

The Truth About Spaying and Neutering

By Dr. Karen Becker

Hi, this is Dr. Karen Becker. Whenever I discuss scientific evidence related to the health risks of spaying and neutering here at Mercola Healthy Pets or on my Facebook page, I receive a lot of negative feedback from people who are absolutely certain that I'm encouraging pet overpopulation and irresponsible pet ownership. So, I decided to make a video explaining to people standing in judgment why nothing could be further from the truth.

Learning from Experience

I started volunteering at an animal shelter when I was 13 years old. I started working there when I was 14. I was cleaning cages. By the time I was 17, I had become certified as a euthanasia technician by the Iowa State College of Veterinary Medicine.. The 10 years I spent working at a kill shelter and the exposure to certain clients and cases in my veterinary practice over the years have taught me more than I would ever want to know or share in this video about abused, neglected, and unwanted pets.

When I first opened my animal hospital, I was so adamant about my clients spaying and neutering their pets before their first heat cycle, that if they didn't follow my advice, I really became upset. I tried not to show it outwardly, but I suggested that it may be more ethically aligned to find another veterinarian who didn't feel as strongly about the subject as I did. That was my politically correct way of saying, "Maybe you should go to another vet," because I would literally lose sleep over having intact patients in my practice. I spayed and neutered thousands of my patients when they were still very, very young, assuming I was completing my moral task as an ethical veterinarian.

Then about five years after my practice opened, many of my patients started developing endocrine issues. This was obviously very concerning to me, as these animals were not overvaccinated. They were all eating biologically-appropriate, fresh food diets.

The first light bulb went off in my head when I started researching why up to 90 percent of ferrets died of endocrine imbalance, specifically adrenal disease or Cushing's disease. Mass-bred ferrets that enter the pet trade are desexed at about three weeks of age. The theory is that juvenile desexing creates a sex hormone deficiency, which ultimately taxes the last remaining tissue of the body capable of producing a small amount of sex hormone – the adrenal glands. Could the same phenomenon be going on in my dog patients? That's what I was wondering.

Well, in 2006, the number of dogs I diagnosed with hypothyroidism was at an all-time high. Diagnosing low thyroid levels is really very easy compared to the complex adrenal testing required to show that a dog has adrenal disease. I started to wonder if hypothyroidism was just a symptom of a deeper hormonal imbalance in many of my patients. Because even after we got those thyroid levels balanced, they still didn't appear to be vibrantly healthy or really totally well.

I contacted Dr. Jack Oliver, who ran the University of Tennessee's adrenal lab, and posed my theory to him. I was really overwhelmed when he told me that indeed adrenal disease was occurring at epidemic proportions in our dogs in the U.S. populations and was certainly tied to sex hormone imbalance. Now, whether or not veterinarians were testing and identifying the epidemic was a whole different story.

At this point, I became overwhelmed with guilt. For many years, I insisted my clients follow my advice to desex their pets on or before six months of age. What hit me like a lightning bolt was that I was making this suggestion not based on what was physiologically best for my patients but rather what I felt was morally best for the owners.

I'm going to try not to cry now. This is a very sensitive subject for me because I did what I thought was in my patient's best interest. I cried in my exam rooms from 2006 to 2010 more than I have ever cried in my adult life.

Eventually, as all of the patients that I desexed early cycled through, many of them with irreversible metabolic diseases, I started apologizing to my clients. I apologized to my patients as well. Through my blanket recommendations that all pets must be desexed (all of them) because humans may be irresponsible with an intact animal, I had inadvertently made many of my patients very, very ill. That's devastating to realize as a doctor.

My recommendation started changing. I started recommending that my clients leave their pets intact. Now, you must realize that I own an animal hospital with wildly committed owners. I am not dealing with uneducated, uncaring, and uncommitted clients – that is not my clientele.

Of course, there were and are lots of exceptions to the rule. But in general, my recommendation as a holistic vet is to perform surgery because it's a medical necessity, not an elective procedure.

Within my own pack, I recently adopted a stray dachsie that is intact, and I plan on leaving him intact. I am an intact female myself. I am proud to say that I have not experienced a single unplanned pregnancy in my personal life or in my career at my practice as a holistic vet catering to thousands of intact animals.

