

EXHIBIT H

TRANSGENDER GUIDELINE



WORLD RUGBY TRANSGENDER GUIDELINE

INTRODUCTION

This World Rugby Transgender Guideline document has been developed to provide guidance and information in relation to the participation of transgender players in rugby. The terminology used when discussing issues involving transgender players can be controversial. A glossary is available [here](#) 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. For the purpose of this Guideline, we will use the terms “women’s rugby” and “men’s rugby” to refer to the existing participation categories in rugby union.

This Transgender Guideline aims to facilitate the participation of transgender players in rugby where it is possible to do so safely and fairly. Rugby is a sport that involves frequent physical confrontation and collisions and so physiological attributes such as size, stature, strength, speed, and power are important contributors to player safety/welfare and performance. Given rugby’s documented risk of injury and the prioritisation of player welfare, it is a sport that faces unique and specific challenges with respect to the participation of transgender players.

The Guideline was developed by a World Rugby working group following research into available scientific literature, detailed and extensive consultation where the working group heard from independent experts in the fields of performance, physiology, medicine, risk, law and socio-ethics, and subsequent research and consultation on matters arising from the meeting. The presentations delivered by each of those experts at the meeting are available on World Rugby’s Player Welfare website¹.

Having carefully considered the currently available information, the working group determined World Rugby’s current policy. A summary of the position for transgender women is set out [here](#) and full guidelines for transgender women are [here](#), a summary of the position for transgender men is set out [here](#) and full guidelines for transgender men are [here](#) and the guidelines for non-binary people are set out [here](#).

¹ <https://playerwelfare.worldrugby.org/?subsection=84>.

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SUMMARY FOR TRANSGENDER WOMEN**Transgender women may not currently play women's rugby**

Why? Because of the size, force- and power-producing advantages conferred by testosterone during puberty and adolescence, and the resultant player welfare risks this creates

Biological Advantages from Testosterone	Resultant Performance Differences
<ul style="list-style-type: none"> • Significant increases in total body mass • Significant increases in lean/muscle mass and muscle density • Reduction in body fat mass, improving strength and power-to-weight ratio • Increased height, changed dimensions of important levers, greater bone density • Increased haemoglobin levels • Increased heart and lung size 	<ul style="list-style-type: none"> • Significantly greater strength (between 50% and 60% percent by adulthood, with relatively greater upper body strength) • Significant speed advantages (between 10% and 15% over various durations) • Greater capacity to produce force/power (advantages of between 30% and 40% in explosive movement capabilities) • Strength-to-weight and power-to-weight advantages (even after adjusting for mass, height and similar level of performance (elite, untrained etc), males have a 30-40% strength advantage)
<p>Risk of Injury is too great</p> <p>It has been proposed that the suppression of testosterone for a period of 12 months is sufficient to remove the biological differences that create performance differences summarised above.</p> <p>Research contradicts this, consistently showing that total mass, muscle mass and/or strength are reduced by at most 5% to 10% when testosterone is suppressed to levels in the female range, for a period of 12 months. With the additional factor of training, either before or during the period of testosterone suppression, it is expected that baseline/pre levels for these variables will be higher, and that training will attenuate the decline in these variables with testosterone reduction. The consequence is that given the size of the biological differences prior to testosterone suppression, this comparatively small effect of testosterone reduction allows substantial and meaningful differences to remain. This has significant implications for the risk of injury in rugby.</p>	

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Forces and inertia faced by a smaller and slower player during frequent collisions are significantly greater when in contact with a much larger, faster player. Research has found that the discrepancy in mass and speed is a significant determinant of various head injury risk factors, including neck forces, neck moments and linear and angular acceleration of the head. When two opponents in a tackle are significantly different with respects to mass or speed, these risk factors increase significantly. All these factors are 20% and 30% greater when typical male mass is modelled against typical female body mass in the tackle. Further, the ability to exert force (strength and power) is greater in biological males, and the ability to receive or tolerate that force is reduced in relatively weaker players. Collectively, this means a dynamic tackle situation would create a large increase in risk for players who lack these physiological attributes relative to their opponents. Similarly, scrum forces are significantly greater in men's rugby (twice as high for elite men vs elite women, and 40% higher for community level men compared to elite women). The implication of this finding is a significant increase in injury rates in contact situations, since the magnitude of forces and energy transfer in those contacts will increase substantially as a result of the collection of physical attributes that differ by biological sex.

World Rugby's number one stated priority is to make the game as safe as possible and so World Rugby cannot allow the risk to players to be increased to such an extent by allowing people who have the force and power advantages conferred by testosterone to play with and against those who do not.

Retention of Meaningful Performance Advantages

Given that the typical male vs female advantage in the above-described biological variables and hence performance outcomes ranges from 30% to 100%, a substantial and meaningful advantage is retained even after testosterone suppression. This has implications for performance, given the premium on contact and collisions, speed, force-production and power in rugby.

A detailed explanation of the biological rationale, along with explanations of the effects of testosterone and its potential influence on safety and performance factors can be read in the guidelines for transgender women [here](#).

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SUMMARY FOR TRANSGENDER MEN

Transgender men may play men’s rugby having provided confirmation of physical ability. Transgender men may not play women’s rugby after the process of sex reassignment has begun, if this reassignment includes supplementation with testosterone

Why? Transgender men need to provide confirmation of physical ability to ensure that they are not putting themselves at an unacceptable level of risk when playing against men.

Confirmation of Physical Ability for men’s rugby	Therapeutic Use Exemption
<ul style="list-style-type: none"> • Transgender men will typically not be as heavy, strong and fast as those that they would play with and against • Some transgender men will be on testosterone treatments which may reduce some of the biological and performance differences • Allowing transgender men to play men’s rugby does not increase the risk of injury to teammates or opposition players • Transgender men must confirm they understand any increased risk to themselves • An experienced independent medical practitioner must provide confirmation that the player is physically capable of playing men’s rugby 	<ul style="list-style-type: none"> • Transgender men who are undergoing treatment involving testosterone will be required to obtain a Therapeutic Use Exemption because testosterone is a substance on the WADA Prohibited List² • If a player played rugby without a valid TUE, he risks committing an Anti-Doping Violation which could result in a significant suspension from rugby

A detailed explanation rationale can be read in the guidelines for transgender men [here](#).

COMMITMENT TO ONGOING EVALUATION AND EVIDENCE-BASED GUIDELINES

World Rugby is fully committed to evidence-based player welfare decisions. As such, the present guidelines have been developed by assessing all currently available scientific evidence pertaining to biological and physiological differences between biological males and females, and the effects of testosterone suppression on those differences. Related to

² <https://www.wada-ama.org/en/resources/science-medicine/prohibited-list-documents>

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these changes are known injury risks and risks factors, which have produced these guidelines.

The Guidelines remain subject to the presentation and publication of new evidence. World Rugby are thus committed to a formal review of the Guideline every three years and will remain current with respects to all available high-quality evidence, with a view to modifying, changing to improving upon this document in future. In support of this, World Rugby has also committed to including transgender research in its annual research priorities and inviting academic institutions from around the world to submit proposals that may be funded if deemed sufficiently high quality. In this way, these guidelines are open to change, as led by high-quality evidence.

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INCLUSION

World Rugby is committed to encouraging transgender people to be involved with rugby. World Rugby actively encourages transgender players to be involved with rugby whether in coaching, refereeing, administration or non-contact forms of the game and World Rugby will offer training courses to those who may find that the way that they are involved in rugby must change because of this Guideline. Further details are available [here](#).

World Rugby is currently funding research into the safe participation of all players in rugby. Details of the research currently underway, along with details of how to apply for research funding for those who may be interested in that, is available [here](#).

Mixed-Gender contact rugby

World Rugby is currently exploring the possibility of an “open category” of rugby in which any player could play, regardless of gender. World Rugby has committed to exploring this option with its Unions, Associations, International Rugby Players, and trans-advocate groups including Gendered Intelligence and International Gay Rugby.

Mixed-Gender non-contact rugby

All players (including transgender players and players with DSD) can play mixed-gender touch or tag rugby.

Union Responsibilities

It is strongly recommended that each Union adopts its own regulations to determine the eligibility of transgender players to compete in events taking place under its own jurisdiction. Unions should take account of the information provided in this Guideline but may also take into account any relevant aspects of local law which apply within the Union’s jurisdiction and with which the Union is legally obliged to comply. See [here](#) for further details.

TRANSGENDER INFORMATION

WHAT DOES TRANSGENDER MEAN?

The term '**Transgender**' is used in this Guideline to refer to individuals whose gender identity (i.e. how they identify) is different from the sex identified at birth (whether they are pre- or post-puberty, and whether or not they have undergone any form of medical intervention).

Transgender man: a term used to describe someone who is identified as female at birth but identifies and lives as a man. This is sometimes shortened to trans man, or FTM, an abbreviation for female-to-male.

Transgender woman: A term used to describe someone who is identified as male at birth but identifies and lives as a woman. This is sometimes shortened to trans woman, or MTF, an abbreviation for male-to-female.

A glossary is available [here](#) that contains more detailed explanations of frequently used terms.

WHAT ABOUT PLAYERS WITH DIFFERENCES OF SEX DEVELOPMENT (DSD)?

People with “Differences of Sex Development” (DSD) are not transgender (necessarily, although a person with DSD could of course identify as transgender). DSDs are a group of rare conditions involving chromosomes, hormones and reproductive organs which usually results in a person’s sex development being atypical. Numerous DSD conditions exist, with different implications for sporting performance, and they should thus not be considered as a single group.

A separate World Rugby Guideline is being developed for players with DSDs and it will be made available upon completion.

GUIDELINES FOR TRANSGENDER WOMEN

CAN TRANSGENDER WOMEN PLAY RUGBY?

