

## GENDER PARTICIPATION POLICY – FURTHER MATERIALS AND FAQs

This document is designed to give further background information in relation to the RFU's Gender Participation Policy.

**Part A** sets out a brief summary of the scientific briefing given to Council, together some of the key slides.

**Part B** sets out some additional reference/reading/audio materials which you may find helpful. All of these are publicly available and are only a sample of materials available on this topic.

**Part C** sets out some additional FAQs that were raised in the Council discussions.

## **PART A – SUMMARY**

### **Summary of briefing:**

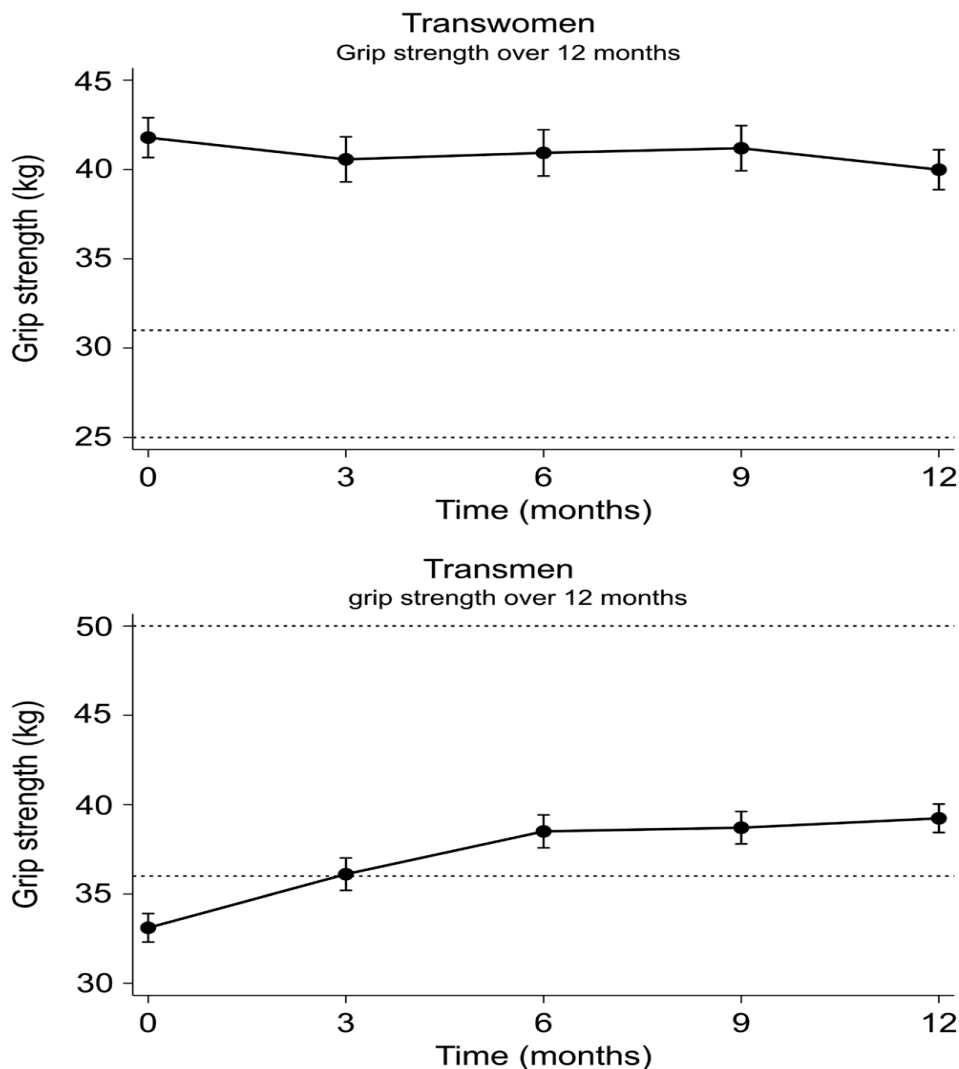
#### ***Background***

1. Rugby Union is a strongly 'gender-affected sport'. In law, this is defined as an activity in which the 'physical strength, stamina or physique of average persons of one sex would put them at a disadvantage compared to average persons of the other sex'.
2. Males are, on average, half as strong again as females: they are taller, heavier and faster. Such physiological differences manifest themselves prior to puberty but the disparity is increased due to puberty. As male strength is more evident in the upper body this facilitates greater capacity in tackling, scrummaging and passing. Therefore, categories which separate the sexes are defined in rugby union to ensure the fairness and safety in the sport for all competitors. Key indicators (in addition to other size differences e.g., hand size and reach) are:
  - Strength and Power - 30% greater for people of the same size
  - Mass/Height – 50% of males are taller than 97% of females
  - Speed – 10% faster
  - Endurance – 30-40% greater
  - Upper body strength – over 50% stronger
  - Grip strength: Scrummage/Mauling – 90% stronger than 90%
  - Vertical jump – 20% higher
  - Greater neck strength
  - Bone density (inc. skull), muscle volume, ligament strength
3. A key driver of this is the exposure to androgens (sex hormones such as testosterone) during puberty, but this is also driven by testosterone from the time a boy is in the womb. The male and female categorisation within contact rugby union is therefore based upon a long-established bank of scientific evidence of the physiological differences and physical advantages between males and females.
4. This disparity has an effect on both fairness and safety. In rugby, much of the sport involves contact in the form of tackles, rucks and mauls, as well as periods of high force production during static contests for the ball, such as the scrum and ruck. Injury risk is elevated from large disparities in size, speed, power and force. Modelling produced by World Rugby has shown that this results in a material increase in the risk of injury, including head injury. See Part B for a link to this analysis.

#### ***Testosterone-based assessment***

5. To date, a testosterone-based assessment, meaning that testosterone is used as an indicator has been employed by many sports (including rugby). This was done because it was thought that testosterone suppression over a period of time was effective to reduce the physiological differences and physical advantages between males and females and thereby mitigate any risk to any acceptable level.
