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# Gender, Steroids, and Fairness in Sport

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## Keywords:

Doping; Transgender athletes; Trans sport; Gender and Sport; Eligibility to Compete

**Abstract:** Eligibility to compete in sport is organised principally around two binary distinctions: 'clean/doped' and 'male/female'. These distinctions are challenged both by steroid users who wish to return to competition following a period of suspension, and trans women athletes who wish to compete in women's events. Recent empirical work has suggested that steroid users retain an elevated capacity for muscle reacquisition years after they cease using steroids. I suggest that an analogous worry may arise with respect to certain trans women athletes who wish to compete in women's events. If sound, this argument would establish an unexpected parallel between eligibility debates surrounding returning dopers and trans women athletes.

## Gender, Steroids, and Fairness in Sport

Athletic success is, inevitably, at the expense of one's competitors. An athlete's prospects of such success, then, depend heavily on whom she must compete against. Perhaps the most significant determinant of an athlete's opposition is the category of competition for which she is deemed eligible. Eligibility to compete in competitive sport is defined by two principal distinctions: 'clean/doped' and 'male/female'<sup>1,2</sup>. Two types of case challenge the sustainability of these distinctions: the 'returning steroid doper' and the 'trans woman athlete'. The returning steroid doper (henceforth referred to as the 'returning doper') is an athlete who has used steroids in the past, no longer uses them, and wishes to return to competition following a period of suspension associated with a doping ban.<sup>3</sup> A trans woman athlete is a male-to-female transsexual athlete who wishes to compete in women's events.<sup>4 5</sup> I suggest here that, while the returning doper and trans woman may seem to raise quite different moral issues, the eligibility of each is importantly, and perhaps unexpectedly, related. Indeed, their eligibility for their respective desired competitions may stand or fall together. I examine the implications of this view both for how eligibility should be determined within sport and for the length of period that both types of athlete should

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<sup>1</sup> Only a small minority of sports (e.g. equestrian sports or sailing) incorporate events at the elite level in which there is no sex segregation, that is, where eligibility to compete is sex blind. A small number of sports incorporate mixed-sex competition at the elite level where the composition of teams must conform to a prescribed gender ratio (e.g. tennis, badminton, ice-skating).

<sup>2</sup> One might point also to age, disability, and performance level as key eligibility criteria: In youth sport, age serves as a key criterion of eligibility, but my focus here is with adult sport. In Paralympic sport, the nature and severity of one's disability is crucial to determining in which classification one should compete. My focus is on able-bodied sport. Finally, performance level often serves as a criterion of *selection*, but it is not a criterion of *eligibility*. That is, only athletes who attain a certain standard may be selected to compete in the Olympics, but this does not mean that athletes who did not attain the relevant standard were not eligible to compete. Eligibility criteria should not be confused with selection criteria.

<sup>3</sup> The scope of this paper's argument does not extend to every type of doping. It is confined to the use of anabolic steroids: a substance that mimics the effect of testosterone.

<sup>4</sup> One of the best-known trans women athletes is Renée Richards (formerly Richard Raskind) who played the US Open tennis championships both as a man and as a woman. See Sara Lentati, "Tennis's Reluctant Transgender Pioneer", *BBC News*, 26 June 2015, URL: <http://www.bbc.com/news/magazine-33062241> (accessed on 4 Nov. '17).

<sup>5</sup> Trans athletes should not be confused with 'intersex' athletes. The latter do not fit comfortably within typical definitions of male/female distinction on account of having atypical genitalia. For an excellent discussion of the ethical complexities associated with the eligibility of intersex athletes, see Silvia Camporesi, 'Ethics of Regulating Competition for Women with Hyperandrogenism' in *Clinical Journal of Sports Medicine*, vol. 35, 2016, pp. 293-301.

be required to serve before they are deemed eligible for ‘clean’ or “women’s” sport respectively.

In section 1, I describe the ‘continuing unfairness’ objection to the return of steroid dopers to competition. This objection relies on a physiological advantage that returning dopers may retain long after they have ceased to dope. In section 2, I examine how this objection may also apply to the eligibility of trans women athletes. In section 3, I clarify the limits to this analogy.

