### CALLING THE SHOTS

Transgender Athletes and the Social Construction of Sex

DO YOU HAVE WHAT IT TAKES TO DETERMINE WHO MAKES THE CUT?

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#### WHY DID WE CREATE THE GAME?

In the current paradigm, there are a multitude of state-level legislative pieces that are attempting to restrict transgender individuals from playing in sports, and our game has taken a deep dive to **understand the cultural**, legal, political, biological, and social implications of the inclusion and/or exclusion of transgender athletes. There is a wide knowledge gap with regards to the science of transgender athletes; there are only a handful of case scenarios and scientific studies, yet these few examples are used to sway legislation. We created this game to depict the arbitrary nature of many policies that are used to exclude transgender athletes from playing on sports teams at high school, college, and competitive levels. Ultimately, this project seeks to demonstrate the complexity of concepts like sex and gender, and challenge the use of these rather subjective categories to inform widespread policies.

#### WHAT SHOULD PLAYERS LEAVE WITH?

By competing in this game, we hope that players:

- Reframe and challenge their existing notions of sex and gender.
- Rethink the **importance of sex and/or gender** in athletics at the school, collegiate, and Olympic levels.
- Learn that many existing social and legislative policies are largely transphobic and are **not necessarily backed in science**.
- Understand the wide variety of people that these policies impact: transgender individuals, transgender athletes, parents of transgender individuals, etc.
- Recognize that sports and athletics, even at the high school level and before, are political processes, especially for individuals who are transgender, people who experience gender dysphoria, or individuals who exhibit differences / "atypicalities" in sex (e.g., being intersex, having higher than normal rates of testosterone, etc.)
- Realize how cultural and media representations of transgender athletes can impact people's perception of gender and sex, and how this can in turn affect the inclusion of transgender athletes.

#### **TRADITIONAL PLAY:**

TO START, EACH PLAYER WILL DRAW 5 ATHLETE CARDS TO MAKE THEIR HAND. LIKE APPLES TO APPLES, ONE PERSON IS THE JUDGE FOR THAT ROUND OF THE GAME. WHICHEVER PLAYER HAS WON THE MOST ATHLETIC COMPETITIONS BECOMES THE FIRST JUDGE. THE JUDGE DRAWS A COMPETITION CARD AND SHARES ITS INFORMATION WITH THE OTHER PLAYERS. EACH PLAYER SUBMITS ONE ATHLETE CARD TO THE JUDGE'S COMPETITION, KEEPING IN MIND THE COMPETITION CARD'S RULES FOR THAT COMPETITION (THIS INCLUDES REAL EXISTING LAWS AND COMMITTEE GUIDELINES). AFTER EACH PLAYER SUBMITS THEIR ATHLETE CARD THEY CAN GIVE A PITCH ADVOCATING FOR THEIR ATHLETE, AND WHY THEY MEET THE REQUIREMENTS OR WHY THEY SHOULD BE ALLOWED INTO THAT COMPETITION (EVEN IF THEY DO NOT MEET THE REQUIREMENTS). PLAYERS ARE ENCOURAGED TO UTILIZE THE GLOSSARY TO HELP THEMSELVES ADVOCATE FOR THEIR ATHLETES. IT'S OKAY TO BE CONFUSED - MANY OF THESE POLICIES AND "CATEGORIES" ARE CONFLICTING AND NUANCED.

STRATEGICALLY, PLAYERS CAN ALSO ARGUE AGAINST THEIR PEERS, PERHAPS GIVING REASONS WHY THEIR PEER'S ATHLETE SHOULD NOT BE ALLOWED TO COMPETE. THE IUDGE DECIDES WHICH ATHLETE **CARDS** MEET THE REQUIREMENTS TO COMPETE, AND ANY ATHLETES THAT DO NOT QUALIFY GO BACK TO THAT PLAYER'S HAND. THE ATHLETE CARDS THAT ARE ACCEPTED INTO THE COMPETITION ARE DISCARDED. THE JUDGE CAN USE THEIR OWN DISCRETION WHEN DECIDING WHICH PLAYERS ARE ACCEPTED, TAKING INTO ACCOUNT EACH PLAYER'S PITCH, AND ARE NOT REQUIRED TO STRICTLY FOLLOW THE COMPETITION CARD'S RULE. THE PLAYER TO THE LEFT OF THE **JUDGE BECOMES THE JUDGE FOR THE NEXT ROUND, CONTINUING CLOCKWISE THEREAFTER. AFTER THE FIRST ROUND, ONE BREAKING NEWS CARD IS PRESENTED TO THE ENTIRE GROUP. ONE ADDITIONAL** BREAKING NEWS CARD IS ADDED EACH ROUND AND ANY PLAYED BREAKING NEWS CARDS CAN BE USED FOR PLAYERS TO BUILD THEIR ARGUMENTS OFF OF AND TO ADVOCATE FOR THEIR ATHLETES. BREAKING NEWS CARDS CAN BE BOTH POSITIVE AND NEGATIVE FOR PLAYERS ADVOCATING FOR THEIR ATHLETE, OR AGAINST ANOTHER PLAYER'S ATHLETE. THE GOAL OF THE GAME IS TO GET ALL OF ONE'S ATHLETE CARDS INTO COMPETITIONS BEFORE THE OTHER PLAYERS. THE FIRST PLAYER WITH NO REMAINING ATHLETE CARDS IN THEIR HAND WINS THE GAME.

