

ARTICLES IN MEDICAL JOURNALS

A list of studies largely in medical journals examining (1) nonfatal dog bite injuries in Level 1 trauma centers, (2) fatal dog bite injury studies, (3) government studies and (4) breed-safety law studies

Compiled by Responsible Citizens for Public Safety, <https://www.rc4ps.org>

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2019

Journal of Oral and Maxillofacial Surgery, September 2019

“Children have an Increased Risk for Periorbital Dog Bite Injuries”

Hurst P.J., Hoon Hwang M.J., Dodson T.B., Dillon J.K.

Findings: The pit bull was the most commonly named breed to be involved in both pediatric (18%) and adult (26.2%) injuries.

The Journal of craniofacial surgery, May 2019

“Epidemiology, Socioeconomic Analysis, and Specialist Involvement in Dog Bite Wounds in Adults.”

Lee C.J., Santos P.J.F., Vyas R.M.

Findings: “The most common breed of dog identified was pit bull (n = 29, 47.5%). The majority of pit bull attacks involved the extremities (65.5%) compared to other breeds of dogs. Pit bull victims were noted to have a lower average annual income compared to other breed victims ...”

Acta Paediatrica, May 2019

“Dog bites in a U.S. county: age, body part and breed in paediatric dog bites”

Ramgopal S., Brungo L.B., Bykowski M.R., Pitetti R.D., Hickey R.W.

Findings: A review of 14,956 dog bites 2007-2015 showed ‘Pit bulls’ accounted for 27.2% of dog bites and were more common in children 13–18 years.

International Journal of Pediatric Otorhinolaryngology, February 2019

“Dog bite injuries to the face: Is there risk with breed ownership? A systematic review with meta-analysis”

Garth F. Essig, Cameron Sheehan, Shefali Rikhi, Charles A. Elmaraghy and J. Jared Christophel

Findings: “Injuries from pit bulls and mixed [pit bull] breed dogs were both more frequent and severe. Potential dog owners can utilize this data when assessing which breed to own... We recommend separating children from high-risk breeds and high-risk phenotypes reported in this study...”

Canadian Journal of Emergency Medicine, January 2019

“Dog bites in the emergency department: a descriptive analysis”

Morzycki A., Simpson A., Williams J.

Findings: A total of 475 dog bites were identified in Halifax, Nova Scotia region hospitals. Pit-bull type was the most frequently implicated breed (27%). (The study touches largely on adults: “Few pediatric patients were identified... they were often transferred to the pediatric hospital after triage.”)

“American figures show an increase in insurance claims [for dog bites], secondary to treatment and legal ramifications, from US\$324 million to US\$478 million in less than a decade, a number that is likely to rise. Similarly, dog bite injuries pose a significant cost to Canadian health care. Even with the majority of our cases being treated with a dressing alone in the ED, this puts an added burden on a strained system. From our institutional estimates, the cost of simple dog bites over a 30-month period exceeded CDN\$150,000. If patient-related costs, including permanent disability and lost income, are also considered, these figures would further increase. Likewise, in the case of complex trauma and infection requiring specialty consultation, intravenous antibiotics, multiple emergency visits, and/or operative management, these conservative estimates may be surpassed.... pit bull-type dogs have been shown to cause the greatest number and most severe soft tissue injuries, unprovoked in nearly all cases.”

2018

Plastic Surgery, November 2018

“Are Dog Bites a Problem of Nature or Nurture?”

Tang J., Arneja J.S.

Findings: Pit bull attacks account for higher morbidity rates, higher hospital charges, and a higher risk of death than attacks from other dog breeds.

Journal of Pediatric Surgery, October, 2018

“Pediatric Dog Bite Injuries in Central Texas.”

Abraham J.T., Czerwinski M.

Findings: “Pet dogs were responsible for 42% of injuries, and pit bull was the most-identified breed (36.2%).”

Southern Medical Journal, August 2018

“Characteristics of Dog Bites in Arkansas”

Smith A.M., Carlson J., Bartels A.B., McLeod C.B., Golinko M.S.

Findings: “...family dogs represent a more significant threat than often is realized and that, among the breeds identified, pit bulls are proportionally linked with more severe bite injuries.”

Journal of Orthopaedic Trauma, May 2018

“Dogs and Orthopaedic Injuries: Is There a Correlation to Breed?”

Brice J., Lindvall E., Hoekzema N., Husak L.

Findings: “Pit bull terrier bites were responsible for a significantly higher number of orthopaedic injuries and resulted in an amputation and/or bony injury in 66% of patients treated...”

Journal of the American Veterinary Medical Association, February 2018

“Retrospective analysis of necropsy reports from 2001-2012 suggestive of abuse in dogs and cats.”

Findings: Pit bull-type dogs (29/73 or 40%) were overrepresented in several abuse categories, such as gunshot and blunt-force trauma. This supports legislation for mandatory spay/neuter of these dogs to reduce suffering.

