IS THE REDUCED SPIKE-JUMP PERFORMANCE IN ELITE FEMALE VOLLEYBALL PLAYERS DETERMINED ONLY BY SEX DIFFERENCES IN ANATOMY, STRENGTH, AND POWER?

• Jump height: High importance, difference w/m
• Cause: Biology / technique?

• Aims:
  – Sex dependent differences
  – Sex specific training intervention
Methods

- 14 female, 14 male elite players
- 10 spike jumps per participant

5 lower limb muscles
2000Hz (Myon EMG)

8 Vicon MX-13
250Hz

2 AMTI force plates
2000Hz

- Full Body Plug-In Gait + Clusters + V3D model
Results

**ϕ**

**φ**

*F*_{max - xy}*

**Δt**_{takeoff}*

*EMG: 10/20***

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philip x. fuchs
• Beneficial motion characteristics of males
• Investigated variables affected by biology?
• Maybe some but clearly not all!
• Sex specific training:
  – Possible + seems beneficial
  – Applicable, effective?

![Graph showing force over time with Delta t (takeoff) highlighted.](image)