#### **ZOOM PLAY:**

FOLLOW THE TRADITIONAL GAME INSTRUCTIONS BUT USE A RANDOM NUMBER GENERATOR TO VIRTUALLY DRAW A 5 CARD HAND OF ATHLETE CARDS (ATHLETE CARDS LISTED WITH CORRESPONDING NUMBERS CAN BE FOUND <u>HERE</u>). MAKE SURE THE RANDOM NUMBER GENERATOR DOES NOT REPEAT NUMBERS! JUDGES MAY PICK A COMPETITION CARD FOR THAT ROUND FROM THE LIST OF COMPETITION CARDS, SHARING THE COMPETITION CARD'S TEXT IN THE ZOOM CHAT AND/OR READING IT ALOUD TO THE GROUP. PLAYERS CAN THEN SUBMIT THEIR ATHLETES TO THAT COMPETITION BY SHARING THEIR ATHLETE CARD'S TEXT IN THE ZOOM CHAT, AND THEN VERBALLY ADVOCATING FOR THEIR ATHLETE. BREAKING NEWS CARDS ARE STILL PLAYED AFTER THE FIRST ROUND AND CAN BE PICKED BY THE JUDGE OF THAT ROUND BY SHARING THE TEXT OF THAT CARD IN THE ZOOM CHAT.

WE RECOMMEND USING <u>THIS GENERATOR</u> AND USING THE LIST OF NUMBERS IN THE HORIZONTAL ROWS AS A PLAYER'S HAND, WITH EACH VERTICAL COLUMN BEING A DIFFERENT PLAYER'S HAND.

#### **GENERAL CARD GUIDE:**

ATHLETE CARDS = PROVIDE INFORMATION ON THE STUDENT ATHLETES THAT YOU WILL BE ADVOCATING FOR COMPETITION CARDS = PROVIDE INFORMATION ABOUT THE COMPETITION

<u>"BREAKING NEWS" CARDS</u> = PROVIDE GREATER INSIGHT INTO BIOLOGICAL, SOCIAL, CULTURAL, AND LEGAL/POLITICAL UNDERPINNINGS OF THE INCLUSION OF TRANSGENDER ATHLETES IN COMPETITIONS

# GLOSSARY

**Transgender** - An umbrella term for people whose **gender identity and/or expression is different from cultural expectations** based on the sex they were assigned at birth. Being transgender **does not imply any specific sexual orientation** transgender people may identify as straight, gay, lesbian, bisexual, etc.

**Cisgender** - People whose **gender identity aligns with the gender they were thought to be at birth**.

**Gender identity** - Individuals' **innermost concept of their gender** as male, female, a blend of both or neither - **how individuals perceive themselves** and how they identify. Individuals' gender identity may or may not be aligned with their assigned sex at birth.

Gender expression - External appearance of one's gender identity, as demonstrated through behavior, clothing, haircut or voice, and which may or may not align with socially-defined gender roles associated with behaviors and characteristics. Gender dysphoria - Clinically significant distress caused when a person's assigned birth gender is not aligned with the one with which they identify.

Sex chromosomes - A type of chromosome that participates in sex determination. Humans and most other mammals have two sex chromosomes, the X and the Y. Females have two X chromosomes in their cells, while males have both X and a Y chromosomes in their cells. Egg cells all contain an X chromosome, while sperm cells contain an X or Y chromosome Testosterone - The primary sex hormone and anabolic steroid in males. In male humans, testosterone plays a key role in the development of male reproductive tissues such as testes and prostate, as well as promoting secondary sexual characteristics such as increased muscle and bone mass, and the growth of body hair. A testosterone level of at least 20.43 nmol/L is normal for a man.

# GLOSSARY CONT.

**Estrogen (or oestrogen)** - A category of sex hormone responsible for the **development and regulation of the female reproductive system and secondary sex characteristics**.

**Differences in sex development (DSD)** - A blanket term for **conditions that affect an individual's genes, hormones, and reproductive organs**, making their sex development different than most people's. Some examples include: someone with XX chromosomes with unusual genital development, someone with XY chromosomes with unusual genital development, or someone missing an X or Y chromosome.

Feminizing hormone therapy - Hormone therapy that is administered to male to female transgender individuals. It typically involves administering medication to block testosterone production and block male androgen receptors, as well as estrogen, to decrease testosterone production and induce feminine secondary sex characteristics, including decreased body hair, decreased muscle mass, redistribution of body fat, and breast development. The effects typically take three to six months to begin, and maximum effects are reached after one to five years.

Masculizing hormone therapy - Hormone therapy that is administered to female to male transgender individuals. It typically involves administering testosterone which suppresses the menstrual cycle and decreases estrogen production. The effects include increased body and facial hair, deepening of the voice, increased muscle mass, and body fat redistribution. The effects typically take three to six months to begin, and maximum effects are reached after one to five years.

**Gender-affirming medical care** - A blanket term for **treatments** that are used as part of a transgender person's medical care that can **decrease gender dysphoria** and can be part of a **transgender person's physical transition**. Treatments include: hormone therapy, surgery such as a vaginoplasty, phalloplasty, or chest surgery, facial hair removal, voice modification, and genital tucking and packing, and chest binding.

# GLOSSARY CONT.

**Transitioning** - Transitioning is the **process of changing one's external gender presentation to represent one's internal sense of gender identity**. This is often done by changing one's name, pronouns, clothing, hair, and makeup, and using practices like binding or tucking. For transgender people, this process can include hormone therapy and sex reassignment surgery.

Transitioning sometimes involves medical treatment, but not always.

