

# Neutering Can Lead to Deteriorating Health

If you're concerned about soaring rates of joint issues, especially in Golden Retrievers and Labs, you won't want to miss this research. This striking data only adds new fuel to what I already recommend about this controversial yet very common procedure.

**Analysis by Dr. Karen Shaw Becker**

## STORY AT-A-GLANCE

- A recent study at the University of California, Davis compared intact and neutered or spayed male and female Golden Retrievers (a total of 1,015) and Labrador Retrievers (1,500) for development of three joint disorders and four types of cancer
- Intact dogs of both genders and breeds experienced one or more joint disorders at a rate of five percent. But in dogs neutered or spayed before six months of age, the rate of hip dysplasia, elbow dysplasia, and cranial cruciate ligament tears doubled to 10 percent in Labrador Retrievers, and in Golden Retrievers, it jumped to 20 to 25 percent that of intact dogs
- Intact male and female Labs, and intact female Golden Retrievers develop one or more cancers at a rate of three to five percent. However, 11 percent of intact male Golden Retrievers develop cancer, and the UC Davis study results indicated that neutering doesn't seem to have much of an impact on cancer rates in males. Spaying female Labradors increased the incidence of cancer only slightly, but in female Golden Retrievers, neutering at any age over six months increased the risk of cancer three to four times over the level of intact females
- The researchers confirmed that the removal of hormone-producing organs during the first year of a dog's life leaves him or her vulnerable to delayed closure of long-bone growth plates, which can result in joint disorders. They also concluded that especially in female Golden Retrievers, the sex hormones have a protective effect against cancers throughout a dog's life
- Dr. Becker's approach to sterilizing family pets is to work with each individual pet owner to make decisions that will provide the most health benefits for the dog. Whenever possible, she prefers to leave dogs intact. Her second choice is to sterilize without desexing, which means performing a procedure that will prevent pregnancy while sparing the testes or ovaries so that they continue to produce hormones essential for the dog's health and well-being

***Editor's Note: This article is a reprint. It was originally published November 05, 2014.***

Many people think Golden Retrievers are just hairier versions of Labrador Retrievers, and it's true the two breeds have many things in common. For example, they're about the same size, have similar easygoing temperaments, and both breeds make excellent sporting and service dogs.

However, a recent study conducted by researchers at the University of California, Davis and published in the journal PLOS ONE,<sup>1</sup> suggests that the two breeds differ in one important area – their health. The UC Davis study results indicate that spayed or neutered Golden Retrievers are more likely than Labs to develop joint disorders and cancer. The UC

Davis researchers further confirmed what previous studies have shown — intact dogs of both breeds have lower rates of joint disorders and cancer than desexed dogs. According to Veterinary Practice News:

*"The researchers did not take a stand on spaying and neutering, which is done to an estimated 83 percent of all U.S. dogs to control the pet population and prevent unwanted behaviors. Instead, they stated that the study served to measure the long-term health effects of sterilization and to educate breeders and dog owners who are deciding when, and if, to spay or neuter their animals."*<sup>2</sup>

As earlier studies indicate, the age at which some dogs are sterilized seems to play a role in the development of future disorders. For example, there is a connection between desexing before six months of age and the appearance of joint disorders.

Only about five percent of intact Goldens and Labs of both genders wind up with joint disorders, according to the UC Davis researchers. But in dogs sterilized before they're six months old, the rates jumped to 10 percent of Labs and 20 to 25 percent of Goldens.

*"The removal of hormone-producing organs during the first year of a dog's life leaves the animal vulnerable to the delayed closure of long-bone growth plates," said Dr. Benjamin Hart of the UC Davis School of Veterinary Medicine.*

## **One Study Finds Desexing as a Serious Problem for Goldens**

While both early neutered/spayed Labradors and Golden Retrievers had a significantly increased incidence of joint disorders, the latest UC Davis data points to much more pronounced rates of both joint disorders and cancers in Goldens neutered at a variety of ages.

The study was based on 13 years of health records for over 1,000 Goldens and 1,500 Labrador Retrievers. The dogs were neutered and non-neutered, male and female, and between the ages of one and eight.

The researchers compared the two breeds for development of three joint disorders including hip dysplasia, cranial cruciate ligament (CCL) tears, and elbow dysplasia, and four types of cancer: lymphosarcoma, hemangiosarcoma, mast cell tumors, and mammary cancer. Also noted was the age at neutering – before 6 months, between 6 and 11 months, between 12 and 24 months, or between 2 and 9 years of age.