## **I. The Continuing Unfairness Objection to Returning Steroid Dopers**

The men’s 100m title at the 2017 World Championships in Athletics was won by Justin Gatlin.<sup>6</sup> At the time of the race, Gatlin was 35 years old and had served two bans following positive drug tests. The second of these bans was for 4 years and the result of his testing positive for testosterone. Following his return to competition in 2010 following the second ban, questions were raised about the validity of his performances. Some suggested that his ability to run world-leading times in the twilight of his career<sup>7</sup> was partly the legacy of his period of doping.<sup>8</sup> The suspicion was that, even if he had ceased to dope for the duration of and following the ban, his performances were still not ‘clean’, as they were partly the result of a continuing performance benefit accrued during his period of doping. His history of doping, it was suggested, continued to enhance his performances years after he had ceased to dope.

The hypothesis that steroid use may confer a continuing advantage long after one has ceased to inject steroids has received some scientific support. In a 2013 paper in the

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<sup>6</sup> Ingle, Sean, ‘Justin Gatlin Gatecrashes Usain Bolt’s Farewell Party in 100m’ in *The Guardian*, 6 August 2017, URL: <https://www.theguardian.com/sport/2017/aug/05/justin-gatlin-usain-bolt-100m-london-2017-world-athletics-championships> (accessed on 4 Nov. ‘17).

<sup>7</sup> For example, Gatlin set a new personal best in 2015 (as a 33 year old), the tenth fastest time in history. This placed him among the five fastest performers in history, URL: <https://www.iaaf.org/records/toplists/sprints/100-metres/outdoor/men/senior> (accessed on 4 Nov. ‘17).

<sup>8</sup> Fordyce, Tom, ‘Drug Cheats in Sport Could Benefit of Decades, Scientists Find’, *BBC Sport*, 7 October 2014, URL: <http://www.bbc.com/sport/athletics/29510575> (accessed on 4 Nov. ‘17).

*Journal of Physiology*, Ingrid Egner *et al* reported that, at least in mice, even brief exposure to anabolic steroids could have long-lasting performance enhancing effects. Specifically, such exposure could confer muscle growth capacity that would survive for decades:

Our data demonstrate that at least in mice, an episode of testosterone use may recruit a long lasting pool of excess myonuclei, and a persistent increased ability to regain muscle mass by resistance exercise in the absence of further steroid exposure. Thus, the benefits of even episodic drug abuse might be long lasting, if not permanent, in athletes.<sup>9</sup>

The authors of the paper explain the findings for a non-specialist language as follows:

If you exercise, or take anabolic steroids, you get more nuclei and you get bigger muscles. If you take away the steroids, you lose the muscle mass, but the nuclei remain inside the muscle fibres...They are like temporarily closed factories, ready to start producing protein again when you start exercising again.<sup>10</sup>

The upshot of this finding is that one of the performance enhancing effects of steroid use is that the user may retain, years after she has stopped using the steroid in question, an elevated capacity for muscle re-acquisition, so-called 'muscle memory'<sup>11</sup>. This capacity provides an elevated responsiveness to resistance training. So, the period of performance enhancement derived from steroid use may extend long after the period of steroid use. This would allow a returning steroid doper, years after the cessation of her drug use, to derive greater gains from resistance training than would have been possible had she not doped. On this view, athletes who have enjoyed elevated levels of testosterone arising from steroid use are not 'clean' for perhaps decades after they have stopped using the drug. Their performance continues to be enhanced by their past steroid use, because one of the performance enhancing benefits of the drug persists – an elevated capacity for muscle growth. In short, steroid use

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<sup>9</sup> Egner, Ingrid M. *et al*, "A Cellular Memory Mechanism Aids Overload Hypertrophy in Muscle Long After an Episodic Exposure to Anabolic Steroids" in *Journal of Physiology*, 2013, pp. 6221-6230, p. 6228.

<sup>10</sup> Fordyce, Tom, 'Drug Cheats in Sport Could Benefit of Decades, Scientists Find', *BBC Sport*, 7 October 2014, URL: <http://www.bbc.com/sport/athletics/29510575> (accessed on 4 Nov. '17).