#### **Reference Testosterone Levels for** XY Males and XX Females

QO	Male	Female
infant	1.284-13.877 nmol/L	0.173-2.220 nmol/L
child	0-0.347 nmol/L	0.035-0.416 nmol/L
puberty	0.035-33.66 nmol/L	0.069-1.839 nmol/L
adult	12.15-37.48 nmol/L	0.243-1.873 nmol/L

#### WHY DOES THIS MATTER?

June is **Pride Month**, and though it is a celebration of the LGBTQ+ community, it is also a **political event**. Pride is a movement to **continue advocating** for inclusive and affirmative policies amidst unjust paradigms and oppressive systems. It is a reminder that though immense progress has been made, there is still **much progress to be made**.

In the United States right now, state legislators have proposed **over 25 bills** to hinder or prohibit the inclusion of transgender women in women's athletics, which is a stark increase from 2019, in which only 2 bills were introduced. You can access a **Legislative tracker** of current legislation regarding anti-transgender student athletics, along with other anti-transgender legislation, <u>here</u>.

It is crucial for all individuals to have an **equal opportunity to thrive**, and thus, transgender, gender fluid, and nonbinary students must have the same access to participating in athletics as their peers. Including transgender athletes in sports is respecting their **personal dignity** and providing a **positive outlet** to a population that is often stigmatized and discriminated against.

### WHAT CAN YOU DO?

- **Donate** to <u>mutual aid funds</u> that benefit transgender and LGBTQ+ youth.
- Listen to and support transgender athlete voices. You can find some <u>here</u>.
- Find <u>existing legislation</u> that would limit/prohibit the inclusion of transgender athletes.
  - As of June 3, 2021, priority legislation:
    - Louisiana Anti-Trans Sports Bill (moving to House): SB156
    - Oklahoma Anti-Trans Sports Bill: SB2
    - Wisconsin Anti-Trans Sports Bill: AB195/SB323 and AB196/SB322
- As a constituent, you have legislative power! Call and email your representatives to voice your concerns.
  - <u>Here</u> you can access a frequently-updated list of existing legislation that affects transgender athletes. The list is organized into each state's bills, contact information for legislators, and email templates/calling scripts.

#### **Bibliography**

ABCNews. (2018, June 22). Transgender track stars speak out as critics allege unfair advantage. YouTube. https://www.youtube.com/watch?v=sHqiG\_hrbsc.

Alliance Defending Freedom. (2020, February 18). High School Track Stars File Suit to Protect Fairness in Girls' Sports | Fox News Interview. <u>https://www.youtube.com/watch?v=b--cafK5mxY&ab\_channel=AllianceDefendingFreedom</u>

Anderssen, N., Sivertsen, B., Lønning, K. J., & Malterud, K. (2020, January 30). Life satisfaction and mental health among transgender students in Norway. BMC Public Health. Retrieved April 30, 2021, from <u>https://bmcpublichealth.biomedcentral.com/articles/10.1186/s12889-020-8228-5</u>

AsapSCIENCE. (2018, September 20). The Science of Being Transgender ft. Gigi Gorgeous. YouTube. Retrieved April 30, 2021, from <a href="https://www.youtube.com/watch?v=MitqjSYtwrQ">https://www.youtube.com/watch?v=MitqjSYtwrQ</a>

Ballantyne, K. N., Kayser, M., & Grootegoed, J. A. (2011). Sex and gender issues in competitive sports: investigation of a historical case leads to a new viewpoint. British Journal of Sports Medicine, 46(8), 614–617. https://doi.org/10.1136/bjsm.2010.082552

Bao, A. M., & Swaab, D. F. (2011). Sexual differentiation of the human brain: relation to gender identity, sexual orientation and neuropsychiatric disorders. Frontiers in neuroendocrinology, 32(2), 214–226. <u>https://doi.org/10.1016/j.yfrne.2011.02.007</u>

Bostock v. Clayton Cty., 140 S. Ct. 1731, 207 L. Ed. 2d 218, 2020 U.S. LEXIS 3252, 104 Empl. Prac. Dec. (CCH) P46,540, 28 Fla. L. Weekly Fed. S 294 (Supreme Court of the United States June 15, 2020, Decided). <u>https://advance.lexis.com/api/document?collection=cases&id=urn:contentItem:604P-P051-JS0R-21DV-00000-</u> <u>00&context=1516831</u>.

Changing the Game (2019)–IMDb. (n.d.). Retrieved April 29, 2021, from https://www.imdb.com/title/tt10011320/

Chen, V., et al. (2018). The Ethics of Transgender Athletics and Analogies for Brain Computer Interfaces. Penn Bioethics Journal. Retrieved April 30, 2021, from <u>http://bioethicsjournal.com/wp-content/uploads/2016/10/PBJ-Fall-2018-final-v4.pdf</u>

Chruścik, A., Kauter, K., Windus, L., & Whiteside, E. (2021). 14.8 Gonadal and Placental Hormones. In Fundamentals of Anatomy and Physiology. University of Southern Queensland. <u>https://usq.pressbooks.pub/anatomy/chapter/14-8-gonadal-and-placental-hormones/</u>

Dent, J. R., Fletcher, D. K., & McGuigan, M. R. (2012). Evidence for a Non-Genomic Action of Testosterone in Skeletal Muscle Which may Improve Athletic Performance: Implications for the Female Athlete. Journal of Sports Science & Medicine, 11(3), 363–370.

Donovan, E. (2020, August 4). The science on transgender sport. Newsroom. <u>https://www.newsroom.co.nz/podcast-the-detail/page/the-science-on-trans-gender-sport</u>

Dubon, M. E., Abbott, K., & Carl, R. L. (2018). Care of the Transgender Athlete. Current Sports Medicine Reports, 17(12), 410–418. <u>https://doi.org/10.1249/JSR.0000000000000545</u>

Eckert, P., & McConnell-Ginet, S. (2013). Language and gender. Cambridge and New York: Cambridge University Press. <u>https://web.stanford.edu/~eckert/PDF/Chap1.pdf</u>

Erdener, U. (2015). IOC Consensus Meeting on Sex Reassignment and Hyperandrogenism November 2015. Lausanne; International Olympic Committee.

