steroids, no rHbEPO, no CERA or anything else in over 10 years has ever been found in her blood and urine. Nothing.

Its about applying one set of statistics against someone elses set, and the athletes are caught in the middle.

Keeping Sport Clean and Safe

The sport world wants biological passports. They are needed. However, blood profiling and the statistical processes and procedures international federations are using in the process of anti-doping is still an evolving science, only in its infancy. It is imperfect. There are gaps and flaws in the anti-doping system.

In-competition and out-of-competition testing in doping control looks for PEDs (performance enhancing drugs), amphetamines, steroids and other classes of drugs that will automatically disqualify an athlete immediately if found in the urine or blood. All good. All necessary in the fight for clean sports.

However, now, with the newly developed blood passports questions are arising.

Flawed Statistical Models

With Pechstein in Hamar, NOR, her RET% (reticulocyte) level was 1.05% off the norm. The ISU (International Skating Union) apparently ran a statistical analysis, and then consulted with a panel of experts according to the ISU rules and WADA guidelines.

Did they run the statistical model, as an onsite calculation in Hamar? Were they in place to do it? If not, who did it? How? What drove the decision making criteria with Pechstein?

According to Mr. Klaas Faber, a member of Pechstein's defense team, when a single value was 1% above a given threshold, they should have instantly run a simple basic calculation with approved, validated, statistics to decide whether this should be a concern. That is called establishing the statistical significance, of the value. Its an important calculation.

Faber believes that the statistical model, the calculation itself, was wrong, and Pechstein should have been allowed to continue to skate.

It was the application of statistical modeling, without any doping evidence, in the urine, blood or any of her history over ten years that has raised and caused the concerns.

The desire to prosecute athletes for indirect proof of doping, mixed with the possibility of flawed statistical modeling, and a lack of evidence-based, decision making models, is a danger to clean athletes everywhere.

"If its not stopped now, it will unleash a torrent of hell," (on athletes) said one anti-doping executive.

"The problems haven't been solved yet. The alarm bells are going off," said another.

But, its the clean athletes who are paying the price for the sport governing bodies' learning curve.

Dark Clouds and Secrecy

Regarding the Pechstein case, there have never been so many experts, present and former anti-doping executives, attorneys and other sport officials wanting to be off-the-record, only meeting or calling confidentially, and not wanting their name or opinion known, regarding the blood passport system and the prosecution of Pechstein. This is cause for concern.

The Pechstein case is revealing troubling scenarios for clean athletes everywhere. All athletes globally, in any sport, swimming, diving, water polo, gymnastics, track and field, are in danger of imperfect science, implementation of statistical models, and flawed decision making leading to prosecutions, from the international federations and various anti-doping authorities.

This is not the environment many have worked so hard to create and want to have for clean sports. "Everyone is afraid," stated once caller. There is a real fear of disclosure. To say anything against what they did to Pechstein.

The anti-doping community is divided, over the statistical models utilized, the science, and other court cases. The cases appear to split the community into two groups, hardline followers, who cold-heartedly, parrot the consequential outcomes, and the outside scientists, who see flaws in the system, the dangers to innocent athletes and who want to stop the unnecessary, legal carnage and improve the entire, anti-doping process.

By even mentioning the concerns of other leading scientists regarding the new blood passport system, indirect doping prosecutions, the statistical modeling employed, the interpretations, or highlighting concerns of others, you are endanger of exposing yourself to retaliatory press releases, or other acts of "friendly fire."

Try getting answers to questions, and verification from the ISU, DESG, the BKA, the Staatsanwaltschaft München I, and any one of a number of agencies, labs, or individuals, over the course of the weeks, and you run into blocks, delays, avoidance, referrals, no return calls/emails, or any one of a number of other communication gaps or breakdowns. Its not easy getting things right, when there is such an avoidance for clear communication at most points on the compass.

The anti-doping community is no where near to being “Olympic” in their performance. Sometimes they don’t even come close to the athletes.

