Spaying or Neutering Your Tibetan Mastiff

Pet owners have been advised for decades to spay and neuter their pets, and to do it early, as a means to prevent unwanted pregnancies and to control the pet population. While this goal may be accomplished, more recent studies suggest that the health benefits also attributed to early spay and neuter may be outweighed by the health risks, and in fact, responsible pet owners may want to delay or avoid altering their dogs altogether.

It is the pet owner who is ultimately responsible for making any decision concerning their animals. Decisions are usually made based on the best available information, personal biases, and each owner's personal situation. What I will try to do in this article is summarize the available literature so that TM owners can make an informed decision on when, or even if, to spay or neuter. I am going to start out by giving away the end of the story: Spay or neuter of a dog before 12 months significantly increases the occurrence of joint disorders; female urinary incontinence; cancers; orthopedic abnormalities such as cranial cruciate ligament tears and structural body proportions that are related to skeletal development; fears and phobias; and development of endocrine imbalances and related diseases. According to numerous studies, the risk of these occurrences decreased dramatically if spaying or neutering was carried out after two years of age. The exact percentage of occurrences of each type of disorder varies with breed, but all the studies showed it was best not to spay or neuter a dog before it had gone through puberty.

Work done at the Gerald P. Murphy Cancer Foundation published in 2009 and 2015 looked at the longevity of Rottweilers. The average lifespan of Rottweilers is 9.4 years. They looked at two groups of dogs, those that lived 8.0 to 10.8 years and those that lived longer than 13 years. Rottweiler bitches were found to be twice as likely to live longer than 13 years compared to Rottweiler males. Rottweiler bitches with their ovaries removed before they were 4 years old showed no lifespan advantage compared to the males. Rottweiler bitches who kept their ovaries for at least 6 years were 4.6 times more likely to live beyond 13 years compared to those that had their ovaries removed before 2 years.

Other work done at the Gerald P. Murphy Cancer Foundation found Rottweilers who had their testes or ovaries removed during the first 12 months of life had a 3 to 4-fold increased risk for bone sarcoma (cancer). When considering cancer, a study by Cooley et al (2002) of 3218 dogs reiterates that dogs neutered before a year of age had a significantly increased chance of developing bone cancer, a cancer that is much more life-threatening than mammary cancer, and which affects both genders.

A study of 2, 505 Vizslas supported by the Vizsla Club of America Welfare Foundation (2014) was even more comprehensive. Dogs neutered or spayed at any age were at significantly increased risk for developing mast cell cancer, lymphoma, all other cancers, all cancers combined, and fear of storms, compared with intact dogs. Spayed females were 9 times more likely to develop hemangiosarcoma than intact females, although no such increase was noted in neutered males. Spayed and neutered dogs had a 4.3 times higher rate of lymphoma, 3.5 times greater risk of developing mast cell cancer, and a 5 times greater risk of all other cancers, regardless of the age at which they were altered. Spayed females had 6.5 times higher incidence of all cancers combined compared to intact females, and neutered males had 3.6 times higher incidence than intact males. The traditional advice that spaying or neutering will prevent female or male reproductive tract cancers pales by comparison to the increased risk for cancer overall. There is more to your dog than its reproductive tract. In fact, recent studies indicate that the advertised benefit of reducing mammary tumors and prostate cancer in altered dogs is non-existent.

Not to be missed in the Vizsla study is the increased risk of fears and phobias. Traditional thinking has been that spaying

or neutering has a calming effect, especially on males. This study found that both males and females spayed prior to 6 months of age had a significantly increased risk of developing behavioral disorders, including aggression, separation anxiety, noise phobia, timidity, excitability, incontinence, hyperactivity, and fear biting. Thunderstorm phobias increased for all altered dogs regardless of age when spayed or neutered.

Recently a team of researchers at UC Davis examined the veterinary records of 759 Golden Retrievers for hip dysplasia, cranial cruciate ligament tear, lymphosarcoma, hemangiosarcoma and mast cell tumor. The dogs were grouped as intact, neutered before 12 months of age, or neutered after 12 months of age. The study revealed that the disease rates were significantly higher in both males and females that were neutered both before and after 12 months of age. Early neutering was associated with an increased incidence of hip dysplasia, cranial cruciate ligament tear, and lymphosarcoma in males and of cranial cruciate ligament tear in females. Neutering after 12 months of age was associated with an increased risk of mast cell tumors and hemangiosarcoma in females.

It is important to note that Golden Retrievers were chosen for the UC Davis studies because of their popularity and vulnerability to various cancers and joint disorders. A later UC Davis study found that there was a noticeable difference in the occurrence of cancers and joint disorders between Labrador Retrievers and Golden Retrievers, between intact and altered dogs, and with some cancers between males and bitches. Timing has a major impact on occurrences. For example, if the spay or neuter occurred before 6 month of age with Golden Retrievers there was a 4-5 times increase in joint disorders. If the spay or neuter occurred before 6 month of age with Labrador Retrievers, there was a 2 times increase in joint disorders. What this is saying is that there are some risks that are more breed dependent or more significantly impacted by breed than others. The effect on TMs may be more or less than other breeds; we do not have the data to compare.

