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Fairness at a Price: Protecting the Integrity of Athletic Competitions at the Expense of Female Athletes

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**FAIRNESS AT A PRICE: PROTECTING THE INTEGRITY OF
ATHLETIC COMPETITIONS AT THE EXPENSE OF FEMALE
ATHLETES**

ANNIE BACH YEN NGUYEN*

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“Sex tests are based on the notion that fair competition requires ‘protecting’ female athletes. Protection has been the cloak that covers all manner of sex discrimination, and it is seldom, if ever, the best way to advance equality.”

–Rebecca Jordan-Young and Katrina Karkazis¹

INTRODUCTION

In 2014, Dutee Chand, one of India’s fastest runners and an Olympic hopeful, was asked by the director of the Athletics Federation of India (AFI)² to meet him in Delhi, India.³ Upon her arrival she was sent to a doctor for a “routine” examination.⁴ Soon thereafter, Chand received a letter from the AFI stating, “It has been brought to the notice of the undersigned that there are definite doubts regarding the gender of an Athlete Ms. Dutee Chand,” and requested that a gender verification test be performed.⁵ Chand is not the first female athlete to be subjected to a gender verification examination.⁶ In 1986, an accomplished hurdler named María José Martínez-Patiño was told she was unable to compete because she had failed her gender verification examination.⁷ In 2009, another female athlete named Caster Semenya was asked by the International Association of Athletics Federations (IAAF) to verify her gender.⁸

These gender verification examinations, also known as “gender determination” or “sex verification” tests, have been implemented by the International Olympic Committee (IOC) and the IAAF since the 1960s.⁹ For the past fifty years, the IOC and the IAAF have cycled through three main types of examinations: the Physical Examination; the Chromatin Test; and the Testosterone Test.¹⁰ Even though these tests have “long been criticized by geneticists, endocrinologists, and others in the medical community,” female athletes continue to be subjected to these invasive and discriminatory

¹ Rebecca Jordan-Young & Katrina Karkazis, *You Say You’re a Woman? That Should be Enough*, N.Y. TIMES (June 17, 2012), <https://nyti.ms/2klBKXA>.

² The Olympic Movement “encompasses organisations, athletes and other persons who agree to be guided by the principles of the Olympic Charter” and is composed of three main constituents: the International Olympic Committee, the International Federations, and the National Olympic Committees. *The Organisation*, INT’L OLYMPIC COMM., <https://www.olympic.org/about-ioc-institution> (last visited Jan. 30, 2018). The International Association of Athletics Federations is the body that governs track and field at the world level, and the Athletics Federation of India is its affiliate. *About the IAAF*, INT’L ASS’N OF ATHLETICS FED’NS, <https://www.iaaf.org/about-iaaf> (last visited Nov. 10, 2016); *About Us*, ATHLETICS FED’N OF INDIA, <http://indianathletics.in> (last visited Jan. 31, 2018).

³ Ruth Padawer, *The Humiliating Practice of Sex-Testing Female Athletes*, N.Y. TIMES, June 28, 2016, <http://nyti.ms/2950brC>.

⁴ *Id.*

⁵ *Id.*

⁶ See, e.g., Jon Bardin, *Olympic Games and the Tricky Science of Telling Men from Women*, L.A. TIMES (Jul. 30, 2012), <http://articles.latimes.com/2012/jul/30/science/la-sci-olympics-gender-20120730>; *Women’s World Champion Semenya Faces Gender Test*, CNN (Aug. 20, 2009), <http://edition.cnn.com/2009/SPORT/08/19/athletics.worlds.berlin.semenya/index.html>.

⁷ Bardin, *supra* note 6.

⁸ *Women’s World Champion Semenya Faces Gender Test*, *supra* note 6.

⁹ Joe Leigh Simpson et al., *Gender Verification in the Olympics*, 284 JAMA 1568, 1568–69 (2000).

¹⁰ *Id.*; Katrina Karkazis et al., *Out of Bounds? A Critique of the New Policies on Hyperandrogenism in Elite Female Athletes*, 12 AM. J. BIOETHICS 3, 3 (2012).

examinations.¹¹ Both the IOC and the IAAF have openly expressed the need for these gender examinations. Their justification is allegedly rooted in the fear of the potential unfairness that males who are posing as females might impose upon female athletes.¹²

Initially, gender verification examinations were mandatory and all female athletes were subjected to such examinations. Although compulsory examinations of female athletes are no longer in place, “suspected athletes” may still be subjected to a gender verification examination. Today, the Testosterone Test is used by both the IOC and the IAAF.¹³ The IOC claimed that Testosterone Test would address conditions “that give athletes a ‘competitive advantage,’” and the IAAF asserted that these examinations help to “maintain[] the fairness and integrity of competition without ostracizing competitors or subjecting them to undue scrutiny.”¹⁴

Despite those justifications, it is clear that IOC and the IAAF’s fear of unfair competition has opened the doors for undue discrimination and exclusion of females in athletic competitions. It is clear that only female athletes have been, and continue to be, unfairly subjected to gender testing. More importantly, scientific studies have casted doubt upon the reliability of gender verification examinations.¹⁵ The discrimination of female athletes, coupled with the lack of scientific evidence that might have otherwise render these tests reliable, undermine the IOC and the IAAF’s justification for gender testing.

This Note will evaluate the discriminatory and scientific issues surrounding gender verification examinations. For a better understanding of gender verification examinations, Part I of this Note will briefly outline the history of gender verification examinations. Part II will discuss the problems with the various tests that the IOC and IAAF have adopted throughout the years. More specifically, it will discuss the discriminatory effect of each type of gender verification procedure, and their scientific shortcomings. Part III will discuss the legal implications of the Testosterone Test which is currently implemented by the IOC and the IAAF under the “Hyperandrogenism Regulations.” Finally, Part IV will call for the elimination of gender testing.

¹¹ Simpson et al., *supra* note 9, at 1568 (citations omitted).

¹² Robert Wood, *Gender Testing at the Olympic Games*, TOPEND SPORTS (2010), <http://www.topendsports.com/events/summer/gender-testing.htm>.

¹³ See generally, Jaime Schultz, *So What if Some Female Olympians Have High Testosterone?*, CONVERSATION (Aug. 15, 2016), <http://theconversation.com/so-what-if-some-female-olympians-have-high-testosterone-62935> (outlining the brief history of gender verification examinations from 1964 to today).

¹⁴ Daniel Gandert et al., *The Intersection of Women’s Olympic Sport and Intersex Athletes: A Long and Winding Road*, 46 IND. L. REV. 387, 388 (2013) (citing INT’L OLYMPIC COMM., IOC REGULATIONS ON FEMALE HYPERANDROGENISM: GAMES OF THE XXX OLYMPIAD IN LONDON, 2012, (June 22, 2012) [hereinafter IOC REGULATIONS], https://stillmed.olympic.org/Documents/Commissions_PDFfiles/Medical_commission/2012-06-22-IOC-Regulations-on-Female-Hyperandrogenism-eng.pdf ; INT’L ASS’N OF ATHLETICS FED’NS, IAAF REGULATIONS GOVERNING ELIGIBILITY OF FEMALES WITH HYPERANDROGENISM TO COMPETE IN WOMEN’S COMPETITION (May 1, 2011) [hereinafter IAAF REGULATIONS], <https://www.iaaf.org/download/download?filename=58438613-aaa7-4bcd-b730-70296abab70c.pdf&urlslug=IAAF%20Regulations%20Governing%20Eligibility%20of%20Females%20with%20Hyperandrogenism%20to%20Compete%20in%20Women%E2%80%99s%20Competition%20-%20In%20force%20as%20from%201st%20May%202011>).

¹⁵ See *infra* text accompanying notes 37–91.

I. THE HISTORY OF GENDER VERIFICATION EXAMINATIONS

Ever since women were eligible to compete in the Olympics, they have been subjected to some form of gender verification. In 1946, the IAAF began requiring female athletes to bring a certificate from their doctors certifying that they were women and could compete against other women.¹⁶ Soon thereafter, the IOC also began requiring these certifications.¹⁷ “Since neither the IOC nor the IAAF actually defined ‘femininity’ the assumption was that the social or cultural definition in any nation was acceptable for sports, and that any nation’s judgement could be trusted.”¹⁸ However, this practice eventually came to a stop.