- Transgender women who transitioned pre-puberty and have not experienced the biological effects of testosterone during puberty and adolescence can play women's rugby (subject to confirmation of medical treatment and the timing thereof)³
- Transgender women who transitioned post-puberty and have experienced the biological effects of testosterone during puberty and adolescence cannot currently play women's rugby
- Transgender women can play mixed-gender non-contact rugby
- World Rugby are committed to ongoing evaluation of the guideline and will remain current on all published research that pertains to the biological and physiological implications of testosterone suppression, with a formal review of the Guideline every three years. In support of this, World Rugby will prioritize support for high quality research projects on transgender rugby players, as part of this commitment to evidence-based guidelines.

WHY CAN'T TRANSGENDER WOMEN PLAY WOMEN'S RUGBY?

EFFECTS OF TESTOSTERONE

Where reference is made to “females” and “males” to explain the effects of testosterone, the references are used to differentiate between “Biological Males” (those who have undergone the androgenizing effects of testosterone commencing at puberty) and “Biological Females” (who have not received the benefits of such androgenization).

Testosterone is an androgenic-anabolic hormone whose functions include reproductive maturation, along with the genesis of male secondary sex characteristics. From puberty onwards, testosterone levels increase 20-fold in males, but remain low in females, resulting in circulating testosterone concentrations at least 15 times higher in males than in females of any age [1,2]. Among the biological changes initiated by testosterone and its derivatives are:

- Larger and denser lean muscle mass [3,4];
- Greater force-producing capacity of skeletal muscle [5,6];
- Stiffer connective tissue [7];
- Reduced fat mass and different distribution of body fat and lean muscle mass [3];

³ See the Legal Section [here](#) for details of how this review would be carried out

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- Longer, larger and denser skeletal structure [8,9];
- Changes to cardiovascular and respiratory function that include higher haemoglobin concentration, greater cross-sectional area of the trachea and lower oxygen cost of respiration (as described in [1,10-12]).

Collectively, these biological differences account for large sporting performance differences between males and females. These include gaps between 9% and 15% for running, swimming and jumping events [13], between 15% and 35% for functional tasks like kicking, throwing, bowling and weightlifting, and in excess of 50% for tasks that involve upper body force production [10], since the biological effects of testosterone creates disproportionately greater strength on their upper compared to lower body, while females show the inverse [14,15]. In weight-lifting events, for instance, even when matched for mass and stature, males lift approximately 30% more weight than females. Evaluated differently, males are able to lift weights similar to females who weigh 30% to 40% more than them [10]. Functional movements such as explosive jumping are similarly larger in elite males than females, with approximately 30% more power generated during a counter-movement jump [10].

The result of these biological differences is that males outperform females in all sporting activities where speed, size, power, strength, cardiorespiratory and anthropometric characteristics are crucial determinants of performance. This is true for many thousands of boys and men who have undergone a testosterone-induced puberty, with an effect large enough that 14 to 15-year old boys outperform the best female athletes in history in a range of running, jumping, throwing and strength events [13,16]. The size of these performance differences varies depending on the contributions made by each of the biological variables to performance, and indeed, some may be detrimental to performance in some events (mass during endurance running or cycling events, for example). Generally, however, there is no overlap in performance between males compared to females at all matched levels of competition from high school to the elite level. The performance disparity is illustrated by the observation that thousands of teenage boys and adult males are able to outperform the very best biological females every year [13].

Similar performance differences between males and females have been described in non-athletically trained individuals. Males have muscle mass 30% to 40% greater than females [4], maximal cardiorespiratory capacities (VO_2max) 25% to 50% greater than in females [17], cardiovascular parameters between 11% and 43% greater than in females, lower limb strength approximately 50% higher than in females across the lifespan, and upper body strength 50% to 100% higher than in age-matched females [6]. Even when elite females, trained in sports where grip strength is an important component of performance (judo and handball), do not outperform untrained males in a grip strength task, with the very best female performance corresponding to approximately the 58th percentile for males, and a 26% advantage for untrained males compared to typical elite females. Punching performance, a composite movement reliant on strength, power, co-ordination and mass, has been found to be 162% higher in males than in females [18], and 17-year old boys are able to throw a ball further than 99% of adult females [19].

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BIOLOGICAL CONSIDERATIONS FOR RUGBY UNION

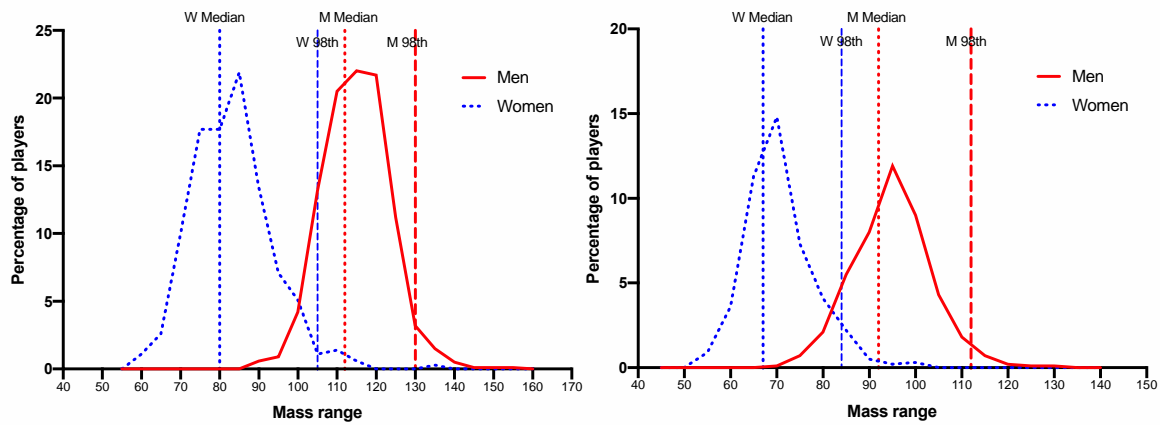
The implications of biological and performance differences for rugby are two-fold. First, significant differences in strength, size, speed and power have potential consequences for the safety of participants in rugby, where much of the sport involves contacts in the form of tackles, rucks and mauls, as well as numerous periods of high force production during static contests for the ball, such as the scrum and ruck. Given the documented risk of injury in rugby from contact events in particular [20-24], the elevated possibility of all injuries, including serious injury, from large disparities in size, speed, power, and force, is of concern. Recent modelling of tackles using validated biomechanical models [25,26] suggests that the discrepancy in mass and speed of direct opponents in tackles predicts neck forces, moments and head accelerations. Since these factors contribute directly to injury risk, it is clear that large discrepancies create greater risks for smaller and slower players, particularly when size and speed exist in combination.

Given that the typical male player mass is 20% to 40% greater than typical women mass, that males have strength 40% to 80% greater (unadjusted for mass), and that men are 10% to 15% faster than women despite being heavier, the risk of injury created by large imbalances in mass and speed may be considered significant. To explore this, we assessed the range of masses of players at the international level and applied the findings to a biomechanical model to explore possible implications for injury risk should cross-over scenarios occur.

With respect to mass, we documented the range of sizes of elite men's and women's players from the 2011 Rugby World Cup up to the 2019 Rugby World Cup, finding:

- Typical (median) men's players are 41.1% heavier than typical women's players (103 kg vs 73 kg)
- Among forwards, the heaviest 1% of women players are smaller than the typical men's forward (109kg for women vs 112kg for men)
- The heaviest 1% of women's backs are smaller than typical men's backs (89kg vs 92kg)
- The lightest 1% of men's forwards are approximately equal in mass to the heaviest 10% of women's forwards, while the lightest 2% of men's backs are approximately equal to the heaviest 10% of women's backs
- Figure 1 below shows the frequency histograms for men's and women's players in forward and back positions

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Percentiles	Men (n=998)	Women (n=351)
1	92	59
2	95	63
5	99	66
10	101	68
25	106	73
50	112	80
75	118	85
90	122	93
95	125	97
98	130	105
99	132	109

Percentiles	Men (n=796)	Women (n=289)
1	72	53
2	75	55
5	78	56
10	81	60
25	86	63
50	92	67
75	97	72
90	102	77
95	105	81
98	110	84
99	112	89

Figure 1: Frequency histograms for mass of forwards (left panel) and backs (right panel) in elite men’s and women’s rugby players. Dotted lines indicate the 50th percentile, while dashed lines indicated the 98th percentile for each group

IMPLICATION FOR INJURY RISK – HEAD INJURY MODELS

The differences observed between men and women with respects to mass may be combined with differences in speed to create a theoretical framework in which the inertial load and forces faced by a smaller and slower player is significantly greater when in contact with a larger, faster player. This model is intended for illustrative purposes and demonstrates the impact of only one variable known to differ between biological males and females – namely mass – on head injury risk, in a basic parametric model, absent force application and complex movements, as a preliminary impact analysis. The principles illustrated by the model would apply to other injuries. The addition of speed, and strength or force exerted during contact would further increase the implications of the findings of this illustrative model, summarized below.

The representative figure below illustrates the concept of mass disparity as a risk for injury for ball carriers. It depicts the linear acceleration (A), angular acceleration (B), neck force (C) and neck moment (D) experienced by ball carriers of different masses when tackled by players with different masses. Using the known masses of international rugby players, the position of the average male (M₅₀) and average female (F₅₀) are plotted on each heat map. F₉₀ shows the scenario where a tackler (T) corresponding to the 90th percentile for women’s mass (see Figure 1) tackles a typical female mass ball carrier (BC). X indicates the

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hypothetical cross-over scenario in which a typical male tackler mass is involved in a tackle against a ball carrier with a typical female mass.

