

# SEX VERIFICATION TESTING

## *What you need to know*

Sex verification testing is increasingly being proposed in sports policies, but these tests are expensive, invasive, and often discriminatory. Below are the key facts about what these tests involve, who would be impacted, and how they are problematic.

### **What is sex verification testing?**

Sex verification testing is a process used in sports to determine whether an athlete qualifies to compete in women's events based on biological characteristics. These policies often rely on outdated and pseudoscientific ideas about sex and disproportionately target women whose bodies do not conform to narrow gender stereotypes.

Historically, sex testing has been used to police women's participation in sports, particularly harming women of color, intersex women, and transgender athletes. Many of these policies have led to human rights violations, including coerced medical procedures and misguided bans from competition.

### **What types of testing are used and how are they done?**

Sex verification testing can involve a range of intrusive and medically unnecessary procedures, including:

- Physical examinations – Inspections of an athlete's genitals, often degrading and invasive.
- Chromosomal testing – Lab tests that examine an athlete's DNA to determine whether they have XX or XY chromosomes.
- Hormone testing – Blood or urine tests to measure testosterone levels, despite the fact that this type of test is scientifically flawed and fails to account for genetic diversity.
- Pelvic ultrasounds or MRIs – Imaging tests to examine an athlete's reproductive anatomy, which have been used to exclude intersex women from competition.

None of these tests provide a fair or reliable way to categorize athletes for competition, as biological sex is complex and multifaceted.

### **Who has to get tested under these policies?**

Some proposals and policies test women and girls who are perceived as "too masculine"—often based on appearance and stereotypes. In practice, this disproportionately affects gender-nonconforming women, women of color, and intersex athletes.

Additionally, some proposals call for mass testing of all female athletes, regardless of appearance or perception. Even when applied universally, these policies remain discriminatory because they are limited to women's sports only, while men's sports face no such scrutiny. This reinforces the harmful assumption that women's bodies require regulation in ways men's do not, and ignores the biological diversity that exists among all athletes

### **How much does sex verification testing cost?**

Comprehensive sex verification testing is extremely expensive. The cost per athlete can exceed \$10,000, depending on the type of tests required and administrative costs.<sup>1</sup>

- Chromosomal testing (karyotyping): \$1,000–\$2,500
- Hormone level analysis: \$300–\$800
- Pelvic ultrasound or MRI: \$500–\$3,000
- Genetic sequencing (in disputed cases): \$2,000–\$5,000+
- Legal review & compliance: \$500–\$1,500 per athlete
- Data storage & security: \$100–\$500 per athlete
- Personnel costs for administration & appeals: \$1,000+ per athlete

For disputed cases requiring multiple tests, legal intervention, or genetic sequencing, costs could exceed \$15,000 per athlete.

### **Who will pay for sex verification testing?**

No proposals currently explain how sex verification testing would be funded. The costs would likely fall on:

- Schools and athletic programs/governing bodies – diverting money from coaching, scholarships, and facilities while women’s sports remain underfunded. Many schools are already cutting athletic programs due to budget constraints.
- Parents and athletes – forcing families to cover unnecessary tests when the cost of school and recreational sports is already rising. Many parents already struggle to afford "pay-to-play" fees, equipment, and travel.
- State and local funding – pulling taxpayer dollars away from programs that actually support female athletes. Public schools face severe budget shortfalls, yet sex verification testing would prioritize exclusion over expanding opportunities for women and girls in sports.

Inevitably, sex verification testing would drain resources from athletics while harming the very athletes these policies claim to protect

### **Who will administer these tests?**

Most athletic programs lack the infrastructure, personnel, and expertise to safely implement sex verification practices. Implementing sex verification testing requires:

- Medical professionals trained in genetics, endocrinology, and gynecology
- Sports governing bodies to oversee, interpret, and secure test results
- Sports administrators who are trained in HIPAA compliance

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<sup>1</sup>Estimates reflect conservative costs drawn from medical, legal, and administrative sources: Mayo Clinic Laboratories, National Human Genome Research Institute, Quest Diagnostics, LabCorp, American College of Radiology, Radiology Associates pricing estimates, National Institute of Health, Title IX legal costs, American Bar Association, cost estimates for secure medical records systems like Epic and Meditech, and salary estimates for geneticists, endocrinologists, sports compliance officers, and legal teams in past sports legal cases

- Legal teams to handle challenges and privacy concerns

As it stands, most sports organizations are simply not equipped to ethically or legally manage such a complex and invasive process. To become so would require a substantial financial investment in personnel, competency training, data management systems, and legal assistance.