<sup>11</sup> Brusgaard, I.B. *et al*, 'Myonuclei Acquired by Overload Exercise Precede Hypertrophy and are Not Lost on Detraining' in *Proceedings of the National Academy of Sciences of the United States*, vol. 37, no. 4, 2010, pp. 15111-15116.

alters an athlete's muscle physiology in a way that elevates the athlete's responsiveness to training, and it is suspected that this performance-enhancing effect does not dissipate for years and years, if at all, after the athlete ceases to use the drug.

The cessation of steroid use may result in a reduction in one's muscle mass, but this reduction does not level the playing field with clean athletes, because steroid dopers retain this elevated capacity for muscle growth long after their period of doping. The performance enhancing effects of steroid use cast a long shadow: there are not only immediate effects but also legacy effects to which we should attend in determining eligibility to compete.

If we wish for athletic performance not to be tainted by drug use then it seems that we may have reason (albeit defeasible reason) to impose much longer bans on steroid dopers, perhaps even in the order of 10 years. This extension would be necessary to allow the unfair advantage gleaned from steroid use to dissipate entirely or to a tolerably low level. So, the justification for such an extension would not be deterrence, education, or expression of disapproval but to safeguard the fairness of competition.

Having laid out the continuing advantage objection, I now argue that a similar eligibility worry may arise for trans women athletes who wish to compete in women's sport.

## **II. Are Trans Women a Parallel Case?**

Intersex and trans athletes have problematised the 'male/female' distinction in sport for the last 30 years.<sup>12</sup> The debate is ongoing about what, if anything, trans women need to do or to be in order to compete in women's sport. As recently as November 2015, the International Olympic Committee produced new guidelines that addressed

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<sup>12</sup> For an excellent summary of the developments in this area over the last three decades, see María José Martínez-Patiño, Eric Vilain, and Nereida Bueno-Guerra, 'The Unfinished Race: 30 Years of Gender Verification in Sport' in *The Lancet*, vol. 388, 2016, pp. 541-543.

the eligibility of male-to-female transgender athletes.<sup>13</sup> The guidelines require, firstly, that a trans woman who wishes to compete in the female category declare that her gender identity is female.<sup>14</sup> Following the declaration, the sole criterion for the eligibility of the trans women to compete in female competition is that she maintain a testosterone concentration below 10 nmol/L for a period of 12 months prior to her first competition and throughout her desired period of eligibility to compete in the female category.<sup>15</sup>

The guidelines are indifferent to an athlete's testosterone level more than 12 months prior to competition. Additionally, the guidelines remove any requirement that the athlete be granted a legal change of gender to 'female', undergo sex reassignment surgery<sup>16</sup>, or hormone replacement treatment (HRT). While HRT is not an eligibility requirement for trans women whose testosterone level falls below the threshold without such therapy, HRT is effectively required for those athletes whose testosterone level would not fall below the threshold without such therapy. It is this latter group – the group whose testosterone level before HRT is within the male typical range – that interests me here.

The new guidelines around eligibility have been made less demanding on trans women than before, but are these guidelines ethically justifiable? Specifically, is maintenance of a trans athlete's testosterone level below the stipulated threshold for the 12 months prior to competition enough to ensure the fairness of competition between trans and cis women athletes?<sup>17</sup>

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<sup>13</sup> IOC Consensus Meeting on Sex Reassignment and Hyperandrogenism November 2015, URL:

[https://stillmed.olympic.org/Documents/Commissions\\_PDFfiles/Medical\\_commission/2015-11\\_ioc\\_consensus\\_meeting\\_on\\_sex\\_reassignment\\_and\\_hyperandrogenism-en.pdf](https://stillmed.olympic.org/Documents/Commissions_PDFfiles/Medical_commission/2015-11_ioc_consensus_meeting_on_sex_reassignment_and_hyperandrogenism-en.pdf) (accessed on 4 Nov. '17).

<sup>14</sup> Ibid, p. 2.

