

Neutering Dogs, and Behavior.



When someone purchases a new puppy they have been conditioned throughout the years to take the puppy to the vet, get their series of boosters, get their rabies shot, and then schedule their dog to be neutered. The first question that I always ask, much to the owners surprise is “Why are you deciding to castrate your male puppy”? Many times people don’t even have an answer and reply, “That’s what I thought I was SUPPOSED to do”. Other times people do provide a reason ranging from health benefits, which I can usually quickly dispel, to preventing unwanted behavior. In this post I will deal solely with the behavior modification issue in male dogs. The issue of behavior modification is far from clear cut and may surprise some people.

Often times people fear that owning an intact male dog in their house will come with unwanted behavior. Typical behaviors that people associate with intact male behavior include mounting, straying and wandering from the homestead, aggression towards humans and towards other dogs, and marking. Many people feel that neutering their puppy at an early age will prevent these behaviors from occurring and will make their dogs better pets that are more suitable for the household. Does this not create the same moral hazard that declawing a cat to prevent unwanted scratching creates? Many veterinarians who will not perform declawing for ethical reasons tell owners that they should not own a cat if they cannot deal with unwanted cat behaviors like clawing furniture, but they routinely neuter pre-pubescent dogs to curb other unwanted behaviors. The procedure is just as aggressive surgically and if done at an early age, comes with many unwanted health complications that are beyond the scope of this post. In Europe castration is largely considered tantamount to declawing, tail docking and ear cropping.

Putting ethics aside for the moment, what are the behavioral effects of neutering male dogs? A retrospective study of only 42 dogs studied just that and the results were mixed. The behavior that is best controlled through neutering is roaming. Castration eliminates this behavior in 80 to 90% of dogs. Locking your gate would also accomplish the same thing. Urine marking in the house was controlled in only 50% of dogs and urine marking around or outside of the house where other dogs had marked was not affected at all. Mounting of people or other animals was reduced in 67% of the dogs. Lastly, aggressive behavior was only altered in cases involving inter-dog aggression and declined in 62% of dogs. Territorial, fear-induced aggression and food aggression were not altered in any dogs ¹. In another report dealing with aggressive behavior in dogs, prepubertally castrated male dogs were just as aggressive as non-castrated dogs ².

There is at least the potential for some behaviors to worsen after castration. Testosterone is known to affect anxiety behaviors; for example, hypogonadal men with lower levels of testosterone are more likely to suffer from anxiety and depression disorders. Treatment with testosterone alleviates these symptoms. Preliminary studies in mice were performed where mice were presented with stressful situations and their ability to process this fear with both contextual (same environment) and cued fear (an audible stimulus preceded a shock) were tested before and after castration. The results were mixed and showed that castration did inhibit contextual fear memory processing, supporting the fact that the processing of contextual fear memory within the hippocampus area of the brain is testosterone dependent. It is established that men tend to

develop post-traumatic stress disorder less frequently and of a less severe nature than women due to this inhibition of contextual fear memory inhibition³.

Would it not be reasonable to conclude that it is at least *possible* that neutering dogs could increase fear behaviors through inhibition of the dog's ability to explore its environment and to process and/or extinguish fear memories correctly? Renowned behaviorist Parvene Farhooody looked at this possibility in her Masters thesis at Hunter College in 2010. The study was based upon a 101 question survey called the Canine Behavior and Research Questionnaire (C-BARQ) to collect information on 7 different behavioral characteristics for over 10,000 dogs. Their data showed that neutered dogs were *more* aggressive, fearful, excitable and less trainable than intact dogs⁴. These data were not peer-reviewed or published, but it is my understanding that they are continuing work in this field and that a larger study's data is currently being compiled and will be submitted for review and publication. A similar C-BARQ questionnaire's data involving a sample of over 6000 dogs was compiled and presented to the Third International Symposium on Non-Surgical Contraceptive Methods for Pet Population Control and showed neutering to worsen behaviors including: dog-directed fear aggression (breed dependent), begging for food, fear behavior and sensitivity to handling, aggression towards people and other dogs, decreased energy, excessive barking, and rolling in and eating feces⁵.

Castration may also contribute to the myriad behavioral issues that arise later in life, grouped under the category of cognitive dysfunction. Cognitive dysfunction is basically doggy Alzheimers and signs can include disorientation, house soiling, aggression, wandering and confusion. It has been shown that neutered dogs progress much more rapidly from mild to severe cognitive dysfunction than intact males. The investigators state, "This finding is in line with current research on the neuro-protective roles of testosterone and estrogen at the cellular level and the role of estrogen in preventing Alzheimer's disease in human females"⁶.

One more interesting thing to note is that in behaviors where it is generally considered that castration can improve behavior (The above data sheds doubt on even some of those dogmas.) there is no benefit to early neutering. It has been shown that the improvement of behavior through castration is not age-dependent. There is no rush to hurry up and "fix" your dog while he is still growing both physically and mentally. It is important to choose your puppy wisely. You must consider the inherent energy and potential for aggressiveness when selecting a breed of dog to join your family. Proper training, setting of rules and boundaries and exercise is imperative from day one. If problematic behaviors arise you must identify and work to rectify them quickly before they become habitual, and it is imperative to utilize the services of a behaviorist and/or trainer when problems arise. Castration should be considered as a last resort and expectations for its success should be reasonable. Castration **should not** be performed on a pre-pubescent dog as testosterone is vital for skeletal and brain development.

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