

Most Dogs that Bite Children Have History of Aggression

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PHILADELPHIA, Oct. 4 -- There's a first time for every biting dog, and the animals that bite children may show warning signs, according to investigators here.

Two thirds of dogs that bite children have no such history but often have aggressive tendencies and other behavioral abnormalities, Ilana Reisner, D.V.M., Ph.D., of the University of Pennsylvania School of Veterinary Medicine, and colleagues, reported online and in the October issue of *Injury Prevention*.

Three fourths of the dogs exhibited anxiety and half had medical conditions that might have contributed to the biting incidents, they found.

The study of 111 children and 103 dogs also identified circumstances that might heighten the risk for biting, particularly guarding food, resources, and territory.

Action Points

- ◆ Explain to interested patients that the authors suggest that fear-related aggressive behavior by a dog may be a better predictor of the bite risk to children than a history of biting and should suggest referral for behavioral evaluation.
- ◆ Note that the findings came from a retrospective review of veterinary records, not a prospective, controlled study.
- ◆ Explain to parents that children should be taught to never approach the family dog while the animal is eating.

"Dogs that react with anxiety to threatening stimuli may be more likely to react aggressively to children, who, particularly when very young, are at risk because of their high-pitched voices, sudden movements, and inappropriate interactions," the authors stated.

Most dog bites reported to public health authorities involve children. Whereas the epidemiology of dog bites has been studied extensively, little is known about the behavior of the dog or bite victim in relation to the biting incident, the authors wrote.

Veterinary behavioral medicine is a recently recognized specialty, they wrote, and data on animal behavior might provide a basis for developing more effective measures to prevent dog bites.

Dr. Reisner and colleagues at Penn's veterinary behavior clinic retrospectively reviewed records of dog bites involving children over four years. They excluded cases wherein the patient's age or the circumstances of the bite were unknown.

The 111 children consisted of 34 (31%) who were younger than six years and 77 (69%) who were six to 17. The children were familiar to the dogs in 69 cases and unfamiliar in the remainder. Three fourths of the dogs were male.

Bites involving children younger than six were most often associated with resource guarding (44%), whereas older children were more likely to be bitten with territory guarding (23%). Food guarding was the most common factor associated with bites involving familiar children (42%), whereas 53% of unfamiliar children were bitten under circumstances involving territory.

Results of behavioral screening showed that 87% of the dogs had fear-related aggression as the most common primary behavioral diagnosis. The circumstances most commonly related to aggressive behavior were resource guarding (61%), discipline (59%), social conflict (39%), and pain (14%).

Anxiety screens (e.g. anxiety related to separation from owner(s) and anxiety or fear related to thunderstorms or fireworks) demonstrated abnormalities in 77% of the dogs. Half the dogs had medical conditions that might have contributed to the biting incidents. Examples included painful bone and skin disorders, cysts and other growths, eye disorders, and problems affecting the liver, kidneys, or other organs.

Although 66% of the dogs had not previously bitten a child, only 19% had a negative history of human bites. Supposedly calming measures, such as neutering and obedience training, had no obvious impact on a dog's propensity to bite. The authors reported that 93% of the dogs had been neutered, and 66% had formal obedience training.

"Although 66% of the evaluated dogs had no prior history of biting children, behavioral abnormalities were universally present in this canine population," the authors stated. "Historically, although only 19% of the dogs had never bitten before, a history of aggressive behavior other than biting [e.g., baring teeth] was common."

The authors pointed out that "the prevalence of males (75%) in our study is similar to other studies. Almost all dogs, both male and female, were neutered. Regardless of neuter status, parents seeking a pet dog might be advised to seek a female."

"Aggression, even in a puppy, and even in the absence of biting, should raise concern and consideration should be given to referral for behavioral evaluation of the dog," they concluded.

The authors reported no conflicts of interest.

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Reisner IR et al. "Behavioral assessment of child-directed canine aggression." *Inj Prev* 2007; 13: 348-351.