The Balance of Power Shifts

It seems that all that the IOC has done for decades to inspire the world with wonderful, breathtaking moments in sports, all that the various OCOGs have produced every quadrennial period, the intense, hard work of the 25 Olympic Commissions, the 33 international federations, the 205 NOCs, the host broadcasters, the TOP sponsors, the podium finishes, the medal ceremonies, all that the coaches have done, the athletes, the years of training, the families, everything that fathers and mothers believe in, and who have worked so hard to achieve... all of it can be wiped out, instantly and softly, within a second, by one lab technician, or a few others, expressing their opinions that a blood value is outside of the statistical threshold, recommending the prosecution of the athlete.

A lab official, armed with an anomaly, and access to another sport federation official, can encourage, or support, or recommend suspending an athlete for a blood value anomaly, that later begins the process of legal proceedings against the athlete for “doping.”

The lifetime of effort, the victories and medals are instantly tarnished. Now you must fight the entire system.

With Pechstein’s case, and her blood profile, a single value, slightly over the limit, was grounds for suspension. “That’s completely and totally false, “ said one anti-doping executive. “They followed their rules.” But, there are long term, inter-personal influence factors to be considered, and a possible lack of checks and balances in the overall, anti-doping system that need to be examined, as others have stated.

Doping didn’t destroy Pechstein. Cheating didn’t destroy Pechstein. It was an interpretation of a single, blood value, mathematically termed a “suspicion,” and the human desire to turn it into an allegation, that did it.”

The NFs (national federations) and NADOs (national anti-doping agencies) are on the front line against doping. They know the athletes the best. The DESG (Deutsche Eisschnelllauf-Gemeinschaft) is the national speed skating federation and NADA is the national anti-doping agency for Germany. They didn’t bring the case against Pechstein. The DESG is on her side. It was the International Federation, the ISU, who did.

According to many, the Pechstein-CAS case should never have happened.

Statistical Models Given Too Much Credibility

Many feel, the outcome of these statistical models should never play a solo or even a major role, in determining whether to prosecute an athlete or not. They should only be used for screening purposes.

Donald A. Berry, and Lee Ann Chastin, in their article, *Inferences about Testosterone Abuse Among Athletes*, (How does one teach anti-doping officials about evidence-based decision-making?) 2004, states that “in medicine the outcome of a test never plays a solo role in a diagnosis. It represents only one factor to be considered. Physicians arrive at a diagnosis... in the context of other relevant information.”

Klaas Faber, and Bernard G.M. Vandeginste write, *Flawed Science ‘Legalized’ in the Fight Against Doping: The Example of the Biological Passport*, “the information gathered in the biological passport is grossly incomplete and, therefore, prosecution on the basis of the biological passport lacks a sound logical foundation.”

The World Anti-Doping Agency Mission Statement

WADA’s mission is to promote, coordinate and monitor the fight against doping in sport in all its forms. That’s good. That is necessary, and what we all have fought to bring about in sports for decades.

However, its time to examine and improve the “monitoring the fight” aspect to ensure best-methods and best-practices are utilized everywhere, in order to raise the level of excellence in the organization and bring damaging “friendly fire” incidents to light and reduce them to a zero.

Some say politics is a blood sport. Well, blood has been shed.

Pechstein’s Anti-Doping Record

Pechstein has been administered 348, combined, blood and urine, in-and-out of competition doping tests, by the top German anti-doping labs, from December 12, 1991 (in-competition test, in Berlin) through December 12, 2009, in Salt Lake City. At no time, has there ever been any accusation or allegation of doping in any form, from any authorities, anywhere, to the best of our knowledge.

German Doctors Showing Courage

The German doctors and specialists who have publicly come out against the Pechstein CAS ruling have demonstrated great courage (and even better science).

The doctors collectively, pointed out, how the values of other parameters in Pechstein’s blood profile (being so low and within norms) excluded the possibilities of rhEPO, CERA, or anything else in regards to the Hamar blood value and over the course of her career.

A statistical value is not a steroid. A statistical value is not a PED. A statistical value is not a banned substance. A statistical value, 1.05% higher, once, in ten years, should not be a crime or grounds for suspension, or a court case.

Quis Custodiet Ipsos Custodes? (Who watches the guards?)