2017

International Journal of Surgery Case Reports, December 2017

“Pit bull attack causing limb threatening vascular trauma - A case series.”

Harnarayan P., Islam S., Ramsingh C., Naraynsingh V.

Findings: Attacks by pit bull terriers are more likely to cause severe morbidity than other breeds of dogs.

American Society of Plastic Surgeons, October 2017

“An algorithmic approach to operative management of complex pediatric dog bites: A 3 Year Review of a Level I Regional Referral Pediatric Trauma Hospital.”

Kaveh Alizadeh, MD, MSc, FACS, Ali Shayesteh, MD, and Min Li Xu, MD

Findings: Of the 56 cases that identified dog breed, pit bulls accounted for 48.2 percent of the dog bites, and 47.8 percent of pit bull bites required intervention in the operating room.

“About 17 different breeds of dogs were identified in the study. Of the 56 cases that had an identified dog breed, pit bulls accounted for 48.2% of the dog bites. Other common offending breeds include German Shepard (8.9%), Husky (5.3%), and small terriers (5.3%). More importantly, 47.8% of pit bull injuries required operative repair, which was 3 times more than other breeds.”

Journal of Neural Surgery. Pediatrics, January 2017.

“Neurosurgical sequelae of domestic dog attacks in children.”

Kumar R., Deleyiannis F.W., Wilkinson C., O'Neill B.R.

A retrospective review of all children requiring neurosurgical consultation for dog bite at a regional Level 1 pediatric trauma center over a 15-year period.

Finding: Dog attacks on children requiring neurosurgical consultation commonly involve the family pet, which is usually a large-breed dog with no history of prior aggression.

2016

Clinical Pediatrics, July 2016

“Characteristics of 1616 consecutive dog bite injuries at a single institution.”

Michael Golinko, Brian Arslanian, and Joseph K. Williams.

Findings: Pit bull bites were implicated in half of all surgeries and over 2.5 times as likely to bite in multiple anatomic locations as compared to other breeds.

Ophthalmic Plastic and Reconstructive Surgery, July / August 2016

“Ocular Trauma From Dog Bites: Characterizations, Associations, and Treatment Patterns at a Regional Level 1 Trauma Center Over 11 Years”

Mark A. Prendes, MD, Arash Jian-Amadi, MD, Shu-Hong Chang, MD and Solomon S. Shaftel, MD, PhD

Findings: Pit bulls were the most frequent breed associated with ocular injuries from dog bites.

“To our knowledge, this study is the largest to date to report the incident and characteristics of ocular injury sustained from dog bites. These injuries were disproportionately more common in children...Importantly, this study establishes that pit bulls are the most frequent breed associated with ocular injuries from dog bites.”

2015

American Journal of Otolaryngology, January / February 2015

“Dog bites of the head and neck: An evaluation of common pediatric trauma.”

Daniel C. O'Brien, BS, Tyler B Andre, MD, Aaron D. Robinson, MD, Lane D. Squires, MD and Travis T. Tollefson, MD, MPH

Findings: One-third of 334 dog bite cases were by pit bulls, and bites from pit bulls more severe than other dogs.

“Although a number of dog breeds were identified, the largest group were pit bull terriers, whose resultant injuries were more severe and resulted from unprovoked, unknown dogs.”

Journal of Pediatric Surgery, February 2015

“Morbidity of pediatric dog bites: a case series at a level one pediatric trauma center.”

Garvey E.M., Twitchell D.K., Ragar R., Egan J.C., Jamshidi R.

Findings: Of 650 dog bite incidents, pit bulls were most frequently responsible for pediatric dog bites, accounting for 39% of incidents where breed was documented.

“Pediatric dog bites span a wide range of ages, frequently require operative intervention, and can cause severe morbidity. Dog familiarity did not confer safety, and in this series, pit bulls were most frequently responsible. These findings have great relevance for child safety.”

2012

Ophthalmic Plastic Surgery, June 2012

“Periorbital trauma from pit bull terrier attacks.”

Wladis E.J., Dewan M.A.

Findings: In the ophthalmic setting, pit bull terrier attacks most frequently involve children and result in eyelid lacerations.

Injury Prevention, June 2012

“Effectiveness of breed-specific legislation in decreasing the incidence of dog-bite injury hospitalizations in people in the Canadian province of Manitoba.”

Malathi Raghavan, Patricia J. Martens, Dan Chateau and Charles Burchill

Findings: A 20% decrease in the number of hospitalizations caused by dog bites for the 16 regions within the province that had enacted breed-specific legislation.

Journal of Forensic Sciences, March 2012

“Animal Related Fatalities - Part I: Characteristic Autopsy Findings and Variable Causes of Death Associated with Blunt and Sharp Trauma.”

Bury D., Langlois N., Byard R.W.

