

**NOTE:** *The terminology used when discussing issues involving transgender players can be controversial. A glossary is included in the draft Guideline that contains more detailed explanations of frequently used terms. The glossary is provided to ensure that the Guideline is clear to everyone who reads it, but it is acknowledged that not all terms are used or agreed on by all people. It is important to note that no term is used in a manner intended as a judgement or challenge to the gender identity or dignity of anyone. For example, the use of “biological male” is not to suggest that transgender women are not women but simply to distinguish between people whose development is influenced by androgens such as testosterone, and others defined as “biological females” (who derive no changes due to androgens during puberty).*

### **Why is World Rugby entering into a consultation process about transgender players participating in rugby?**

The evidence in support of the current policy has been re-evaluated, and recent higher-quality research has emerged that suggests that the current policy is not fit for the purpose of player welfare for the players involved in, and affected by, transgender participation in the traditional categories of men’s and women’s rugby.

### **What does the research show?**

The evidence, variations of which have existed for many years, has recently been advanced by new studies which assess physical function more comprehensively and with more control than previously, and confirm only small reductions in strength with no loss in bone mass or muscle volume or size after testosterone suppression in transwomen who undergo typical medical interventions.

### **Why does that matter?**

Previously, testosterone suppression was required on the premise that it eliminated size, strength and power advantages, ranging between 15% and 190%, that are created when a person goes through an androgen/testosterone-driven puberty, as occurs in players who are assigned male at birth. The research shows that this is not the case, with reductions in various attributes of between 0% and 8% shown in numerous studies. That means that ciswomen players (who do not undergo androgenization during development) who are participating with and against transwomen (who do undergo androgenisation during development) are at a significantly increased risk of injury because of the contact nature of rugby. This creates the welfare concerns that are described in detail in the draft guideline.

### **What are other sports doing about this?**

The global sporting community has been grappling with this issue for some time, with various iterations of Transgender policies since 2003. The IOC is currently undertaking a consultation process and many other sports are considering how best to deal with issue. Because Rugby is a contact sport, a sport-specific policy may be necessary to address and satisfy player safety and welfare concerns and priorities.

### **How does World Rugby’s consultation process work?**

The process: fact-finding → listening → draft Guideline issued for comments → responses reviewed → decision on policy.

At the outset of the current process, World Rugby set up a working group who engaged in extensive consultation and research, which included input from independent expertise in all fields and domains relevant to this issue. These included:

- Transgender rights advocacy groups
- Cis-gender advocacy groups
- Players
- Member Unions involved in the implementation of diversity policies
- Legal – sports law and human rights lawyers
- Scientific – biological/physiological
- Medical – endocrine, psychiatry, internal medicine specialists
- Human rights experts and ethicists

Following a period of background research and investigation, experts from the above domains were invited to attend a two-day workshop in London, England, at which they presented and then debated among other experts. For all domains, expertise was sought on both sides of the issue, such that robust and comprehensive discussion could be provided.

All presentations and subsequent discussions were chaired by a working group established by World Rugby, which itself comprised legal, scientific, medical, management and player representatives. All the presentations are freely available online:

<https://playerwelfare.worldrugby.org/?subsection=84>

The World Rugby Working Group then considered all evidence, and where necessary, commissioned further research to explore questions and relevant important issues that had been raised by the independent experts.

This research, along with that presented to the Working Group in London, forms the basis for the draft guideline issued for consultation. All the peer-reviewed research studies in support of the guideline are cited in the full document and are available upon request.

The draft Guideline will now be issued to World Rugby's Unions and Associations, International Rugby Players (which represents professional players), the attendees who presented to the Working Group, and World Rugby will invite submissions from appropriate representative groups.

### **What happens next?**

The Working Group will review the responses from the above groups and will make a recommendation to World Rugby's Executive Committee and the policy will ultimately be voted upon by World Rugby's Council.