Klaas Faber, PhD., CEO, Chemometry Consultancy, Beek-Ubbergen, NED, wrote the defense for Pechstein. If flawed science and faulty statistics are the problem, Faber knows where to find the solution. Flipping through 200 pages of scientific and court documents, Faber can slice the issues down to a few core points- in half a minute.

“Elite sports deserves elite science. With better science, we would have fewer ‘false-positives,’ (mistakenly prosecuting an innocent athlete) as well as fewer ‘false-negatives’ (not being able to get a doping cheat) stated Faber. “Focusing only on ‘positives’ that might be ‘false-positives’ illustrates the relatively weak science currently in use.”

Faber has a balanced approach to improving the science of anti-doping efforts with an eye on athletes’ rights.

“Currently, the athletes are in a weak legal position. Athletes cannot really challenge the science. Doping trials are extremely unfair. The prosecutors have an advantage. The authorities are not really honest about this. Perhaps, they are not aware.”

Some of the cases are about “false constructions,” elaborate arguments created to establish wrong beliefs held by individuals concerning a given topic. Concerning the Pechstein case, “...*generally* the conclusions drawn from the current biological passports are based on *flawed logic*.” “They are using elaborate science, intricate analysis, and a multitude of interpretations to hide bad science.”

“It’s a smoke screen,” Faber toned. “The real issue is: Did the athlete dope or not? In this case, the answer is: ‘No.’ The design of the system shifts the benefit of the doubt to the prosecuting authorities and not a clean athlete.”

The CAS award/ruling reveals the problem. “There is no way of proving you didn’t ever do doping. That is logically impossible.”

Consequently, court cases become exercises in futility, damaging the lives of the athletes because of faulty statistics.

Faber wants to see the pool of scientists and statistical experts that WADA utilizes expanded. He also points out the procedural weaknesses in peer reviews versus real outside examinations like those NASA, NIST, NIH, or MIT could conduct, that would yield better results. Faber and his associate Professor Don Berry are all about best-methods and best-practices. Faber’s ability to spot flaws or

weaknesses in the statistical models, the procedures and science in many of the doping cases is an asset to WADA, the IOC and especially, the athletes.

Question Authority

To comply with the anti-doping regulations, an athlete must tell where they will be for one hour each day, months in advance. They must cooperate fully with any out-of-competition doping test, immediately. At competitions, the same thing applies. 100% instant cooperation.

Why aren't the anti-doping authorities that way? Why is it so difficult to get basic answers? They are not held to the same standards as the athletes.

Faber through various emails and to the Dutch Press has tried to obtain some answers from Sottas. Sottas is the WADA expert who helped develop the blood passport system and was a consultant for the prosecution. "The purpose of this e-mail is to remind you that you did not yet respond to the following issue brought to your attention on April 1, 2010: "Rather than maintaining in your conclusion "the strong abnormality of the blood profile of Mrs. Pechstein," you should have provided on receipt of the data on 12 February 2009, the proper evaluation of abnormality of the Hamar values. After all, ONLY those values have led to her prosecution and subsequent conviction, not the profile as such. Clearly, proper scientific action on your side would have prevented the case to develop."

Apparently, there were new guidelines being drawn up by WADA which were published after the CAS ruling which some think would have exonerated Pechstein. "The publishing came after a meeting, as directed by the Board." That is good and following proper procedures.

Shouldn't the authorities make all available information, or knowledge of that information known to the athlete and court to assist them in any form? Pechstein's team wanted to use best-methods and best-practices. Shouldn't they have been permitted in this case?

"The athlete was entitled to hire any experts that they wanted." But, it is incredible to think, an athlete has to go from zero knowledge of an issue, to nearly becoming an expert, in a short amount of time, and is responsible for finding all of the relevant experts, specialists, lawyers, or other members to comprise a successful defense team. It must be a mind-blowing experience for an athlete to undergo, with no interest in law, statistics, bio-chemistry, or cheating.

"Pechstein hired her own lawyers and team..." Yes. But, it is the athlete who is paying for it out of her own pocket. The experts on the prosecution, the other attorneys, are all *paid* for their services. The athlete does not have the same resources, or legal insurance or "moral high ground" in a doping case. Is this fair?

