

Dog Bites

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Annually more than 4.7 million Americans, approximately half of them children, suffer dog bite injuries.¹ Many of these injuries are from dogs they know and interact with regularly. Every year more than 500 Florida residents are bitten severely enough to require hospitalization, and on average two Floridians die due to injuries sustained from bites by dogs. Injury rates in Florida are highest among children between the ages of one and nine years old, with boys being bitten more often than girls in the same age group. In addition, a higher proportion of children under 10 years of age sustain bites to the head and neck compared to other age groups. However, dog bites can also result in serious injuries for teenagers and adults; in 2006 three Florida residents 25 years or older died as a result of dog attacks, and nationally 20% of dog bite fatalities involve persons 70 years of age or older.² As we move into the summer months, be aware that the number of dog bite injuries increase during the months of April through September, with the peak occurring in July, probably in part associated with children being off from school.

Studies show that sexually intact male dogs are associated with 70-76% of reported dog bites, emphasizing the importance of neutering pets.² A recent study published by Shuler et al in JAVMA re-iterates that bites are more commonly associated with sexually intact male dogs and also found increased bite risk with sexually intact female dogs. The study identified greater bite risk with purebred dogs, and comparatively decreased risk with hounds, non-AKC breeds and toy dogs. Interestingly the study identified greater risk of bites if the dog's owner lived in low income areas, providing a new group to target for bite prevention education purposes.³ Bites most frequently occurred in the victim or dog's home, and most often involved the family dog. Children were most frequently bitten, consistent with previous studies.

Besides being physically and psychologically traumatizing, infection with rabies virus is another concern for bite victims. Rabies is primarily transmitted through animal bites and is endemic in Florida. Rabies post-exposure prophylaxis was recommended to over 1,200 individuals in Florida in 2006, 35% of these were attributable to exposures (primarily bites) from dogs, and another 31% due to exposures from cats. Rabies vaccination of pets is important to help prevent this deadly infection from occurring in pets and people, and reduces the likelihood that a pet may have to be sacrificed in order to determine its rabies status. As an added precaution, pre-exposure rabies vaccination is also recommended for workers at high risk for animal bites including veterinarians, veterinary technicians, and animal control personnel.

If someone is bitten, the wounds should be cleaned well with soap and water. Bacterial infections are associated with 10-15% of dog bites and up to 50% of cat bites⁴. Infections often include pasteurella species but may also include many other organisms including anaerobes and isolates that are not routinely identified in diagnostic labs including potentially invasive pathogens such as *Capnocytophaga canimorsus* (DF-2) and *Weeksella zoohelcum* (Iij). A health care provider should be consulted to determine if additional cleansing, irrigation, debridement, culture or suturing are required and whether tetanus vaccination status is up to date. As mentioned previously, appropriate follow-up on animal rabies status is also essential.

Know the risks associated with dog and other animal bites for you, your staff and your clients. The American Veterinary Medical Association (AVMA) Task Force on Canine Aggression and Human-Canine Interactions has an excellent on-line resource: “A community approach to dog bite prevention” for suggestions on how to reduce dog bites at the community level.² For other information on dog bite prevention please see:

http://www.doh.state.fl.us/Environment/community/arboviral/Zoonoses/dogbite_home.html

<http://www.cdc.gov/ncipc/duip/biteprevention.htm>

<http://www.avma.org/press/publichealth/dogbite/mediakit.asp>

¹ CDC. Nonfatal dog bite—related injuries treated in hospital emergency departments---United States, 2001. *MMWR* 2003; 52(26):605-10.

²American Veterinary Medical Association Task Force on Canine Aggression and Human-Canine Interactions. A community approach to dog bite prevention. *J Am Vet Med Assoc* 2001; 218:1732-49. http://www.avma.org/public_health/dogbite/dogbite.pdf

³ Shuler, CM, EE DeBess, JA Lapidus & K Hedburg. Canine and human factors related to dog bite injuries. *J Am Vet Med Assoc* 2008; 232(4):542-6.

⁴ American Academy of Pediatrics. Bite Wounds. In: Pickering LK, Baker CJ, Long SS, McMillan JA, eds. *Red Book: 2006 Report of the Committee on Infectious Disease*. 27th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2006:191-5.