Ermyas, T., & Wakeam, K. (2021, March 18). Wave Of Bills To Block Trans Athletes Has No Basis In Science, Researcher Says. NPR. <u>https://www.npr.org/2021/03/18/978716732/wave-of-new-bills-say-trans-athletes-have-an-unfair-edge-what-does-the-science-s</u>.

"Game Face": Film Review. (2015, June 30). The Hollywood Reporter. <u>https://www.hollywoodreporter.com/review/game-</u> face-film-review-805602

#### **Bibliography Cont'd**

Gender Affirming and Inclusive Athletics Participation. GLSEN. (n.d.). <u>https://www.glsen.org/activity/gender-affirming-inclusive-athletics-participation</u>.

Green, L. (2020, September 29). Legal Rulings on Sports Participation Rights of Transgender Athletes. National Federation of State High School Associations. (n.d.). Retrieved April 30, 2021, from <u>https://www.nfhs.org/articles/legal-rulings-on-sports-participation-rights-of-transgender-athletes/</u>

Goldberg, S. K. (n.d.). Fair Play. Center for American Progress. Retrieved April 28, 2021, from <u>https://www.americanprogress.org/issues/lgbtq-rights/reports/2021/02/08/495502/fair-play/</u>

Gooren, L. J. G., & Bunck, M. C. M. (2004). Transsexuals and competitive sports. European Journal of Endocrinology, 151(4), 425–429. <u>https://doi.org/10.1530/eje.0.1510425</u>

Hughto, J. M., Reisner, S. L., & Pachankis, J. E. (2015). Transgender stigma and health: A critical review of stigma determinants, mechanisms, and interventions. Social Science & Medicine, (147), 222-231. <u>https://doi.org/10.1016/j.socscimed.2015.11.010</u>.

Hamilton, A. (2021, February 24). Transgender women in female sport: Why biology matters. Sports Performance Bulletin. https://www.sportsperformancebulletin.com/endurance-injuries-and-health/endurance-health-andlifestyle/transgender-women-in-female-sport-why-biology-matters/

Handelsman, D. J. (2017). Sex differences in athletic performance emerge coinciding with the onset of male puberty. Clinical Endocrinology, 87(1), 68–72. https://doi.org/10.1111/cen.13350

Harper, J. (2015). Race Times for Transgender Athletes. Journal of Sporting Cultures and Identities, 6(1), 1–9. https://doi.org/10.18848/2381-6678/CGP/v06i01/54079

Hecox v. Little, 479 F. Supp. 3d 930, 2020 U.S. Dist. LEXIS 149442, 107 Fed. R. Serv. 3d (Callaghan) 758, 2020 WL 4760138 (United States District Court for the District of IdahoAugust 17, 2020, Filed). https://advance.lexis.com/api/document? collection=cases&id=urn:contentItem:60M6-62S1-JS0R-23B2-00000-00&context=1516831.

Hecox v. Little, # COMPLAINT FOR DECLARATORY AND INJUNCTIVE RELIEF (2020). https://adflegal.org/sites/default/files/2020-05/Hecox%20v.%20Little%20-%20Complaint.pdf

Hilton, E. N., & Lundberg, T. R. (2021). Transgender Women in the Female Category of Sport: Perspectives on Testosterone Suppression and Performance Advantage. Sports Medicine, 51(2), 199–214. https://doi.org/10.1007/s40279-020-01389-3

Hines, S., & Sanger, T. (2010). Transgender Identities - Towards a Social Analysis of Gender Diversity. Routledge and Taylor & Francis Group. https://library.oapen.org/bitstream/id/92e28649-9c61-4225-87da-fdf39e5ed359/645098.pdf

Jones, B. A., Arcelus, J., Bouman, W. P., & Haycraft, E. (2017). Sport and Transgender People: A Systematic Review of the Literature Relating to Sport Participation and Competitive Sport Policies. Sports Medicine, 47(4), 701–716. https://doi.org/10.1007/s40279-016-0621-y

Kang, M., Lessard, D., Heston, L., & Nordmarken, S. (2017). Introduction to Women, Gender, Sexuality Studies. University of Massachusetts Amherst Libraries. Retrieved April 21, 2021, from https://openbooks.library.umass.edu/introwgss/

Kornei, K. (2018, July 25). This scientist is racing to discover how gender transitions alter athletic performance–Including her own. Science | AAAS. https://www.sciencemag.org/news/2018/07/scientist-racing-discover-how-gender-transitionsalter-athletic-performance-including

Legislative Tracker: Anti-LGBTQ Religious Exemption Bills Filed in the 2021 Legislative Session. Freedom for All Americans. (n.d.). https://freedomforallamericans.org/legislative-tracker/student-athletics/.

Lucas-Carr, C. B., & Krane, V. (2011). What Is the T in LGBT? Supporting Transgender Athletes Through Sport Psychology. https://doi.org/10.1123/TSP.25.4.532

#### **Bibliography Cont'd**

Mayo Foundation for Medical Education and Research. (2021, March 17). Masculinizing hormone therapy. Mayo Clinic. <u>https://www.mayoclinic.org/tests-procedures/masculinizing-hormone-therapy/about/pac-20385099</u>.