In 1966, the IOC and the IAAF “decided they couldn’t trust individual nations to certify femininity, and instead implemented a mandatory genital check of every woman competing at international games.”¹⁹ The IOC and the IAAF were apparently concerned with “fraud” and lack of “fairness” involved in athletic competitions. As a result, they “adopted supposedly standardized tests to verify sex, including compulsory ‘nude parades’ in front of physicians, genital exams, and evaluation of secondary sex characteristics such as hair patterns.”²⁰ These physical examinations were crude, invasive, and humiliating. For example, at the 1966 Commonwealth Games, “the IOC required gynecological examinations for all female athletes.”²¹ As a result of these practices, the IOC received intense criticism from the public.

In response to the overwhelming disapproval of the Physical Examination, in 1967 the IOC introduced a new test: the Chromatin Test.²² “Officials considered [the Chromatin Test] a more dignified, objective way to root out not only imposters but also intersex athletes, who, Olympic officials said, needed to be barred to ensure fair play.”²³ Under this new regulation, female athletes were asked to give buccal swabs which were tested for sex chromosomes.²⁴ Although there was a basic understanding that women generally have XX sex chromosomes and men have XY, these “chromosomes do not necessarily make the man or woman.”²⁵

Notwithstanding this scientific fact, the IOC and the IAAF continued to use the Chromatin Test, which resulted in the unfair exclusion of many female

¹⁶ Karkazis et al., *supra* note 10, at 6 (citing Vanessa Heggie, *Testing Sex and Gender in Sports; Reinventing, Reimagining and Reconstructing Histories*, 34 ENDEAVOUR 157 (2010)).

¹⁷ *Id.*

¹⁸ Heggie, *supra* note 16, at 159.

¹⁹ Padawer, *supra* note 3. See also DAVID EPSTEIN, *THE SPORTS GENE: INSIDE THE SCIENCE OF EXTRAORDINARY ATHLETIC PERFORMANCE* 56 (2013) (“[T]he International Association of Athletics Federation had seen enough brawny Eastern Bloc women—many of whom were on elaborate doping programs—that it instituted regulations to ensure that male athletes were not masquerading as females.”).

²⁰ Karkazis et al., *supra* note 10, at 6. (citing Eduardo Hay, *Sex Determination in Putative Female Athletes*, 221 JAMA 998 (1972); Robert Ritchie et al., *Intersex and the Olympic Games*, 101 J. ROYAL SOC’Y OF MED. 395 (2008); Joe Leigh Simpson et al., *Gender Verification in Competitive Sports*, 16 SPORTS MED. 305 (1993)).

²¹ Gandert et al., *supra* note 14, at 402 (citing Simpson et al., *supra* note 9, at 1568).

²² *Id.*

²³ Padawer, *supra* note 3.

²⁴ EPSTEIN, *supra* note 19, at 56.

²⁵ *Id.* at 57.

athletes. The most famous case of exclusion was that of Spanish hurdler María José Martínez-Patiño.²⁶ Deemed ineligible to compete, Martínez-Patiño used this determination to lead her cause against gender verification examinations. Backed by Albert de la Chapelle, a professor and renowned geneticist, Martínez-Patiño was able to challenge her disqualification.²⁷ In 1992, as a result of the controversy surrounding the Chromatin Test, the IAAF abandoned the test and compulsory gender testing entirely.²⁸ Soon thereafter, in 1999, the IOC followed suit.²⁹

Even though the IOC and the IAAF have abandoned universal compulsory gender examinations, these organizations seem to have continued interest in policing gender. This is evident when “the IOC . . . retained the right to gender-test if suspicions were raised against an athlete—usually by a medical professional who observes unusual genitals during a doping test or by an athlete who lodges a complaint against a competitor because of an outstanding performance or masculine-looking features.”³⁰ Not before long, a new gender verification procedure emerged.

In 2011, the IAAF developed a new policy, dubbed the “Hyperandrogenism Regulation”, which focused on female athletes with elevated levels of androgen.³¹ This IAAF policy included “a number of rules and regulations, each resting on the assumption that androgenic hormones (such as testosterone . . .) are the primary components of biological athletic advantage.”³²

In practice, the policies do not concern all androgens, but focus specifically on testosterone. As such, women with naturally high endogenous levels of testosterone . . . or . . . disorders of sex development . . . are presumed to have an advantage over women with lower levels of testosterone. Henceforth, women athletes *known or suspected* to have hyperandrogenism will be allowed to compete only if they agree to medical intervention, or if they are found to be “insensitive” to androgens.³³

²⁶ See generally *id.* at 56–58, for a discussion on María José Martínez-Patiño.

²⁷ JAIME SCHULTZ, QUALIFYING TIMES: POINTS OF CHANGE IN U.S. WOMEN’S SPORT 113 (2014).

²⁸ Louis J. Elsas et al., *Gender Verification of Female Athletes*, 2 GENETICS IN MED. 249, 251 (2000).

²⁹ *Id.* at 253.

³⁰ Samantha Shapiro, *Caught in the Middle*, ESPN (Aug. 1, 2012), http://www.espn.com/olympics/story/_/id/8192977/failed-gender-test-forces-olympian-redefine-athletic-career-espn-magazine. See also EPSTEIN, *supra* note 19, at 58 (“By 1999, the International Olympic Committee was down to testing women only in cases where suspicion arose, and even then they had no clear standard for what constituted an eligible woman.”).

³¹ Padawer, *supra* note 3.

³² Karkazis et al., *supra* note 10, at 3.

³³ *Id.* See generally Susie East, *Should a Woman’s Testosterone Level Matter in Sports?*, CNN (Aug. 12, 2016), <http://cnn.it/2bmRZ7N> (indicating that “[w]omen were recommended to take androgen-suppressing therapy but also to do other kinds of feminizing procedures” and that between 2011 and 2015, four athletes agreed to a procedure that consisted of a partial excision of the clitoris); Peter Sonksen & Daryl Adair, *Fair Play at the Olympics: Testosterone and Female Athletes*, CONVERSATION (June 21, 2016), <http://theconversation.com/fair-play-at-the-olympics-testosterone-and-female-athletes-60156> (reporting that four elite athletes were convinced to undergo surgery on their genitalia or sex organs and to receive estrogen-replacement therapy).

On the eve of the 2012 Olympic Games in London, the IOC released a public statement indicating that it would adopt a similar gender examination policy. The IOC announced that it would subject gender testing upon suspect female athletes, asserting that “[t]hese regulations seek to address conditions that may ‘confer a competitive advantage’ by focusing on testosterone levels and androgen reception”³⁴

II. THE SCIENTIFIC ISSUES CONCERNING THE GENDER VERIFICATION EXAMINATIONS

It would be unfair to accuse the IOC and the IAAF of implementing gender verification tests with malicious intent to oust female athletes. Therefore, it is vital to note that they were not without reason. “Historically, the rationale for sex testing . . . was to prevent men who might ‘masquerade’ as women in sport, which . . . would prohibit a level playing field for the ‘real’ (some use ‘unaffected’) female athletes.”³⁵ Although it appears that the IOC and the IAAF have altruistic motives for implementing these gender verification examinations, upon further evaluation, it is clear that their concerns are not adequately addressed by gender testing.³⁶ Another equally important point to bear in mind is that the IOC and the IAAF have recognized the inadequacies of the Physical and Chromatin tests; hence their abandonment of those tests and the adoption of the Testosterone Test. However, the Testosterone Test also has its shortcomings.

It must be emphasized that the overarching issue that encompasses gender testing as a whole is that it unfairly targets female athletes. It is undeniable that only females who exhibit a high level of athleticism would capture the attention of the IOC and the IAAF; only these women would be questioned. Furthermore, by retaining jurisdiction to subject certain “suspect” athletes to the Testosterone Test, the IOC has continued to perpetuate the discrimination issue. It is without a doubt that suspicions arise only when a female athlete displays masculine features, while a male athlete with more feminine features would generally be overlooked. This bias towards female athletes, coupled with the lack of scientific evidence to back the rationale behind the examination, begs the question of whether the IOC’s and the IAAF’s policies are truly supported by concerns of unfair competition by male athletes disguised as females.

A. *International Human Rights Law*

The Physical Examination is considered the most notorious procedure that was adopted by the IOC and the IAAF. This test was first introduced at the 1966 European Athletics Championships in Budapest where 243 athletes were

³⁴ Gandert et al., *supra* note 14, at 407–08.

³⁵ Cheryl Cooky & Shari L. Dworkin, *Policing the Boundaries of Sex: A Critical Examination of Gender Verification and the Caster Semenya Controversy*, 50 J. SEX RES. 103, 107 (2013).