## **FAQ about transgender participation in sport**

### **World Rugby's previous policies allowed participation of transwomen who lowered their testosterone levels below 10nmol/L and then 5nmol/L for twelve months. Why is that no longer deemed sufficient?**

The previous policies were based upon the desired outcome and premise that lowering testosterone, which is typically part of the medical treatment for transwomen, was sufficient to ensure fair and safe participation in the category of women's sport.

This is a position not presently supported by any published evidence. Numerous published studies, dating back to 2004, have studied changes in various physical capabilities, as well as bone density, mass and muscle mass, before and after the suppression of testosterone. The data shows that a large part of the typical differences between people who are assigned male at birth (whose development is influenced by androgens such as testosterone) and people who are assigned female (who derive no changes due to androgens during puberty), persist even after testosterone levels are reduced.

These controlled longitudinal studies show for instance that bone density and lean mass is reduced by between 0% and 8% after a year of testosterone reduction. Given that lean mass differences between people assigned male and people assigned female is typically in the range of 30% to 50%, the reductions observed are small and allow significant differences to remain. Similarly, strength reductions between 5% and 8% are documented with testosterone reduction, which is only a small proportion of the initial 30% to 40% strength differences that exists.

As a result, the evidence from controlled longitudinal studies shows that lowering testosterone does not achieve parity in the studied physiological attributes that contribute to both safety and performance in rugby.

### **My friend plays basketball and is extremely tall. She has a huge advantage over everyone else, isn't that the same thing as a transgender woman having a strength, mass, or power advantage in women's rugby?**

Sport does reward exceptional individuals who have advantages over their peers and rivals. When we award titles, medals and even scholarships or international caps, we reward individuals who stand out, who are different, and who therefore outperform others. A champion athlete, in any sport, will possess a collection of attributes necessary to make them champions. These include factors like height in some sports, or physiological factors like biochemistry, muscle-fibre type, and cardiorespiratory systems that are important for speed, endurance, power and strength in other sports.

The meaning of sports exists because it is understood that sport identifies and rewards these attributes. However, it is important that the attributes a sport rewards are a) the ones that truly matter to the outcome, and b) not so large and decisive that they either distort the true meaning of the sporting outcome, or create safety and welfare risks for some athletes.

When we compare people who are assigned male at birth (who undergo puberty and development influenced by androgens like testosterone) to similar or matched people who are assigned female (who do not experience an androgen-influenced development), we discover large, typical and extreme physiological and performance differences as a result of another attribute or factor – testosterone’s effects on physiology. People who are assigned male are typically larger, have more muscle, are stronger, faster, and more powerful, with different shaped skeletons, larger hearts, more haemoglobin, and less body fat. All of these factors create physiological differences that are so large that they create insurmountable performance advantages for the best males in almost all sports, along with associated risk factors for females in direct contact competition with them.

It is for this reason that sport is separated into categories of biological sex, rather than gender. Few would dispute that if athletes who are assigned male at birth and athletes who are assigned female at birth competed directly against one another, the outcome would be skewed so far in favour of males that every champion, and indeed, every elite athlete, Olympic participant, and scholarship recipient, would be male, based on fact that many thousands of men and boys are faster, stronger and more powerful than the very best women in almost every sporting pursuit and discipline every year.

As a result, androgen-influenced physiological development is an attribute that does not create meaning to a sporting result. Rather, it undermines it if direct comparisons are made despite the differences it creates. This necessitates that males and females are separated for the purposes of sport, such that a male and female champion can be crowned as equivalent for each event. For example, we award two gold medals for 100m sprinting or Sevens Rugby – one to men, one to women – because this allows us to reward the appropriate, meaningful physiological qualities which are possessed by both those athletes in equal measure, even though one is 10% to 15% faster and 25% to 40% stronger and more powerful than the other as a result of androgens.

That androgen effect is large enough that a) without separation, no female, irrespective of what physiological characteristics they possess, would be able to compete with thousands of men and boys, and b) many men and boys who do not possess the optimal combination of attributes necessary for success would be able to beat the very best female sprinters or Sevens rugby players.