Now, there are thousands of rabbit trails that I could go down right now. I'm not going to do that because this video would literally be three-hours long. But I will say that until we get our nation's shelter systems revamped, animals will continue to be spayed as juveniles. Right now that's that. We're not going to be able to change that by me making this video. Are we pushing for shelter vets to learn ovary sparing techniques that allow for sterilization without sex hormone without obliteration? Yes. But for now that isn't happening.

I could have made a dozen choices in my professional career that would have been satisfying, including being a shelter vet. If I were a shelter vet right now, I would be pushing for sterilization techniques that preserve normal endocrine function. I chose the path of a wellness veterinarian because that resonated the most with my personal goals in life in terms of what I want to do. As you can see I've made many mistakes. I've apologized directly to the owners and the dogs that I desexed as puppies before I knew any better.

But I am as committed as ever to preventing and treating illness in individual family pets. I am not a shelter vet, and I'm not advocating the adoption of intact animals to unknown families with unknown levels of responsibilities. Because shelter vets don't have relationships with their adoptive families, all animals must be sterilized prior to adoption. I totally agree with this. The method of sterilization, however, is up for debate.

If you are an irresponsible pet owner that allows your intact pet outside without a leash and direct supervision, this video is not for you. Please sterilize your pet before allowing them out again, as you are the root of our country's overpopulation problem. Please stop.

If you're a wildly responsible pet owner that wouldn't dream of doing this, then this video is for you.

As a proactive veterinarian, I have dedicated my life to keeping animals well. I have learned and continue to learn the best ways to help pets stay healthy and the reason that disease occurs. I am also a holistically oriented vet, which means I view animals as a whole, their whole body as a whole creature – not just a collection of body parts or symptoms.

I believe there is a purpose for each organ we are born with and that organ systems are interdependent. I believe that removing any organ – certainly all the organs of reproduction – will have health consequences. It's inevitable. Honestly, I think it's kind of common sense.

Related Health and Behavior Issues

There is a growing body of evidence that suggests that desexing dogs, especially at an early age, can create health and behavior problems. When I use the term "desexing," I'm referring to the traditional spay and neuter surgery where all of the sex hormone-secreting tissues are removed. When I use the term "sterilization," I'm referring to animals that can no longer reproduce, but the surgeon spared their sex hormone-secreting tissues.

In my view, I would not be fulfilling my obligation as an animal healthcare professional if I chose to ignore the scientific evidence and not pass it on to Healthy Pets readers and the clients at my practice who entrust me with the well-being of their animals. Because if I were to do this, if I assumed that I'm going to take the responsibility for them and not give them this information, I'm not doing my part as an integrative veterinarian, especially if I assumed that they were all too irresponsible to make good decisions on their own.

Before I discuss the practical matters of owning an intact pet, I want to discuss some of the health issues that have now been linked to spaying and neutering dogs.

First, let me say that there are two medical conditions that can be totally eliminated by desexing: benign prostatic hypertrophy (BPH) and pyometra. However, a wealth of information is mounting that maintaining some innate sex hormones, especially in the first years of life, may be beneficial to pets. The risk of pyometra and BPH in the animal's first year of life is incredibly low.

A study conducted and published in 2009 by the Gerald P. Murphy Cancer Foundation established a link between the age at which female Rottweilers are spayed and how long they live. Researchers compared long-lived rotties that had lived for 13 years or more with those who lived a normal lifespan of about nine years. They discovered that while females live longer than male Rottweilers, removing the ovaries before five years of age evened the score. Females that kept their ovaries until at least six years of age were four times more likely to reach an exceptional age compared to rotties that were spayed at a younger age.

I spayed my rescued rottie, Isabelle, when I adopted her at seven years of age. She went on to live to be about 17. She was still unbelievably vibrant at 17. She slipped on the floor in a total freak accident and she became paralyzed, which ultimately led to her euthanasia. But she was the oldest and healthiest rottie I have ever met.

I can truly say I provided literally no medical care in the sense that she didn't need any care. Her body was just naturally thriving her whole life. She was fed a raw-food diet. Yes, we checked her bloodwork every six months. Her bloodwork was perfect until the day she died. She was a great example of a

thriving pet that was really above the level of disease. I believe her sex hormones greatly contributed to her longevity and her abundantly healthy life.

