

Dog bite wounds in a child

An estimated 360 000 cases of non-fatal dog bites were seen in the United States in 2001.¹ Dog bites are the second most costly public health problem in the United States with half of all Americans being bitten in their lifetime.² A study in India estimated a dog bite rate of 25.7 per 1000 population per year.³

Children have more than twice the risk of adults and those aged 0 to 9 years are more likely to suffer higher injury rates, with wounds to the head and face.⁴ Most dog bite wounds are minor, but severe lacerations, especially on the face, more commonly occur in toddlers. A study in Thailand showed school-aged children are at the highest risk of suffering animal bites and the most common sites of injury are the legs and feet (64.2%), with the second most common sites being the hands and fingers (21.2%).⁵

Wounds usually only need a simple wound toilet but more severe wounds need careful debridement and suturing to avoid deep scarring. There is no evidence that the use of antibiotics is effective for low-risk cat or dog bites; primary suturing and omission of antibiotics is safe in such cases. Antibiotic use can be restricted to high-risk bite wounds. There is evidence that the use of prophylactic antibiotics for bites to the hand reduces infection but confirmatory research is required.⁶

Dog attacks kill approximately 10 to 20 people each year in the United States. Unfortunately, most of these fatalities are young children with head and neck injuries. Pit bull terriers are responsible for three quarters of fatal cases. The mouths of larger dogs are at the level of young children's faces, thus resulting in an increased likelihood of head and neck injuries. Their powerful jaws can also penetrate the skull and destroy deep tissue. Bite wounds in joint spaces may be complicated by septic arthritis. Deep wounds may be complicated by osteomyelitis, and penetrating skull wounds may result in meningitis. Rabies is a generally fatal complication. While local infection and cellulitis are the leading causes of morbidity, sepsis is a potential complication of bite wounds.

To reduce the number of dog bite-related injuries, adults and children should be educated about bite prevention, and people who keep canine pets should practise responsible pet ownership. I present a case of a 9-year-old male who was attacked by his neighbour's pit bull terrier, a dog he was familiar with. The attack was unprovoked and took place on the street outside his home whilst he was playing football with a group of friends. No head, neck, or vascular injuries were sustained. Multiple superficial lacerations and puncture wounds were sustained, ranging from 1 to 10 cm in length. No bony injuries were sustained (Fig 1).



FIG 1. Left leg: showing multiple puncture wounds and lacerations ranging from 1 to 10 cm in length. No bony injuries were sustained



FIG 2. Left arm: showing similar injuries to the left leg. There were no neurovascular compromise or bony injuries of note

The wounds in his left arm and left leg were cleaned and approximately 35 sutures were put in (Fig 2). The child was not given antibiotics and made an uneventful recovery.

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References

1. Centers for Disease Control and Prevention (CDC). Nonfatal dog bite-related injuries treated in hospital emergency departments—United States, 2001. *MMWR Morb Mortal Wkly Rep* 2003;52:605-10.
2. Hoff GL, Cai J, Kendrick R, Archer R. Emergency department visits and hospitalizations resulting from dog bites, Kansas City, MO, 1998-2002. *Mo Med* 2005;102:565-8.
3. Agarwal N, Reddajah VP. Epidemiology of dog bites: a community-based study in India. *Trop Doct* 2004;34:76-8.
4. Feldman KA, Trent R, Jay MT. Epidemiology of hospitalizations resulting from dog bites in California, 1991-1998. *Am J Public Health* 2004;94:1940-1.
5. Mitmoonpitak C, Tepsumethanon V, Raksaket S, Nayuthaya AB, Wilde H. Dog-bite injuries at the Animal Bite Clinic of the Thai Red Cross Society in Bangkok. *J Med Assoc Thai* 2000;83:1458-62.
6. Medeiros I, Saconato H. Antibiotic prophylaxis for mammalian bites. *Cochrane Database Syst rev* 2006;1.