The separation of athletes into two categories therefore creates meaning in the outcomes for both categories, by removing the significant effect of testosterone’s effects on the outcome. For contact and combat sports, this separation also reduces the safety risk, because the outcomes of testosterone’s effects – size, speed, muscle mass, strength and power – are significant risk factors for injury, and so an acceptable level of safety of those who are “disadvantaged” can only be achieved if the effects of those androgens are removed from the risk analysis by separation into two categories.

This is the same reason why we have weight categories in combat sports like boxing. Without this separation, the size of a boxer would become such a dominant factor in the result that the best boxers would almost always be the heaviest boxers. As a result, the

importance of skill and boxing ability would be greatly diminished if mass was not removed from the criteria that determine the outcome, and the sport would be significantly more dangerous for those who are at a mass disadvantage.

In conclusion, it is true that sport rewards people with natural advantages. However, advantages such as height in basketball and the presence of other physiological attributes that create performance are different in concept to the advantage of having testosterone, since the latter skews the outcome to such a large degree as to make outcomes less meaningful and risk of harm significant for those who do not benefit from it. In contrast, the other physiological characteristics like height in basketball are possessed by both male and female champions, and we recognize that the value of sport is in rewarding these traits.

**Many women are much better at sport than men, and there is a lot of overlap between them. Why should it be a problem for transwomen to play women's sport when many women are stronger, faster, and more powerful than a lot of men?**

It is true that the best female athletes outperform many male athletes. Indeed, the very best female athletes – elite rugby players, Olympic champions etc – are athletically superior to **most** male athletes. However, the comparison of the best athletes in one division to mediocre or even sub-elite athletes in another division is not relevant to the assessment of risk, safety or performance outcomes for sport.

This is because competition only occurs within narrower bands of athletic abilities or performance levels. The valid comparison is between elite male athletes and elite female athletes. Or between male and female club athletes, male and female semi-professional athletes, or even high school/junior boys and girls who are competing for scholarships. Within each of these groups, an athlete who is assigned male at birth (whose puberty and development is influenced by androgens/testosterone) is between 10% and 20% faster, and 20% and 50% stronger and more powerful than an athlete who is assigned female at birth (whose puberty and development is not influenced by androgens/testosterone) who is matched within the same competition 'band'. For this reason, valid comparisons can only be made on the basis of what is typical across a large population, or what is found to be different at the elite or best-performing end of a specific and relatively narrow sub-grouping.

This comparison reveals that thousands of men and boys outperform the very best female athletes every year. The typical matched difference in speed is between 10% and 15%, while strength and power are 25 to 40% greater in males. The typical elite men's rugby player is 40% heavier than the typical elite women's player, while the heaviest 5% of men's players are 30% heavier than the heaviest 5% of women players. As one would expect, there are some women's players who are heavier than men's players, but this is only true when a particularly heavy woman (the heaviest 10% of women) is being compared to a relatively light man (the lightest 10% of men). At the other extreme of mismatched comparisons, the heaviest men's players are 100% heavier than the lightest women's players.

The same is true of performance – female athletes can be found to outperform male athletes if a relatively superior female is compared to a relatively inferior male (elite female vs club level male, for example). However, that there are hundreds of thousands of men and boys who are slower than the very best female athlete is largely irrelevant if the role of androgen/testosterone-induced physiology in performance is under consideration – sub-elite and athletically inferior male athletes are not in the comparison group against an elite female athlete.

Analogies for these concepts may be seen in sports with age and weight bandings. The fact that many junior athletes are faster and stronger than most adults does not disprove that junior athletes have performance disadvantages and safety risks compared to adult athletes. Many lighter weight boxers may be superior to heavyweight boxers, but it is inarguably true that mass is a significant and decisive factor in boxing. An overlap in performance can only be found when an exceptional athlete is compared to a relatively mediocre one, but this is irrelevant for sporting competition. Within the relevant and directly comparable categories, the male physiological attributes far exceed female attributes, which creates both the welfare risks and performance differences between them.