Missouri Dad Gives Viral Testimony on Behalf of Transgender Daughter Over Athlete Ban | PEOPLE.com. (n.d.). Retrieved April 29, 2021, from <u>https://people.com/politics/missouri-dad-gives-viral-testimony-about-transgender-athlete-daughter/</u>

Mohamad, N.-V., Soelaiman, I.-N., & Chin, K.-Y. (2016). A concise review of testosterone and bone health. Clinical Interventions in Aging, 11, 1317–1324. <u>https://doi.org/10.2147/CIA.S115472</u>

Morris, J. F., & Raalte, J. L. V. (2016). Transgender and gender-nonconforming athletes: Creating safe spaces for all. Journal of Sport Psychology in Action, 7(2), 121–132. <u>https://doi.org/10.1080/21520704.2016.1184732</u>

MT - HB112. (n.d.). BillTrack50. Retrieved April 30, 2021, from https://www.billtrack50.com/billdetail/1258817

Mutual Aid and Emergency Funds. National Center for Transgender Equality. (2021, March 16). <u>https://transequality.org/covid19/mutual-aid-and-emergency-funds</u>.

Narang, P., Sarai, S. K., Aldrin, S., & Lippmann, S. (2018). Suicide Among Transgender and Gender-Nonconforming People. The primary care companion for CNS disorders, 20(3), 18nr02273. <u>https://doi.org/10.4088/PCC.18nr02273</u>

NHS. (n.d.). Differences in sex development. NHS Choices. <u>https://www.nhs.uk/conditions/differences-in-sex-development/</u>.

Noah, T. (2021, April 8). Culture War! Diverse Pilots and Trans Rights | The Daily Social Distancing Show. YouTube. https://www.youtube.com/watch?v=ynfnfhBJ51c.

Overview of gender-affirming treatments and procedures. Overview of gender-affirming treatments and procedures | Transgender Care. (2016, June 17). <u>https://transcare.ucsf.edu/guidelines/overview</u>.

Penaranda, G. (2021). IGLFA Gender Inclusion Policy. International Gay and Lesbian Football Association. http://www.iglfa.org/wp-content/uploads/2021/03/IGLFA-GENDER-INCLUSION-POLICY-2021KH\_.docx.pdf.

Pitsiladis, Y., Harper, J., Betancurt, J. O., Martinez-Patino, M.-J., Parisi, A., Wang, G., & Pigozzi, F. (2016). Beyond Fairness: The Biology of Inclusion for Transgender and Intersex Athletes. Current Sports Medicine Reports, 15(6), 386–388. <u>https://doi.org/10.1249/JSR.0000000000000314</u>

Purdum, J. (Director). (2003, July 20). Bend Her (Season 5, Episode 13) [TV series episode]. In Futurama. The Curiosity Company.

Resources for Trans Athletes and Allies on TDOV (and every day). Athlete Ally. (2020, April 2). <u>https://www.athleteally.org/tdov-2020/</u>.

Reuters Staff. Mississippi governor signs law banning transgender athletes from women's sports. Reuters. (n.d.). Retrieved April 28, 2021, from <u>https://www.reuters.com/article/us-usa-lgbtq-sports-mississippi-idUSKBN2B32HV</u>

Roberts, T. A., Smalley, J., & Ahrendt, D. (2020). Effect of gender affirming hormones on athletic performance in transwomen and transmen: Implications for sporting organisations and legislators. British Journal of Sports Medicine. https://doi.org/10.1136/bjsports-2020-102329

Schilt. K, & Lagos, D. (2017). The Development of Transgender Studies in Sociology. Annual Review of Sociology, (43), 425-443. https://doi.org/10.1146/annurev-soc-060116-053348.

Sexual Orientation and Gender Identity Definitions. HRC. (n.d.). https://www.hrc.org/resources/sexual-orientation-and-gender-identity-terminology-and-definitions.

Sex Chromosome. Genome.gov. (n.d.). https://www.genome.gov/genetics-glossary/Sex-Chromosome.

Take Action. transathlete. (n.d.). https://www.transathlete.com/take-action.

#### **Bibliography Cont'd**

University of Toledo. (2020, January 13). Research Reveals Public Attitudes About Transgender Athletes. SciTechDaily. <u>https://scitechdaily.com/research-reveals-public-attitudes-about-transgender-athletes/</u>

Vernonia School District 47j, Petitioner v. Wayne Acton, Et Ux., Etc., U.S. \_\_\_\_ (U.S. Supreme Court 1995). <u>https://www.law.cornell.edu/supct/html/94-590.ZO.html</u>

Voxdotcom. (2019, June 29). The problem with sex testing in sports. YouTube. https://www.youtube.com/watch? v=MiCftTLUzCI.

Wilson, E. C., Chen, Y. H., Arayasirikul, S., Raymond, H. F., & McFarland, W. (2016). The Impact of Discrimination on the Mental Health of Trans\*Female Youth and the Protective Effect of Parental Support. AIDS and behavior, 20(10), 2203–2211. <u>https://doi.org/10.1007/s10461-016-1409-7</u>

Wiik, A., Lundberg, T. R., Rullman, E., Andersson, D. P., Holmberg, M., Mandić, M., Brismar, T. B., Dahlqvist Leinhard, O., Chanpen, S., Flanagan, J. N., Arver, S., & Gustafsson, T. (2020). Muscle Strength, Size, and Composition Following 12 Months of Gender-affirming Treatment in Transgender Individuals. The Journal of clinical endocrinology and metabolism, 105(3), dgz247. <u>https://doi.org/10.1210/clinem/dgz247</u>

Wikimedia Foundation. (2021, May 24). Testosterone. Wikipedia. <u>https://en.wikipedia.org/wiki/Testosterone</u>.

Wikimedia Foundation. (2021, May 28). Estrogen. Wikipedia. https://en.wikipedia.org/wiki/Estrogen.