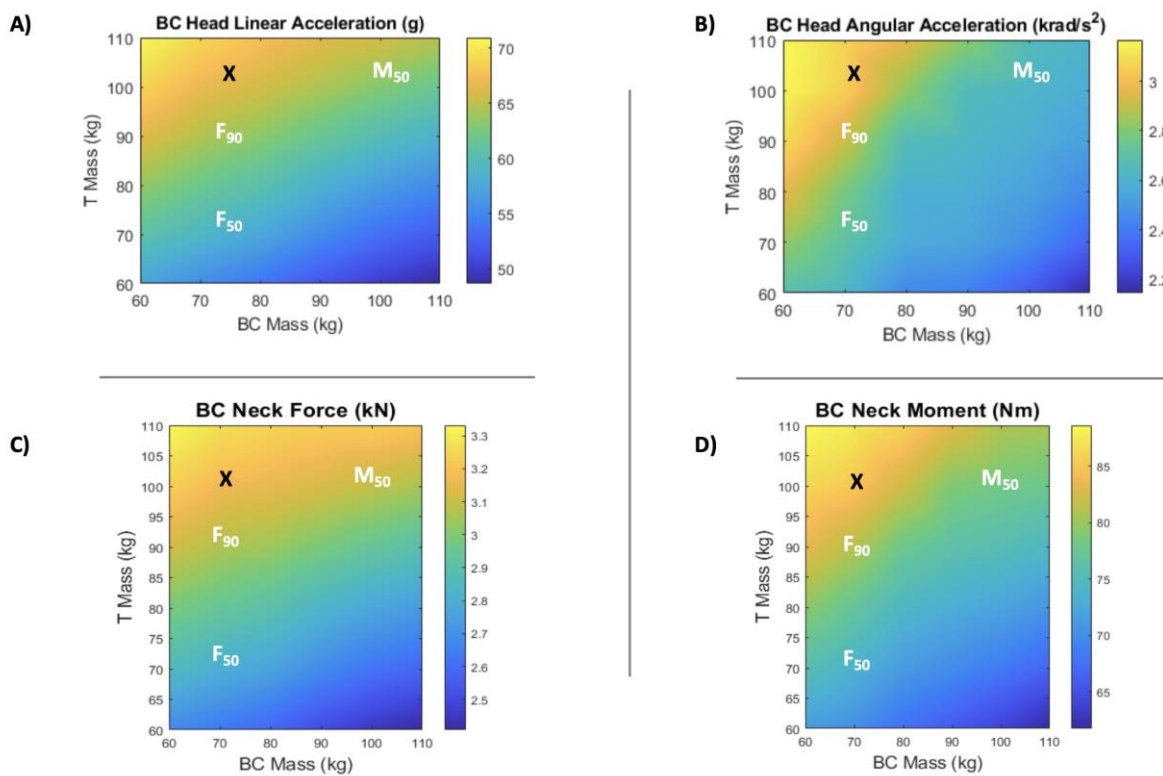


Figure 2. Graphical representations of linear acceleration (A), angular acceleration (B), neck force (C) and neck moment (D) for ball carriers of different masses during tackles by tacklers with different masses. M_{50} and F_{50} show the modelled situation when typical/median players tackle one another for men and women, respectively. F_{90} represents a female ball-carrier with typical mass against a tackler in the heaviest 10% of women's body mass. X denotes the cross-over situation that would hypothetically occur for a tackler at the men's median mass tackling a typical female ball carrier

The modelling shows that a tackle involving players with typical or average mass produces slightly greater accelerations and forces in men (M_{50}) than in women (F_{50}). This is a function of the higher mass of men's players. Head and neck kinematic and kinetic variables increase significantly when the heaviest 10% of women's body mass is used for the tackler against a typical ball carrier (F_{90}), but this extreme "within female-bodied" scenario produces smaller kinetic and kinematic outcomes than if the hypothetical cross-over scenario were to occur, where an average male-bodied player is the tackler and the average female-bodied player the ball carrier (X). The magnitude of the increase in neck forces, moments and accelerations for the ball carrier is between 20% and 30% for typical cross-over scenario compared to the typical female vs female scenario, and is 10% greater for the male-bodied vs female-bodied crossover scenario than a tackle where the heaviest 10% of women are matched against typical women's mass (F_{90}).

Were the cross-over to occur in a heavier male-bodied player (for example, the heaviest 10% of male-bodied players), the increase in neck load and head acceleration for the ball carrier approaches 50% compared to the typical tackle scenario in women's rugby. The magnitude of these extreme head accelerations and neck forces are not seen in women and

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are created by cross-over of male-bodied players to women's rugby. Similar differences are seen when examining the accelerations and forces for the tackler's head and neck.

The magnitude of the known risk factors for head injury are thus predicted by the size of the disparity in mass between players involved in the tackle. The addition of speed as a biomechanical variable further increases these disparities, which is relevant given that male players weighing 103kg (the median for men) would be expected to run between 10% and 15% faster than typical female players (mass 73kg), and thus considerably faster than female players who are heavier than the median (eg females at the 90th percentile, Fig 1). This would further compound the disparity created.

Next, it is important to also consider that these models do not account for the ability of players to actively exert force at high rates during tackles. This would be a function of power and strength, which are similarly known to be 30% to 80% greater in biological males than females. When these active applications of force during contact are added to the mass and speed characteristics illustrated and described above, the resultant neck and head forces and accelerations will increase even further, such that the illustrative model shown above depicts the smallest possible risk increase for typical players involved in a tackle as a result of mass alone. The addition of speed and force disparities will increase the magnitude of these risk factors beyond the 20% to 30% we illustrate above.

The implication of these increases is complex to quantify but would result in increased injury risk for the player experiencing the elevated risk outcomes (force and acceleration). This is because head injuries occur when forces and accelerations on the head and neck reach a threshold necessary to cause injury, and which is unique to each tackle situation. A tackle situation that typically produces risk factors within 20% of this threshold would, in the circumstance of a typical male-bodied vs typical female-bodied player illustrated above, be sufficiently increased to cause an injury. The higher risk scenario involving heavier male-bodied players would further increase injury likelihood, since all tackle situations that normally produce kinetic and kinematic variables within 40% to 50% of an injury threshold would now exceed it, a scenario unseen in women's rugby. The addition of strength and speed as described, further increases the risk, such that a number of tackles that currently lie beneath the threshold for injury would now exceed it, causing head injury.

Finally, it must also be considered that the ability to withstand or tolerate forces on the head and neck are required to avoid brain injury. This is the reason neck strength is critical in injury prevention. Since the strength disparities between males and females is so large, including a 50% lower neck isometric strength in females, the reduced ability of female players to tolerate or withstand the forces in tackles is a further risk factor for injury, including head injury as described above, but relevant to all injuries where the rapid application of force or load are responsible for injury.

IMPLICATIONS FOR INJURY RISK – SCRUM FORCES

The implication of greater mass and force-producing ability in males can be seen in forces measured during scrums in both elite and community level rugby. Research on the forces applied during scrums shows that at the elite level, males produce approximately twice the peak force of females in the scrum. Even at the community level, where peak force is 30% lower than in the elite game, males produce approximately 40% greater peak force during scrums than elite females. Given that force producing and receiving ability is likely to be significantly lower in female community players, the implication is that men's community

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level rugby scrums will be considerably more forceful than women's community level scrums.

The risk of particularly serious and catastrophic injuries during scrums has led to a number of law changes specifically designed to depower the scrum to reduce injury risk. This risk would be amplified by large mismatches in strength between opposing players, since the force applied must be withstood by a direct opponent. This is an illustration of how mismatches in strength and size are directly responsible for forces that result in injury.

TESTOSTERONE AS A PREDICTOR OF PERFORMANCE

It must be noted that the actual testosterone level, measurable in the body, is not a strong predictor of performance within men and within women [27-29]. This is because performance is multifactorial, and testosterone's androgenizing effects contribute to, but do not solely influence the biology and resultant performance outcomes within a group who are able to utilize it. The biological basis for male vs female differences is thus the result of testosterone, but it does not necessarily follow that within men and within women, the hormone is a predictor of performance.

Further, differences in the sensitivity to testosterone between individuals mean that a given level of testosterone is not a sensitive or specific predictor of performance within each group (males and females). This is in part because most males have elevated levels and some degree of sensitivity, while the level in females is significantly lower and rarely exceeds even the very low end of the male range [1]. Therefore, in two homogenous groups that are matched for either the presence or absence of a given variable (males and females for the presence or absence of testosterone, in this case), the predictive value of that variable within a group is greatly diminished, the same way that VO2max is a significant predictor of running or cycling performance across the whole population, but not within a group of elite marathon runners or cyclists, who are already relatively homogenous for that characteristics [30]. Similarly, height is clearly advantageous for professional basketball, but within the National Basketball Association (NBA), where height has already been selected for and participants are in the extreme upper end of the overall population for that characteristic [31], it becomes a poorer predictor of performance.

However, when the same question – does testosterone predict performance across humans of both sexes – is asked of binary categories (males vs females in sport, rather than within males or females), then the predictive power of testosterone is strong, because “high testosterone” during adulthood is a very reliable indicator that the androgenizing effects of testosterone have occurred earlier during life. When understood and assessed this way, testosterone is necessary for peak performance (since the top performers within humans are all male), but it is not sufficient to attain it. It is here that the almost perfect sensitivity of biological sex emerges, since in a ranking list of the top thousand performances in most sport, every year, every single one will be biologically male.

SUMMARY

In summary, across all performance levels and ages after puberty, testosterone is primarily (though not exclusively) responsible for very large typical differences in the biology of males and females, and consequently, performances between the sexes. These are summarized in Figure 3 below, which combines the biological differences between males

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and females with their performance implications, and is reproduced from a recent article currently in review [10].

