# The Effects of the COVID-19 Pandemic on Pediatric Dog Bite Injuries

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## Introduction

- During the COVID-19 pandemic, dog adoption rates rose 9% from 2019 to 2020
- Children were spending more time at home due to stay-at-home orders and school closures
- Initial data from the first 6 to 10 months of the pandemic shows an increased incidence of pediatric dog bite injuries. It is unclear if this trend continued farther into the pandemic
- **Objective**: To examine the incidence and characteristics of dog bites in 0-18-year-old children seen in a pediatric emergency department (PED) during the COVID-19 pandemic compared to before the pandemic

## Methods

- Trauma Registry Data from the PED of a level 1 trauma center and its satellite PED was obtained and analyzed
- Inclusion Criteria:
  1. PED visit March 2018 through February 2022
  2. Age 0 to 18 years
  3. Discharge diagnosis of dog bite (ICD-10 W54.0XXA)
- Exclusion Criteria:
  1. Repeat visit for the same injury
  2. Left without being seen
- Two time periods studied:
  1) pre-pandemic (March 2018 through February 2020)
  2) during pandemic (March 2020 through February 2022)

**There was an absolute increase in PED visits for dog bites as well as an increase in incidence during the COVID-19 pandemic**

As stay at home orders lifted and social restrictions relaxed, dog bite injury rates returned to pre-pandemic levels

**Higher rates of facial and injuries to multiple body parts, admissions, and need for operative management suggest injuries were more severe during the COVID-19 pandemic**

Pediatric providers should provide guidance on proper supervision of all child-dog interactions to prevent future injuries

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## Results

- The incidence rate during the pandemic significantly increased during the first year of the pandemic ($p<0.01$)
- During the second year of the pandemic, the dog bite incidence rate was similar to rates before the pandemic
- No differences in age, sex, race, or ethnicity were observed between the two groups
- More patients with **private insurance** were seen during the pandemic than before ($p<0.001$)
- **Admission rates for dog bite injuries increased during the pandemic** compared to before ($p=0.02$)
- More dog bite injuries required **operative management** during the pandemic compared to prior to the pandemic ($p=0.03$)
- **Facial injuries and injuries to multiple body parts** accounted for more of the pandemic dog bite injuries than pre-pandemic dog bite injuries

## Future Research

- Larger, multi-center studies are needed to determine if these trends were seen across the U.S. and to:
  1) examine location of injury, dog ownership, and time and day of injury to better understand relationship between stay-at-home orders and increased injuries
  2) analyze the reasons for admission and operative management to improve dog bite management protocols