

Prevalence of Exercise-Related Triggers Among Women With Climbing-Induced Urinary Incontinence

EPOSTER PRESENTATION

Abstract #28219 | Translational / Biomechanical Analysis (n = 84) | ICS Annual Meeting — Maastricht

★ Key Drivers & Main Findings

⚡ CORE DISCOVERY

Climbing-related SUI is Driven by Specific Technical Movements & Practice Intensity, whilst the duration of climbing practice does not constitute a determining factor

SUI Strongest Associations With Practice:

🔊	Intensity Increase OR 52.2 ($p < 10^{-30}$)
🧠	Stress / Anxiety OR 11.1 ($p < 10^{-19}$)
🏃	Warm-up Phase OR 11.47 (3.06–43.0)
🕒	Post-Effort Phase OR 5.11 (1.49–17.5)

• Years of Practice (<1y vs >1y): OR 1.62

p = 0.176 (NS)

★★★ Clinical Implication

These findings highlight the importance of a movement-specific approach to better understand the mechanisms of climbing induced SUI and to guide prevention and management strategies



Practice Factors & Triggers

👥 Cohort (n = 84 SUI Climbers):

Median Age: 36 yrs | Weight: 58.5 kg | Nulliparous: 46.4%

Volume & Level Predictors:

- Session Duration > 2 Hours **OR 2.34** ($p < 0.001$)
- Boulder Grade > 6c **OR 2.19** ($p = 0.040$)
- Frequency > 3x / week **OR 2.14** ($p = 0.039$)

Top Technical Trigger Movements:

OR 4.55

Max Exertion
($p < 0.001$)

OR 3.76

Falls / Landings
($p = 0.002$)

OR 2.75

Leg Thrusts
($p = 0.026$)

Frequent Specific Moves: Apnoea/Static (35.7%), Dynos (30.9%), Drop Knee / Heel Hook (28.6%).



Biomechanical Model

Hypothesis: IAP Mechanical Classification Framework: Movements were mapped based on Niederauer et al. (2023) into 2 axes:

- 1. Dynamic / Vertical:** Gravitational & impact forces (e.g., jumps, landings, dynos).
- 2. Isometric / Horizontal:** Core stabilization & breathing/valsava (e.g., roof holds, compression).

✳ Chi-Square Model Analysis:

OR = 1.00 ($p = 0.99$) — No significant difference in SUI triggers between broad vertical dynamic vs. horizontal isometric categories.

Conclusion

- ➡ Climbing-related SUI implies both vertical and horizontal mechanical loading axes
- ➡ Rehabilitation may target gesture specific kinematics and movement patterns

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