³⁶ See EPSTEIN, *supra* note 19, at 58 (“The trouble is that human biology simply does not break down into male and female as politely as sports governing bodies wish it would. And no technological advances of the last two decades have made the slightest difference, nor will any in the future.”).

tested.³⁷ “[F]emale athletes were asked to undergo a visual examination of the genitals and secondary sexual features”³⁸ Initially, the IOC required female athletes to disrobe “in front of a panel of physicians who confirmed their gender.”³⁹ Subsequently, at the 1966 Commonwealth Games, female athletes were forced to undergo manual gynecological examinations to be deemed eligible to compete,⁴⁰ and at the 1967 Pan-American Games and the European Athletics Championship, “female athletes had to endure a visual genital examination.”⁴¹ During these examinations, the examining physicians looked for “the absence of a vaginal opening or an enlarged clitoris or testicles.”⁴²

If an athlete did not want to go through this humiliating experience, they would be deemed ineligible to compete.⁴³ An examination that forces women to strip naked in front of each other while a panel of physicians critique their bodies and decide if they appear “female enough” is both demeaning and degrading. This, however, is not the only reason why the Physical Examination is a highly inappropriate method of determining gender. The Physical Examination is very subjective and required the IOC and the IAAF to standardize what constituted femininity. At first glance, the Physical Examination may appear like the easiest and surest way to determine if someone is a female, however, the examination was quite subjective. A feature that might appear “suspicious” to one doctor may not to another. Furthermore, different cultures have different standards, so an athlete may appear “feminine enough” by her country’s standards but not by another country’s standard. This is especially important in the context of international competitions such as the Olympics.

The Physical Examination also fails to account for physical abnormalities that a female athlete might be born with. Although there are a couple of obvious physical attributes that may indicate that someone is a female, (e.g., a vagina, breasts and the lack of body hair in certain areas) this does not take into account other variables that may make a woman appear less feminine. For example, some women are born with physical abnormalities that may make their sex organs visually ambiguous. The Physical Examination did not account for the fact that these abnormalities might make it difficult to determine sex based solely on physical appearance. For example, when the process that determines whether a fetus is a male or female is disrupted, ambiguous genitalia may develop.⁴⁴ When this happens, if the baby is an XX female, she may exhibit the following features: an enlarged clitoris (which may look like a penis); the urethral opening might be located elsewhere; and the labia may fuse (and subsequently look like a

³⁷ KRISTINE TOOHEY & ANTHONY JAMES VEAL, *THE OLYMPIC GAMES: A SOCIAL SCIENCE PERSPECTIVE* 217 (2d ed. 2007); Arne Ljungqvist et al., *The History and Current Policies on Gender Testing in Elite Athletes*, 7 *INT'L SPORTMED J.* 225, 227 (2006).

³⁸ Heggie, *supra* note 16, at 159.

³⁹ James C. Puffer, *Gender Verification: A Concept Whose Time has Come and Passed?*, 30 *BRIT. J. SPORTS MED.* 278, 278 (1996). See also Ljungqvist et al., *supra* note 37, at 228 (Female athletes were “required to parade naked and undergo visual genital inspection by a panel of doctors to obtain eligibility to participate . . .”).

⁴⁰ Ljungqvist et al., *supra* note 37, at 228 (citations omitted).

⁴¹ *Id.* (citations omitted).

⁴² TOOHEY & VEAL, *supra* note 37, at 217 (citations omitted).

⁴³ See Ljungqvist et al., *supra* note 37, at 227–28.

⁴⁴ *Ambiguous Genitalia*, MEDLINEPLUS, <https://medlineplus.gov/ency/article/003269.htm> (last updated Sept. 21, 2015).

scrotum).⁴⁵ Generally speaking, female athletes tend to have a lower body fat percentage than other females due to heavy exercising and training.⁴⁶ Furthermore, studies show that there is a relationship between body fat and breast size (mass).⁴⁷ Therefore, the tendency to have a lower body fat percentage could cause female athletes to appear “flat-chested” and subsequently appear more masculine. Undoubtedly, the IOC and the IAAF were aware of the Physical Examination’s shortcomings and that it was wholly inadequate. So, amidst the controversy and public outcry against this test, they quickly disposed of it.⁴⁸

B. *The Chromatin Test*

After scraping the Physical Examination, the IOC and the IAAF implemented the Chromatin Test at the 1968 Mexico City Olympic Games.⁴⁹ However, that test is also significantly flawed. The IOC and the IAAF adopted this test under the assumption that all women had XX sex chromosomes and all men had XY chromosomes.⁵⁰ Unfortunately, this is not necessarily true and the use of chromosomes to determine gender sometimes leads to odd results.⁵¹ As noted by Dr. Albert de la Chapelle, “the ‘fundamental failure of sex chromatin screening of female athletes is that it determines the least relevant parameter of sex in this contest, ie, chromosomal sex’”⁵²

[G]eneticists recognized the issues of invalid testing procedures and the harm produced by their use in assigning sex. However, discussions did not alter IOC policy

. . . .

. . . These chromatin tests were screening out women with genetic difference affording no unusual physical advantage for sports (e.g., XY females with complete androgen insensitivity)

⁴⁵ *Id.*

⁴⁶ See generally Jack H. Wilmore, *Alterations in Strength, Body Composition and Anthropometric Measurements Consequent to a 10-week Weight Training Program*, 6 MED. & SCI. IN SPORTS & EXERCISE 133, 134 (1974) (discussing the decrease in absolute and relative body fat percentage after subjects participated in a 10-week exercise regime).

⁴⁷ See LAURALEE SHERWOOD, *HUMAN PHYSIOLOGY: FROM CELLS TO SYSTEMS* 767 (9th ed. 2015) (“Breast size is determined by the amount of adipose tissue”); Nicola Brown et al., *The Relationship Between Breast Size and Anthropometric Characteristics*, 24 AM. J. HUM. BIO., 158, 162 (2012) (discussing a positive association between body mass and breast mass).

⁴⁸ See Gandert et al., *supra* note 14, at 402 (citing Simpson et al., *supra* note 9, at 1568).

⁴⁹ *Id.* (citing Simpson et al., *supra* note 9, at 1568).

⁵⁰ Karkazis et al., *supra* note 10, at 7. See e.g., Ben Koh et al., *Testosterone, Sex and Gender Differentiation in Sport – Where Science and Sports Law Meet*, LAWINSPOORT (Oct. 14, 2014), <http://www.lawinsport.com/articles/item/testosterone-sex-and-gender-differentiation-in-sport-where-science-and-sports-law-meet> (“The chromosome test was based on the assumption, subsequently shown to be flawed, that sex could always be determined by the biological information derived from a buccal smear”).

⁵¹ See Karkazis et al., *supra* note 10, at 7.

⁵² SCHULTZ, *supra* note 27, at 112 (citing Albert de la Chapelle, *The Use and Misuse of Sex Chromatin Screening for ‘Gender Identification’ of Female Athletes*, 256 JAMA 1920, 1922 (1986)).

while they missed XX men and women with medical conditions⁵³

In 1985, Martínez-Patiño was notified that “fifty cells analyzed from her cheeks contained XY chromosomes.”⁵⁴ She was essentially declared a male despite her physical appearance and the fact that she was raised a female. Upon receiving the notice, Martínez-Patiño was asked to fake an injury and quietly retire, however, she refused to and instead went on to win the Spanish title in the sixty-meter hurdle.⁵⁵ This eventually led to the leak of her test results to the press and the stripping of her title.⁵⁶

Although Martínez-Patiño faced public ridicule after her test results were leaked, she vowed to fight against the IOC’s test. “Martínez-Patiño, who was born with 46, XY chromosomes and a female phenotype (CAIS), [with the help of de la Chapelle] successfully challenged the ruling, arguing that her condition made her completely unresponsive to testosterone and thus gave her no advantage over ‘normal’ XX females.”⁵⁷ Martínez-Patiño’s story is an exemplary illustration of the fundamental failure of sex chromatin testing. The Spanish hurdler’s case is an example of the Chromatin Test screening out an XY female who is completely insensitive to androgens.

