

# The association between bicycle-related genital numbness and female sexual dysfunction: results from a large, multinational cross-sectional study

Hansen Lui<sup>1</sup>, Nikan K Namiri<sup>1</sup>, Micha Zheng<sup>1</sup>, Mohannad Awad<sup>2</sup>, Andrew Cohen<sup>3</sup>, Nnenaya Mmonu<sup>1</sup>, Michael L. Eisenberg<sup>4</sup>, Benjamin Breyer<sup>1,5</sup>

1. Department of Urology, University of California, San Francisco
2. Department of Urology, University of Vermont Medical Center
3. The James Buchanan Brady Urological Institute, Johns Hopkins University
4. Department of Urology, Stanford University
5. Department of Epidemiology and Biostatistics, University of California, San Francisco

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# Female Sexual Dysfunction (FSD)



Prevalence

**43%**

Laumann et al., JAMA 1999

**Arousal disorder, sexual pain, and low desire are associated with increased risk of low general happiness**

# Cycling Trauma and FSD



**100 million**  
cyclists in the U.S.



**Perineal Trauma**  
genital numbness, 34-58%\*



**Female  
Sexual  
Dysfunction**

\*Gaither et al., 2018; Greenberg et al., J Sex Med 2019; Hermans et al., J Sex Med 2016

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Is there an  
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?



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# Cycling Trauma and FSD

What are the cycling-related risk factors for genital numbness?



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# Study Design

- Secondary analysis of an international cross-sectional study of sexual and urinary wellness in female cyclists (Awad et al., J Urology 2018)
- Outcomes
  - Primary: Cycling-related risk factors for genital numbness
  - Secondary: Evaluate the association of genital numbness with reported FSD (FSFI questionnaire)

# Participant Demographics

- 875 female cyclists included in the study
- Caucasian (n = 767, 87.7%) and minimal co-morbidities
- Balanced among age groups
  - 18-30: 32.2%
  - 31-50: 21.4%
  - 51-65: 24.2%
  - >65: 22.2%

# Numbness Characteristics

- 43.5% reported genital numbness (on a scale of 1-10)
  - Severity
    - Mild (1-3): 202 (53.0%)
    - Moderate (4-7): 148 (38.8%)
    - Severe (8-10): 31 (8.1%)
  - Location
    - Perineum: 28 (6.2%)
    - Vulvar: 316 (69.9%)
    - Buttocks: 56 (12.4%)
    - Other: 52 (11.5%)



# Cycling Characteristics

- A majority of participants...
  - **Cycled for >10 years** (35.9%)
  - **Cycle for 3-5 times per week** (56.4%)
- No Genital Numbness vs. Genital Numbness
  - Those who reported genital numbness reported:
    - **Riding longer distances** (>50 miles: 59.5% vs 65.9%)
    - **Higher cycling speeds** (16-20mph: 31.5% vs. 41.3%, >20 mph: 3.5% vs. 6.3%)
  - No differences in cycling duration and frequency



# Cycling Risk Factors for Genital Numbness

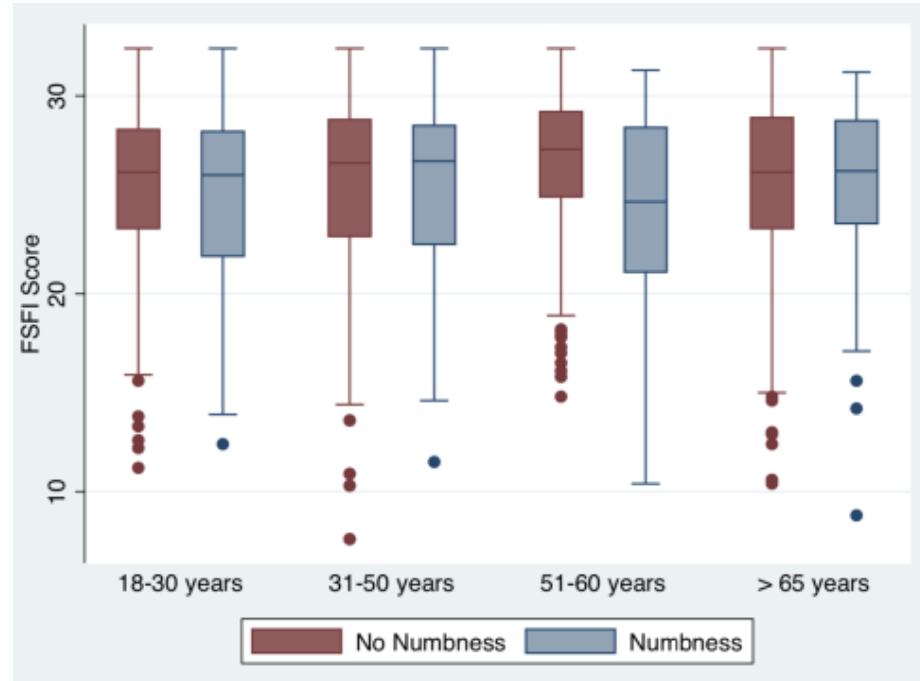
- Higher handlebar height is associated with lower odds of genital numbness  
(**adj. OR\*** = 0.67, 95%CI 0.51 – 0.90)
- Biking duration, frequency, distance, speed, and surface were not significantly associated with genital numbness

\*Adjusted for age and BMI.



# Female Sexual Dysfunction in our cycling cohort

- Mean FSFI score was lower for those who reported numbness (26.0 ± 4.3 vs. 24.9 ± 4.6)
- No differences between age groups



# Associations between Genital Numbness and Female Sexual Dysfunction

- Genital numbness is associated with higher odds of FSD (adj. OR\*\* = 1.43, 95%CI 1.05 – 1.95)
- Localization of numbness to **perineum** (adj. OR\*\* = 2.72, 95%CI 1.05 – 7.02) and **vulva** (adj. OR\*\* = 1.55, 95%CI 1.13 – 2.13) were associated with higher odds of FSD

\*\*Adjusted for age, BMI, race, marital status, smoking, diabetes mellitus, hypertension, ischemic heart disease, and urinary symptoms.

# Associations between Genital Numbness and Female Sexual Dysfunction

- Longer duration of numbness is associated with higher odds of FSD
  - **1-59 min.:** adj. OR\* = 4.51, 95%CI 1.80 – 11.30
  - **1-24 hours:** adj. OR\* = 6.58, 95%CI 2.27 – 19.07

\*\*Adjusted for age, BMI, race, marital status, smoking, diabetes mellitus, hypertension, ischemic heart disease, and urinary symptoms.

# Conclusions

- Higher handle-bar positions are associated with lower odds of genital numbness.
- Biking duration, frequency, distance, and speed were not associated with genital numbness.
- Genital numbness is associated with higher odds of FSD when localized to the perineum or vulva or lasts longer in duration.

## Strengths

- Large sample size
- Balanced age distribution
- Highly validated questionnaires

## Limitations

- Cross-sectional design
- Survivorship bias
- Limited to self-reporting

# Questions?

Please contact us via email.

## **Hansen Lui, MS**

UCSF Department of Urology


Email: [Hansen.lui@ucsf.edu](mailto:Hansen.lui@ucsf.edu)

 [@hansURO13GY](https://twitter.com/hansURO13GY)

## **Benjamin Breyer, MD**

UCSF Department of Urology

Email: [Benjamin.breyer@ucsf.edu](mailto:Benjamin.breyer@ucsf.edu)

 [@ben\\_breyer](https://twitter.com/ben_breyer)