6. However, more recent scientific peer-reviewed evidence (which is reported in more than a dozen research publications and reviewed in two landmark papers in 2021 as referenced in Part B), indicates that this strength and size differential is retained in trans women despite testosterone suppression. This means that testosterone suppression does not have the impact in reducing physiological differences and physical advantages to the extent original thought.

7. More specifically, the scientific research shows an initial broad 50% difference of muscle mass and strength between the sexes. The scientific literature indicates that on average there is only around a 5% loss of muscle mass/strength over twelve months of testosterone suppression.
8. This table, taken from the largest longitudinal study shows grip strength over a twelve month period of trans people. Grip strength is used in the academic studies as an indicator of overall strength and in particular upper body strength so directly relevant to rugby.
9. In the top graph, the dotted line shows the 25-75% range for females, and the solid line indicates the strength for trans women. This indicates that the grip strength of trans women remains far in excess of that female range. In the bottom graph, the dotted line shows the 25-75% range for males and the solid line indicates the strength of trans man. This reflects that testosterone supplementation in transmen rapidly increases strength into the male range.



10. This means that the recent peer-reviewed science renders the existing testosterone-based model inoperable because it relies on testosterone suppression as the key factor in determining and mitigating the risks relating to transwomen playing in the female category.

11. No other effective test/parameters have yet been developed to determine if the physiological differences and physical advantages brought about by male puberty and testosterone can be mitigated down to an acceptable level to enable transwomen to play in female contact rugby. The scientific research has shown that those physiological differences and physical advantages remain, as set out above.
12. It is important to note that there is a limitation of the scientific research, in that studies are generally undertaken over a 12 or 36 month period and not longer. As Harper concludes, "*Whether a longer duration of [Gender Affirming Hormone Treatment] would yield further decrements in strength in transgender women is unknown.*" There is a scientific opinion that whilst testosterone levels may continue to decrease, any decrease in strength, power etc will still only decrease to levels that remain well above those of females. One very small study exists which indicates that after long term hormone treatment (roughly 10-20 years), strength in trans women may be brought down to the 75<sup>th</sup> percentile of the cis female range (i.e. the level of the strongest 25% of women). However, no research currently exists to demonstrate this conclusively. Clearly this can be an avenue for further research, and may offer a route to some sort of assessment in the future. Funding is available via World Rugby for this.
13. There are also very significant challenges in defining tests where the incentive will be to perform below a set level (whether that is strength or other athletic performance), rather than above it.