Not only does Martínez-Patiño’s story cast light upon the scientific flaws of the Chromatin Test, it also demonstrates how an unscientifically supported exclusion has had detrimental effects on female athletes. In 2005, Martínez-Patiño openly discussed the adverse effect that the Chromatin Test had on her.⁵⁸ Martínez-Patiño recounted how ashamed and embarrassed she was when the results of her test had leaked to the public in 1986.⁵⁹ Her title was not the only thing that Martínez-Patiño lost that year; she also lost her athletic scholarship and her fiancé.⁶⁰ After two long years of fighting, in 1988, Martínez-Patiño was granted a license to compete again.⁶¹ Despite the reinstatement of her eligibility and the IAAF’s abandonment of compulsory testing,⁶² Martínez-Patiño did not qualify for the 1992 Olympics, missing the mark by ten hundredths of a second.⁶³ In 1999, the IOC also ceased the practice of compulsory gender

⁵³ Elsas et al., *supra* note 28, at 250. See also Karkazis et al., *supra* note 10, at 7 (“[T]he reliance on the presence of X chromosomes as the criterion for female sex excludes women with chromosomal and genetic abnormalities: individuals with CAIS who have a 46, XY karyotype and those with Turner syndrome who have a 45, XO karyotype would not be classified as female. Alternatively, it includes men who have more than one X chromosome and thus would incorrectly classify those with Klinefelter syndrome (47, XXY) as females despite their male phenotype.”).

⁵⁴ EPSTEIN, *supra* note 19, at 57.

⁵⁵ *Id.*

⁵⁶ *Id.*

⁵⁷ Karkazis et al., *supra* note 10, at 7 (citing María José Martínez-Patiño, *Personal Account: A Woman Tried and Tested*, 366 LANCET 538 (2005)).

⁵⁸ María José Martínez-Patiño, *supra* note 57.

⁵⁹ *Id.*

⁶⁰ *Id.*

⁶¹ *Id.*

⁶² Gandert et al., *supra* note 14, at 404 (citing Ritchie et al., *supra* note 20, at 397; Shapiro, *supra* note 30).

⁶³ María José Martínez-Patiño, *supra* note 57.

testing.⁶⁴ However, it “reserved the right to test in cases of suspicion” and adopted the Testosterone Test, which is still in place today.⁶⁵

C. The Testosterone Test (“Hyperandrogenism Regulations”)

The IOC’s rationale for implementing an androgen focused test was that

the performances of male and female athletes may differ mainly due to the fact that men produce significantly more androgenic hormones than women and, therefore, are under stronger influence of such hormones. Androgenic hormones have performance-enhancing effects, particularly on strength, power and speed, which may provide a competitive advantage in sports.⁶⁶

Likewise, the IAAF’s justification is that “[t]he difference in athletic performance between males and females is known to be predominantly due to higher levels of androgenic hormones in males resulting in increased strength and muscle development.”⁶⁷ Although both the IOC and the IAAF claim that their new procedure is focused on hyperandrogenism, it is evident that testosterone is their main (and possibly only) focus.⁶⁸

A look at the IOC’s policy statement on hyperandrogenism in female competitors reveals that the bulk of the IOC’s determination actually depends on testosterone levels.⁶⁹ In section 8(F), the IOC specifically provided that “[t]he Expert Panel shall examine all available information and establish (i) whether the investigated athlete’s androgen level, measured by reference to testosterone levels in serum, is within the male range, and if so, (ii) whether such hyperandrogenism is functional or not.”⁷⁰

Similarly, the IAAF policy also appears to target testosterone levels. Paragraph 6.5 of the IAAF’s regulation provides that

[t]he Expert Medical Panel shall recommend that the athlete is eligible to compete in women’s competition if: (i) she has androgen levels below the normal male range; or (ii) she has

⁶⁴ Gandert et al., *supra* note 14, at 405 (citing Jessica L. Adair, *In a League of Their Own: The Case for Intersex Athletes*, 18 *SPORTS L.J.* 121, 134–35 (2011); Shapiro, *supra* note 30).

⁶⁵ *Id.* (citing to Shapiro, *supra* note 30).

⁶⁶ IOC REGULATIONS, *supra* note 14.

⁶⁷ IAAF REGULATIONS, *supra* note 14.

⁶⁸ See *Hyperandrogenism Explained and What it Means for Athletics*, USA TODAY (Aug. 2, 2016), <http://usat.ly/2aIYDne> (“Hyperandrogenism is a medical condition which causes a person to produce high levels of hormones. There are various forms, but the one the IAAF regulated was hyperandrogenism in intersex women that led to them having testosterone levels that were much higher than the average for females. Men and women produce testosterone, but men generally produce much more.”). See also Bernard M. Karnath, *Signs of Hyperandrogenism in Women*, 44 *HOSPITAL PHYSICIAN* 25 (2008) (“Hyperandrogenism is characterized by excess production of androgens by the ovaries and/ or the adrenal glands.”).

⁶⁹ See IOC REGULATIONS, *supra* note 14, at § 8.

⁷⁰ *Id.* at § 8(e); see Karkazis et al., *supra* note 10, at 3 (explaining that when the IOC says “whether it is functional or not,” the IOC is referring whether the athletes is sensitive or insensitive to androgens).

androgen levels within the normal male range but has an androgen resistance such that she derives no competitive advantage from having androgen levels in the normal male range.⁷¹

The IAAF emphasized that “[a]ndrogen levels for the purposes of Paragraph 6.5 are measured by the levels of Total Testosterone in serum” and defined the “normal male range” as a total testosterone level of 10nmol/L or more.⁷²

The issue with the Testosterone Test, like the Chromatin Test, is that it is based on bad science. Testosterone is known as a male hormone; however, women also produce some testosterone.⁷³ Although there is some disagreement regarding how much testosterone is considered “normal” for the respective sexes, “everybody agrees that typically there is a gap that emerges between the sexes during puberty.”⁷⁴ Nevertheless, there is scientific evidence that indicates that this gap is not necessarily present in elite level athletes.⁷⁵

In a 2014 study, a research team investigated the hormone profiles of men and women.⁷⁶ The study sampled 693 elite athletes from a variety of sports.⁷⁷ The team found that there was an overlap of testosterone between elite male and female athletes.⁷⁸ The findings showed

For example, 16.5% of men had a testosterone level below 8.4 nanomole per litre (the lower limit of the normal male reference range). Some were unmeasurably low. And 13.7% of the elite female athletes had a level higher than 2.7nmol/l, the upper limit of the normal reference range for women. Some were in the high male range.

Thus, there was a complete overlap of testosterone levels between male and female elite athletes. This challenged existing knowledge, which had assumed there was no such overlap.⁷⁹

Peter Sonksen, a professor of endocrinology and a member of the 2014 research team, openly criticized the IOC rule, calling it “idiotic.”⁸⁰ Even though Sonksen’s prior work led the IOC to develop the anti-doping test, he is one of

⁷¹ IAAF REGULATIONS, *supra* note 14, at ¶ 6.5.

⁷² *Id.*

⁷³ Rachel Rettner, *What is Testosterone?*, LIVESCIENCE (June 22, 2017, 8:30 PM), <http://www.livescience.com/38963-testosterone.html>.

⁷⁴ Matt Slater, *Sport & Gender: A History of Bad Science & ‘Biological Racism’*, BCC (July 28, 2015), <http://www.bbc.com/sport/athletics/29446276>.

⁷⁵ M.L. Healy et al., *Endocrine Profiles in 693 Elite Athletes in the Postcompetition Setting*, 81 CLINICAL ENDOCRINOLOGY 294 (2014).

⁷⁶ *See id.*

⁷⁷ *Id.* at 294 (“Blood samples were obtained from 813 volunteer elite athletes from a cross-section of 15 sporting categories. An endocrine profile was measured on a subset of 693.”).

⁷⁸ *Id.* at 295.

⁷⁹ Sonksen & Adair, *supra* note 33. *See also* Healy, *supra* note 75.

⁸⁰ Slater, *supra* note 74.

the biggest critics of the IOC's rule regarding hyperandrogenism.⁸¹ Sonksen characterized the rule as “unfair, gross and unscientific” and believed that “[i]t is clear discrimination.”⁸² The shortcomings of the Testosterone Test are even clearer after researchers conceded, in a 2014 study which was published with the support of the IAAF, that “there is no clear scientific evidence proving that a high level of [testosterone] is a significant determinant of performance in female sports.”⁸³ Without clear scientific evidence to support the notion that testosterone is linked to superior athletic performance, the Testosterone Test is left standing on shaky grounds.