Bundeskriminalamt Home Search

On March 4th and 5th, 2010, Pechstein's home was searched by the Bundeskriminalamt (Federal Criminal Police Office) in a planned, early morning, operation. That is the same special police unit responsible for state security, organized crime, weapons trafficking and terrorism with 5,500 employees from over 70 different professional groups. They provide support to the local police forces. The BKA are the same ones that search for the recent Dubai murder suspects, and the 9/11 terrorists in Germany. They are an elite, well-trained and respected, unit globally.

Now, they used the BKA to search the home of an ice-skater. *FOR WHAT???* During the day Mrs. Pechstein works as a police officer. The mere fact of being searched by the BKA leaves a permanent smear and stigma on the life of Mrs. Pechstein in Europe. This has gone way too far.

How can this be considered a "doping case" on one hand, and not a criminal case, especially when it involves the BKA? Where is the justice, especially if they found nothing?

The CAS award/ruling offers no reasonable evidence, or explanation or possibility of how any of that, of the alleged CERA injections, micro doses of EPO could have taken place.

So far, there appears to be no reports of any centrifuges, no rogue lab(s), no secret phone calls, no access to rogue doctors, no sophisticated, doping supply chain, no nothing to justify the CAS ruling of the "athletes' illicit manipulation of her own blood."

A Cause for Concern- Little or No Flexibility in the Future

How does an athlete like Pechstein defend herself against such statements? What about other speed skaters with RET% values like Pechstein? Will the experts be able to say the same thing about them? Even if they are 18-years-old? Can the CAS verdict then be shifted on to others, so that it will always be about CERA and micro doses of rhEPO in the future? Will they always assume that young athletes have access to rogue doctors, and sophisticated doping supply chain networks to facilitate the verdict?

Faber says, "The CAS decision implies that the indirect proof is a reliable method. In future cases, one can only point at procedural errors that might have caused the adverse result. Specifically, in theory, one can no longer challenge the calculation that distinguishes between a 'normal' and 'adverse' finding. I think few people realize what has happened in Lausanne."

There will be more and more athletes who will have longer, blood profiles as time moves on and others coming into the blood passport system. There will be dozens, hundreds, maybe thousands over time with blood values 1.05% higher. Will they apply the same flawed legal logic in the CAS verdict as a template to others? Of CERA and micro doses of rhEPO?

If its hard to believe that any 17, or 18-year-old athletes now "on the radar screen," have access to sophisticated doping supply chains, than why is it hard to believe that an outstanding police officer like Claudia Pechstein doesn't and is innocent?

If Pechstein returns to sport, and her RET% goes 1.05% higher, is it the same bad movie again?

It seems as if the CAS cases are becoming an industry, a convolution of interests, with IFs, labs, consultants, attorneys, all to gain from the increase in single value, indirect doping cases.

The Politics of Personal Destruction- The Cost to the Athletes

What is emerging in the analysis of these cases is the little value placed on the lives of the athletes, before, during and after the processes. Many feel it is time to examine the human cost to the athletes from all sides regarding their emotional, psychological, medical and financial health as they battle charges against them in CAS.

There must be nothing more humiliating, nothing more degrading, nothing more personally damaging and traumatizing, than to hear that the international federation and the anti-doping authorities whom you respect, and admire, have now turned on you, and are statistically finger-pointing, accusing you of doping, because of a value in your blood. It is beyond comprehension, how betrayed a clean, Olympic athlete must feel, and what they emotionally and psychologically experience, when falsely accused. Can they ever be competitive at the same emotional level they once were? Most think it is unlikely.

In a previous *Swimming World* article entitled, **The Value of An Athlete: Claudia Pechstein Defended by Medical Experts** -- March 19, 2010, the meaning of the word "value" is two fold. One meaning is their value to the Olympic Movement and sports, and how those institutions will treat them in the course of a doping prosecution and its outcome. The second meaning is, the value, the blood value, of an athlete, a small, single, statistical reference point, a tiny, dot on a chart, among dozens of other dots, 1.05% higher, that can cause so many problems.