Wikimedia Foundation. (2020, October 20). Template:Testosterone levels in males and females. Wikipedia. <u>https://en.wikipedia.org/wiki/Template:Testosterone\_levels\_in\_males\_and\_females</u>.

## **Athlete Cards**

#### Josie

Height: 5'7" Weight: 160 lbs Age/grade: 17, 12th grade Sex Chromosomes: XY Pronouns: She/her/hers Wants to play on the women's team

Bio: Josie is a transgender woman in high school. She has been on testosterone suppressing medication and supplemental estrogen for 4 years. Her endogenous testosterone levels have been below 5 nmol/liter for the past 3 years.

#### Sam

Weight: 130 lbs Age/grade: 22, college senior Sex Chromosomes: XXY Pronouns: She/her/her Wants to play on the women's team

Bio: Sam is an intersex athlete who identifies as a woman and has female external anatomy with male internal anatomy. Her testosterone level is 7 nmol/liter.

#### Kim

Height 6'1" Weight: 200 lbs Age/grade 16, high school sophomore Sex Chromosomes: XX Pronouns: She/her/hers Wants to play on the women's team

Bio: Kim is a cisgender female athlete who is masculine-presenting and mostly has guy friends. She has a testosterone level of 3 nmol/liter.

#### Natalie

Height: 5'10" Weight: 160 lbs Age/grade: 19, college freshman Sex Chromosomes: XX Wants to play on the women's team

Bio: Natalie is a cisgender female athlete with Polycystic Ovary Syndrom (PCOS). PCOS is caused by an imbalance of hormones, when certain hormones are too high, causing the ovaries to produce extra amounts of testosterone. Due to her PCOS, Natalie has increased facial and body hair and a testosterone level of II nmol/liter.

#### Brad

Height: 6'2" Weight: 198 lbs Age/grade: 19, College freshmen Sex Chromosomes: XY Pronouns: He/Him/His Wants to play on the men's team

Bio: Brad is a cisgender male with higher testosterone than average (40 nmol/L) who is a player in his college volleyball team.

#### Sophie

Height: 5'5" Weight: 140 lbs Age/grade: 17, 12th grade Sex Chromosomes: XX Pronouns: She/her/hers Wants to play on the women's team

Bio: Sophia is a cisgender female athlete who only just recently learned about transgender people while watching an episode of the TV show South Park. Her testosterone level is 0.5 nmol/L

#### Emily

Height: 5'6" Weight: 135 lbs Age/grade: 15, 10th grade Sex Chromosomes: XX Pronouns: She/her/hers Wants to play on the women's team

Bio: Emily is a cisgender female athlete who does not want to get invasive sex tests due to her religion. Her testosterone level is 1.5 nmol/L.

#### Lena

Height: 5'7" Weight: 164 lbs Age/grade: 19, college sophomore Sex Chromosomes: XX Pronouns: She/her/hers Wants to play on the women's team

Bio: Lena is a cisgender female athlete with Polycystic Ovary Syndrome (PCOS). PCOS is caused by an imbalance of hormones, when certain hormones are too high, causing the ovaries to produce extra amounts of testosterone. Due to her PCOS, Lena has increased facial and body hair and a testosterone level of 6 nmol/liter.

#### Maria

Height: 5'8" Weight: 170 lbs Age/grade: 20, college sophomore Sex Chromosomes: XY Pronouns: She/her/hers Wants to play on the women's team

Bio: Maria is a transgender woman who has been taking hormone replacement therapy for 7 months, and her testosterone level is 9 nmol/liter.

#### Anais

Height: 5'4" Weight: 130 lbs Age/grade: 16, 10th grade Sex Chromosomes: XY Pronouns: She/her/hers Wants to play on the women's team

Bio: Anais is a transgender female athlete who is outperforming all of her peers in sports. She came out as a woman in middle school, but, because she is low income, she cannot afford any genderaffirming medical treatment like hormone therapy. Her testosterone level is II nmol/L.

#### Cody

Height: 5'5" Weight: 130 lbs Age/grade: 15, 9th grade Sex Chromosomes: XX Pronouns: He/Him/His Wants to play on the men's team

Bio: Cody is a trans male high school athlete who has been training with his track and field team throughout his freshman year, but he is not out to his coaches. He has not received any genderaffirming medical treatment and his testosterone is 2 nmol/L.

#### Aidan

Height: 5'5" Weight: 140 lbs Age/grade: 17, 11th grade Sex Chromosomes: XY Pronouns: He/Him/His Wants to play on the men's team

Bio: Aidan is a transgender male athlete who is the best on his sports team. He has been receiving hormone therapy and has been on puberty blockers for 2 years, and his testosterone level is II nmol/L.

#### Alex

Height: 5'6" Weight: 150 lbs Age/grade: 18, 12th grade Sex Chromosomes: XY Pronouns: He/Him/His Wants to play on the men's team

Bio: Alex is a transgender male athlete who is the worst on his high school Track and Field team. He's never participated in sports before, but his doctor suggested it as a way to combat his anxiety and make friends. He recently started testosterone therapy 2 month ago and his testosterone level is 6 nmol/L.

#### Celia

Height: 5'1" Weight: 110 lbs Age/grade: 11, 6th grade Sex Chromosomes: XY Pronouns: She/Her/Hers Wants to play on the women's team

Bio: Celia is a transgender female who joined sports to make friends because she has been experiencing bullying since coming out. She has been on puberty blockers for 3 months and her testosterone is 2 nmol/L.