<sup>15</sup> Ibid, p. 3.

<sup>16</sup> In surveying the literature on the eligibility of trans women to compete in women's events, one should be mindful that much of the philosophical writing prior to these latest guidelines focuses on post-operative transsexuals. See, for example, Sarah Teetzell, 'On Transgendered Athletes, Fairness, and Doping: An International Challenge' in *Sport in Society*, vol. 9, no. 2, 2006, pp. 227-251.

<sup>17</sup> John Gleaves and Tim Lehrbach suggest that this concern for fairness emanates from a 'faulty conception of the nature of sport' understood as a 'comparative test between equal competitors'. See their 'Beyond Fairness: The Ethics of Inclusion for Transgender and Intersex Athletes' in *Journal of the Philosophy of Sport*,

The present guidelines regarding trans women's eligibility may raise the same continuing unfairness worry that was directed at returning dopers. The continuing benefit enjoyed by returning dopers arose from lasting physiological gains made possible by the elevated testosterone in their system from steroid use. Similarly, trans women athletes may also benefit from an elevated capacity for muscle reacquisition on account of the adaptations achieved while training with higher levels of endogenous testosterone, compared to their cis female and trans women competitors whose testosterone level was always female-typical. Such trans women athletes would then enjoy the benefit of years, often even decades, of training with higher testosterone levels than their cisgender counterparts.<sup>18</sup>

One continuing benefit of this period of higher testosterone level would be an elevated capacity for muscle reacquisition arising from the years of training with male-typical levels of testosterone, even if their testosterone levels fall below the present stipulated threshold for the duration of the 12 months prior to competing in the women's category and while they compete. The legacy of training with male-typical levels of testosterone would confer a lasting performance benefit not available to cis female competitors.

The continuing unfairness objection applied to these two cases may dictate three important implications for sports policy:

1. Longer suspensions may be appropriate for steroid dopers than for other types of dopers. We should be more drug-specific in the imposition of punishment for doping. For example, in strength-based sports, steroid use may merit a longer suspension

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vol. 43, no. 2, 2016, p. 311-326, p. 311. In this paper, I address a problem that arises within the prevailing conception of sport. I bracket the question of whether this conception is morally defensible and preferable to the 'gendered narrative' conception of sport advocated by Gleaves and Lehrbach.

<sup>18</sup> Though the extent of that benefit will depend crucially on an individual's testosterone receptors.

than, say amphetamine use, on account of the longer time it takes for the residual physiological effects of steroid use to dissipate.

2. A longer preparatory period – perhaps significantly longer – than the 12 months currently required would be necessary before trans women who require HRT under the guidelines could compete in women’s events. However, the analogy with the returning steroid doper may point in the opposite direction if muscle memory was deemed not to provide sufficient reason to extend short bans for steroid use, even in cases where only a year-long ban is imposed. If the continuing unfairness objection was not thought decisive in the case of steroid users, consistency may dictate that it should not be thought decisive for trans women athletes either. So, the analogy may cut either way to justify an extension or shortening of the preparatory period for trans women. The cut will depend on how the continuing unfairness objection for the returning doper case is resolved.

3. The unified approach to sex testing in sport, by which trans athletes are deemed eligible to compete in all women’s sports or none, should be abandoned. Instead, a sports-specific approach to sex-based eligibility rules should be adopted. We should tailor eligibility criteria to the demands of individual sports, or at least to clusters of sports that test similar physical excellences. While testosterone level may be one important determinant of performance in strength-based events<sup>19</sup>, it may be relatively unimportant in events that place less emphasis on strength and perhaps more on flexibility or stamina. Consequently, different criteria may be applicable to ensuring fair competition between trans and cis women in different sports.

### **III. Limitations to the Scope of the Argument**

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<sup>19</sup> There is evidence that in the female 400 m, 400 m hurdles, 800 m, hammer throw, and pole vault events, a high free testosterone concentration is associated with a higher level of performance. See Stephane Bermon and Pierre-Yves Garnier, ‘Serum Androgen Levels and Their Relation to Performance in Track and Field: Mass Spectrometry Results from 2127 Observations in Male and Female Athletes’ in *British Journal of Sports Medicine*, 2017.