### **Can physiological testing be conducted to ensure safety and fairness?**

At present, there is no credible or valid method or combination of tests that can assess physiological variables to dictate the matching of people for the purposes of fair competition or safety. While it is possible to test one variable, such as mass, and then create a category for it, this would not alleviate the discrepancy between ciswomen and transwomen, because the strength, power and speed advantages exist even after mass is adjusted.

Similar issues apply to strength, power, and speed. In addition, any tests for these variables would have to be valid and reliable, with appropriate effort ensured. Finally, there is no valid or reliable method by which a threshold for each variable can be set. This is a challenge that is encountered by the Paralympic categories, where testing aims to establish the magnitude of a disadvantage (in performance, as a result of various types of disabilities) such that similarly affected athletes compete only against one another. This method is fraught with difficulties but is feasible when only one variable (for instance, degree of cerebral palsy) requires assessment. Application of this concept to androgen/testosterone-driven physiological changes would require a complex set of safety and performance determinants be measurable in laboratory or field testing, weighted correctly and applied appropriately. Such an approach is not yet feasible across the global community and professional game and is ultimately an approach that theoretically replaces the need for traditional categories men's and women's sport, to the detriment of all women's participation in sport.

### **Why is there thought to be a safety risk when transwomen play women's rugby?**

The physiological differences that are created by androgens like testosterone during development in players who are assigned male at birth have significant implications for

injury risk in a contact sport like rugby. We know that injuries in rugby are more likely to occur during tackles and other contacts (rucks, mauls), and we know that these injuries are the direct result of excessive kinetic energy and forces being applied to the body of the player who is injured. Numerous studies have shown that significant risk factors for these injuries are the mass of players involved in tackles, and the speed of those players in contact situations. The ability to apply force to an opponent, especially at a high rate (a measure of power) is also a large risk factor for injury.

Given these facts, the physiological differences, between players who undergo puberty and development influenced by androgens/testosterone vs. those who do not, are concerning for welfare. It is known that players who are assigned male at birth (whose puberty and development is influenced by androgens/testosterone) are stronger by 25% to 50%, are 30% more powerful, 40% heavier, and about 15% faster than players who are assigned female at birth (who do not experience an androgen-influenced development). That combination of mass, strength, power, and speed means that in a direct physical contest, ciswomen (who do not experience an androgen-influenced development) in all these domains will be at significantly higher risk of injury. Studies suggest that the compounded or cumulative effect of these attributes may be even greater, with one study showing that punching power – a composite of mass, force/strength, and power – is 190% higher in people who are assigned male at birth (whose puberty and development is influenced by androgens/testosterone) than people who are assigned female (who do not experience an androgen-influenced development).

Further, the ability to withstand forces is a function of strength, which is lower in ciswomen (who do not experience an androgen-influenced development), and biomechanical modelling shows that head and neck forces and head accelerations during tackles are significantly higher when a lighter player is involved in a tackle against a heavier player. Therefore, the direct contact situation that arises between transwomen (whose puberty and development is influenced by androgens/testosterone) and ciswomen (who do not experience an androgen-influenced development) creates a range of risks that is considerably higher than what would typically be experienced by an entire field of ciswomen (who do not experience an androgen-influenced development).

Given the scientific evidence that the lowering of testosterone does not remove these differences in mass, strength and power, there are risks and welfare concerns ciswomen and transgender women are in contact situations.

### **How big an issue is this for the sport?**

The issue is becoming more relevant for the sport, with an increase in the number of queries and applications, as well as challenges to current policy. It is therefore necessary to consider the evidence and develop a policy that addresses the concerns from all parties. That a situation may be rare is not, by itself, reason enough to set aside action, because where risk exists, the sport is obliged to act in such a way as to manage this risk within acceptable levels.