The WADA Ethical Issues Review Expert Group provides expert ethical opinion, when required, often on short notice, through the review of urgent or contentious ethical issues that may arise in the fight against doping in sport, and to develop and/or recommend ethically sound policy or suggestions to WADA's Management as deemed appropriate by the Panel.

In WADA's mandate about "monitoring the fight," nothing could be more valuable and needed now, than for the Expert Group to review the issues with Pechstein and others. Is the process faultless? Is it error free? Can it be improved? What are the associated issues? Could it happen again? Some think it is time to examine the human rights aspects, data protection and the privacy issues.

Would an IOC or NOC official if suspended for two years, then found "not guilty" in a doping case, do you think they'd win another election?

It must be incredible, for a clean athlete to sit, hour after hour, day after day, listening to experts, when they never have doped, and not even knowing how to do it on such micro scales or by other means, as stated in the CAS ruling.

What are the guidelines and protocols for restoring an athlete wrongly accused? Is there even a program?

Its time to think about it. A conviction with no evidence, based on one blood value, when an athlete has been 100% clean for over ten years, doesn't mean an athlete has ever doped or cheated in any way, because of one single blood value, 1.05% over, later on in her sport life. There is a lot to learn about the biology of it all. Pechstein and other athletes are not responsible for supplying all of the answers.

One sport executive stated, "In the world of anti-doping and CAS, you have to prove you're innocent. In the normal legal world, the authorities have to prove you are guilty."

Masking Agents

Like various masking agents used in doping to conceal the presence of illegal substances, PEDs, and anabolic steroids, anti-doping institutions and cases themselves are in danger, possibly, of various masking agents that hide flawed decision making, faulty statistics, incomplete science, prosecutors fallacies, and other factors that conceal truth, and prevent justice from being established.

Intellectual pride, self-justification, nationalism, systemic bias, lack of transparency, and closed systems, are some of the masking agents in the anti-doping movement.

"She was convicted. They followed the procedures," said one anti-doping official. Others have mechanically, parroted the same line. Somehow, it rings hollow.

A Code, a prosecution and a ruling, no matter how well they followed the processes, and how many people were involved, can be a masking agent for those not ready to deal with the unthinkable, that they may have just convicted an innocent and honorable athlete. It all hides flawed statistical reasoning, imperfect science, and the guessing of doping "possibilities" no matter how remote, in the CAS award/ruling which eclipses the light of truth, that an athlete has never doped or cheated in any way.

The Unthinkable

Like in political, think tank scenarios when discussing terrorism and the possibility of a nuclear bomb going off, its time to deal with the unthinkable. That they may have just destroyed the life of an innocent, healthy athlete and wrongly convicted one of Europe's finest, a nine-time Olympic medalist, a five-time Olympic gold medalist, a distinguished police officer with an unblemished career record, all because of a zeal to establish indirect proof of doping, utilizing weak statistics, and leaving many unanswered questions.

By masterfully discussing the values, the blood profile, creating and weaving doubt and other perfectly crafted, doping possibilities in the CAS award/ruling, it gives the prosecution some sense of righteousness, and the global, anti-doping authorities a fragile, peace of mind.

But, it feels wrong. Very wrong. How can an athlete defend him/herself against the possibilities of a value being slightly off?

They are indefensible. What are the perfect defenses to say against the CAS ruling?

Its time to confront the realities of the anti-doping prosecution system, and the on-stream scenarios with indirect proof of doping, from tooth-to-tail, its flaws, the gaps and the possibilities of destructive outcomes and how to prevent them, the ethics, and how to fix it when things go wrong. They will. It's a statistical inevitability.

David Howman, Director General, WADA, has done a good job. Its hard enough. He doesn't need any "friendly fire" incidents. He needs clear, unfettered access to world-class excellence in all aspects of jurisprudence, statistical modeling, communications, science and process management without undue delay or influence. Its time to step back and scan other horizons, and to expand the brain trust of experts for WADA.

One thing is certain, as the new biological passports play a more significant role, and as the science develops, the athletes have an ally in Montreal, "The more scrutiny the better. Fairness should be tested. I'm open to changing the rules," explained Howman.