I have suggested that the problem of continuing unfairness raised by returning dopers may also arise in the case of trans women who had male-typical levels of testosterone prior to making the transition to women's sport. In both cases, the category of athlete in question may enjoy continuing advantages not accessible to their clean and cis gender competitors respectively. However, even if this claim were true, it would not settle the question of whether these two cases are morally equivalent.

### **i. Empirical Evidence**

One might raise doubts about what can reasonably be inferred from the scientific study on which my argument relies. The research cited in support of the continuing benefit of steroid use was conducted on mice rather than humans. Despite close similarity between human and mouse muscle development, further research needs to be conducted on humans to verify that a similar effect is present in human muscle development.<sup>20</sup>

Moreover, further research needs to be conducted on the potentially detrimental effect of HRT on the performance of trans women athletes who compete at the elite level.<sup>21</sup> If these effects are sufficiently detrimental to performance, they may mitigate any advantage gained from muscle memory. Underlying this is the concern that discussion of athletic performance should not be guilty of a 'testosterone myopia': a focus on testosterone levels to the neglect or exclusion of other relevant determinants. On account of both the limits of the scientific study on which my arguments relies and the unknown effects of HRT on the performance of elite trans women, my argument is necessarily speculative.

### **ii. Tolerable Unfairness**

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<sup>20</sup> Indeed, Steve Davis and Lisa Edwards cast doubt on whether testosterone-induced advantage in sports constitutes an unfairness at all in women's sport. See their 'The new IOC and IAAF Policies on Female Eligibility: Old Emperor, New Clothes?' in *Sports, Ethics and Philosophy*, vol. 8, no. 1, 2014, pp. 44-56, pp. 49-51.

<sup>21</sup> Pitsiladis et al note that 'research into the advantage that transgender women possess in athletics is sparse'. See their 'Beyond Fairness: The Biology of Inclusion for Transgender and Intersex Athletes' in *Current Sports Medicine Reports*, vol. 15, no. 6, 2016, pp. 386-388, p. 386.

Even if a similar effect were present in humans as in mice, and this effect generated unfairness, the unfairness generated may be *tolerable* unfairness. The unfairness may not be sufficiently morally troublesome to warrant elimination. Specifically, the performance benefit may not be of significant magnitude to justify the steps necessary for its mitigation. We do not attempt to mitigate every unfairness in sport. For example, socioeconomic inequalities advantage wealthy athletes with access to expensive coaching, travel, and training facilities, but we do little to restrict the extent to which economic power can be brought to bear on securing greater access to such advantages. Perhaps the unfairness that this paper addresses is of this tolerable sort. Nevertheless, existing objections to gene doping, pharmacological doping, and prosthetics do suggest that we are particularly sensitive morally speaking to unfairness that arises through the ‘artificial’ or ‘unnatural’ manipulation of one’s physiology. More scientific work needs to be done to quantify this purported continuing benefit and ethical work then needs to be done to determine whether an athlete should be allowed to compete with whatever level of benefit is conferred, if one is indeed conferred.

### **iii. Fairness Is Not the Only Value**

Finally, even if some unfairness does arise where returning dopers and trans women are deemed eligible to compete, fairness is not the only value. Fairness in competition must often be balanced against other competing values, most notably in this case, ‘inclusivity’. In addition to ensuring that competition is fair, we may wish to ensure that sport is inclusive of all gender identities. Even if trans women who compete in women’s sport enjoy a continuing unfair advantage, this unfairness may be tolerable to ensure that sport is open to all-comers.

Sport can respect the importance of inclusivity, it might be argued, by allowing trans women to compete in the male category or in a third ‘trans’ category. If trans women were eligible to compete only in men’s sport or in trans sport, there would still be a category of sporting competition within which they would be eligible to compete. So, it might be suggested, they enjoy the same opportunity to compete as everyone else.