#### ***Precautionary Principle and outline legal position***

14. As set out above, the much longer-term consequence of extended treatment is not known for certain. The "precautionary principle" is that where there is the potential of harm to human health, precautionary measures should be taken even if some cause-and-effect relationships are not fully established scientifically. This is important to consider in the absence of perfect evidence. Nevertheless, we are able to conclude that the evidential scientific basis for understanding the physiological changes on transition is sound. While this evidence is not specific to rugby, it is transferable knowledge that can and should be taken into account. Further the understanding of risk of injury has a strong and rigorous evidence base in modelling within rugby union.
15. The precautionary principle is commonly used in the management of risk in sport (including rugby) and in wider society. Current examples of where this is applied are the lowering of the tackle height in the age grade game, or the potential removal of heading within youth football.
16. In law, (s.195 of the Equality Act) participation of those with the characteristic of gender reassignment can be regulated in order to achieve fairness and safety of competitors.

#### ***Trans men***

17. The supplementation of testosterone in trans men results in gains in muscle mass within the male range within twelve months. This means that there is not the same degree of difference between trans men and cisgender men that there is between trans women and cisgender women.
18. As set out in paragraph 9 and the graph accompanying it, this can be seen in the rapid increase in strength following testosterone supplementation.

#### **Future Steps**

19. There is a view that there is not any scientific analysis on the horizon which would lead to a different conclusion. However, this should not stop rugby from continuing this research. In particular, longer longitudinal studies to show the effect of testosterone suppression or means of demonstrating whether strength and other attributes can be sufficiently reduced over a longer period of time, may be helpful.
20. Alternative formats of rugby may be more appropriate as society evolves and participants seek different formats of the game where it is not necessary to categorise for either sex or gender, or limited contact can be managed in an appropriate way. Work can continue both in England and with World Rugby to explore this.

## PART B - ADDITIONAL REFERENCE MATERIALS

### 1. Key scientific reference materials

There have been two academic reviews of musculoskeletal changes in transwomen suppressing testosterone. Both are peer-reviewed and published in high quality sports medicine journals. Both conclude that loss of muscle mass and strength is small, and that significant strength advantage over females, as well as other athletic performance, is retained.

- A. The first review is Hilton and Lundberg 2020, published in Sports Medicine, and can be found here: [Hilton 2020](#). The key conclusion is: *"We have shown that under testosterone suppression regimes typically used in clinical settings, and which comfortably exceed the requirements of sports federations for inclusion of trans women in female sports categories by reducing testosterone levels to well below the upper tolerated limit, evidence for loss of the male performance advantage, established by testosterone at puberty and translating in elite athletes to a 10–50% performance advantage, is lacking. Rather, the data show that strength, lean body mass, muscle size and bone density are only trivially affected. The reductions observed in muscle mass, size, and strength are very small compared to the baseline differences between males and females in these variables, and thus, there are major performance and safety implications in sports where these attributes are competitively significant. These data significantly undermine the delivery of fairness and safety presumed by the criteria set out in trans inclusion policies, particularly given the stated prioritization of fairness as an overriding objective (for the IOC). If those policies are intended to preserve fairness, inclusion and the safety of biologically female athletes, sporting organizations may need to reassess their policies regarding inclusion of trans women."*
- B. The second review is by Harper et al 2021, published in the British Journal of Sports Medicine, and can be found here: [Harper 2021](#). Joanna Harper, the lead author, is herself a transwoman, and focuses on inclusion. She does note that *"performance related differences between transwomen who have received gender affirming hormone treatment (GAHT) and cisgender women are less clear [than the performance related differences between male and female athletes]"*, but she is able to conclude that: *"In transwomen, hormone therapy rapidly reduces Hgb to levels seen in cisgender women. In contrast, hormone therapy decreases strength, LBM and muscle area, yet values remain above that observed in cisgender women, even after 36 months. These findings suggest that strength may be well preserved in transwomen during the first 3 years of hormone therapy."*
- C. In addition to strength, there are studies on other aspects of athletic performance. Roberts et al; BUS 2020 ([Roberts 2020](#)) concludes that *"Distance running speed is preserved at least 2-3 years after testosterone suppression"* although push up and sit up ability falls to be within the female range (based on military ranges). This is consistent with the analysis comparing trans women and cis women athletes in Harper's paper (Harper J, "Race Times for transgender athletes", *Journal of Sporting Cultures and Identities* 2015 [Harper 2015](#)). This (much smaller) study comparing race times of distance runners showed that runners were not more competitive in the female category after GAHT than they had been before receiving GAHT after one or more years.