Findings: In a study of carnivore bites from dogs with a "hole and tear" pattern of wounding, pit bulls were involved in 42-45% of attacks.

2011

The West Virginia Medical Journal, November / December 2011

“Dog bites of the face, head and neck in children.”

Horswell B.B., Chahine C.J.

Findings: More severe bites and injuries were observed in attacks from the pit-bull and Rottweiler breeds.

Anal of Surgery, April 2011

“Mortality, Mauling, and Maiming by Vicious Dogs.”

John K. Bini, MD, Stephen M. Cohn, MD, Shirley M. Acosta, RN, BSN, Marilyn J. McFarland, RN, MS, Mark T. Muir, MD, and Joel E. Michalek, PhD; for the TRISAT Clinical Trials Group

Findings: In a 15 year review, attacks by pit bulls associated with higher morbidity rates, higher hospital charges, a higher risk of death than are attacks by other breeds of dogs.

“Attacks by pit bulls are associated with higher morbidity rates, higher hospital charges, and a higher risk of death than are attacks by other breeds of dogs. Strict regulation of pit bulls may substantially reduce the US mortality rates related to dog bites.”

2009

American Journal of Forensic Medicine and Pathology, September 2009

“Dog Bite-Related Fatalities: A 15-Year Review of Kentucky Medical Examiner Cases

Findings: Pit bulls implicated in 45% of fatal attacks in a 15-year review.”

Lisa B.E. Shields, Mark L. Bernstein, John Hunsaker III, and Donna M. Stewart

Findings: According to The Humane Society of the United States, more than 300 individuals died of dog attacks in the United States between 1979 and 1996. Children <12 and elders >70 years represent the typical victims. Pit bull-type dogs, Rottweilers, and German Shepherds constitute the majority of canines implicated in these fatalities.

American Society of Plastic Surgeons, August 2009

“Pediatric dog bite injuries: a 5-year review of the experience at the Children's Hospital of Philadelphia.”

Kaye A.E., Belz J.M., Kirschner R.E.

Findings: In a 5-year review of 239 patients, 137 or 51% were attacked by pit bulls.

“The most common breeds included pit bull terriers (50.9 percent), Rottweilers (8.9 percent), and mixed breeds of the two aforementioned breeds (6 percent).”

2008

American Association of Plastic Surgeons, April 2008

“A ten-year, two-institution review of pediatric dog attacks: Advocating for a nationwide prohibition of dangerous dogs.”

Kara Pappas, B.S., William Huettner, M.D., Arlene A. Rozzelle, M.D., Gurbalbir Singh, M.D., FRCSC.

87th Annual Meeting, Boston. Poster.

Findings: From a review of 109 patients, 57% of dogs were deemed to be of a dangerous breed (Pit Bull or Rottweiler). “organizational advocacy in plastic surgery should be directed towards a national prohibition of dangerous dogs.”

2007

The American Journal of Forensic Medicine and Pathology, December 2007

“Pitbull Mauling Deaths in Detroit.”

Cheryl L. Loewe, MD, Francisco J. Diaz, MD, and John Bechinski, DO

Finding: There is a tendency for pit bulls to attack the neck region and destroy the blood vessels of the neck and cause extensive avulsions of the scalp and ears.

2000

Journal of the American Veterinary Medical Association, September 2000

“Breeds of dogs involved in fatal human attacks in the United States between 1979 and 1998.”

Sacks, J.J., Sinclair, L., Gilchrist, J., Golab, G.C., Lockwood, R.

Findings: Fatal attacks appear to be a breed-specific problem to pit bull-type dogs and Rottweilers.

1998

Journal of the American Medical Association, January 1998

“Incidence of dog bite injuries treated in emergency departments.”

Harold B. Weiss, MS, MPH; Deborah I. Friedman; Jeffrey H. Coben, MD

This large epidemiologic study provides quantitative information about the incidence of dog bite injuries treated in the emergency departments across the US, 1992–1994, demonstrating the costly burden of dog-bite injuries on the health care system.

1996

Pediatrics (American Academy of Pediatrics), June 1996

“Fatal Dog Attacks, 1989-1994.”

Sacks J.J., Lockwood R., Hornreich J., Sattin R.W.

Findings: Pit bulls were involved in 24 deaths out of 109 dog bite-related fatalities.

1991

Pediatrics (American Academy of Pediatrics), July 1991

“Dog Bites in Urban Children.”

Jeffrey R. Avner and M. Douglas Baker

Findings: Significantly more pit bull injuries (94%) were the consequence of unprovoked attacks.

1989

Journal of the American Medical Association, September 1989

“Dog Bite-Related Fatalities from 1979 through 1988.”

Sacks J.J., Sattin R.W., Bonzo S.E.

Findings: Pit bull breeds were involved in 41.6% of 101 deaths where dog breed was reported.