Transgender Athletes in Women’s Rugby

Joanna Harper
Transgender Athletes

Trans women

Biological males

Intolerable unfairness

End of women’s sport
Advantages for Trans women

• Taller, Larger and Stronger
• Muscle Memory
• Denser bones
• Q and carry angle
Disadvantages For Trans Women

• Diuretic Effects of suppressive meds
• Bigger Bones – reduced muscle mass and aerobic capacity
• Smaller is better in some sports
• Sociological disadvantages
Advantages

Left-handed fencers
Advantages

Left-handed fencers

Heavy weight boxers
Meaningful Sport

Advantages

Left handed fencers

Heavy weight boxers
Meaningful Sport

- Left handed fencers
- Heavy weight boxers
- Transwomen ciswomen

Advantages
Muscle Loss in trans women

• One year of hormone therapy in non athletes. Cross section area.

• Gooren (2004) 9.5% quadriceps n=19

• Wiik (2019) 4% quadriceps n = 11

• Van C (2014) 2% calf 8% forearm n=44

• Tack (2018) 9% calf 4% forearm n= 21
### Muscle Loss in trans women

12m HT non athletes. Percent LBM loss DXA

<table>
<thead>
<tr>
<th>Study</th>
<th>Percentage</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mueller (2011)</td>
<td>4.0 %</td>
<td>n=84</td>
</tr>
<tr>
<td>Wierckx (2014)</td>
<td>5.2%</td>
<td>n=52</td>
</tr>
<tr>
<td>Gava (2016)</td>
<td>2.2 %</td>
<td>n=40</td>
</tr>
<tr>
<td>Auer (2016)</td>
<td>5.1 %</td>
<td>n=20</td>
</tr>
<tr>
<td>Klaver (2018)</td>
<td>3.0%</td>
<td>n=179</td>
</tr>
<tr>
<td>Tack (2018)</td>
<td>4.7%</td>
<td>n=21</td>
</tr>
<tr>
<td>Haroldson (2007)</td>
<td>1.1%</td>
<td>n=12</td>
</tr>
<tr>
<td>Van Caenegem (2014)</td>
<td>4.0%</td>
<td>n=49</td>
</tr>
</tbody>
</table>
Strength Loss in Trans women

• One year of hormone therapy in non athletes.

• No strength loss n=11

• Grip Strength. Amsterdam, Ghent, Oslo. 2019
  4.5% loss of strength. N = 249

94% of trans women T < 2 nmol/L - mean T <1
Red Blood cell loss in trans women

• Non athletes - HCT or HG - varying time frames

• Gooren (2004) 14.0% 12m n=19
• Wierckx (2014) 7.1% 12m n=52
• Auer (2016) 5.5% 12m n=20
• Jarim (2017) 3.4% 06m n=13
• Vita (2018) 10.5% 30m n=21
• Olson-K (2108) 8.3% 24m n=23
Harper Study

• Published in 2015

• 200 race times from 8 trans women runners

• At least 10% slower after transition

• WMA age-grade equivalence before and after
More retrospective data

- Trans woman sprinter
  - 10.95 100m age 31 “male” 89.4% AG
  - 12.54 100m age 39 “female” 86.6% AG

- Trans woman cyclist
  - “male” age 32 338 watts –
  - “female” age 36 300 watts

- Trans woman rower
  - “male” age 18 7:01 2km –
  - “female” age 20 7:25 2 km
Hannah Mouncey

Aussie men’s team

1.88 meters
100 kilograms

“Unstoppable”

2018 Asian Championships
Hannah Mouncey

- 3rd leading scorer
- 5th place team
- Qualified for 2019 World ch
- NOT selected, Showers/change
- All too unstoppable
Tifanny Abreu

- Men’s professional
- 1.94 meters
- Top scorer
  - Superliga feminina
Tifanny Abreu

- 32 cm loss spike height
- Defensive liability
- Not selected 2018/2019 Brazil team
Laurel Hubbard

NZ junior record
Stood for 15 years

2nd 2017 W. ch.
275 kilograms

2018 commonwealth
Ruptured tendon
Laurel Hubbard

1st Pacific Games
268 kilograms

6th 2019 W. ch.
285 kilograms

Probable Olympian
Possible medallist
Olympic Statistics

• 5000 women in Rio Olympics 450 medals
• Trans pop 0.5% - 1.0% (1/150)
• Tokyo 2020 expectations
Olympic Statistics

- 5000 women in Rio Olympics 450 medals
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- 30-40 trans women
- 3 medal winners
Olympic Statistics

- 5000 women in Rio Olympics 450 medals
- Trans pop 0.5% - 1.0% (1/150)
- Tokyo 2020 expectations
- 30-40 trans women
- 3 medal winners
- Reality 1 or maybe 2 trans women
- Not likely to win a medal
Injury Risk
Injury Risk

Bigger stronger Potential risk

Transwomen targets Might not hit 100%
Injury Risk

- Bigger stronger
  Potential risk

- Transwomen targets
  Might not hit 100%

- Size and strength
  Limitations ???

- Cannot limit
  Transwomen only
Injury Risk

Bigger stronger
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Study
Loughborough/Nottingham Study

- Up to 40 trans athletes
- Baseline cardiovascular and muscle tests
- Repeat tests quarterly through transition
- bench press, handgrip, knee ext., cm jump
- VO2-max, Wingate test
- Blood and muscle samples (with permission)
- Sport-specific tests
Rugby Policies

- Prepubescent and Recreational Gender Identity
- Testosterone < 5 nmol/L for 1 year for elites
- Potential size limitations
- Potential Quotas
- Living Documents
- More and better data = better policies