**Sex verification testing is expensive, harmful, and inequitable**

Sex verification testing does not make sports fairer—it creates more opportunities for discrimination and inequity. These tests are costly, unreliable, and disproportionately target certain women based on race, gender expression, and natural biological variations. Rather than strengthening women’s sports, these policies divert resources away from women and girls rather than focusing on evidence-based solutions (e.g. better funding, better facilities, access to more opportunities). Supporters of women’s athletics should reject sex verification testing and focus on what actually benefits women and girls: inclusion, investment, and equal opportunities for all athletes.

# THE HARMS OF SEX VERIFICATION TESTING

## Sex verification testing harms all women's sports

Sex verification testing has never been about fairness—it has always been about control. Whether applied selectively or proposed for all athletes, these tests disproportionately burden all women and girls. Even "universal testing" is not universal: no such policies exist for men's sports. Instead, they treat women's bodies as inherently suspect, reinforcing the harmful notion that women's participation in sports requires them to meet white-centric and sexist ideals about how they look and play.<sup>1</sup>

Historically, these policies have targeted women of color, intersex women, and women from the Global South.<sup>2</sup> Such practices create environments of suspicion and exclusion, discouraging participation and disproportionately harming marginalized athletes.<sup>3</sup> Far from protecting women's sports, sex testing undermines them.

## Legacies of pseudoscientific discrimination

Proposals to test athletes' genetics reflect a long pattern of using pseudo-scientific ideas to control and exclude marginalized people. In the past, false claims about genetics—rooted in racist and ableist ideologies—were used to justify deeply harmful policies.<sup>4</sup> These ideas granted scientific authority to discrimination, authority that was never grounded in truth or legitimate biology. The legacy of these beliefs and policies continues to shape inequities in healthcare, education, and public policy today.

While sex verification testing does not replicate those harms, it reanimates the same logic: using flawed ideas about biology to decide who belongs. In sports, this has meant the disproportionate targeting of women from the Global South and women of color, often based on nothing more than appearance or exceptional athletic performance.<sup>5</sup>

These policies risk turning sport into a site of bodily surveillance—where certain women must “prove” their right to compete, while others are presumed to belong. It's an approach that revives the same false authority and pseudo-scientific frameworks once used to police people's bodies in profoundly unjust ways.

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<sup>1</sup> Wells, C., & Darnell, S.C. (2014). *Caster Semenya, Gender Verification, and the Politics of Fairness in an Online Track & Field Community*. *Sociology of Sport Journal*, 31(1), 44–63. <https://journals.humankinetics.com/view/journals/ssj/31/1/article-p44.xml>

<sup>2</sup> Pieper, L.P. (2013). *Policing Womanhood: The International Olympic Committee, Sex Testing, and the Maintenance of Hetero-Femininity in Sport*. [https://etd.ohiolink.edu/apexprod/rws\\_etd/send\\_file/send?accession=osu1366280376&disposition=inline](https://etd.ohiolink.edu/apexprod/rws_etd/send_file/send?accession=osu1366280376&disposition=inline)

<sup>3</sup> Medley, S. (2021). *Interpreting Title IX: How Opponents of Transgender Equality Are Twisting the Meaning of Sex Discrimination in School Sports*. *NYU Review of Law & Social Change*. <https://socialchangenyu.com/review/interpreting-title-ix/>

<sup>4</sup> Lewis, A.K., & Sharpe, S.L. (2023). *Sex, Science, and Society: Reckonings and Responsibilities for Biologists*. *Integrative and Comparative Biology*, 63(4), 877–891. <https://academic.oup.com/icb/article/63/4/877/7273837>

<sup>5</sup> Gaothuse, K. (2022). *Womanhood in Sport and Human Rights Violations: A Look at Differences in Sexual Development (DSD) Regulations and the Transgender Ban*. <https://repository.up.ac.za/handle/2263/88598>

## Intersex athletes and the myth of binary sex

Sex verification testing is grounded in the false belief that sex is binary and easily classified. Decades of scientific research prove otherwise: biological sex exists on a spectrum.<sup>6</sup> Intersex people—who are born with natural variations in chromosomes, hormones, reproductive anatomy, or secondary sex characteristics—represent nearly **1.7% of the population**, making them as common as people with red hair.<sup>7</sup>

Importantly, many people with intersex variations may not even know they are intersex. These natural differences often go undiagnosed unless someone undergoes specific medical testing, meaning sex verification policies could involuntarily expose athletes to deeply personal medical information they did not seek to discover.