To be sure, studies do indicate that testosterone contributes to an individual's ability to “produce[] greater increases in muscle size and strength.”⁸⁴ Therefore, it is not unreasonable to conclude that a person with more testosterone is more athletic.⁸⁵ Still, everyone responds differently to testosterone and it “is just one element in a complex neuroendocrine feedback system, which is just as likely to be affected by as to affect athletic performance.”⁸⁶ As Karkazis and her co-authors pointed out, if testosterone is determinative of athletic ability, how do we explain the superior athletic abilities of individuals who are unresponsive to testosterone?⁸⁷ Certainly there are other factors that contribute to athleticism. For example, “bone length can be either an advantage or a disadvantage depending on the physical demands of the sport in which the individual competes.”⁸⁸ Individuals with shorter levers have an advantage in the weightlifting context because the weight is lifted a shorter distance and “shorter limb enables the load or resistance to be located closer to the axis of rotation.”⁸⁹ However, if the athlete is a swimmer, longer limbs confers an advantage because it allows for long, powerful strokes.⁹⁰

A plethora of other factors, such as endurance, training, and nutrition, contribute to athleticism but these factors are completely ignored by the Testosterone Test.⁹¹ Neglecting these factors will mislead people to attribute superior athletic ability solely to testosterone. This creates a false narrative that hyperandrogenic female athletes have a competitive advantage over their counterparts. For these foregoing reasons, the Testosterone Test proves to be highly unreliable.

⁸¹ *See id.*

⁸² *Id.*

⁸³ Stéphane Bermon et al., *Serum Androgen Levels in Elite Female Athletes*, 99 J. CLINICAL ENDOCRINOLOGY & METABOLISM 4328, 4334 (2014).

⁸⁴ Shalender Bhasin et al., *The Effects of Supraphysiologic Doses of Testosterone on Muscle Size and Strength in Normal Men*, 335 NEW ENG. J. MED. 1, 5 (1996).

⁸⁵ *See e.g.*, Bent R. Ronnestad et al., *Physiological Elevation of Endogenous Hormones Results in Superior Strength Training Adaptation*, 111 EUR. J. APPLIED PHYSIOLOGY 2249 (2011).

⁸⁶ Karkazis et al., *supra* note 10, at 8.

⁸⁷ *Id.*

⁸⁸ TIMOTHY R. ACKLAND ET AL., *APPLIED ANATOMY AND BIOMECHANICS IN SPORTS* 92 (2d ed. 2009).

⁸⁹ *Id.*

⁹⁰ *Id.*

⁹¹ *See* Lisa M. Guth & Stephen M. Roth, *Genetic Influence on Athletic Performance*, 25 CURRENT OPINION ON PEDIATRICS 653 (2013), for a discussion on factors that contribute to athleticism.

III. THE LEGAL ISSUES SURROUNDING THE CURRENT-GENDER VERIFICATION EXAMINATION: THE TESTOSTERONE TEST (ALSO KNOWN AS “HYPERANDROGENISM REGULATIONS”)

Before diving into a discussion on the legal issues surrounding their regulation, it is important to understand the relationship between the IOC and the IAAF, and the laws that govern these organizations. The IOC is “the supreme authority of the Olympic Movement.”⁹² The Olympic Movement is made up of several organizations and persons, including the International Sports Federations (IFs).⁹³ IFs are organizations in charge of governing sports at the world level.⁹⁴ Although they maintain “their independence and autonomy in the administration of their sports, International Sports Federations seeking IOC recognition must ensure that their statutes, practice and activities conform with the Olympic Charter.”⁹⁵ The IF charged with governing track and field is the IAAF.⁹⁶

The Olympic Charter states that the Charter governs and serves as statutes for the IOC, and by virtue of being recognized by the IOC, IFs, such as the IAAF, is also bound by the terms of the Olympic Charter.⁹⁷ The IAAF also has its own constitution which lays out the rules and regulations the IAAF must follow, in addition to the Olympic Charter.⁹⁸

With regards to any disagreements that may arise, both the Olympic Charter and the IAAF’s constitution conferred dispute resolution power to the Court of Arbitration for Sports (CAS).⁹⁹ One of the fundamental preliminary questions that a court must answer before making a decision is what laws it should apply to resolve the dispute. According to Article R45 of the CAS’s Code: *Procedural Rules* (the Code), ordinary disputes should be decided “according to the rules of law chosen by the parties or, in the absence of such a choice, according to Swiss law.”¹⁰⁰ The Code provides, however, that *appeals* cases must be decided according to

the applicable regulations and, subsidiarily, to the rules of law chosen by the parties or, in the absence of such a choice,

⁹² *What We Do*, INT’L OLYMPIC COMM., <https://www.olympic.org/the-ioc/what-we-do> (last visited Feb. 1, 2017).

⁹³ *Id.*

⁹⁴ *International Sports Federations*, INT’L OLYMPIC COMM., <https://www.olympic.org/ioc-governance-international-sports-federations> (last visited Feb. 1, 2017).

⁹⁵ *Id.*

⁹⁶ *About the IAAF*, *supra* note 2.

⁹⁷ INT’L OLYMPIC COMM., OLYMPIC CHARTER 9 (Aug. 2, 2015) [hereinafter OLYMPIC CHARTER], http://www.olympic.org/Documents/olympic_charter_en.pdf (indicating that the Olympic Charter “governs the organisation . . .” and “serves as statutes for the International Olympic Committee.”).

⁹⁸ INT’L ASS’N OF ATHLETICS FED’NS, CONSTITUTION (Jan. 1, 2017) [hereinafter IAAF CONSTITUTION], <https://www.iaaf.org/download/download?filename=e912df83-c582-4ecf-b7d5-f0d7a9fe1698.pdf&urlslug=2017%20IAAF%20Constitution>.

⁹⁹ OLYMPIC CHARTER, *supra* note 97, at art. 61 (providing that disputes regarding the Olympic Games are submitted to CAS); IAAF CONSTITUTION, *supra* note 98, at art. 20 (“All disputes arising under this Constitution shall, in accordance with its provisions, be subject to an appeal to the Court of Arbitration for Sport . . .”).

¹⁰⁰ CT. ARB. FOR SPORTS, CODE: PROCEDURAL RULES art. R45 (Jan. 1, 2017) [hereinafter THE CODE], http://www.tas-cas.org/fileadmin/user_upload/Code_2017_FINAL__en_.pdf.

according to the law of the country in which the federation, association or sports-related body which has issued the challenged decision is domiciled or according to the rules of law that the Panel deems appropriate.¹⁰¹

Article 20 of the IAAF Constitution explicitly states that, with regards to appeals to the CAS, “governing law of any such appeal shall be the law of Monaco,” and Article 21 further states that the “governing law of the IAAF shall be the law of Monaco.”¹⁰²

With this background information in mind, we can now examine how the implementation of the Testosterone Test is unlawful. Section A will discuss how the Testosterone Test directly conflicts with the provisions of the Olympic Charter and the IAAF Constitution, and Section B will address how the Testosterone Test is a violation of international human rights law.

A. *The Violation of the Olympic Charter and the IAAF Constitution*

According to the Olympic Charter, “[t]he practice of sport is a human right. Every individual must have the possibility of practising sport, without discrimination of any kind and in the Olympic spirit, which requires mutual understanding with a spirit of friendship, solidarity and fair play.”¹⁰³ Furthermore, “[t]he enjoyment of the rights and freedoms set forth in this Olympic Charter shall be secured without discrimination of any kind, such as race, colour, sex, sexual orientation, language, religion, political or other opinion, national or social origin, property, birth or other status.”¹⁰⁴ These words are binding on the IOC, the IAAF, and other organizations recognized by the IOC as a part of the Olympic Movement.¹⁰⁵ Moreover, one of the listed objectives of the IAAF, found in its constitution, is

To strive to ensure that no gender, race, religious, political or other kind of unfair discrimination exists, continues to exist, or is allowed to develop in Athletics in any form, and that all may participate in Athletics regardless of their gender, race, religious or political views or any other irrelevant factor.¹⁰⁶

Notwithstanding the notion that participating in sports is a human right and their opposition of discrimination, the IOC and the IAAF have disregarded the terms of the Olympic Charter and the IAAF Constitution when they implemented the Testosterone Test.

¹⁰¹ *Id.* at art. R58.

¹⁰² IAAF CONSTITUTION, *supra* note 98, at arts. 20–21.

¹⁰³ OLYMPIC CHARTER, *supra* note 97, at 13 (this language can be found under principle 4 of the *Fundamental Principles of Olympism* in the Olympic Charter).

¹⁰⁴ *Id.* at 14 (this language is found under principle 6 of the *Fundamental Principles of Olympism* in the Olympic Charter).

¹⁰⁵ *See id.* (principle 7 of the *Fundamental Principles of Olympism* states that “[b]elonging to the Olympic Movement requires compliance with the Olympic Charter”); IAAF CONSTITUTION, *supra* note 98, at art. 4 (IAAF object 11).