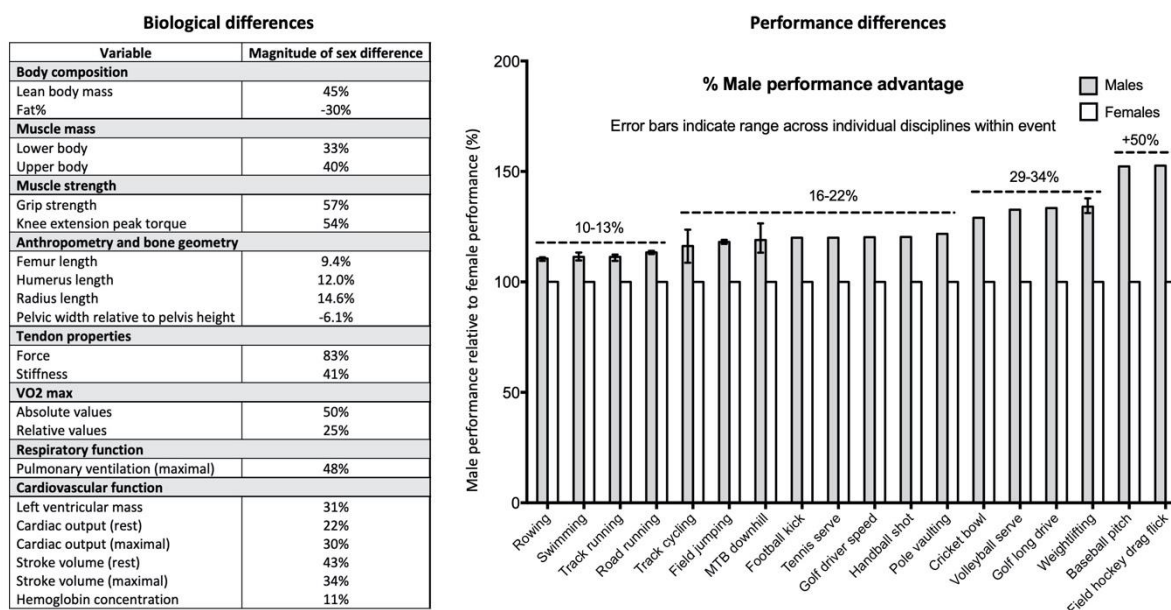


Figure 3: Summary comparison of biological (left table) and performance (right figure) differences between males and females for a range of biological variables and physical activities/events. Reproduced from Hilton & Lundberg [10]

Given that the women's category exists to ensure protection, safety and equality for those who do not benefit from the biological advantage created by these biological performance attributes, the relevant and **crucial question is whether the suppression of testosterone for a period of 12 months, currently required for transgender women participation in women's sport, is sufficient to remove the biological differences summarized above?**

EFFECTS OF SUPPRESSION OF TESTOSTERONE

Current policies regulating the inclusion of transgender women in sport are based on the premise that reducing testosterone to levels found in biological females is sufficient to remove many of the biologically-based performance advantages described above. However, peer-reviewed evidence suggests that this is not the case, and particularly that the reduction in total mass, muscle mass, and strength variables of transgender women may not be sufficient in order to remove the differences between males and females, and thus assure other participants of safety or fairness in competition.

Based on the available evidence provided by studies where testosterone is reduced, the biological variables that confer sporting performance advantages and create risks as described previously appear to be only minimally affected. Indeed, most studies assessing mass, muscle mass and/or strength suggest that the reductions in these variables range between 5% and 10% (as described by Hilton & Lundberg [10]). Given that the typical male vs female advantage ranges from 30% to 100%, these reductions are small and the biological differences relevant to sport are largely retained.

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For instance, bone mass is typically maintained in transgender women over the course of at least 24 months of testosterone suppression, with some evidence even indicating small but significant increases in bone mineral density at the lumbar spine [32-34]. Height and other skeletal measurements such as bone length and hip width have also not been shown to change with testosterone suppression, and nor is there any plausible biological mechanism by which this might occur, and so sporting advantages due to skeletal differences between males and females appear unlikely to change with testosterone reduction.

With respects to strength, 1 year of testosterone suppression and oestrogen supplementation has been found to reduce thigh muscle area by 9% compared to baseline measurement [35]. After 3 years, a further reduction of 3% from baseline measurement occurred [36]. The total loss of 12% over three years of treatment meant that transgender women retained significantly higher thigh muscle size ($p < 0.05$) than the baseline measurement of thigh muscle area in transgender men (who are born female and experience female puberty), leading to a conclusion that testosterone suppression in transgender women does not reverse muscle size to female levels [36].

This finding has been replicated and confirmed by numerous studies examining the effects of testosterone suppression on lean body mass or muscle size in transgender women [37-44]. Collectively, these studies find that 1 year of testosterone suppression to female-typical reference levels results in a comparatively modest loss of lean body mass (LBM) or muscle size, with consistent changes between 3% and 5% reduction in LBM after 1 year of treatment (as summarized from source research studies by Hilton & Lundberg [10]).

Muscle force-producing capability is reduced after testosterone suppression, though as appears to be the case for muscle/lean mass, these reductions are considerably smaller in magnitude than the initial male-vs-female differences in these variables. For instance, hand-grip strength was reduced by 7% and 9% after 1 and 2 years, respectively, of cross-hormone treatment in transgender women [39], and by 4% in 249 transwomen after 1 year of gender-affirming treatment, with no variation between different testosterone levels, age or BMI tertiles [45]. Transgender women retained a 17% grip-strength advantage over transgender men at baseline measurement, with a similarly large, retained advantage when compared to normative data from a reference or comparison group of biological females.

Most recently, Wiik et al found that isokinetic knee extension and flexion strength were not significantly reduced in 11 transgender women after 12 months of testosterone suppression, with a retained advantage of 50% compared to a reference group of biological females and the group of transgender men at baseline [41]. This absence of a reduction in strength occurred in conjunction with a 4% to 5% reduction in thigh volume, and no difference in the contractile density of the muscle, which suggests that the reduction of testosterone for a period of a year had no effect on the force-producing capacity per unit of cross sectional area [41], a variable that is known to be higher in males than females.

In conclusion, longitudinal research studies that have documented changes in lean mass, muscle mass/area and strength show consistently that small decreases occur as a result of testosterone suppression, with a resultant relatively large retained advantage in these variables compared to a group of biological females.

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CONCLUSION

Testosterone exerts significant biological effects on biological males during puberty and adolescence. This creates large differences in strength, mass, speed, power, and endurance capacity. In turn, these create player welfare concerns and performance inequality in rugby, given the importance of physical contact and strength in the sport. Longitudinal research studies on the effect of reducing testosterone to female levels for periods of 12 months or more do not support the contention that variables such as mass, lean mass and strength are altered meaningfully in comparison to the original male-female differences in these variables. The lowering of testosterone removes only a small proportion of the documented biological differences, with large, retained advantages in these physiological attributes, with the safety and performance implications described previously. There is currently no basis with which safety and fairness can be assured to biologically female rugby players should they encounter contact situations with players whose biologically male advantages persist to a large degree.

While there is overlap in variables such as mass, strength, speed and the resultant kinetic and kinematic forces we have modelled to explore the risk factors, the situation where a typical player with male characteristics tackles a typical player with female characteristics increases the magnitude of known risk factors for head injuries by between 20% and 30%. In the event of smaller female players being exposed to that risk, or of larger male players acting as opponents, the risk factors increase significantly, and may reach levels twice as large, at the extremes. The basis for regulation is the typical scenario, though risk mitigation must be mindful of the potential for worst-case scenarios that may arise. Both are deemed unacceptably high, because they would result in a number of tackle situations that currently lie beneath a threshold required to cause injury increasing to exceed that threshold.

Thus, it is on the basis of male vs female biological differences, combined with no evidence for removal of their implications for safety and performance, that the guideline is that trans women should not compete in women's rugby.

ASSESSMENT OF RESEARCH LIMITATIONS AND IMPLICATIONS

It is acknowledged that the published studies currently available on testosterone suppression and physiological changes (compiled and described in Hilton and Lundberg, 2020 and reviewed individually in the proposed policy document) have been conducted in untrained transgender women. This invites questions over the validity and generalizability of the studies to a sports-playing population.

This is a valid question, and it is acknowledged that research is required to fully address questions arising out of this limitation. World Rugby is committed to supporting high-quality research proposals in this area, should they be submitted as part of World Rugby's Research programme.

However, this limitation can also be assessed within an understanding of the physiological implications of trained compared to untrained individuals undergoing testosterone suppression. The application of insights from complementary studies leads to a conclusion that the available research is in fact sufficient to arrive at firm conclusions about safety, performance and retained advantages, and thus the recognized limitations are not

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sufficient to refrain from drawing a conclusion on the likely implications of the transgender research for athletes.

In assessing this issue, two primary questions may be asked:

1. How would training undertaken during the process of testosterone suppression affect the changes observed in muscle and lean body mass, and strength variables, compared to studies done in individuals who do not perform training?
2. How would training prior to a period of testosterone suppression influence:
 - a. The baseline or pre-suppression measures for muscle mass and strength in transgender women, and thus the differences in these variables compared to a reference or control group of biological women (cisgender women)?
 - b. The likely “end-point” for muscle and lean body mass as well as strength after the testosterone suppression for a period of at least twelve months, once again compared to a reference or comparison group of cisgender women?

Both these questions can be answered by exploring complementary research studies. At present, there is evidence that:

1. **Training during the intervention to lower testosterone levels** can reduce, eliminate, and even reverse any losses in muscle and lean body mass, muscle volume, and muscle strength. This is supported by evidence from various study models in which biological males reduce testosterone to within the female range, and are able to maintain or even increase these physiological variables through training [46-48].

The implication is that any performance decline as a result of androgen deprivation is minimized or eliminated, and so the studies cited in support of the World Rugby Guideline, while conducted on non-training individuals, establish the minimum possible retained advantage for trans women. That is, they establish that in the absence of training during testosterone suppression, an advantage is retained compared to cisgender women. That advantage is either the same, or very plausibly increased as a result of training.