### **Is the research underlying the guidelines robust?**

World Rugby believes that the research is robust. It comprises many research studies, all of which have been published in peer-reviewed journals dating back two decades and comes from multiple distinct research groups around the world. This research, to this point, shows conclusively that:

- a) Performance differences arise largely as a result of the physiological differences between males and females that are created during puberty and adolescence
- b) By adulthood, these performance differences range in size, between 10% and 15% for running events, to approximately 25% to 30% for strength, 40% for mass (in elite rugby players), 30% for power and explosive jump performance, and over 100% for complex tasks like punching
- c) The lowering of testosterone removes only a small portion of these biological differences. Evidence from numerous well-controlled longitudinal studies, all of which are peer-reviewed, suggests no change in bone mass or density, and only 5% to 10% reductions in lean muscle mass and strength, with no change in muscle cross-sectional area. The reversal of performance advantages is thus only one-fifth of the initial advantage, which leaves a significant residual advantage, particularly for attributes of strength and mass.

A recent review article by Hilton and Lundberg summarizes this research, though this article is still in peer-review, and is presently available in preprint. The articles and research it cites, however, are all published and available in scientific journals.

It is true that further research is required and may yet establish that the magnitude of performance differences after testosterone suppression is different in athletically trained individuals compared to those studied and described in the current body of literature. There is, however, no basis to suggest that the advantages created by androgens are removed more in trained athletes than in non-trained people, and also no evidence that suggests the absence of a safety/welfare concern for those whose biology is not developed by androgens when competing against those who derive the benefit of these androgens. The best available evidence thus supports the proposed guidelines. However, World Rugby is committed to supporting such research, and will react to evidence in the ongoing appraisal of its guidelines should that evidence emerge in either direction.

### **Are different countries able to implement their own guidelines independent of the World Rugby guideline?**

Yes, countries are encouraged to use and apply the guidelines within their own jurisdictions, with the capacity to modify or even not apply these guidelines should they choose to assess the range of factors in a different manner.

### **Why do trans men need to provide confirmation of their physical capabilities in order to play men's rugby?**

The reasons provided above for the exclusion of transwomen from women's rugby are also relevant to the transmen group who wish to play men's rugby. That is, players who are assigned male at birth (whose puberty and development is influenced by

androgens/testosterone) have speed, strength, mass and power advantages ranging from 10% to 190%, and this creates significant player welfare implications for lighter, slower, less powerful players.

Transmen (who do not experience an androgen-influenced development) thus face risks of injury, and it is prudent to require some confirmation that they accept these risks and are deemed capable of playing the sport with potential size, strength, speed and power disadvantages. This is similar in nature to the requirement for under-age players to be certified to play against adults, and to the policy that rugby currently has for players who wish to play in the front row.

Confirmation is thus not intended to create barriers to participation, but rather protection for those players who wish to play the sport. It may be provided by a medical practitioner or qualified coach with an understanding of the demands of rugby

### **What can transwomen do to stay involved in rugby now that they're prevented from playing with women?**

World Rugby is committed to its value of inclusion, and so this guideline represents a very difficult position to adopt. World Rugby is cognisant of the importance of inclusion and values the contribution it can make towards inclusion of all groups, trans persons in particular. Ultimately, the balance of factors, which include risk and welfare of all players, is decisive and World Rugby considers that its fundamental highest priority is to the safety of its players, which has led to the guidelines.

However, inclusion remains a priority and to this end World Rugby are committed to exploring options that may allow and facilitate participation without the resultant concerns highlighted and explained in the Guideline document and elsewhere. These include facilitating roles and education opportunities for trans persons to be involved in the sport as coaches, managers, referees and administrators. It also includes research on the feasibility of 'open' competitions or categories that enable rugby with a format or structure that reduces risk to acceptable levels for all players. World Rugby is committed to engagement with the relevant groups and Unions in this regard, and will seek to facilitate inclusion at every opportunity, provided this can be done in an evidence-based manner that does not violate the prioritization of player safety above any other elements.