## Transgenderism and Women's Sports

**Is it fair** to allow a biological male to compete against a biological female in sports?



**Science** has documented at least **6500** genetic differences between men and women. No one disputes this when providing different medical accordance with treatment to men and women. We must approach patients in accordance with their biology, their DNA, not in their perceptions.



more lung capacity than

females.2



Males not only have more muscle, but pound for pound, their muscle is slightly stronger than a female's - about 5-10%,

44% stronger, overall than women.4



Male athletes have longer and larger bones, which provide a clear mechanical advantage over female athletes. The increased articular surface and larger structure of male bones provide them with a greater leverage and a wider frame on which to support muscle.<sup>5</sup>

<sup>1.</sup> lan Janssen, et. al., Journal of Applied Physiology, Skeletal muscle mass and distribution in 468 men and women aged 18–88 yr, Journal of Applied Physiology, 01 July 2000. https://doi.org/10.1152/jappl.2000.89.1.81

<sup>2.</sup> William Ganong, Review of Medical Physiology (21st edition) Figure 35-7.

<sup>3.</sup> Hanjabam Barun Sharma, et. al., Gender Difference in Aerobic Capacity and the Contribution by Body Composition and Haemoglobin Concentration: A Study in Young Indian National Hockey Players, Journal of Clincial and Diagnostic Research, 10 (11) (2016): CC09-CC13.

A.E. J. Miller, et.al., Gender differences in strength and muscle fiber characteristics, European Journal of Applied Physiology and Occupational Physiology, 66 (3) 1993: 254-262. <a href="https://doi.org/10.1007/BF00235103">https://doi.org/10.1007/BF00235103</a>

Andrew Latham, 2018, June 28, Physiological Differences Between Male and Female Athletes, <a href="https://work.chron.com/physiological-differences-between-male-female-athletes-20627.html">https://work.chron.com/physiological-differences-between-male-female-athletes-20627.html</a>