2. **Training prior to the intervention** will cause increased muscle mass and strength variables at baseline. This means that the initial or “pre-suppression” differences in these variables compared to biological females will be greater than in an untrained trans woman. This rebuts the assertion that trans women are weaker, less muscular and thus more similar to biological females at baseline, within a sporting context, since the transgender woman being considered by World Rugby is much more likely to be trained (or will train once transition begins, as described above).

Further, once the period of testosterone suppression begins, then the degree to which muscle mass and strength decreases may be either the same or relatively greater in the trained trans women as a result of this higher baseline. Even if the relative loss of muscle mass and strength are higher than in untrained trans women, it is inconceivable, and even physiologically impossible, that a pre-trained athletic

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trans woman is going to lose so much muscle mass and strength that they end at a point where they are less muscular/lean and weaker than a theoretically untrained (and even 'self-starved') transgender woman.

Therefore, if research on untrained trans women establishes that the retained advantage in muscle mass and strength corresponds to a value of X percent, this is the smallest possible remaining advantage for a pre-trained trans woman. The effect of training can only be to increase this value or to achieve the same value of X percent retained advantage, but it cannot reduce it further, unless one argues that a trained trans woman will lose so much lean mass and strength that they end up weaker and less muscular than a completely non-athletic individual.

Finally, it is relevant that studies comparing untrained biological males and highly trained females, males retain an advantage despite the training status of biological females. For instance, in a study on grip strength, the strongest elite athletically trained females in sports where grip strength is a performance advantage (judo and handball) are only as strong as untrained biological males at the 58th percentile, with a 26% difference in strength between typical elite females and typical untrained males [49]. Similarly, Morrow & Hosler (1981) found that untrained college-aged males were more than twice as strong as trained female basketball and volleyball players in a bench press task, with the top 5% strongest trained females equal in strength to the weakest 14% of untrained males. This establishes that pre-trained biological females can increase strength beyond that of untrained females, but still do not compare to untrained biological males.

The implication is also that since even typical untrained biological males have a large strength advantage compared to elite and trained females, studies that have documented only small reductions in strength and thus persistence of strength advantages with androgen deprivation in untrained biological males (as in Kvorning et al [46], Chen et al [47] and in studies on transgender women cited herein) should be considered relevant for establishing the smallest possible retained advantage that would exist in the absence of training. As described above, and in studies where training is conducted while testosterone is suppressed [46-48], the advantage will only remain this size or increase.

Finally, it is also recognized that not all sports are affected similarly by the variables we have weighted as crucial for rugby (size, strength, speed, power). Indeed, in some sports, excess mass may be disadvantageous, and thus the model for retained advantage and persistent risk may present differently for different physical activities.

In conclusion, with those recognized limitations, World Rugby is committed to supporting research that may in future establish that biological differences between those to whom testosterone confers significant physiological and performance advantages and those to whom it does not are removed sufficiently to enable participation of transgender women in women's rugby. At the present time, however, based on the best published scientific evidence, that position is unsupported.

The referenced research used to support this position can be viewed [here](#).

CONCLUSION – TESTOSTERONE, WELFARE AND PERFORMANCE

Having considered all of the currently available information, the working group determined that the best evidence **currently** available means that those who experienced the biological

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effects of testosterone during puberty and adolescence cannot safely or fairly compete in women's rugby. That means that currently, transgender women may not compete in women's rugby.

World Rugby is committed to encouraging transgender people to remain involved with rugby and is currently funding research to continue to review any evidence that may emerge to enable the participation of transgender women in women's rugby. Details of the research currently underway, along with details of how to apply for research funding for those who may be interested, is available [here](#).

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GUIDELINES FOR TRANSGENDER MEN

CAN TRANSGENDER MEN PLAY MEN'S RUGBY?

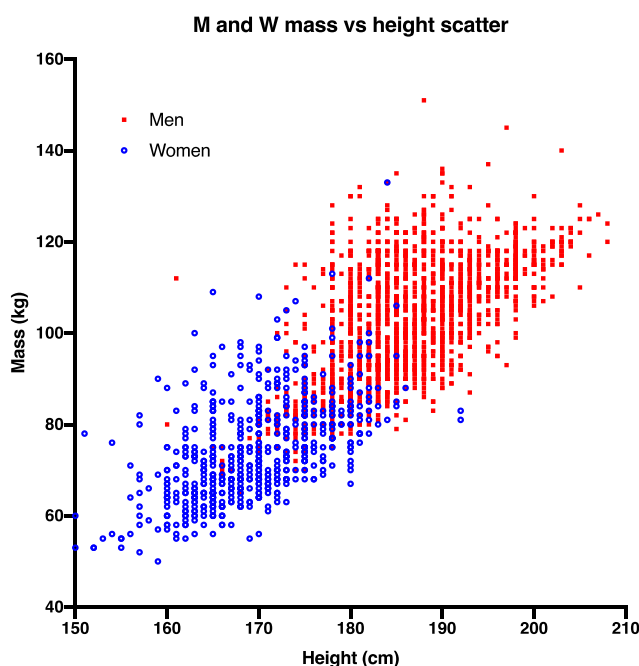
Transgender men who have transitioned pre- or post-puberty can play men's rugby subject to the following conditions:

- Transgender men who have transitioned pre- or post-puberty can play men's rugby subject to certain conditions (currently: confirmation of physical ability and a Therapeutic Use Exemption (TUE) where necessary, see 1 & 2 below).
 - Transgender men who have transitioned pre- or post-puberty cannot play women's rugby, irrespective of the obtaining of a TUE
 - Transgender men can play mixed-gender non-contact rugby
1. Confirmation of physical ability which must include:
 - Written acknowledgement and acceptance by the player of the associated risks of playing contact rugby with males who are statistically likely to be stronger, faster and heavier than them, given the predictions this combination of variables makes for injury risk, as described
 - Written confirmation from a medical practitioner or qualified coach with an understanding of the demands of rugby, to whom the player is known, that the player is in a physical condition to play and that this view is supported by a musculo-skeletal evaluation and/or other appropriate assessments. The Union/competition can adopt the spirit of the guideline and make it fit the laws/realities of that particular jurisdiction.
 - A template confirmation is attached [here](#).
 2. Therapeutic Use Exemption (where necessary, to play men's rugby)
 - It is important for transgender men to consider whether any medical treatment that they are undergoing requires them to obtain a TUE for the use of a substance on the WADA Prohibited List. Treatment with testosterone would require a TUE and playing without a TUE may result in an Anti-Doping Rule Violation which might result in a significant suspension from rugby
 - Nothing in this Guideline would be deemed to permit, excuse or justify non-compliance with any of the WADA requirements so it is very important that the player fully understands their obligations
 - Further information can be found by contacting your Union and in the WADA Transgender Player TUE Physician Guidelines, available at www.wada-ama.org.

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WHY IS CONFIRMATION OF PHYSICAL ABILITY REQUIRED?

As described previously, males are typically significantly heavier, faster, stronger, and more powerful than typical females. Thus, when comparing typical males to females, there are large and meaningful differences, with similar or even larger differences present when the extreme cases (heaviest male player vs heaviest female player) are compared. This does not necessarily preclude some men from being lighter, less strong and less powerful than many women, but the frequency distributions of, for example, elite rugby players suggests that when matched for performance level, there is small overlap between these variables (see Figure below, which shows the mass and height overlap and spread in elite rugby players). Biomechanical modelling suggests a similar frequency distribution for injury risk factors such as neck forces and moments, and head linear and angular accelerations, where the smaller and slower player experiences larger outcomes suggestive of increased injury risk, as described previously.



Similarly, grip strength, a proxy for upper body strength, is 30 to 40% greater in men than women, while still allowing for overlap, and performance outcomes such as countermovement jump and running speed are significantly different, with males outperforming females by approximately 30% and 15%, respectively.

The principle is thus that transgender men, who have not benefited from the biological changes created by testosterone's effects at puberty, will typically have mass and strength variables that fall into the range of those belonging to biological females in the above-mentioned studies, and will therefore be smaller and less strong, on average, than the men whose data are included in the above studies.

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It is therefore prudent, for the purposes of welfare and safety, to request certification to ensure that imbalances are not so large as to create a safety risk to that player. This is done for various other scenarios in Rugby Union, including in permitting a youth or junior player to play adult rugby, where the differences in size, strength and speed are in fact very similar to those documented between men's and women's rugby players at any given age after puberty.

Similarly, World Rugby's guideline for age-grade participation recognizes that permission may be given to girls to continue playing rugby against boys after the age of 13 (when puberty begins to create physiological differences as a result of testosterone) provided certification is given. Finally, players are assessed and deemed competent to play in the front row positions, also for their own safety.

HOW DO I PROVIDE THE CONFIRMATION?

The confirmation of physical ability should be provided to the player's Union's Chief Medical Officer.

WHY MIGHT A THERAPEUTIC USE EXEMPTION (TUE) BE REQUIRED?

Some transgender men may be undergoing medical treatment that includes the prescription of testosterone (or other drugs) which are "Prohibited Substances" on the WADA Prohibited List (i.e. they are considered to be performance enhancing substances) and they are not permitted without a Therapeutic Use Exemption (TUE). A TUE provides a player with authorisation to use a Prohibited Substance whilst continuing to play rugby. Players who medically require the use of a Prohibited Substance are required to obtain a TUE.

Without a TUE, players whose treatment include Prohibited Substances risk committing an Anti-Doping Rule Violation, an offence that may result in a sanction (regardless of the player's circumstances or reasons for such treatment). That could result in a four-year suspension from sport and therefore it is very important that players understand their obligations to obtain a TUE.

GUIDELINES FOR NON-BINARY PEOPLE

“Non-binary” is a term used by people whose gender is identified by them as neither male nor female, or both male and female, or whose gender is not identified as male and/or female.

For non-binary people, the factor that determines which of the categories of rugby they may play in (i.e. men’s or women’s rugby) is whether or not the player has experienced the biological effects of testosterone during puberty and adolescence.