Intersex athletes have been some of the most targeted victims of sex verification testing, subjected to invasive exams, coerced medical interventions, and public humiliation. High-profile cases like that of Caster Semenya illustrate how these policies are used to exclude women whose bodies do not conform to narrow, outdated definitions of womanhood, particularly targeting women from the Global South.<sup>8</sup>

No single biological marker—chromosomes, hormone levels, or genitalia—can definitively categorize someone's sex in a way that is meaningful or fair in sport.<sup>9</sup> Continuing to rely on sex verification testing only reinforces discredited, binary models of sex, marginalizing intersex athletes and promoting misinformation about the natural diversity of human bodies.

## Genetic privacy concerns

Mandatory sex verification testing presents enormous risks to genetic privacy. These policies require the collection of sensitive medical data—often from minors—without clear safeguards regarding consent, storage, or future use.<sup>10</sup> Once collected, this data is vulnerable to breaches, misuse, and unauthorized sharing, exposing athletes to discrimination far beyond the playing field.

Athletes should not be forced to give up their genetic privacy to participate in sports. There is no credible evidence that such testing enhances fairness or safety, and its harms are well-documented across medical and legal literature.<sup>11</sup>

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<sup>6</sup> Oldham, A.C., & Schneider, A.J. (2023). *Anti-doping sciences, abjection, and women's sport as a protected category*. *Frontiers in Sports and Active Living*. <https://www.frontiersin.org/articles/10.3389/fspor.2023.1106446/full>

<sup>7</sup> Blackless, M., Charuvastra, A., Derryc, A., Fausto-Sterling, A., Lauzanne, K., & Lee, E. (2000). *How sexually dimorphic are we? Review and synthesis*. *American Journal of Human Biology*, 12(2), 151–166.

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<sup>8</sup> Wells & Darnell, 2014

<sup>9</sup> Lewis & Sharpe, 2023

<sup>10</sup> Briscoe, F., & Ajunwa, I. (2025). *Genetic Privacy*. *Indiana Law Journal*. <https://www.repository.law.indiana.edu/ilj/vol100/iss2/4/>

<sup>11</sup> Medley, 2021

## **Who pays and who decides?**

Proponents of sex verification testing have failed to answer fundamental procedural questions. Who selects which athletes are tested, and based on what criteria? Are all women athletes tested? How often should testing occur? What appeals process exists if an athlete is flagged? Who pays for these expensive procedures?

Comprehensive sex verification testing—including chromosomal analysis, hormone testing, and related medical evaluations—can cost up to \$10,000 per athlete.<sup>12</sup> Furthermore, per-person testing costs are only the beginning: they do not capture the cost of the necessary overhaul of software, protocol, medical oversight, legal teams, and/or facility upgrades needed to implement testing in compliance with privacy laws like FERPA and HIPAA. For schools, leagues, and athletic organizations already operating on limited budgets, these expenses are unsustainable. Worse, they would divert money away from the resources that actually make women and girls sports stronger—like coaching, scholarships, facilities, equipment, and travel—resources that women and girl athletes are consistently denied as compared to men and boys.

## **Wasteful, harmful, and legally risky**

Mandatory sex verification testing is not just bad policy—it invites serious legal consequences. These policies violate civil rights protections against sex discrimination and may conflict with privacy laws.<sup>13</sup> Even under so-called "universal testing" proposals, the fact that they target only women's sports while leaving men's sports untouched makes them discriminatory by design.

Sex verification testing is not reliable, ethical, or scientific and is fundamentally at odds with creating safe and equal opportunities for all women and girls to play. All mass testing would achieve is the widespread harassment and exclusion of countless women and girls, cis and trans alike—while draining the very resources that women's sports need to thrive.

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<sup>12</sup> Estimates reflect conservative costs drawn from medical, legal, and administrative sources: Mayo Clinic Laboratories, National Human Genome Research Institute, Quest Diagnostics, LabCorp, American College of Radiology, Radiology Associates pricing estimates, National Institute of Health, Title IX legal costs, American Bar Association, cost estimates for secure medical records systems like Epic and Meditech, and salary estimates for geneticists, endocrinologists, sports compliance officers, and legal teams in past sports legal cases

<sup>13</sup> Medley, 2021