¹⁰⁶ IAAF CONSTITUTION, *supra* note 98, at art. 4(4).

The implementation of the Testosterone Test is inconsistent with the anti-discrimination principles expressed in the Olympic Charter and the IAAF Constitution because only female athletes would be subject to testosterone testing. Without a doubt there are instances where it is reasonable to treat male and female athletes differently; however, this is not one of those instances. The remainder of this section will attempt show that the Testosterone Test is discriminatory and, thus, is directly conflicting with the Olympic Charter and the IAAF Constitution.

Several features of the regulations themselves suggest discrimination. The first is the title of the documents that detail the mandates—"IAAF Regulations Governing Eligibility of *Females* with Hyperandrogenism to Compete in *Women's* Competition,"¹⁰⁷ and "IOC Regulations on *Female* Hyperandrogenism."¹⁰⁸ The respective titles are a good indication that the regulations are specifically directed at female athletes. Had these regulations been applicable to males and females alike, the titles would not have included the words "women" or "female."

The text of the regulations makes it undoubtedly clear that only women will be subjected to testing. The IOC stated that "these Regulations are designed to identify circumstances in which a particular athlete will not be eligible (by reason of hormonal characteristics) to participate . . . in the *female* category."¹⁰⁹ The IOC did not explicitly state that only women would be subjected to testing but it can be inferred, from the title and context, that only female athletes are affected. Paragraph 1.1 of the IAAF Regulations indicates that "[t]hese Regulations establish a framework for the determination of the eligibility of *females* . . . in the *female* category."¹¹⁰ Here, there are specific indications that this regulation, which determines eligibility, is applicable only to females. In its Explanatory Notes, the IAAF indicated that "[t]he new Regulations are mandatory for all athletes who compete or who seek to compete in International Competitions (as defined in IAAF Rules)."¹¹¹ Although the language indicates that "all" athletes must follow the regulation, the following sentence makes it apparent that "all" actually meant some specific female athletes: "[n]o athlete with [Hyperandrogenism] shall be eligible to compete in an International Competition until *her* case has been evaluated in accordance with the Regulations."¹¹² Again, the use of common feminine pronouns sheds light on the intent for the regulations to apply to female athletes alone.

Because the Testosterone Test is not compulsory, only "suspected" female athletes are investigated and asked to undergo the test.¹¹³ This raises two questions: 1) who decides which athlete is a suspect, and 2) how is this determination made? It is indicated in Section 6(A) of the IOC Regulations that

¹⁰⁷ IAAF REGULATIONS, *supra* note 14 (emphasis added).

¹⁰⁸ IOC REGULATIONS, *supra* note 14 (emphasis added).

¹⁰⁹ *Id.* (emphasis added).

¹¹⁰ IAAF REGULATIONS, *supra* note 14, at ¶ 1.1 (emphasis added).

¹¹¹ INT'L ASS'N OF ATHLETIC FED'NS, HA REGULATIONS EXPLANATORY NOTES 2 (May 2011) [hereinafter EXPLANATORY NOTES], https://www.leichtathletik.de/fileadmin/user_upload/ImportedAttachments/Trafomat3/2012/35968_2010430053520_httppostedfile_haexplanatorynotes_eng_amg_30.04.2011_24295.pdf.

¹¹² *Id.* (emphasis added).

¹¹³ See IOC REGULATIONS, *supra* note 14; IAAF REGULATIONS, *supra* note 14.

only “an athlete who is concerned about personal symptoms of hyperandrogenism;” “a Chief NOC Medical Officer;” “an IOC Medical Commission member or OCOG Medical Officer;” or “the Chairman” may request an investigation.¹¹⁴ Section 6(B) requires that the request must be written and must include: (1) the reasons and basis for the request—including any evidence; (2) the relevant eligibility rules the IF governing the sport the athlete competes in; and (3) the requestor’s information and signature.¹¹⁵ Unlike the second and third requirements—which are more technical—the first requirement has an element of subjectivity. This is especially true absent any further guidance on what one can base their suspicions on. A clue as to what might be considered a “basis” can be found in the statement issued by the IOC in 2011. The statement, which outlined the IOC Medical Commission’s recommendation, stated that “[a]lthough rare, some women develop male-like body characteristics due to an overproduction of male sex hormones, so-called ‘androgens.’”¹¹⁶ Because the IOC indicated that some hyperandrogenic females develop so-called “male-like body characteristics,” investigations could be requested based on a person’s subjective belief that a female athlete does not look “feminine enough.” Likewise, the IAAF laid out similarly vague requirements for initiating an investigation.¹¹⁷ Chapter two of the IAAF Regulations require female athletes who know they are hyperandrogenic to report themselves, and gave the IAAF Medical Manager the discretion to initiate an investigation if the manager has reasonable grounds for believing that the athlete is hyperandrogenic.¹¹⁸

The mandates are unfair because “[u]nder [this regulation], men will most likely continue to enjoy freedom from scrutiny, even though they, too, have greatly varying testosterone levels, along with other variations in natural attributes that affect athletic performance.”¹¹⁹ No similar regulation exists for male athletes. The only other regulation that requires testing for hormones is the World Anti-Doping Code, which is binding on the IOC and the IAAF through the provisions of the Olympic Charter.¹²⁰ However, unlike the IAAF Regulations and the IOC Regulations, the World Anti-Doping Code is binding upon all athletes, males and females alike.¹²¹

These discriminatory mandates are unjustifiable because they are unreasonable and fail to serve a legitimate purpose. The IOC claimed that elevated testosterone is concerning in the context of competitive sports and that the Testosterone Test will help address this issue.¹²² IAAF emphasized that the Testosterone Test serves an underlying principle of “respect for the fundamental

¹¹⁴ IOC REGULATIONS, *supra* note 14, at § 6(A).

¹¹⁵ *Id.* at § 6(B).

¹¹⁶ *IOC Addresses Eligibility of Female Athletes with Hyperandrogenism*, INT’L OLYMPIC COMM. (Apr. 5, 2011), <https://www.olympic.org/news/ioc-addresses-eligibility-of-female-athletes-with-hyperandrogenism>.

¹¹⁷ IAAF REGULATIONS, *supra* note 14, at ch. 2 (discussing how investigations on female athletes can be initiated).

¹¹⁸ *Id.* (stating that “reasonable grounds for belief in a case may be derived from any reliable source”).

¹¹⁹ Jordan-Young & Karkazis, *supra* note 1.

¹²⁰ *See* OLYMPIC CHARTER, *supra* note 97, at r. 43.

¹²¹ WORLD ANTI-DOPING AGENCY, WORLD ANTI-DOPING CODE 16 (2015), <https://www.wada-ama.org/sites/default/files/resources/files/wada-2015-world-anti-doping-code.pdf>.

¹²² *See* IOC REGULATIONS, *supra* note 14.

notion of fairness of competition in female Athletics.”¹²³ However, as discussed in Part II, there is no conclusive evidence indicating that hyperandrogenic females have any type of athletic advantage. Without concrete proof of such relationship, implementing a Testosterone Test could hardly be justified.

Unlike the Anti-Doping Code, the Testosterone Test is not meant to prevent cheaters from competing, rather, it is preventing women who were born with an abnormality from athletic competitions. “Taking an excess of testosterone is cheating. Producing an excess of testosterone is a genetic advantage, and there is nothing inherently wrong with that. Genetic advantages are the norm and not the exception in competitive sports. High-level competitive athletes are rife with individuals who are genetic outliers.”¹²⁴ Policing testosterone levels cannot be fair especially when other anatomical features—such as long legs and big feet, which are also athletically advantageous—are not policed by the IOC or the IAAF. The truth is “[t]here is no reason to disqualify women whose bodies produce any of the complex ingredients that add up to athleticism, be they superb vision, big lungs, flexibility, long legs or testosterone” which is why the IOC and the IAAF should abandon the Testosterone test and gender testing as a whole.¹²⁵ In other words, testosterone levels should not be singled out as the biological variation that should be regulated. If the real reason behind the Testosterone Test is to ensure fairness and prevent cheating, this is definitely not the means to achieve that end.¹²⁶

Since its implementation in 2011, the Testosterone Test (or Hyperandrogenism Regulations) has been highly criticized by the science and medical communities for lacking scientific support.¹²⁷ Its legality, however, was not addressed until 2015 in *Dutee Chand v. Athletics Fed'n of India & the Int'l Ass'n of Athletics Fed'n*.¹²⁸ In 2014, after Dutee Chand was asked by the AFI to undergo a routine physical, the AFI sent a letter to the Sports Authority of India (SAI) to inform them that there are “doubts expressed” regarding Chand’s gender.¹²⁹ The AFI also suggested that the SAI perform a “gender verification test” on Chand.¹³⁰ After her examination, Chand received a letter from the AFI stating that she was barred from competitions without explaining the reason for her suspension.¹³¹ Soon thereafter, Chand challenged the AFI’s decision and the Hyperandrogenism Regulations, arguing that they are discriminatory.¹³² This

¹²³ IAAF REGULATIONS, *supra* note 14, at 2.