- Non-binary people who have experienced the biological effects of testosterone during puberty and adolescence can play men’s rugby without any restrictions.
- Non-binary people who have experienced the biological effects of testosterone during puberty and adolescence cannot currently play women’s rugby.
- Non-binary people who were identified as female at birth and have not experienced the biological effects of testosterone during puberty and adolescence can play women’s rugby (subject to confirmation of medical treatment and the timing thereof).⁴
- Non-binary people who were identified as female at birth and have not experienced the biological effects of testosterone during puberty and adolescence can play men’s rugby subject to certain conditions (currently: certification of physical ability and a TUE where necessary).
- Non-binary people who are pre-puberty can play either boys or girls or mixed-gender rugby up to age 12 (in line with World Rugby’s mixed-gender guideline⁵) and thereafter, shall participate in rugby in accordance with the above criteria for non-binary people depending on whether they are experiencing the biological effects of testosterone during puberty and adolescence or not.

PLAYERS WHO HAVE EXPERIENCED OR ARE EXPERIENCING THE BIOLOGICAL EFFECTS OF TESTOSTERONE DURING PUBERTY OR ADOLESCENCE:

WHY CAN’T THEY PLAY WOMEN’S RUGBY?

Concerns have emerged following the publication of new research that suggests that the suppression of testosterone does not reduce the strength of transgender women to the extent previously thought to be the case.

For a detailed explanation of the effects of testosterone on performance and injury risk in rugby, please visit the relevant section [here](#).

⁴ See the Legal Section [here](#) for details of how this review would be carried out

⁵ <https://playerwelfare.worldrugby.org/?documentid=117>

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Having considered all of the currently available information, the working group determined that the best evidence currently available means that those who experienced the biological effects of testosterone during puberty cannot safely or fairly compete in women's rugby.

World Rugby is committed to encouraging transgender people to remain involved with rugby and is currently funding research to review any new evidence that may emerge to enable the participation of those who had experienced the biological effects of testosterone during puberty in women's rugby if they so wish. Details of the research currently underway, along with details of how to apply for research funding for those who may be interested, is available [here](#).

NON-BINARY PLAYERS WHO WERE IDENTIFIED AT BIRTH AS FEMALE AND HAVE NOT EXPERIENCED THE BIOLOGICAL EFFECTS OF TESTOSTERONE DURING PUBERTY:

WHY IS A CONFIRMATION OF PHYSICAL ABILITY REQUIRED?

Individuals who have undergone the androgenizing effects of testosterone during puberty are typically heavier, stronger, and faster than those who have not. Hence, it is prudent for safety reasons to ensure that large mismatches, which may increase the risk of injury, are avoided. The male-female differences relevant to these risks are described [here](#).

WHY MIGHT A THERAPEUTIC USE EXEMPTION (TUE) BE REQUIRED?

Some non-binary people may be undergoing medical treatment that includes the prescription of testosterone, spironolactone or GnRH agonists which are "Prohibited Substances" on the WADA Prohibited List (i.e. they are considered to be performance enhancing substances) and they are not permitted without a Therapeutic Use Exemption (TUE). A TUE provides a player with authorisation to use a Prohibited Substance whilst continuing to play rugby. Players who medically require the use of a Prohibited Substance are required to obtain a TUE.

Without a TUE, Players risk committing an Anti-Doping Rule Violation, an offence that may result in a sanction regardless of the medical circumstances. That could result in a four-year suspension from sport and therefore it is very important that players understand their obligations to obtain a TUE.

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HOW DO I STAY INVOLVED IN RUGBY IF I CAN NO LONGER PLAY IN THE CATEGORY THAT I WANT TO?

World Rugby acknowledges that the introduction of this Guideline will mean that some players can no longer play in the category that they want to. It is possible that will change in the future and World Rugby is funding research to try to find out if there are ways to allow that safely and fairly (see [here](#) for details). In the meantime, there are many other ways to stay involved with rugby:

- Other forms of the game: Many forms of non-contact Rugby exist such as: Tag; Touch; Flag etc all have open categories.
- Coaching: Coaching can be hugely rewarding and can provide players with life lessons, engender a love for the sport and provide an enjoyable vehicle for improvement. World Rugby and its member Unions offer several courses for coaches of children, adolescents, and adults. All courses are open to any participant.
- Refereeing: For many people who may not be able to play, refereeing is a viable alternative to stay close to the game. World Rugby and its member Unions offer several introductory courses and a pathway exists in all Unions for fast-tracking talented individuals.
- Administration: All clubs rely on volunteer administrators. As individuals enter the latter stages of the long-term participant model, then administration becomes a realistic outlet for many. A number of Unions have dedicated support resources for individuals who wish to pursue this path of staying involved.

World Rugby is currently exploring the possibility of an “open category” of rugby in which any player could play, regardless of gender identity. World Rugby has committed to exploring this option with its Unions, Associations, International Rugby Players, and trans-advocate groups including Gendered Intelligence and International Gay Rugby.

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WHAT IF I HAVE CONCERNS ABOUT SAFETY OR FAIRNESS RELATING TO SOMEONE I AM PLAYING WITH OR AGAINST?

It is important to note that many people do not meet cultural or local norms or stereotypes related to the expression of gender identity. All players and Unions ought to take care to consider this when raising any concerns about another player. In the event that a player or Union has a genuine concern about safety or fairness in relation to another player, the concern should be dealt with as follows:

1. The concerned person should raise their concerns with their Union's Chief Medical Officer (CMO).
2. The Union's CMO should carefully consider the concerns raised, in the context of all of the known facts and if having done so, the CMO determines that the concerns are not frivolous or vexatious, the CMO should contact the World Rugby CMO setting out the basis for the concerns.
3. The World Rugby CMO will engage with the CMO of the Union of the player about whom the concerns have been raised, ensuring confidentiality for the player and involved team-mates and opponents throughout the engagement.
4. The World Rugby CMO and the relevant player's CMO will discuss the situation and agree on the most appropriate actions, based on the specific circumstances
5. In some circumstances, such appropriate actions may include a recommendation that a standardised endocrinological assessment be performed [Appendix].
6. For the avoidance of doubt, no player should or would be forced to undergo any medical or other assessment. It is a player's responsibility to decide on whether he or she wishes to proceed with any assessment. However, it should be noted that deciding not to participate in an assessment, having been requested to do so, may have consequences in terms of the player's eligibility to participate in the category of competition that is consistent with his/her/their gender identity, since it may not be possible to determine whether issues of safety or fairness arise without such assessment.

GLOSSARY

Below are some commonly used terms. They are 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.

Transgender: used in this Guideline to refer to individuals whose gender identity (i.e. how they identify) is different from the sex identified at birth (whether they are pre- or post-puberty, and whether or not they have undergone any form of medical intervention).

Transgender man: used in this Guideline to refer to an individual who is identified as female at birth and did not experience a testosterone-driven puberty but identifies and lives as a man. This is sometimes shortened to trans man, or FTM, an abbreviation for female-to-male.

Transgender woman: used in this Guideline to refer to an individual who is identified as male at birth and experienced a testosterone-driven puberty but identifies and lives as a woman. This is sometimes shortened to trans woman, or MTF, an abbreviation for male-to-female.

Non-binary person: used in this Guideline to refer to individuals whose gender is neither male nor female, or both male and female, or whose gender does not relate to male and/or female.

Sex: used in this Guideline to refer to an individual person's biological and physical characteristics, associated with being male or female.

Gender: used in this Guideline to refer to the social and cultural contexts related to masculinity and femininity. It is also often used to refer to a person's sense of self as, for example, a man, woman or non-binary person, and to associated behavioural expressions.

Expression of gender: The gender-related signals a person uses, such as name, pronoun, title, clothing, hair, walk, speech and mannerisms and so on.

Biological male: For the purposes of this document, refers to a person who produces testosterone at puberty and adolescence, and experiences the resultant androgenizing effects thereof.

Biological female: For the purposes of this document, refers to a person who does not produce male levels of testosterone at puberty and adolescence, and thus does not experience the resultant androgenizing effects thereof.

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FUTURE RESEARCH FUNDING CONSIDERATIONS

As described previously, the current evidence strongly suggests that the reduction of testosterone levels in transwomen is insufficient to remove biological advantages created during puberty and adolescence, which is the basis for the current policy that disallows transwomen from playing in women's rugby. This is however based on current evidence, and does not preclude the possibility that future evidence, specifically in an athletic, trained population, may emerge to contradict this position, and offer alternative policies.

To this end, World Rugby is committed to supporting such research as part of its global research prioritization. Currently, World Rugby invites research proposals from any eligible applicant, and then assesses the applications through a Scientific Committee comprised of internal and external independent researchers and experts. Those studies that are deemed to fall within the high-priority research areas, and to be of sufficient standard, are then funded by World Rugby.

As part of its commitment to an open, transparent engagement with the rugby-playing community, matters related to transgender physiology and performance will henceforth be included in the World Rugby high priority research areas. This means that any researchers who are exploring questions related to biological differences between males and females can apply to World Rugby for funding. This is not a guarantee that funding will be provided, as the studies are evaluated against a checklist according to best-practice principles, but the field of research will be prioritized, and so candidates may apply for funding that will advance understanding in this field and ensure that the policies that govern the sport are continuously challenged by best-available evidence.