However, while they may enjoy an *identical* opportunity, they would not enjoy an *equivalent* opportunity to compete as their cis female (or indeed trans male) counterparts. That is, they would not enjoy an equally valuable opportunity to compete as those who have the opportunity to compete in a category that is consistent with their gender identity. While requiring trans women to compete in men's or in trans categories may not formally exclude them from participation in sport, it may leave them only with a humiliating and degrading option: competing in a category that is not consistent with their gender identity. This option would effectively – even if not formally – exclude them from sport on the grounds of their gender.

The segregation of trans women into a trans category of competition, in addition to the above objection, risks replicating and exacerbating the marginalisation they already suffer in wider society. The fairness of competition is a central animating value of modern sport. However, it is not the singular or overriding sporting value.

#### **iv. Benefitting from Wrongdoing**

The returning doper and the trans woman cases may not be analogous in the way I have described, because the former involves benefitting from morally bad behaviour (i.e. rule breaking) and the latter does not. The continuing advantage enjoyed by the returning doper is an example of benefitting from past injustice: the returning doper continues to benefit from her past misconduct. However, no such claim of misconduct can be levelled at the trans woman. Her advantage arises from her gender identity, not any kind of cheating. The moral imperative to prevent unfairness may be more strict when that unfairness arises from unjust conduct.

However, not all dopers are cheaters. One does not need to be at fault to commit an anti-doping rule violation. Consider Article 2.1.1 of the World Anti-Doping Code 2015:

It is each athlete's personal duty to ensure that no prohibited substance enters his or her body. Athletes are responsible for any prohibited substance or its

metabolites or markers found to be present in their samples. Accordingly, it is not necessary that intent, fault, negligence or knowing use on the athlete's part be demonstrated in order to establish an anti-doping rule violation under Article 2.1.<sup>22</sup>

An athlete is strictly liable for prohibited substances in her body. That is, an anti-doping rule violation can be committed irrespective of whether the athlete is at fault in how the substance came to be present in her body. Even if the athlete were neither reckless nor negligent in the prohibited substance entering her body – even if she had taken every reasonable care and precaution – she can be guilty of an anti-doping rule violation. Given the strict liability basis of Article 2.1, it is at least conceptually possible that returning dopers may not be blameworthy for their continuing advantage.<sup>23</sup>

Moreover, athletes who fail in-competition drug tests are disqualified from competition regardless of fault. For example, as per Article 9 of the World Anti-Doping Code 2015, in individual sports, an anti-doping rule violation associated with an in-competition test results in the automatic disqualification of the result obtained in competition (as well as forfeiture of all associated medals, points, and prizes). Irrespective of whether the athlete was blameworthy for receipt of their unfair advantage, the presence of this athlete in the competition is thought to undermine the fairness of that competition. So, the returning doper and trans woman analogy may not always break down on account of wrongdoing.

These four possible challenges to this paper's thesis underline how the case for the moral equivalency of the returning doper and the trans woman athlete should not be proposed without qualification and remains open to challenge from a variety of directions.

## **Conclusion**

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<sup>22</sup> World Anti-Doping Agency, *World Anti-Doping Code*, 2015, Art. 2.1.1

<sup>23</sup> It seems unlikely, however, that those who use steroids for any sustained period could do so without fault.

My thesis is both speculative and qualified. The thesis is speculative because the argument adduced relies on certain empirical hypotheses proving to be true. The thesis is qualified because, even if these claims do are verified, my argument establishes only a *pro tanto* reason for the returning doper and trans woman cases to be treated as morally equivalent in eligibility debates – a reason to be weighed against (and possibly defeated by) other competing reasons.

This paper points towards an unexpected, ethically relevant relation between the eligibility debates concerning returning dopers and trans women athletes. This relation may have important implications for how we resolve the eligibility debates for each. The returning doper and the trans woman both pose difficult and important challenges to the principal binary distinctions – ‘clean’/‘doped’ and ‘male’/‘female’ – on which questions of eligibility have traditionally relied. If we are to arrive at a rationally defensible approach to eligibility in sport while retaining these distinctions, then we must recognise that these distinctions cannot be considered in isolation from each other: we must achieve consistency in our justification and application of both. This paper reveals a new complexity to that task.

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