## **Joint Disorder and Cancer Rate Results**

With regard to joint disorders, as stated above, the researchers found that intact dogs of both genders and breeds experienced one or more joint disorders at a rate of five percent. But in dogs neutered or spayed before six months of age, the rate doubled to 10 percent in Labrador Retrievers, and in Goldens, it increased a startling four to five times (20 to 25 percent) that of intact dogs.

Male Goldens had the greatest increase in hip dysplasia and CCL tears, while male Labs experienced bigger increases in elbow dysplasia and also CCL tears.

When it comes to cancer, intact male and female Labs, and intact female Golden Retrievers developed one or more cancers at a rate of three to five percent. Interestingly, 11 percent of intact male Golden Retrievers got cancer, and unexpectedly, neutering didn't seem to have much effect on cancer rates in males.

Spaying female Labradors increased the incidence of cancer only slightly, but in female Golden Retrievers, neutering at any age over six months increased the risk of cancer three to four times over the level of intact females.

*"The striking effect of neutering in female Golden Retrievers, compared to male and female Labradors and male Golden Retrievers, suggests that in female Golden Retrievers the sex hormones have a protective effect against cancers throughout most of the dog's life," according to Hart.<sup>3</sup>*

## Mixed Reception to Study Results

As expected, the latest UC Davis study results have received a mixed response from veterinary and animal welfare organizations. "Understandably, we see plenty of push back, along with lots of compliments like 'thank goodness someone is finally doing something about the issue, especially the very early neutering,'" said Hart.<sup>4</sup>

Spaying and neutering is considered by many to be the one and only solution to the problem of pet overpopulation. (Interestingly, in many countries in Europe, they've found better solutions.) It's also much more convenient for most pet owners to spay/neuter than to leave dogs intact or opt for sterilization procedures that preserve hormone-producing organs.

However, evidence is mounting that at least in some large breed dogs, indiscriminate spaying and neutering is destroying their health and shortening their lives. So clearly we need to rethink how and when we sterilize this segment of the canine population.

Hopefully, research into the effects of spaying and neutering dogs will continue, and will eventually include smaller breeds. Studies so far have looked only at large breeds, including Rottweilers, Golden Retrievers, and Vizslas.

## My Recommendation for Dog Owners

As I explained in an earlier [video and article](#), over the years, I've changed my view on spaying and neutering dogs, based not just on research like the UC Davis study, but also on the health challenges faced by so many of my canine patients after I spayed or neutered them.

My current approach is to work with each individual pet owner to make decisions that will provide the most health benefits for the dog. Whenever possible, I prefer to leave dogs intact. However, this approach requires a highly responsible pet guardian who is fully committed to and capable of preventing the dog from mating (unless the owner is a responsible breeder and that's the goal).

My second choice is to sterilize without desexing. This means performing a procedure that will prevent pregnancy while sparing the testes or ovaries so that they continue to produce hormones essential for the dog's health and well-being. This typically involves a vasectomy for male dogs, and either a tubal ligation or modified spay for females. The modified spay removes the uterus while preserving the hormone-producing ovaries.

I typically save full spays and neuters for older dogs who've developed a condition that is best resolved by the surgery, for example, pyometra (a uterine disease in female dogs), or moderate to severe benign prostatic hyperplasia (an enlarged prostate in male dogs). Generally speaking, mature intact dogs have had the benefit of a lifetime of sex hormone production, so the endocrine imbalances we see with spayed or neutered puppies don't occur when dogs are desexed in their later years.

## **Disclaimer: Homeless Pet Population and Spaying/Neutering**

I feel compelled to say this each time I discuss my views on desexing dogs ... Please understand I'm not advocating the adoption of intact shelter animals to people who may or may not be responsible pet owners. Shelter veterinarians don't have the time or resources available to build a relationship with every adoptive family, so all the animals in their care must be sterilized prior to adoption to prevent more litters of unwanted pets.

Would I prefer that shelter vets sterilize rather than desex homeless pets, so that those animals, too, retain their sex hormones? Yes I would. But for the time being, the U.S. shelter system isn't set up for that, nor are DVMs in this country routinely trained in how to perform anything other than full spays and neuters. And of course many prospective pet owners aren't interested in any procedure short of a full spay or neuter.

So while I totally agree with the need to sterilize shelter pets, for the long-term health of those pets, I don't necessarily agree with the method of sterilization being used.

### **Sources and References**

[ScienceBlog, July 14, 2014](#)

<sup>1</sup> [PLOS ONE, July 14, 2014](#)

<sup>2</sup> [Veterinary Practice News, July 15, 2014](#)

<sup>3</sup> [UC Davis News and Information, July 14, 2014](#)

<sup>4</sup> [NEWStat, July 17, 2014](#)

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