It's my professional opinion that early spaying and neutering plays a role in the development of atypical Cushing's disease as well. Atypical Cushing's involves the outer and innermost layers of the adrenal glands and occurs when other types of adrenal hormones that are overproduced besides cortisol – usually estrogen and progesterone – become oversecreted.

When a dog is spayed or neutered before puberty, the endocrine glandular and hormonal systems have not yet fully developed. A complete removal of the gonads, meaning all sex hormones that the body can produce (which is what happens during castration or the traditional spay), can cause the adrenal glands to produce sex hormones because they're the only remaining part of the tissue in the body that can secrete some.

Over time, the adrenal glands become taxed by having to secrete the body's demand. It's very difficult for these tiny little glands to keep up with the body's demand of sex hormones. This is the condition of atypical Cushing's. Hormone disruption is a central feature in Cushing's disease. Any substance or procedure that affects the body's hormonal balance should be absolutely evaluated as a potential root cause.

A study from the U.K. suggests that there actually isn't much scientific evidence at all to support the idea that early spaying of female dogs decreases or eliminates future risks of mammary tumors or breast cancer. This has been a much promoted supposed benefit of early spays for decades. But as it turns out, it's based on theory rather than scientific evidence.

A Veterinary Medical Database search of the years 1982 to 1985 revealed that in dogs with tumors of the heart, the relative risk for spayed females was over four times that of intact females. For the most common type of cardiac tumor, which is called hemangiosarcoma, spayed females had a greater than five times risk versus their intact counterparts. Neutered males had a slightly higher risk than intact males as well.

In another Rottweiler study published 10 years ago for both males and females spayed or neutered before one year of age, there was a one in four lifetime risk of developing bone cancer. Desexed rotties were significantly more likely to acquire the disease than intact dogs. In another study using the Veterinary Medical Database for 1980 to 1984, the risk of bone cancer in large-breed, pure-bred dogs increased two-fold for those dogs that were also sterilized.

Similar to this situation with early spaying and mammary tumors, there's a common belief that neutering a male dog prevents prostate cancer. However, a small study conducted at Michigan State University's College of Veterinary Medicine suggests that neutering – no matter the age – has no effect on the development of prostate cancer.

Studies done in the 1990s concluded dogs spayed or neutered under one year of age grew significantly taller than non-sterilized dogs or those dogs spayed or neutered after puberty. The earlier the spay and neuter procedure, the taller the dog. Research published in 2000 may explain why: it appears that the removal of estrogen-producing organs in immature dogs – both females and males – can cause growth plates to remain open. These animals continue to grow and wind up with abnormal growth patterns and bone structure. This results in irregular body proportions, possible cartilage issues, and joint conformation issues.

A study conducted at Texas Tech University Health Sciences Center on cranial cruciate ligament injuries concluded that spayed and neutered dogs had a significantly higher incidence of rupture than their intact counterparts. While large-breed dogs had more CCL injuries, sterilized or desexed dogs of all breeds and sizes had an increased rupture rate.

In a retrospective cohort study conducted at Cornell University's College of Veterinary Medicine, results showed that both male and female dogs sterilized at an early age were more prone to hip dysplasia.

A recent study conducted at the University of California Davis involving several hundred golden retrievers revealed that for the incidence of hip dysplasia, CCL tears, lymphosarcoma, hemangiosarcoma, and mast cell tumors, the rates were significantly higher in both males and females that were neutered or spayed compared with intact dogs.

Early spaying or neutering is commonly associated with urinary incontinence in female dogs and has been linked to increased incidence of urethral sphincter incontinence in males. Spayed or neutered golden retrievers are much more likely to develop hypothyroidism.

A cohort study of shelter dogs conducted by the College of Veterinary Medicine at Texas A&M University concluded that infectious diseases were more common in dogs that were spayed and neutered at less than 24 weeks of age.

The AKC's Canine Health Foundation issued a report pointing to a higher incidence of adverse reactions to vaccine in spayed and neutered dogs as well.