See further details on World Rugby's research process and application for funding at: <https://playerwelfare.worldrugby.org/?subsection=72>

LEGAL ASPECTS OF THE TRANSGENDER GUIDELINE AND APPLICATION IN WORLD RUGBY TOURNAMENT

1. World Rugby, as the international federation responsible for the global governance and regulation of the sport of rugby, has adopted this Transgender Guideline (the “Guideline”) in order to facilitate the participation of transgender and non-binary players at the international level of the sport in the category of competition that is consistent with their gender identity, where it is safe and fair to do so.
2. The Guideline operates as a “Policy” in all World Rugby Tournaments. This means that it will be applied as set out within the Guideline with no amendments thereto.
3. It is strongly recommended that each Union adopts its own regulations to determine the eligibility of transgender players to compete in events taking place under its own jurisdiction. Unions should take account of the information provided in this Guideline but may also take into account any relevant aspects of local law which apply within the Union’s jurisdiction and with which the Union is legally obliged to comply. For the avoidance of doubt, however, anything that the Union does (or does not do) at national level will not affect the eligibility of transgender players to compete in World Rugby Tournaments. That will instead be determined exclusively by reference to this Guideline.
4. World Rugby wishes to be as inclusive as possible, to impose only necessary and proportionate restrictions on eligibility, and to provide a clear path to participation in the sport for all.
5. World Rugby recognises that transgender players may wish to compete in rugby in accordance with their gender identity. World Rugby wishes to encourage and facilitate such participation, on conditions that go only so far as is necessary to protect the safety of all participants and to ensure fair and meaningful competition.
6. World Rugby took the following into account when developing this Guideline:
 - a. World Rugby needs to establish conditions for participation in the sport of rugby, including eligibility categories, that (a) protect the health and safety of participants; and (b) guarantee fair and meaningful competition that displays and rewards the fundamental values and meaning of the sport:
 - b. World Rugby wants its Players to be incentivised to make the huge commitments required to excel in the sport, and so to inspire new generations to join the sport and aspire to the same excellence. It does not want to risk discouraging those aspirations by permitting competition that is not safe, fair, or meaningful.
 - c. Those who experience a testosterone-driven puberty gain significant advantages in size, strength, and power over those who do not. Owing to the impact that such advantages can have on sporting performance and on safety, it is necessary to have separate competition categories for males and females in order to preserve the safety fairness and integrity of the sport, for the benefit of all of its participants and stakeholders.

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7. The eligibility conditions established in this Guideline are driven solely by the desire to guarantee fairness and safety within the sport. In no way are they intended as any kind of judgement on or questioning of the gender identity or the dignity of any Transgender Player.
8. The need to respect and preserve the dignity and privacy of transgender players, and to avoid improper discrimination and stigmatisation on grounds of gender identity. All cases arising under this Guideline must be handled and resolved in a fair, consistent, and confidential manner, recognising the sensitive nature of such matters.
9. This Guideline will come into effect on 9TH October 2020 and will apply both to cases arising prior to that date and to cases arising after that date. It will be subject to periodic review to take account of any relevant scientific or medical developments, and may be amended from time to time by World Rugby, with such amendments to take effect from the date specified by World Rugby when it issues the amendments.
10. In the event an issue arises that is not foreseen in this Guideline, it will be addressed by World Rugby in a manner that protects and promotes the imperatives identified above.
11. Queries in relation to this Guideline should be directed as set out [here](#).

APPLICATION IN WORLD RUGBY TOURNAMENTS

12. This Guideline establishes the conditions enabling transgender and non-binary players (“Relevant Players”) to compete in World Rugby Tournaments in the category of competition that is consistent with their gender identity. Further guidance on certain medical aspects of the Guideline can be found in the Appendix.
13. Any Relevant Player who wishes to participate in a World Rugby Tournament agrees, as a condition to such participation:
 - a. to comply in full with this Guideline;
 - b. to cooperate promptly and in good faith with the Chief Medical Officers (“CMO”) of the relevant Union and/or World Rugby and, if necessary the Expert Panel of the relevant Union and/or World Rugby in the discharge of their respective responsibilities under this Guideline, including providing them with all of the information and evidence they request to assess his/her compliance and/or monitor his/her continuing compliance with the eligibility conditions referred to in this Guideline;
 - c. to the fullest extent permitted and required under all applicable data protection and other laws, to the collection, processing, disclosure and use of information (including his/her sensitive personal information) as required to implement and apply this Guideline effectively and efficiently;
 - d. to follow the procedures set out herein to challenge this Guideline and/or to appeal decisions made under this Guideline, and not to bring any proceedings

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in any court or other forum that are inconsistent with the relevant clauses herein; and

- e. to provide written confirmation of his/her agreement with this Guideline upon request by World Rugby.
14. A player may revoke at any time, with or without giving reasons, the player's agreement to participate in a World Rugby Tournament in accordance with this Guideline. In that event, the player will be deemed to have withdrawn any claim to satisfy the eligibility conditions for transgender players set out herein and may not participate in a World Rugby Tournament.

ELIGIBILITY CONDITIONS FOR TRANSGENDER MALE ATHLETES

15. Transgender men who have transitioned pre- or post-puberty can play in the male category subject to certain conditions which are currently: (i) certification of physical ability and (ii) possession of a valid Therapeutic Use Exemption where necessary.
16. The confirmation of physical ability must include:
- Written acknowledgement and acceptance by the player of the associated risks of playing contact rugby with males who are statistically more likely to be heavier, stronger, faster and consequently produce more force and power during physical contact situations
 - Written confirmation from a medical practitioner with an understanding of the demands of rugby, to whom the player is known, that the player is in a physical condition to play and that this view is supported by a musculo-skeletal evaluation and/or other appropriate assessments.
 - A template confirmation is attached [here](#).
17. The Player must provide the confirmation of physical ability (and TUE if applicable) to his Union's CMO for review. If satisfied with same, the Union's CMO shall provide a copy to World Rugby's Chief Medical Officer no later than six weeks ahead of the World Rugby Tournament in which he wishes to participate.
18. If satisfied with the confirmation of physical ability (and TUE if applicable), World Rugby's CMO will issue a written confirmation, to the player's Union, of that player's eligibility to compete in the male category of competition in World Rugby Tournaments.
19. In the event that the player does not agree with a decision of World Rugby's CMO, he may appeal such decision to the World Rugby Expert Group in accordance with the "Appeals" process set out below.
20. Transgender men who have been treated with testosterone (or similar) may not compete in the female category.

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21. In the event that a transgender man decides to stop his hormone treatment and later wishes to take part in the female category of competition, the player's Union's CMO should request World Rugby's CMO to convene the World Rugby Expert Group to consider the individual circumstances and make a decision on whether to permit his participation in the female category, taking all the circumstances into account.

ELIGIBILITY CONDITIONS FOR TRANSGENDER FEMALE ATHLETES

22. Transgender women who transitioned pre-puberty and have not experienced the biological effects of testosterone during puberty and adolescence can play women's rugby subject to confirmation of medical treatment and the timing thereof as set out below.
23. In the event that a transgender woman who transitioned pre-puberty wishes to participate in the female category, she must provide medical documentation, from an appropriately qualified medical specialist, to her Union's Chief Medical Officer that she has not experienced and is actively suppressing a testosterone-driven puberty]. The Union's CMO will consider such evidence and if he or she is satisfied, he/she will provide a copy to the World Rugby CMO who if satisfied, will issue a written confirmation, to the player's Union, of that player's eligibility to compete in the female category of competition in World Rugby Tournaments. This process would be renewed on an annual basis.
24. In the event that the player does not agree with a decision of World Rugby's Chief Medical Officer, she may appeal such decision to the World Rugby Expert Group in accordance with the "Appeals" process set out below.
25. Transgender women who transitioned post-puberty and have experienced the biological effects of testosterone during puberty and adolescence cannot currently play women's rugby
26. Transgender women can play mixed-gender non-contact rugby

ELIGIBILITY CONDITIONS FOR NON-BINARY ATHLETES

27. Non-binary people who were identified as male at birth and have experienced the biological effects of testosterone during puberty and adolescence may play men's rugby.
28. Non-binary people who were identified as male at birth and have experienced the biological effects of testosterone during puberty and adolescence cannot currently play women's rugby.
29. Non-binary people who were identified as male at birth but who have not have not experienced the biological effects of testosterone during puberty and adolescence may participate in female rugby subject to the following conditions: In the event that a non-binary person who was identified as male at birth wishes to participate in women's rugby, they must provide medical documentation, from an appropriately qualified medical specialist, to her Union's Chief Medical Officer that she has not experienced and is actively suppressing a testosterone-driven puberty testosterone-influenced puberty. The Union's CMO will consider such evidence and if he or she is

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satisfied, he/she will provide a copy to the World Rugby CMO who if satisfied, will issue a written confirmation, to the player's Union, of that player's eligibility to compete in the female category of competition in World Rugby Tournaments. This process would be renewed on an annual basis.

30. In the event that the player does not agree with a decision of World Rugby's Chief Medical Officer, she may appeal such decision to the World Rugby Expert Group in accordance with the "Appeals" process set out below.
31. Non-binary people who were identified as female at birth and have not experienced the biological effects of testosterone during puberty and adolescence and who have not undergone any treatment including testosterone (or any similar substance) may play women's rugby.
32. Non-binary people who were identified as female at birth and have experienced the biological effects of testosterone during puberty and adolescence can play men's rugby subject to certain conditions (currently: confirmation of physical ability and a TUE where necessary).
33. The confirmation of physical ability must include:
 - Written acknowledgement and acceptance by the player of the associated risks of playing contact rugby with males who are statistically more likely to be heavier, stronger, faster, and consequently produce more force and power during physical contact situations
 - Written confirmation from a medical practitioner with an understanding of the demands of rugby, to whom the player is known, that the player is in a physical condition to play and that this view is supported by a musculo-skeletal evaluation and/or other appropriate assessments.
 - A template confirmation is attached [here](#).
34. The Player must provide the confirmation of physical ability (and TUE if applicable) to their Union's CMO for review. If satisfied with same, the Union's CMO shall provide a copy to World Rugby's Chief Medical Officer no later than six weeks ahead of the World Rugby Tournament in which he wishes to participate.
35. If satisfied with the confirmation of physical ability (and TUE if applicable), World Rugby's CMO will issue a written confirmation, to the player's Union, of that player's eligibility to compete in the male category of competition in World Rugby Tournaments.
36. In the event that the player does not agree with a decision of World Rugby's CMO, they may appeal such decision to the World Rugby Expert Group in accordance with the "Appeals" process set out below.
37. For the avoidance of doubt, transgender men who have been treated with testosterone (or similar) may not compete in the female category.