### 2. Additional scientific opinion

- A. Research undertaken by Blair Hamilton has been referred to as offering a different scientific perspective. This article is available here: [Hamilton](#).

The work does:

- Acknowledges that there are significant physiological differences between males and females.
  - Focuses on the elite environment only and acknowledges the challenges with gaining research in this environment, such as testing for all to identify an “athletic gender” category. This would be even more problematic / impractical in a grassroots setting.
  - Suggests multi-sport/multi-disciplinary research approach is needed to gain the appropriate level of insight required to attain enough data/evidence.
  - Suggestion of individual selection criteria as solution based on further research.
- B. Work undertaken by Alvares indicates that long term (10-20 years) hormone treatment may bring down strength in trans women to the 75<sup>th</sup> percentile of the cis female range. This work is cross-sectional rather than longitudinal (i.e. it shows a snapshot in time without the longer contextual changes) and covers only eight trans women, eight cis women and eight men matched by mass and BMI. Further study in this area may shed a light on the effects of longer term treatment. A summary of this work can be found here: [Alvares](#)

### 3. **Additional helpful materials**

**World Rugby** also provides a summary of the science based on its review, which is set out on its website here: <https://www.world.rugby/the-game/player-welfare/guidelines/transgender>

**BBC The Sports Desk Podcast:** <https://www.bbc.co.uk/sounds/play/p0c5s642>. This is in our view a balanced conversation about the issues encountered by sports.

## **PART C – FURTHER QUESTIONS**

This section sets out questions raised during the Council process.

### **1. What is the issue we are trying to solve?**

As a responsible governing body, the RFU should keep policies and regulations under regular review and must consider moving science on areas which impact the sport. The science in this area has developed considerably over the last few years which has not only resulted in updated guidance from World Rugby and the Sports Councils but has also resulted in a number of other sports reviewing and changing their policies.

Whilst the participation numbers of transwomen are relatively low at this point in time, it would grow, and so when determining what type of policy is appropriate for the sport in the future, we should not be constrained by the scale of the issue at this point in time. Any such review needs to be objective, science based and forward looking to take into account future participation. Whilst it is important to be mindful and sympathetic of the impact any policy will have on current players, decisions on policy should not be based on subjective cases of specific individuals but rather on objective analysis and consideration of science, fact-based research.

Furthermore, there is increasing acknowledgement that fairness, safety and inclusion of transgender players into the female category cannot be balanced in gender affected sports but rather a prioritisation model needs to be decided. The question is therefore which of those principles should take priority: fairness, safety or inclusion. This is the key question which Council Members need to consider.

### **2. What does peer-reviewed research mean? How much weight can/should we give to peer-reviewed research?**

Peer review is designed to assess the validity, quality and often the originality of articles for publication. Its ultimate purpose is to maintain the integrity of science by filtering out invalid or poor quality articles. From a publisher's perspective, peer review functions as a filter for content, ensuring better quality articles to better quality journals and so creating journal brands.

According to Willey Publications "Running articles through the process of peer review adds value to them. For this reason, publishers need to make sure that peer review is robust".

### **3. Can the RFU not continue with a testosterone-based assessment for trans women?**

For the reasons mentioned above, continuance of the case by case is problematic due to the developments from a scientific perspective. Continuation of the current policy in its current form is also problematic from a legal and practical perspective given our policy would not reflect the recent scientific position and we would be asking a panel to make decisions based on testosterone suppression in the knowledge of such marker is no longer appropriate.

Further, even if a new parameter for assessing risk was developed/possible, it would be difficult if not impossible to apply these in a fair way due to disparities in size, strength and other differences between individuals. New parameters should nevertheless be explored as the science develops.

### **4. Aside from testosterone suppression, is there any other treatment which might reverse the physiological differences of males to enable trans women to play safely in the female category?**

As far as we are aware, there are no treatments which have the effect of reversing such physiological differences to the extent that testosterone suppression does.



**5. Is there any data beyond 3 years of testosterone suppression? What is the likely effect of 5 years suppression?**

The current data of longitudinal studies does not go beyond three years. There is a scientific opinion that whilst testosterone levels may continue to decrease, the reduction in strength, power etc. still does not reach levels that are in parity with average (25-75% percentile) ciswoman. As above, the Alvares study indicates that very long term hormone treatment may reduce strength over time, but we are not aware of any longitudinal research that currently exists to evidence this. Funding is available via World Rugby should such research projects wish to be instigated.