Among the reports and studies pointing to health concerns associated with early spaying and neutering, we also find mention of increased incidence of behavior problems, including noise phobias, fear behavior, aggression, and undesirable sexual behaviors.

Are There Any Options Available?

Veterinarians in the U.S. and Canada are trained only to spay and neuter, which is unfortunate since there are less invasive alternatives to sterilization, like tubal ligations, hysterectomy, and vasectomy. These particular techniques are quick and easy and certainly effective. In fact, commonly, once the technique is mastered, they're faster and less risky and potentially less costly than a full spay or neuter.

But unfortunately, nobody knows how to do them in this country. The reason that they're hard to come by in this country is veterinary schools simply don't teach these alternative procedures. They've never had a reason to. Unless pet owners start demanding sterilization options beyond spaying and neutering, they probably won't teach these procedures to new graduating veterinarians as well.

As author Ted Kerasote and I have discussed on numerous occasions, in many European countries there are intact free-roaming dogs running about under voice control of their owners. When female dogs go into heat, owners simply manage the situation by removing them from group social events until their heat cycle is complete. They're kept at home, sequestered away from males. They're walked obviously on a leash.

Ted tells a story of a British veterinarian he interviewed who said that most of the requests he gets to neuter dogs come from U.S. and Canadian citizens who are living in London. Rather than immediately complying with the request, the veterinarian talks with the pet owner about the actual necessity to neuter the dog.

If the dog is always on a leash and always under the vet's or the owner's control, then how exactly would the dog become pregnant if it's constantly with the owner and never off leash?

The veterinarian says that he rarely has a British pet owner requesting a spay or neuter procedure.

Most Americans can't even comprehend that it's possible to keep intact pet dogs and not have millions of litters of unwanted puppies. That's because we've been conditioned to believe that a responsible pet owner means spaying and neutering. I was taught to believe the exact same thing, that keeping an intact pet was considered irresponsible even if the owner is meticulously careful about not allowing the pet to breed.

Of course, our dependence on spaying and neutering as the only form of birth control is the result of generations of irresponsible pet owners and millions of unwanted dogs and cats that are killed annually in our animal shelters.

It is a vicious cycle, and it's a very frustrating cycle to witness. Irresponsible people need to have sterilized pets. No one's going to argue that point. Unfortunately, spaying and neutering responsible people's pets doesn't make irresponsible people any more responsible. They remain the root cause of the overpopulation crisis in this country.

My problem with the spaying and neutering issue is it's the only current solution to the overpopulation problem. We're not just halting the animal's ability to reproduce, but we are also removing the incredibly valuable sex hormone-secreting tissues like the ovaries and the testes. These organs serve a purpose.

We're slowly waking up to the fact that in our rush to spay or neuter every possible animal we can get our hands on – the younger, the better – we are creating health problems, sometimes life-threatening health problems, that are non-existent or significantly less prevalent in intact pets.

Managing Intact Female Pets

First of all, you should know that not everyone is cut out to be the owner of an intact male or female dog. Part of the popularity of full spays and neuters versus other means of sterilization is that it's just plain convenient for pet owners. Not only do spays and neuters render the animal unable to reproduce, but they also remove all of the messiness of female heat cycles and most of the pet's key mating behaviors of both sexes.

Female dogs don't have monthly periods like humans do. They have one or usually two heats a year. You can usually tell a female heat cycle is on its way when your intact female's vulva begins to enlarge. Just like humans there's bleeding involved, but unlike human females who are not fertile during menstruation, dogs are just the opposite. Female dogs can get pregnant only during heats for about three to four days as their unfertilized eggs ripen in their bodies.

Some dogs will signal during this time by flagging, which means lifting the tail base up and to the side. Some females will stand and can be mounted at any time during their heat cycle, including before and after they're pregnant or fertile. Others show no behavior signs whatsoever. Owners of intact female dogs must be certain of the signs of heat in their pets, so that they can separate them from male dogs during this important time.

Never underestimate the determination of an intact male dog that wants to mate with a female dog in heat. I'm telling you, if you have a female dog, male dogs will come visit you in a tri-state area because she's very popular pheromonally.