Howman never mentions it, but, a lack of more financial resources may be hindering the fight, as it was in Germany with NADA. There is a point of mutual agreement among the experts in an out of WADA on one issue. They believe the budget should be doubled, even tripled as soon as possible. Howman's strategic concerns and for the athletes are the same as others and his priorities deserve full funding.

Enough is Enough

Some leading anti-doping executives and some scientists say "its about facts." On the contrary, its about truth. Facts can be assembled in a variety of different ways and forms, all fair, however, they can be expertly woven and presented to support a wrong conclusion and allegation that is used mainly to justify many experts presence and opinions, and in bringing the case to court, when it shouldn't have ever come at all.

The strategic thinking behind the Pechstein case needs to be examined. Why Pechstein many say? When the problems with cycling, and China still persist. Is this the best use of resources? Who drove the decision?

Anti-doping executives like to hear that the international federations "followed the rules." Did they follow the rules or each other internally? Or one person? There is a major difference.

Communication Forensics Need to be Utilized

Who ran the calculations for Hamar? How were they computed? On site? Were they ISU officials who did them? Who called who when? What about the emails and telephone calls? Those are critical to know, how the process was done. Some think, without communication forensics, especially in the Pechstein case, the level of confidence, the LOC Value, for compliance is "abnormally" low. To this date, we do not know the "value of the evidence," the "statistical significance" of the calculation. What is it?

Without communication forensics in the equation, perception fallacies can develop, if individuals over a long period of time, in stating their own opinions that an athlete is most likely "doping," or becomes suspicious, if their RET% levels are above the norm, due to personal observations, and inter-personal influence. It may result in anti-doping officers or officials possibly, believing wrongly, based on blood values alone. Data integrity issues, with communications forensics need to be examined, and employed.

"Its just like the Landis case, it belongs in the same bucket with Tim Montgomery," said one executive. Lets hope that is completely wrong. The statement looks more like an example of taking a small set of similar bits of information, and imposing it on another individual and case, like moving a clear transparency, onto another sheet of paper.

However, communication forensics, with a proper, approved, statistical model, calibrated, to the right percentages for better accuracy, and constantly, employed at all events over the years, would prevent such wrong perceptions from being developed and the recommendation to suspend an athlete, and for it to go to court.

Do you think that 10 years of perfect compliance with the in-and-out of competition testing, did any good for Pechstein to highlight her innocence? Apparently not. It appears to be used only as a negative to highlight certain opinions on the highest levels.

"Pechstein has been on everyone's radar screen for a long time," stated one executive. The reasoning that produced that thinking and conclusion, most likely, is based on facts, and not on truth. That is flawed logic. That is an example of systemic bias, a perception, based on group opinion and personal influence most likely, based on blood RET% values. However, proper statistical modeling, employed over the course of time, might reveal another story, that she is innocent and within the norm, not only with Pechstein, but, other young, athletes slightly outside the parameters now "on the radar screen," or in the prosecution pipeline. The testing on Pechstein, should have been done years ago, if anyone had concerns along with examining medical condition factors. There shouldn't even be a "radar screen," when the ability to establish answers to statistical suspicions are instantly possible.

Athletes deserve the right to compete free from the fear of the anti-doping authorities they support and endorse, and free from fear from any human suspicion from any international federation authorities. The athletes have a personal right to know where they stand at all times.

It is difficult dealing with statistics, thousands of athletes, and the desire to keep sports clean. But, the absence of checks and balances in anti-doping and/or with the Pechstein case needs to be examined.

Clean athletes who have been harmed by the international federations and anti-doping authorities, with various statistical models and faulty analysis want more than money. They want blood. No half measures in her exoneration.

Doping and cheating is a character issue, not a single value, statistical issue.

Claudia Pechstein is innocent. Deal with it. ■

About the Author

Steven V. Selthoffer is a communication specialist based in Germany who has coached a number of Olympic swimmers and who served as a commentator for swimming for the 2000 Sydney Games. He has been called to testify before a number of government committees in Washington D.C., the United Kingdom and Germany on various international government relation and security issues.

Mr. Selthoffer finished his career, swimming at Indiana University under legendary U.S. Olympic coach, Dr. James E. Counsilman.