#### Oona

Height: 5'6" Weight: 140 lbs Age/grade: 21, college senior Sex Chromosomes: XY Pronouns: She/Her/Hers Wants to play on the women's team

Bio: Oona is a transgender female athlete who has undergone a surgical transition. She has been on hormone suppression therapy for the last 6 months and her current testosterone level is 11 nmol/L.

#### Uma

Height: 5'4" Weight: 120 lbs Age/grade: 18, college freshman Sex Chromosomes: XY Pronouns: She/Her/Hers Wants to play on the women's team

Bio: Uma is a trans woman who has taken hormone replacement therapy since she was 12 years old, and she is interested in playing for her college gymnastics team. Her testosterone level is 5 nmol/L.

#### Rachel

Height: 5'2" Weight: 100 lbs Age/grade: 22, college senior Sex Chromosomes: XO Pronouns: She/Her/Hers Wants to play on the women's team

Bio: Rachel is a college senior athlete with Turner's syndrome (XO chromosomes). Due to her DSD, she has stunted growth, has not gone through puberty, and has lower than average levels of estrogen. Her testosterone level is 0.3 nmol/L.

#### Rose

Height: 5'2" Weight: 120 lbs Age/grade: 19, college sophomore Sex Chromosomes: XY Pronouns: She/Her/Hers Wants to play on the women's team

Bio: Rose is a transgender female athlete who has taken hormone replacement therapy since she was 17 years old. Her testosterone level is 5.4 nmol/L

#### Radha

Height: 5'8" Weight: 145 lbs Age/grade: 21, college junior Sex Chromosomes: XY Pronouns: She/Her/Hers Wants to play on the women's team

Bio: Radha is an intersex woman with an androgen insensitivity syndrome, meaning that she is resistant to testosterone. She was assigned female at birth and has external female anatomy. Her testosterone level is 20 nmol/L.

#### Taylor

Height: 5'6" Weight: 150 lbs Age/grade: 22, college senior Sex Chromosomes: XX Pronouns: They/Them/Theirs Wants to play on the women's team

Bio: Taylor is a non-binary athlete who wants to play for a women's sports team at their college. Taylor's testosterone level is 2 nmol/L

#### Riley

Height: 5'7" Weight: 150 lbs Age/grade: 18, 12th grade Sex Chromosomes: XY Pronouns: She/Her/Hers Wants to play on the women's team

Bio: Riley is a transgender female high school athlete who is not out to her coaches. She has not received any gender-affirming medical treatment, and her testosterone is 22 nmol/L.

#### Noel

Height: 5'7" Weight: 160 lbs Age/grade: 15, 9th grade Sex Chromosomes: XY Pronouns: She/Her/Hers Wants to play on the women's team

Bio: Noel is a transgender female athlete and has been taking testosterone suppressing medication for 8 months. Her testosterone level is 12 nmol/liter.

#### Hunter

Height: 5'8" Weight: 165 lbs Age/grade: 22, college senior Sex Chromosomes: XY Pronouns: She/Her/Hers Wants to play on the women's team

Bio: Hunter is a college athlete with Reifenstein syndrome. Hunter has XY chromosomes, female external anatomy and male internal anatomy, and testosterone levels of 15 nmol/L.

#### **Evelyn**

Height: 5'3" Weight: 130 lbs Age/grade: 15, 10th grade Sex Chromosomes: XX Pronouns: She/Her/Hers Wants to play on the women's team

Bio: Evelyn is a cisgender female athlete who is frustrated because she keeps getting second place, losing to a transgender female athlete on a rival team. Her testosterone level is 0.79 nmol/L.

#### Laura

Height: 5'7" Weight: 130 lbs Age/grade: 17, 12th grade Sex Chromosomes: XX Pronouns: She/Her/Hers Wants to play on the women's team

Bio: Laura is a cis-female athlete who refuses to compete against transgender people. She holds transphobic views due to her upbringing and believes trans women should not be allowed to compete. Her testosterone level is 0.8 nmol/L

#### Jerry

Height: 6'1" Weight: 200 lbs Age/grade: 17, 11th grade Sex Chromosomes: XY Pronouns: He/Him/His Wants to play on the men's team

Bio: Jerry is a cisgender male athlete who received chemotherapy as a teen, and has a testosterone level of 8 nmol/liter.

#### Amy

Weight: 165 lbs Age/grade: 20, college sophomore Sex Chromosomes: XX Pronouns: She/Her/Hers Wants to play on the women's team

Bio: Amy is a cisgender female athlete with congenital adrenal hyperplasia. casuing her to high testosterone levels (25 nmol/L) and masculine secondary sex characteristics.

#### Sammy

Height: 5'4" Age/grade: 20, college sophomore Wants to play on the men's team

who recently came out as trans, but has been playing on the women's team for several years. He has not received any gender-affirming medical treatment and

#### Skye

Height: 5'6" Weight: 145 lbs Age/grade: 18, college freshman Wants to play on the men's or women's

Bio: Skye is a gender-fluid athlete who is looking forward to getting involved in athletics in college. Their testosterone level is I.8 nmol/L.

#### River



Height: 5'10" Weight: 165 lbs Age/grade: 16, 11th grade Wants to play on the men's or women's

Bio: River is a non-binary athlete who wants to play sports on whatever team 6 nmol/L.

#### Charlie

Height: 5'II" Weight: 170 lbs Age/grade: 19, college freshman Pronouns: Ze/Zem/Zers Wants to play on the men's or women's

Bio: Charlie is gender-fluid. Zer



#### Alex

Height: 6'2" Weight: 180 lbs Age/grade: 20, college sophomore Wants to play on the men's or women's

Bio: Alex is gender nonconforming and wants to get fit playing on a team. Their testosterone level is 7 nmol/L.