¹²⁴ Cooky & Dworkin, *supra* note 35, at 108 (citing Laura Hercher, *Gender Verification: A Term Whose Time has Come and Gone*, 19 J. GENETIC COUNSELING 551, 552 (2010)).

¹²⁵ Jordan-Young & Karkazis, *supra* note 1.

¹²⁶ *See id.* (“What are these tests protecting women from? Men infiltrating women’s competitions? A century of monitoring competitions for sex fraud says no.”).

¹²⁷ *See generally* Cooky & Dworkin, *supra* note 35; Karkazis et al., *supra* note 10; Sonksen & Adair, *supra* note 33.

¹²⁸ *Dutee Chand v. Athletics Fed'n of India & the Int'l Ass'n of Athletic Fed'ns*, CAS 2014/A/3759 (CAS 2015).

¹²⁹ *Id.* at ¶ 13.

¹³⁰ *Id.* at ¶ 14.

¹³¹ *Id.* at ¶¶ 27–28.

¹³² *Id.* at ¶¶ 114–15 (arguing that the Hyperandrogenism Regulations violated the Olympic Charter, the IAAF Constitution and Convention on the Elimination of All Forms of Discrimination Against Women). *See generally* IAAF REGULATIONS, *supra* note 14, at ¶ 7.2 (noting that “the IAAF decision may be appealed exclusively to CAS in accordance with the provisions of IAAF Rule 60.23”).

was the first time that an athlete has challenged the Hyperandrogenism Regulations since its introduction in 2011.¹³³

In her Statement of Appeal, Chand asked the CAS to declare the Hyperandrogenism Regulations invalid and void, and that the AFI's decision be set aside so that she would be eligible to compete again.¹³⁴ Chand challenged the validity of the Hyperandrogenism Regulations on the grounds that:

- (a) they discriminate unlawfully against female athletes and against athletes who possess a particular natural physical characteristic;
- (b) they are based on flawed factual assumptions about the relationship between testosterone and athletic performance;
- (c) they are disproportionate to any legitimate objective; and
- (d) they are an unauthorised form of doping control.¹³⁵

While there were four main issues on appeal, only two are relevant for our purposes.¹³⁶ The first is whether the Hyperandrogenism Regulations impermissibly discriminate against certain female athletes on the basis of a natural physical characteristic or sex.¹³⁷ The second issue is whether the Hyperandrogenism Regulations are invalid because there is insufficient evidence to support the IAAF's assertion that female athletes with testosterone levels above 10nmol/L have some type of athletic advantage over other female athletes.¹³⁸

"In deciding this appeal, the [CAS] Panel [applied] the IAAF's Constitution and Rules, and, subsidiarily, Monegasque law."¹³⁹ On the discrimination issue, the Panel found that Chand carried her burden of proving that the Hyperandrogenism Regulations are discriminatory since they only applied to women.¹⁴⁰ As a result, the IAAF had to prove that the Hyperandrogenism Regulations are necessary, reasonable, and proportionate to the alleged harm.¹⁴¹ The Panel found that the IAAF failed to carry its burden.¹⁴²

With regard to the second issue, the Panel held that Chand failed to meet her burden of proving that "testosterone is *not* a material causative factor in athletic ability"¹⁴³ and that there is a "scientific basis in the use of testosterone as a marker"¹⁴⁴ Nevertheless, the Panel suspended the Hyperandrogenism Regulations for two years and allowed Chand to compete during this suspension period.¹⁴⁵ According to its decision, despite finding that there was a scientific

¹³³ *Dutee Chand: I Lost all my Honour in Landmark Gender Case*, BBC (July 28, 2015), <http://www.bbc.com/sport/athletics/33690274>.

¹³⁴ Chand, CAS 2014/A/3759, *supra* note 128, at ¶ 104.

¹³⁵ *Id.* at ¶ 4.

¹³⁶ *Id.* at ¶ 32.

¹³⁷ *Id.* at ¶ 32(a).

¹³⁸ *Id.* at ¶ 32(b).

¹³⁹ *Id.* at ¶ 440.

¹⁴⁰ *Id.* at ¶ 448.

¹⁴¹ *Id.* at ¶ 450.

¹⁴² *Id.* at ¶ 536.

¹⁴³ *Id.* at ¶ 498.

¹⁴⁴ *Id.* at ¶ 499.

¹⁴⁵ *Id.* at ¶ 547–48.

basis for using testosterone as a marker, the Panel could not uphold the validity of the Hyperandrogenism Regulations because the IAAF failed to “provide sufficient scientific evidence about the quantitative relationship between enhanced testosterone levels and improved athletic performance in hyperandrogenic athletes.”¹⁴⁶

The CAS Panel’s main holdings in *Chand* are that: 1) the Hyperandrogenism Regulations are discriminatory, and 2) there is a lack of science to support the IAAF’s argument that elevated testosterone levels give female athletes an athletic advantage over other female athletes.¹⁴⁷ During this two-year suspension period, the IAAF may submit evidence to show that higher testosterone levels confer hyperandrogenic athletes a competitive advantage.¹⁴⁸ If such evidence is submitted, the CAS Panel will give the Athlete (*Chand*) an opportunity to respond.¹⁴⁹ However, if no evidence is submitted, the Hyperandrogenism Regulations will be declared void.¹⁵⁰ In addition to the textual evidence discussed above, this CAS decision provides strong support for the argument the Testosterone Test is a direct violation of the principles set forth in the Olympic Charter and the IAAF Constitution.

B. *The Violation of International Human Rights Law*

In addition to violating its own policies, the IAAF is in violation of international human rights law. More specifically, the IAAF violated the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW) which was enacted in 1979.¹⁵¹ Like any international convention, the provisions of CEDAW are only binding on the states when the state has accepted the terms.¹⁵² Although the IAAF has not formally adopted the CEDAW, it is nonetheless bound to the terms of CEDAW. Article 21 of the IAAF Constitution provides that the laws of Monaco govern the organization.¹⁵³ Monaco is a signatory of CEDAW,¹⁵⁴ and according to a 2005 ordinance, the provisions of CEDAW have been incorporated and are in full effect and force in Monaco.¹⁵⁵

¹⁴⁶ *Id.*

¹⁴⁷ *Id.* at ¶¶ 450, 532.

¹⁴⁸ *Id.* at ¶ 548.

¹⁴⁹ *Id.*

¹⁵⁰ *Id.*

¹⁵¹ G.A. Res. 34/180, Convention on the Elimination of All Forms of Discrimination Against Women (Dec. 18, 1979) [hereinafter CEDAW].

¹⁵² Vienna Convention on the Laws of Treaties, May 23, 1969, 1155 U.N.T.S. 331, at arts. 2(1)(b), 14(2) (“The instruments of ‘acceptance’ or ‘approval’ of a treaty have the same legal effect as ratification and consequently express the consent of a state to be bound by a treaty.”).

¹⁵³ IAAF CONSTITUTION, *supra* note 98, at art. 21.

¹⁵⁴ U.N. OFFICE OF THE HIGH COMM’R OF HUMAN RIGHTS, *Ratification Status for Monaco*, http://tbinternet.ohchr.org/_layouts/TreatyBodyExternal/Treaty.aspx?CountryID=114&Lang=EN (last visited Feb. 1, 2017).

¹⁵⁵ Ordonnance Souveraine n. 96 du 16 Juin 2005 Rendant Exécutoire la Convention sur l’élimination de Toutes les Formes de Discrimination à l’égard de Femmes, Adoptée à New York le 18 décembre 1979 [Sovereign Ordinance No. 96 of 16 June 2005 on the Enforcement of the Convention on the Elimination of All Forms of Discrimination against Women, adopted in New York on 18 December 1979], JOURNALE DE MONACO, June 24, 2005, No. 7709 (stating that “the said Convention entered into force for Monaco on 17 April 2005 and will be fully executed from the publication of this Order.”).

