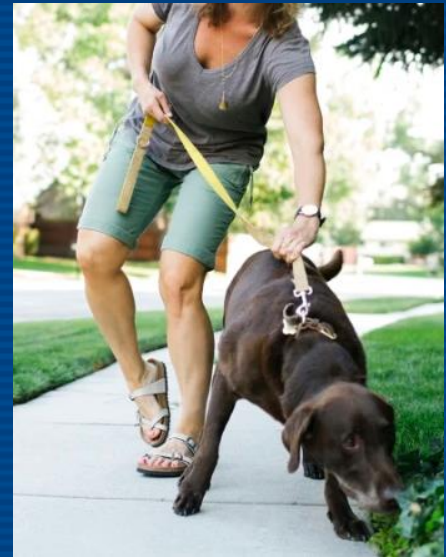


# Epidemiology and Risk Factors for Traumatic Dog Walking-Related Injuries



**Presented by:** Piotr Lukacsewicz  
June 2023

**Authors:** Ridge Maxson, Christopher R. Leland, Jim Lu, Piotr Lukasiewicz, Prashant Meshram, Edward G. McFarland

# Disclosures

- Dr. McFarland is a consultant for Stryker Corporation outside of this work.
- The remaining authors have nothing to disclose.



# Background

- Walking is the most common form of physical activity among US adults<sup>1,2</sup>
  - Safe, easy, affordable
- Nearly 53% of US households own at least 1 dog, and over half of dog owners regularly walk their dog(s)<sup>3</sup>
- Several studies have shown that dog walking helps dog owners achieve greater levels of daily physical activity<sup>4,5</sup>
- Few studies have assessed the risk of injury associated with dog walking
  - No comprehensive injury epidemiology currently exists



# Purpose

1) **Delineate epidemiologic characteristics of dog walking-related injuries in adults**



2) **Characterize injury patterns and identify risk factors for fracture, falling, and hospital admission**



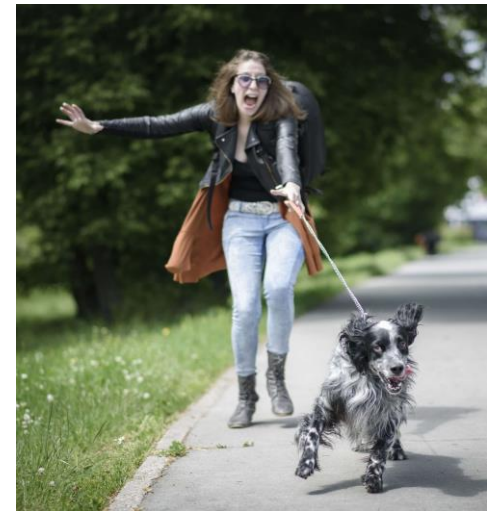
# Methods

- Queried the National Electronic Injury Surveillance System (**NEISS**) database (**2001-2020**) to identify adults ( $\geq 18$  y/o) presenting to US emergency departments with injuries occurring while walking leashed dogs
- Weighted national estimates and 95% confidence intervals (CI) generated using NEISS sample weights
- Multivariate regression performed to identify associated risk factors



# Results

- 9244 cases identified, representing estimated **422,659** injuries from 2001-2020
  - Annual average = **21,113**
  - **Incidence increased >4x** between 2001 (n = **7282**) and 2020 (n = **32,306**)
- **Patient Characteristics**
  - 47% were **aged 40-64 years**
  - 75% were **female**
  - 92% treated and released; 8% admitted
- **Common Diagnoses**
  - **#1: finger fracture (7%)**
  - **#2: shoulder sprain (5%)**
  - **#3: wrist sprain (5%)**



# Results (cont.)

- Fracture risk higher among
  - Adults aged  $\geq 65$  (OR, 2.1; 95%CI, 1.8-2.5)
  - Females (OR, 1.5; 95%CI, 1.3-1.7)
- Likelihood of hospital admission greater among
  - Adults aged  $\geq 65$  (OR, 2.7; 95%CI, 2.2-3.4)
  - Those experiencing a fall (OR 2.4; 95%CI, 1.8-3.1)
  - Those experiencing a fracture (OR 13.0; 95%CI, 10.5-15.9)



# Conclusions

- Dog walking is associated with **considerable and rising risk of injury** in US adults
- Dog owners, especially older adults and women, should be **advised on effective strategies** to mitigate injury risk while dog walking





# References

1. Eyster AA, Brownson RC, Bacak SJ, Housemann RA. The epidemiology of walking for physical activity in the United States. *Med Sci Sports Exerc.* 2003;35(9):1529–36.
2. Lee I-M, Buchner DM. The importance of walking to public health. *Med Sci Sports Exerc.* 2008;40(7 Suppl):S512-518.
3. American Pet Products Association. *2021-2022 APPA National Pet Owners Survey.* Stamford, CT: 2022. Available from: [https://www.americanpetproducts.org/pubs\\_survey.asp](https://www.americanpetproducts.org/pubs_survey.asp).
4. Westgarth C, Christley RM, Christian HE. How might we increase physical activity through dog walking?: A comprehensive review of dog walking correlates. *Int J Behav Nutr Phys Act.* 2014;11:83.
5. Epping JN. Dog ownership and dog walking to promote physical activity and health in patients. *Curr Sports Med Rep.* 2011;10(4):224–7.