# Competition Cards

#### Florida Conference of Catholic Bishops

Female athletes must provide a birth certificate that confirms their gender identity or an official identification (ID, passport). Female athletes must also undergo a medical examination that will confirm their gender through inspection of their external genitalia.

#### International Olympic Committee policy (current)

Athletes must maintain the declaration of their gender identity for at least four years. Athletes must have had endogenous testosterone levels at IOnmol/liter for at least one year before the competition.

#### International Gay and Lesbian Football Association policy

Athletes must indicate both their legal gender and the gender they feel most comfortable participating in. When registering for games, athletes must list their pronouns and their preferred gender of competition. No athlete should be made to participate on a team that does not align with their gender identity, and alternative options should be made available for gender-nonconforming individuals.

#### NCAA Transgender Inclusion policy

Transgender male athletes may participate on the team of their preferred gender, whether or not they are receiving testosterone supplementation. Transgender female athletes must be treated with testosterone suppression for at least one calendar year before being permitted to compete on the women's team. Transgender female athletes who are not taking testosterone suppression medication may not compete on the women's team.

#### International Association of Athletics Federation

#### (current)

Female to male transgender athletes may compete in the team of their identified gender with a written declaration of their gender identity. Male to female transgender atheltes may compete in the team of their identified gender with a written declaration of their preferred gender; additionally, they must submit evidence that their testosterone levels have been below 5 nmol/L for at least 12 continuous months, and they must maintain a testosterone level below 5 nmol/L for the duration of the competition.

#### International Olympic Committee policy (1968)

All female athletes must undergo a sex verification test in order to compete. Athletes must pass a sex chromatin test, which uses a buccal smear (cheek swab) to examine the athletes sex chromosomes. Athletes with XX chromosomes will show a single X-chromatic mass and athletes with XY chromosomes will show no chromatic mass.

#### International Association of Athletics Federation (1960)

All female athletes must undergo a sex verification test in order to compete. An athletes gender will be verified through a physical examination of the external genitalia and secondary sex characteristics (i.e breasts). Female athletes may not request a female doctor to perform the examination.

#### Mississippi High School Athletics Policy

Only those who were assigned female at birth, and can provide a birth certificate to confirm, can compete.

#### California Interscholastic Federation

All students must have the opportunity to participate in activities that align with their gender identity. The Gender Identity Eligibility Committee is responsible for determining an athlete's eligibility to participate on a certain team. To determine eligibility, the student must provide a transcript and school records, documentation of the student's consistent gender identity (affirmed written statements from the student and/or parent/guardian and medical provider), and any other documents that may be helpful.

#### Indiana High School Athletic Association

Athletes must compete on the team that matches their birth certificate unless the following evidence can be provided: reliable medical evidence that the sudent underwent a sex change before surgery OR reliable medical evidence that the student has undergone gender reassignment surgery after puberty, has taken the appropriate hormonal therapies, that a sufficient length of time has occurred to absolve the student of any sexrelated advantages, and that a legal recognition of a sex change has occured.

# Breaking News Cards

#### Breaking News!

An angered parent is suing the school because she doesn't want her daughter to compete against trans women. Because of the lawsuit, the school's sports culture has become highly transphobic, and trans student athletes are being bullied by their peers.

#### **Breaking News!**

Many state laws that restrict the participation of trans athletes apply to elementary and middle school aged students. Children at this age have not been through puberty and there is very minimal difference in their physiology.

#### **Breaking News!**

One study looking at performance metrics of male and female athletes across 30 different sports found that men consistently outperform women. The largest gender performance gap exists in sports relying on raw upper body strength, while the smallest gender performance gap is in sports relying on endurance.

#### **Breaking News!**

One study looking at the effect of testosterone suppression in male to female transgender athletes found that after a year of testosterone suppression, these athletes had higher average muscle mass than the control group of XX females. This could suggest that male to female transgender athletes have an athletic advantage due to their muscle mass, but the researchers established that their results were inconclusive and further research was needed.

#### **Breaking News!**

The ACLU has filed a lawsuit against an Idaho law prohibiting the participation of transgender athletes in sports, and using a birth certificate as confirmation of an athletes gender. They argue that the law violates Title IX of the US Constitution, and would result in discrimation as well as emotional and psychological distress to transgender students.

#### Breaking News!

A parent is frustrated that their child is barred from competing from sports just because their kid has a gender identity that is different than their assigned sex at birth. The parent mobilizes several prominent community members to call out the school for their exclusive policies.

#### **Breaking News!**

The average range for testosterone in males (with 46 XY chromosomes) is 11-35 nmol/L, but men (especially older men) can have testosterone levels 8-10 nmol/L and sometimes as low as 6.5 nmol/L.

#### **Breaking News!**

There is no conclusive scientific evidence to support that testosterone exposure has a measurable impact on the physiological abilities of male to female transgender athletes, once they have recieved testosterone suppression therapy for one year. There have been no long term, large, experimental studies that look at performance metrics of transgender athletes compared to their cisgender peers.

#### Breaking News!

Many studies show that regular physical activity can help combat depression and anxiety. Transgender youth are vulnerable to mental health issues, with one study finding that they have a threefold risk of depression and suicide attempts compared to their cisgender peers.

#### **Breaking News!**

Under Title IX of the US Constitution, "No person in the United States shall, based on sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance". Past court cases have established that Title IX applies to sexuality and gender identity.

#### **Breaking News!**

The ACLU has filed a lawsuit against an Idaho law prohibiting the participation of transgender athletes in sports, and using a birth certificate as confirmation of an athletes gender. They argue that the law violates Title IX of the US Constitution, and would result in discrimation as well as emotional and psychological distress to transgender students.