**6. Have we considered having a different policy for community rugby and another for professional rugby?**

This has been considered and discussed. The conclusion was that the prioritisation of safety should not be applied at certain levels of the game but not others.

**7. We are a sport which already presents disparity within the female category. How is this any different?**

Comparing intra-sex disparities against inter-sex disparities is a very different conversation. As expanded above, long established science is unequivocal that physiological differences and physical advantages exist between males and females. This is not to minimise the importance of the intra-sex conversation but for the purposes of this conversation the focus is on how we manage the inter-sex concern in light of the recent science. Further, studies have shown that the overlap between strength, for example, in cis male and cis female individuals is very minor (the strongest 10% of cis women overlaps only with the weakest 10% of cis men); using the minor reductions in strength and other attributes as set out above means that this disparity remains. Further, studies involving elite female athletes shows that there is still a disparity in strength, for example, between non-elite males and elite females (in judo and handball) – see [Lejk 2006](#).

**8. Do males who go through puberty have a higher level of bone density than females? How does this impact safety?**

Males that go through puberty will have a higher bone density due to their exposure to testosterone: this means that males are heavier in comparison than females of the same height. This combination of mass, strength, power and speed means that in a direct physical contest, ciswomen in all these domains will be at significantly higher risk of injury. Studies suggest that the compounded or cumulative effect of these attributes may be even greater, with one study showing that punching power - a composite of mass, force/strength, and power - is 160% higher in biological males than in biological females.

**9. England Rugby itself responded to World Rugby's policy change stating that "*further scientific evidence is required alongside detailed consideration of less restrictive measures in relation to the eligibility of transgender players. Where is that evidence?*"**

This is correct. The World Rugby guidelines were published prior to the scientific research on testosterone being peer-reviewed, which led to our response to World Rugby being that any policy changed should be based on peer-reviewed science. The RFU also wanted to explore less restrictive and more inclusive, proportionate measures which is evidenced by the proposed case by case policy upon which our public consultation was based.

During the RFU's review in 2021, the peer-reviewed science on testosterone (as further explained in Part A) was published. This underpinned the UK Sports Councils' guidance and prompted a re-think of our position.

**10. The IOC has been clear that governing bodies, when looking at potential policy changes, should not assume any natural advantage. There is no data to support a ban based on post puberty advantage. There are no studies that compare trans women players (who have reached the required criteria) to cis women players. Therefore, comparisons cannot be accurately made. A cis man is not the same as a trans woman.**

Part A explains the scientific basis for the proposal in more detail. There is a long-established bank of scientific evidence of the physiological differences and physical advantages between males and females. Studies on an athletic basis between cis men and trans women are very limited, but there is significant research on the effects of transition, and therefore it is possible to establish the differences between cis women and trans women.

**11. Did we consider having an open category? Whilst I would not mean this to be a male category and an open category, if we had three categories would this mean everyone could choose – although appreciate that safety issues will still be prevalent in an open category.**

The RFU believes that all rugby unions and World Rugby should work together in view of potentially developing a wider range of contact rugby options. However, this should not solely be in response to the complexities of the transgender debate. This should be part of a wider inclusion strategy by unions and World Rugby to develop rugby formats which are as inclusive and sustainable as possible, particularly in light of the Covid-19 related limitations that rugby is faced with. World Rugby has stated that it 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.

**12. If the estimate is 1% of the population may identify as trans – if we use the women's figures (say approx. 20,000 players) then does this mean, we may actually have approx. 200 trans women playing but not being open about their gender identity.**

Potentially, although it is possible there are more trans women playing in female rugby than we are aware of and having gone through the approval process, we consider it unlikely to currently be as high as 1% of playing population. Estimated percentages across the whole of society do not always translate into more specific context (i.e., playing rugby), due to personal interests, nature of the sport/activity etc.

**13. Other unions have taken different approaches – why have we not done that?**

We have also liaised with many other rugby unions and other sports throughout this process. Rugby League, both in England and internationally, have taken a similar approach to the RFU. Other unions have taken different approaches. There are different legislative requirements in other unions, and also other unions have chosen to prioritise inclusion rather than taking the precautionary principle as we have done. While we respect their approach, we disagree that this is the right one.