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38. For the avoidance of doubt, a transgender men who have not been treated with testosterone (or similar) may choose to play in the female category if they so wish to do so but World Rugby acknowledges that many transgender men would not wish to play in a category that is not consistent with their gender identity.
39. In the event that a transgender man decides to stop his hormone treatment and later wishes to take part in the female category of competition, the player's Union's CMO should request World Rugby's CMO to convene the World Rugby Expert Group to consider the individual circumstances and make a decision on whether to permit his participation in the female category, taking all the circumstances into account
40. Non-binary people who are pre-puberty can play either boys or girls or mixed-gender rugby up to age 12 (in line with World Rugby's mixed-gender guideline⁶) and thereafter, shall participate in rugby in accordance with the above criteria for non-binary people depending on whether they are experiencing the biological effects of testosterone during puberty and adolescence or not.

RAISING CONCERNS ABOUT A PLAYER

41. In the event that a player or Union has a genuine concern about safety or fairness in relation to another player, the concern shall be dealt with as set out in this section.
42. It is important to note that many people do not meet cultural or local norms or stereotypes related to the expression of gender identity and World Rugby will remind those raising concerns that they ought to take care to consider this when raising any concerns about another player.
43. The concerned person will raise their concerns with their Union's Chief Medical Officer (CMO).
44. The Union's CMO will carefully consider the concerns raised, in the context of all of the known facts and if having done so, the CMO determines that the concerns are not frivolous or vexatious, the CMO will contact the World Rugby CMO setting out the basis for the concerns.
45. The World Rugby CMO will contact the CMO of the Union of the player about whom the concerns have been raised.
46. The World Rugby CMO and the relevant player's CMO will discuss the situation and agree on the most appropriate actions, based on the specific circumstances
47. In some circumstances, such appropriate actions may include an assessment which will involve a multi-disciplinary approach that includes genetic, endocrine and psychological input from a range of experts who specialize in the field of andrology. Further details of testing protocol are available [here](#).

⁶ <https://playerwelfare.worldrugby.org/?documentid=117>

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48. Having taken the above steps, the World Rugby CMO will make a determination as to whether the player can participate in their selected category, if in the CMO's view, the player complies with this Guideline.
49. In the event that the player or Union does not agree with a decision of World Rugby's CMO, they may appeal such decision to the World Rugby Expert Group in accordance with the "Appeals" process set out below.

PROVISIONS APPLICABLE TO ALL TRANSGENDER PLAYERS

50. No player should or would be forced to undergo any medical or other assessment. It is a player's responsibility to decide on whether he or she wishes to proceed with any assessment. However, it should be noted that deciding not to participate in an assessment, having been requested to do so, may have consequences in terms of the player's eligibility to participate in the category of competition that is consistent with his/her/their gender identity, since it may not be possible to determine whether issues of safety or fairness arise without such assessment.
51. The following are not required or relevant in order for a transgender player to compete in the category of competition at a World Rugby Tournament that is consistent with his/her gender identity:
 - a. legal recognition of the Player's gender identity as the Player's sex; or
 - b. surgical anatomical changes.
52. For the avoidance of doubt, the eligibility conditions for transgender players set out in this Guideline operate without prejudice to all other eligibility requirements that are applicable to all players (transgender or otherwise) under the World Rugby Regulations Relating to the Game which must also be satisfied at all relevant times.
53. Nothing in this Guideline is intended to undermine or affect in any way any of the requirements of the World Rugby Regulations Relating to the Game, the World Anti-Doping Code, the WADA International Standards (including the International Standard for Therapeutic Use Exemptions), or World Rugby's anti-doping rules. Nothing in this Guideline will be deemed to permit, excuse or justify non-compliance with any of those requirements, including (without limitation) any requirement for an Player to obtain a Therapeutic Use Exemption for the use of a substance on the WADA Prohibited List, such as testosterone, spironolactone or GnRH agonists.⁷

APPEALS HEARD BY THE WORLD RUGBY EXPERT PANEL

54. Where the World Rugby CMO requires it, or where a player wishes to appeal the decision of the World Rugby CMO, the World Rugby Expert Group will be convened.
55. The World Rugby Expert Group shall be comprised of a panel of independent experts from the following fields: scientific; medical; legal & risk; social & ethical.

⁷ See, e.g., the WADA Transgender Athlete TUE Physician Guideline, available at www.wada-ama.org.

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56. In order to appeal a decision of the CMO, the player must send a Notice of Appeal to World Rugby's CMO within 7 days of receiving the decision.
57. The Notice of Appeal must set out in writing the basis for the player's appeal.
58. Upon receipt of such Notice of Appeal, the World Rugby CMO shall convene the World Rugby Expert Group who shall consider the Player's Appeal as soon as is practicable.
59. The World Rugby Expert Group shall have the power to regulate their own procedures.
60. All decisions of the World Rugby Expert Group shall be final and binding.
61. The Player is responsible for ensuring that the information provided is accurate and complete, and that nothing relevant to the Expert Panel's assessment of the case is withheld. The Player must also provide the appropriate consents and waivers (in a form satisfactory to the Chief Medical Officer) to enable her physician(s) to disclose to the Expert Panel any information that the Expert Panel deems necessary to its assessment.
62. If the Expert Panel has any concerns about the adequacy of the evidence provided by the Player on any particular point, it must give the Player a fair opportunity to try to address those concerns before it comes to its final decision.
63. The Expert Panel will complete its assessment as soon as is reasonably practicable in all of the circumstances of the case. However, in no circumstance will World Rugby or any member of the Expert Panel be liable for any detriment allegedly suffered by the Player or anyone else as a result of the length of time taken by the Expert Panel to complete its assessment.
64. Once it has completed its assessment, the Expert Panel will send its decision in writing to the World Rugby CMO and the relevant Union CMO.
65. The Expert Panel's decision will be final and binding on all parties.

DISCIPLINARY PROCEEDINGS

66. Where a Player competes in a World Rugby Tournament in a category of competition for which he/she has not satisfied the eligibility conditions set out in this Guideline, World Rugby may take disciplinary action against such person/entity in accordance with World Rugby Regulation 18 pursuant to which the various sanctions set out in World Rugby Regulation 18 may be imposed.
67. In such disciplinary proceedings, a player may not challenge the validity of this Guideline nor may they challenge any decision made under this Guideline.

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DISPUTE RESOLUTION

68. Decisions by the Expert Panel may be appealed to a World Rugby Appeal Committee in accordance with the provisions of World Rugby Regulation 18.

CONFIDENTIALITY

69. All cases arising under this Guideline, and in particular all Player information provided to World Rugby under this Guideline, and all results of examinations and assessments conducted under this Guideline, will be dealt with in strict confidence at all times. All medical information and data relating to a player will be treated as sensitive personal information and the CMO and Expert Panel will ensure at all times that it is processed as such in accordance with applicable data protection and privacy laws. Such information will not be used for any purpose not contemplated in this Guideline, and will not be disclosed to any third party save (a) as is strictly necessary for the effective application and enforcement of this Guideline; or (b) as is required by law.
70. World Rugby will not comment publicly on the specific facts of a pending case (as opposed to general descriptions of the process and science involved) except in response to public comments attributed to the Player or the Player's representatives.
71. Each member of the Expert Panel must sign an appropriate conflict of interest declaration and confidentiality undertaking in relation to his/her work as a member of the panel if requested to do so.

COSTS

72. The costs of any assessment, examination, monitoring, reporting, and any other costs involved in complying with the Guideline will be borne by the relevant Player. The standing costs of the Expert Panel will be borne by World Rugby.

RECOGNITION OF OTHER ELIGIBILITY DECISIONS

73. Noting the specific requirements of each individual sport, it may not be appropriate for World Rugby to recognise and give effect to an eligibility decision of the international federation of another sport with respect to a specific player. The Guideline applies to all players regardless of any decision or finding as to the player's gender made by any other sporting, public or private entity.

LIMITATION OF LIABILITY

74. In no circumstances will World Rugby, any member of the Expert Panel, or any of World Rugby's (or any company associated with World Rugby) employees, officers, agents, representatives and other persons involved in the administration of this Guideline be liable in any way in relation to acts done or omitted to be done in good faith in connection with the administration of this Guideline.

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TEMPLATE FOR CONFIRMATION OF PHYSICAL ABILITY

Confirmation of physical ability of _____ [name], transgender man who wishes to take part in male rugby:

I acknowledge and accept the injury risks associated with transgender males playing contact rugby with males who are statistically likely to be stronger, faster and heavier than transgender males, as described in the World Rugby Transgender Guidelines which I have read and understand. I acknowledge and agree that I am voluntarily assuming the risk of injury and World Rugby (and/or any of its associated entities) shall have no responsibility or liability in respect of my participation in male rugby.

Signature of player:

Date:

I confirm that I have an understanding of the physical demands of rugby, and having examined the above-named player, I confirm that the player is in a physical condition to play rugby and that this view is supported by a musculo-skeletal evaluation and/or other appropriate assessments.

Name of medical practitioner or qualified coach:

Signature of medical practitioner or qualified coach:

Date:

The Union/ competition can adopt the spirit of the guideline and make it fit the laws/realities of that particular jurisdiction.

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QUERIES AND CONTACT INFORMATION

Queries

- In the case of general queries regarding this Transgender Guideline, please contact: Head of Technical Services, World Rugby, World Rugby House, 8-10 Pembroke Street Lower, Dublin 2
- In the case of confidential queries regarding cases affected by this Transgender Guideline, please contact: Chief Medical Officer, World Rugby, World Rugby House, 8-10 Pembroke Street Lower, Dublin 2.