Salmeri et al in a 1991 study found that bitches spayed at 7 weeks were significantly taller than those spayed at 7 months. The study also showed that those spayed at 7 months were taller than those not spayed. The sex hormones that are produced by the ovaries and testicles are very important for the growth and development of a dog's skeletal system. These hormones close the growth plates. If the dog is spayed or neutered before reaching puberty their bones continue to grow. This extended growth can result in a dog that does not have the correct body portions for which they were genetically designed, leading to orthopedic problems down the road.

A study carried out by Slauterbeck et al showed that spayed and neutered dogs have a higher incidence of cranial cruciate ligament (CCL) rupture. Spain et al found that dogs spayed or neutered before 5.5 months had a significantly higher incidence of hip dysplasia than dogs spayed or neutered after 5.5 months of age.

The current literature clearly shows that spaying or neutering of a dog younger than 12 month old increases the probability of abnormal skeletal development and associated disorders. The probability of a negative impact on a dog increases substantially the younger a dog is spayed or neutered.

One study found unneutered males were significantly less likely than neutered males to suffer cognitive impairment as they aged.

In a study of 66 dogs over a period of 5 years, Panciera (1994) determined neutering to be the most significant gender-associated risk factor for development of hypothyroidism. Neutered male and spayed female dogs had a higher relative risk of developing hypothyroidism than did sexually intact females. Sexually intact females had a lower relative risk. A significant difference in occurrence was found between breeds. Again, we do not have breed specific statistics for Tibetan Mastiffs, but in a breed already susceptible to hypothyroidism, any procedure which increases the risk is noteworthy.

The statements in the article are correct but let me clarify. For bitches spayed after their first estrus, this study found that urinary incontinence occurs more frequently than for those spayed as a younger age. But for those spayed before their first estrus, the symptoms are worse. Let me rewrite that paragraph.

In an article in the Journal of Reproduction and Infertility by Stocklin-Gautschi et al, the owners of 206 bitches that had been spayed before their first estrus and for at least 3 years were questioned on the occurrence of urinary incontinence as a result of spaying. Urinary incontinence after spaying occurred in 9.7% of bitches. This incidence is approximately half that of spaying after the first estrus; however, of those bitches spayed prior to their first estrus, symptoms were significantly more severe. Urinary incontinence affected 12.5% of bitches that were of a large body weight (> 20 kg body weight). TMs fall into this category. The surgical procedure (ovariectomy versus ovariohysterectomy) had no influence on the incidence, or on the period between spaying and the occurrence of urinary incontinence. Urinary incontinence occurred on average at 2 years and 10 months after surgery. Other studies that took breed into consideration found a significant relationship between breed and urinary incontinence after spaying. Boxers showed an incredibly high incidence of 65%. One reason often given for spaying a bitch is to avoid the "mess" associated with estrus, which in TMs only occurs for a couple of weeks once a year. Urinary incontinence occurs on a continual daily basis, and sometimes whether awake or asleep. With an incidence of 12.5% in large dogs, consider what the trade-off for spaying may be.

The jury is still out on the effects of hormone-sparing spay and neuter (tubal ligation and vasectomy), but the assumption at this time is that it would correlate with the risks of unaltered males and females while preventing unwanted pregnancies. The difficulty at this point is finding a veterinarian trained and willing to perform these procedures.

From the studies currently available, it is obvious that the decision to spay or neuter is not clear-cut. Factors such as age, gender, and even breed, all contribute to the risks or benefits. It appears that there is no compelling evidence that neutering most male dogs would prevent future health problems, especially for male dogs that have not gone through puberty. The numbers of health problems associated with neutering exceed the associated health benefits in most cases. With bitches, the situation is more complex. Whether spaying improves the odds of overall good health or degrades them probably depends on the age of the dog and the relative risk of various diseases in the different breeds.

To my knowledge there have been no studies to determine the impact of spay and neuter on TMs.

If you wish to spay or neuter your Tibetan Mastiff, my recommendation would be to consider a hormone sparing option, or to wait until your pup is at the very least 12 months old. Early spay or neuter, especially the rising popularity of pediatric spay/neuter (as young as 6 weeks), may predispose dogs to health risks that may be avoided if the procedure is delayed until the dog is fully mature. If you are trying to avoid having to deal with your bitch going through a second estrus, I suggest having her spayed a few months before her second estrus is expected. That should delay spaying until she is around 20 months old. Waiting until your TM has fully matured at 3 years before spaying or neutering should reduce the risks significantly. Due to our increased knowledge and awareness of the risks of spaying and neutering, keeping your dog intact no longer carries the stigma that it once did and is also a valid option, even if you have no plans to breed.

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