Therefore, as an organization governed by Monegasque law, the IAAF is bound by the provisions of CEDAW.

The IAAF has violated Articles 1 and 13(c) of CEDAW. Article 1 of CEDAW provides that “discrimination against women’ shall mean any distinction, exclusion or restriction made on the basis of sex which has the effect or purpose of impairing or nullifying the recognition, enjoyment or exercise by women”¹⁵⁶ Article 13(c) of CEDAW requires its signatories to take the proper steps to “eliminate discrimination against women in other areas of economic and social life in order to ensure, on a basis of equality of men and women, the same rights, in particular . . . [t]he right to participate in recreational activities, sports and all aspects of cultural life.”¹⁵⁷

By enacting an eligibility requirement that applies exclusively to women, the IAAF has failed to refrain from discrimination on the basis of sex. Instead, it has actively engaged in it. Again, only women are bound by the IAAF Regulations, and there are no regulations regarding hormone levels for males except for the Anti-Doping Code which all athletes must subscribe to. It is perplexing that when a woman has an outstanding athletic performance, her gender and integrity are questioned, but when a male outperforms another male, nobody questions it. At most, his integrity is questioned.¹⁵⁸ It is obvious that, for some reason, females are treated differently than their male counterparts and this is the type of action that Article 1 of CEDAW has classified as discrimination against women. Moreover, under the IAAF Regulations, female athletes are singled out and investigated if they are suspected of being hyperandrogenic. In the event that they do not meet the testosterone requirement, they lose their right to participating in sports, which is what Article 13(c) has specifically cautioned against.

The IAAF argued that hyperandrogenism has provided female athletes with a competitive advantage; however, these assertions are unfounded. Again, there are a variety of factors that contribute to athleticism that the hyperandrogenism regulation fails to account for.¹⁵⁹ Furthermore, there has yet to be a study with conclusive evidence to corroborate the assertion that there is a positive relationship between higher testosterone levels and athletic performance. As discussed throughout this Note, there is a consensus amongst scholars, medical experts, and legal bodies (such as CAS), that without this data, the regulations are discriminatory and unjustifiable.¹⁶⁰

¹⁵⁶ CEDAW, *supra* note 151, at art. 1.

¹⁵⁷ *Id.* at art. 13(c).

¹⁵⁸ See Raheel Saleem, Comment, *The Olympic Meddle: The International Olympic Committee’s Intrusion of Athlete’s Privacy Through the Discriminatory Practice of Gender Verification Testing*, 28 J. MARSHALL J. COMPUTER & INFO. L. 49, 72 (2010) (“there is no such argument for male athletes because, presumptively, no one can make an argument that higher levels of estrogen will cause an unfair advantage.”).

¹⁵⁹ Schultz, *supra* note 13 (nothing that “[r]esearchers associate physical performance with over 200 different genetic variations. More than 20 of those variants relate to elite athleticism.”).

¹⁶⁰ See generally *id.*; Heggie, *supra* note 16; Karkazis et al., *supra* note 10; Simpson et al., *supra* note 9.

IV. A CALL TO ELIMINATE GENDER VERIFICATION EXAMINATIONS

As illustrated above, there are two competing interests. On the one hand, there are concerns regarding the fairness and integrity of athletic competitions. On the other hand, there is a desire to prevent discrimination against athletes based on arbitrary reasons such as gender. On balance, however, for a variety of reasons, the desire to prevent discrimination outweighs the concerns of fairness and integrity.

First, gender verification examinations do not adequately address the concerns of fairness and integrity of sports. When gender verification examinations began in the 1930s, the IOC and the IAAF were concerned that males were infiltrating female athletic competitions.¹⁶¹ However, sex fraud should not be an issue, especially because there has only been one case, to date, of actual sex fraud.¹⁶² With such limited application, it is challenging to comprehend why the IOC and the IAAF are so invested in regulating hyperandrogenic female athletes.

Additionally, it is difficult to understand why a specific amount of testosterone would be too much for a woman, especially because there are studies that show that there are overlaps in testosterone levels amongst elite athletes.¹⁶³ If the concern is that hyperandrogenic females have an advantage, this concern is baseless. There is no proof that hyperandrogenism leads to superior athletic performance nor is there proof that testosterone is the only factor that affects athleticism.

Even if hyperandrogenism is found to confer superior athletic ability onto an athlete, the athlete should not be barred from competition because the elevated levels occur naturally. An athlete should never be condemned for possessing an athletic advantage that they were born with. Naturally high testosterone levels should be embraced just like height and wingspan. To be clear, high testosterone levels are concerning only if they are occurring unnaturally through doping. However, issues of high testosterone levels associated with doping are adequately protected by the Anti-Doping Code so there is no need for the Testosterone Test.

CONCLUSION

The fundamental fairness and integrity of athletic competitions are important and should be protected. However, the approach that the IOC and the IAAF chose to take—gender testing—is not the right one.

Sadly, ever since women were allowed to compete in sports they have been discriminated in one way or another, which is why gender testing mandates are

¹⁶¹ EPSTEIN, *supra* note 19, at 56.

¹⁶² Heggie, *supra* note 16, at 161 (discussing how Henrich Ratjen is the only 'genuine' case of a man masquerading as a woman" to date).

¹⁶³ Healy, *supra* note 75.

especially suspect.¹⁶⁴ From the late 1930s to the late 1990s, athletic organizations have forced female athletes to verify their gender by requiring femininity certificates, physical examinations, and chromosome testing.¹⁶⁵ Each and every one of these methods had a variety of shortcomings, which is why they are no longer in place.

Even after abolishing mandatory testing, the IOC and the IAAF retained jurisdiction to subject suspect female athletes to gender testing.¹⁶⁶ Eventually, by 2011, the IOC and the IAAF issued the Hyperandrogenism Regulations, which subjected suspect female athletes to the Testosterone Test.¹⁶⁷ Like the other forms of gender testing, the Testosterone Test is wholly inadequate. It fails to account for a variety of biological and anatomical factors that contribute to athleticism and has been highly criticized by the medical community for lacking scientific support. This assertion is supported by the 2015 CAS decision which suspended the mandate for two-years, pending the IAAF's submission of additional evidence to support its assertion that an enhanced level of testosterone will confer athletic advantages to female athletes.¹⁶⁸

The IOC has “urged the IAAF and others to go back to the CAS with arguments in favor of reinstating the rule.”¹⁶⁹ Instead of attempting to reinstate the Hyperandrogenism Regulations, the IOC and the IAAF should eliminate them in their entirety. If the goal is to ensure fairness in female competitions, that goal cannot be achieved as long as the Hyperandrogenism Regulations continue to exist.

Drawing the line between what is fair and unfair is difficult in close cases, but it is not difficult to recognize things that are obviously unfair. It is not fair that female athletes with seemingly superior athletic abilities are forced to undergo arbitrary testing while males are untouched. It is not fair to tell a woman who has identified herself as a woman, and was raised as a woman that she is not woman enough to compete against women. Stigmatizing someone for something that they cannot control, like their biological make up, is far from being fair. If the IOC and the IAAF are truly concerned with fairness and integrity, they should not punish athletes who are born with “abnormalities.” Doing so does not make any sense, especially when other factors that are considered advantageous in certain sports are not policed in the same way that hyperandrogenism is. Yes, fairness and integrity in athletic competitions are important, but those values can be protected in ways that are not discriminatory.

¹⁶⁴ See generally Kate Fagan, *Fair? The IOC's Gender Testing Policy is the Exact Opposite*, ESPN (Sept. 9, 2014), <http://espnw.ly/v1JYSep8> (discussing how women were discriminated against for not appearing “women enough”); Kuang Keng Kuek Ser, *See 120 Years of Struggle for Gender Equality at the Olympics*, PUB. RADIO INT'L (Aug. 17, 2016), <http://short.pri.org/CPZU11W> (discussing how women were initially excluded from the Olympics entirely).

¹⁶⁵ See Wood, *supra* note 12, for an overview of the history gender verification examinations.

¹⁶⁶ Shapiro, *supra* note 30.

¹⁶⁷ *Id.*

¹⁶⁸ Chand, CAS 2014/A/3759, *supra* note 128.

¹⁶⁹ *IOC Rules Transgender Athletes Can Take Part in Olympics Without Surgery*, GUARDIAN (Jan. 24, 2016), <https://www.theguardian.com/sport/2016/jan/25/ioc-rules-transgender-athletes-can-take-part-in-olympics-without-surgery>.