With proper training, reinforcement, and constant supervision, however, male dogs can learn to be in the presence of a female while supervised, even when she's in heat, without mating. Some people don't want to put the effort into managing male dogs around cycling females and simply ship them off to a friend or relative's house until the heat cycle is done if they live with an intact female and an intact male.

If you have a female dog in heat, you should never leave her outside alone even for a second. It doesn't matter if you have a fenced-in yard. If there's an unsupervised male around, there's absolutely a risk of impregnation through the fence.

The heat cycle of a female dog lasts about three weeks, but the menstrual bleeding can actually be unpredictable during that time. It's neither consistently heavy nor is it every day, all day. Many owners of intact female dogs end up investing in special diapers or breeches that can hold a sanitary napkin to kind of hold the discharge in.

At my house we just get a baby gate, and we gate our special lady of the month in the kitchen area. We put a dog bed in there, and then we just mop a couple of times a day. Typically, female dogs are incredibly good at keeping themselves very clean. Most of the time, there's very little mess.

Managing Intact Male Pets

Intact males should absolutely receive positive reinforcement behavior training to stop urine marking in the house as well as any humping behavior that they may have developed.

The intact, male, adult dachsie that we just rescued – his name is Lenny – became Lenny Loincloth after a few days in our house for obvious reasons. He acquired his last name because he marked absolutely every corner of every piece of furniture that we own.

To reduce this totally undesirable behavior and to reinforce healthy housebreaking, we put a belly band on him or a loincloth. That's what we call it. The same concept: it's a little diaper that holds his penis to his abdomen. Dogs innately should not want to whizz on themselves; they want to whizz and mark on objects. By belly-banding him, we reinforce good behavior going potty outside and not marking in the house. I'm proud to say that in one month's time, we've really helped him kick his marking habit for the most part.

Constant positive reinforcement was really, really important. We also discovered on the first day that Lenny was in our house that he liked to hump everything that he found. He preferred humping pillows and dog beds. We simply picked those pillows and dog beds up. We didn't give him those tempting objects to exhibit that undesirable behavior. He hasn't humped anything in three weeks. There's hope to help positively reinforce good behavior and wean some of these negative intact male dog behaviors out of dogs if you so desire.

Your unneutered male should never be off-leash unless you are absolutely sure you won't run into an intact female dog or he's under constant voice control around all dogs. You also need to be in control of your dog while he's leashed. If your intact male or female dog is able to jerk away from you when he or she gets excited, then he or she is not under your control despite the leash.

I recommend positive reinforcement behavior training for all dogs, especially intact dogs. Absolutely, it's a necessity for powerfully built intact male dogs. Remaining in obedience class for a dog's first 16 months of life is an excellent foundation for good manners for the rest of his life.

If your dog becomes assertive, desexing or neutering completely remains an important part of managing long-term behavior issues. Again, in this instance, if you have an aggressive dog, we must evaluate the risks versus benefits. The health benefits of leaving a temperamental dog intact do not outweigh the greater risk of this aggressive animal being re-homed, dumped, or abused. With behavior issues, spaying and neutering is a logical choice. It's better to be in a loving home with endocrine disease than being endocrinologically-balanced and dumped at a kill shelter for a behavior problem.

Keep in mind that out in the world, at least in North America, you and your intact dog will not have a whole lot of company in this day and age. You won't be able to take your dog everywhere a spayed and neutered dog is allowed to go. If your dog is a male, prepare to deal with plenty of prying questions and even anger from people who will pre-judge you as totally irresponsible.

When Lenny sees people, he flops on his back and says, "Hello, hello, hello." Everyone's comment is, "What are those? And when are those coming off," pointing to his testicles.

I will say that luckily, thus far, research has shown that our feline companions don't have the same negative long-term physiologic consequences associated with desexing, spaying, and neutering that plague our canine populations. Not to say that we want to identify potential links in the future, but thus far, it appears that our canine companions are more negatively affected by spaying and neutering.

I made this video so you could understand why I no longer take a cookie-cutter approach to desexing all juvenile pets. The decision to sterilize, spay, or neuter your pet, at what age, and with what technique is a very personal decision that is based on your dog's breed, temperament, personality, and your commitment to training, lifestyle management, and responsibility.

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