**14. Can we undertake rugby specific research on this issue and how can we do that if the RFU does not permit transwomen players to play?**

The small numbers of trans women currently participating in rugby makes it impossible (at this time) to undertake any tests that would produce reliable, valid and robust enough data to use for any future standards/comparison measures. We also do not have any comparison data specific to cis women players against which any such data could be compared.

Field based testing (i.e., watching a player participate in training/matches with or against other players is not an objective measure) is subjective and unreliable. In order to obtain reliable research data, tests

would need to be lab based regulated/standardised tests that measure key attributes of rugby e.g., strength, power.

Any such research would need to be done on a global scale. World Rugby have funding set aside specifically for research into this area, although as with all research of this type it would need to be done independently. At time of writing, no applications for research funding have been received by World Rugby.

**15. What is the purpose of the risk assessment for trans men playing in the male contact game. Is there a requirement to do this for all players where there is a physical disparity in size. Do scrum halves have to go through this given how much smaller they often are compared to other players. Is it appropriate for clubs to undertake the risk assessment?**

As with all player risk assessments, they should be done by qualified individuals who have knowledge of the player and the player environments in which they participate. It is very difficult for an entity/individuals removed from such environment to undertake such a risk assessment.

We recognise that some trans men will not want to disclose their sex assigned at birth to their club. We respect that and therefore should a trans man not wish to do that, we will discuss an appropriate process with them.

**16. Has any work been done to establish how many women or girls felt and whether they would be put off from starting or continuing with playing if they believed they would be playing against trans women**

The RFU's 2021 public consultation was based on a proposed case by case model for trans inclusion, and this was not well received by many of the 11,000 responses we received. An overwhelming majority of respondents (including 73% of ciswomen respondents who listed themselves as being involved in the game e.g., player, coach, parent etc.) raised concerns about a case-by-case model. It is important to note that this was informative of the process but not the principal driver. The principal reason for the process is the safety of players.

**17. How many injuries in women's rugby have been caused by trans women players? How many complaints have we received? Do we have this data?**

Injuries: We have had none reported through the RFU Reportable Injury Event process, but this process is for serious injuries (hospital admissions) only and is based on those seven transwomen we are aware of participating in the game through the application process. We have never specifically requested transwomen, their club / opposition to report injuries. This process would not necessarily pick up whether injury to another player is as a direct or indirect result of playing against or alongside a trans woman.

Complaints: We regularly receive complaints and concerns about our current policy, whether it be from those concerned by the case-by-case model from a player safety and/or fairness perspective or due to it being too intrusive.

**18. Do we have any research or insurance quotes for the impact if a cis woman was injured by a trans women? This ultimately impacts all areas of the game.**

The RFU has regularly updated insurers on this policy and any proposed changes in this area. We liaise with insurers annual to discuss developments/cases/patterns that may impact our insurance position.

**19. If the new policy is voted in, what are we as the RFU going to do to ensure we lead in this area to make our sport as inclusive as possible?**

The RFU is committed to making rugby union as diverse and inclusive as possible and it remains any RFU strategic objective to drive rugby union in England to reflect the diversity of society, to improve diversity of all facets of our game and to continue to create an inclusive environment for all. Everyone will want to keep trans people included within the rugby family, whether through non-contact forms of the game, or officiating, coaching or in the governance structure of clubs or the wider game.

**20. In the responses that came back from the consultation, is there any concern that we will lose players by voting for or against this policy. For example, will some players leave rugby because they don't agree with banning trans women and are standing in solidarity?**

It is possible that some people may feel they cannot remain involved in rugby but the same is possible if the policy is rejected. We cannot quantify what the impact of any decision may be, but we do know we have received a lot of correspondence into the organisation from those who are supportive of the policy and those who are not.

**21. If a trans women want to continue to play contact rugby, she can but she would have to play male rugby. What level of support will we give clubs/players in how this will actually work in practice e.g., changing rooms, the right environment etc.**

That is correct. The impact of the policy is that trans women may, if they so choose, continue to play male contact rugby. We will continue to promote and welcome the trans community to be involved in the game and through the D&I work and look at how we can actively and directly engage them, especially the players that will be impacted in the proposed policy is accepted.