

The Controversy is Over: Prepubertal Neutering is the Surgery of Choice

By Jeff Young, DVM

The ideal age for neutering our companion animal friends is 8-16 weeks. Prepubertal neutering has been 'controversial' for years. Because of this controversy, a lot of academic research, independent studies and anecdotal evidence has accumulated.

The Humane Society in Medford Oregon decided back in 1974 to spay/neuter all their dogs and cats prior to adoption. Why? They realized that many pets adopted from their shelter produced offspring that eventually came back to them, repeating a never-ending cycle. In 1987, Dr. Leo Lieberman truly set the spark for the prepubertal controversy by publishing "A Case for Neutering Pups and Kittens at 2 months of Age." While Medford Oregon is given credit as the modern birthplace for prepubertal neutering, Dr. Lieberman is considered the father of prepubertal neutering by many. There are numerous universities that should be given credit for adding science to a common sense solution, for addressing pet overpopulation. The University of Florida conducted the first truly controlled study in 1991 comparing neutering at 7 weeks vs. 7 months of age. Texas A&M and the University of Florida have looked at urethral diameters in prepubertal vs. conventionally neutered animals. The University of Colorado has provided very useful anesthetic protocols and the University of Minnesota has reviewed the literature extensively with regard to prepubertal neutering. The nineties produced a lot of data with which to move forward. Just as the scientific literature has grown, so has the anecdotal information coming from humane societies, private veterinary practices, spay/neuter clinics and owners of pets neutered prepubertally.

Even with all our efforts, we still get 30-60% of adopting owners **not** abiding by their spay/neuter contracts. With humane societies supplying about 20-25% of companion animals to households each year, humane organizations quickly become major contributors to pet overpopulation. Prepubertal neutering becomes an important tool against pet overpopulation. Considering the following:

- No puppy or kitten should be adopted prior to 8 wks, of age
- 8-12 wks is the ideal age for placing pets into households
- Sterilized pets can never reproduce

Fully 85% of cats and 70% of dogs in households today have been neutered. Unfortunately, about 20% of companion animals produce at least one litter prior to being sterilized. We, as humane organizations, cannot demand better sterilization compliance by the public, if we are still having our own sterilization compliance issues.

The number **one** cause of **death** for dogs and cats remains **euthanasia**. With **70** million dogs, **75** million pet cats and countless millions of feral cats, our job remains an uphill battle. After decades of effort, the realization that overpopulation of companion animals is still a major problem for humane organizations can seem depressing. The realization that we have cut euthanasia rates by millions of companion animals each year, gives us hope as we look to the future.

There are 3 primary areas that need to be explored to expand prepubertal neutering and further drop companion animal euthanasia rates. How the veterinary profession and humane organizations have dealt with prepubertal neutering are two. This nations horrendous feral cat issue is the third.

1. The veterinary profession has for decades made 6-8 months the recommended

age for neutering. There is **no** scientific reason for this age selection; it has simply become a 'tradition.' The conservative nature of the veterinary profession has made change hard. We must **demand** from any veterinarian we support, that they embrace prepubertal neutering as the standard. We must be willing to educate our veterinary friends and boycott those who are not part of the solution. Their own national organization (AVMA) has endorsed the practice of prepubertal neutering since 1993.

2. Humane organizations have placed too much emphasis on the warehousing of animals and not enough emphasis on education, behavioral counseling, and neutering programs. While many groups have embraced prepubertal neutering, a large number will still adopt animals prior to sterilization. With dogs being 15x and cats 45x more prolific than humans, it becomes very clear we are helping to create the very problem we are working to solve. The public must demand that 100% of adopted animals be sterilized and that more money be put into educational and neutering campaigns. It is totally unethical for us to call ourselves a humane movement when we use **euthanasia** as the **cornerstone** for controlling companion animal overpopulation. Having said that, I will also say there are things far worse than death.

3. In reference to our feline friends, only about 20% of owned cats reproduce before being sterilized. In contrast, 75% of feral/stray cats are either in heat, pregnant or lactating most of the year. We truly must put more emphasis and money into feral/stray cat programs. The huge numbers of feral/stray cats provide an endless supply of furry feline friends for euthanasia and worse. People don't adopt cats; cats adopt people. Averaging 2.1 litters per year and 4.25 kittens per litter, numbers add up. Even knowing 40% of kittens will die in the first 2 months of life, and 60-80% by sexual maturity (5 months) the numbers are still staggering and the carnage unrelenting. *Felis Domestica* is a domesticated species that has much healthier, longer lives when treated as a true companion animal friend.

After over 20 years of endless discussion about neutering and millions of companion animals being euthanized, it is time to stop the back door approach to animal control. We must ensure that 100% of adopted pets are sterilized, we must increase public education and we must have active neutering programs, with special emphasis on feral/stray cats.

Prepubertal neutering is a very useful tool in the fight to control pet overpopulation. Over the last few decades, much has been revealed about the medical aspects of prepubertal neutering. Many concerns have been raised, and many concerns have been addressed while the euthanasia has never stopped. The major areas of concern have been about behavior, obesity issues, skeletal growth problems, urinary tract issues, and anesthetic/surgical protocols.

1. Behavior represents a complex interaction between genetics and environment. Breed is a major factor in behavior with companion animals. Neutering in general reduces roaming (>90%), reduces inter male aggression (>60%), reduces urine marking (>50%), extends life, (1-3 yrs dogs, 3-5 yrs cats) and makes for a better companion animal in general. Prepubertal neutering maximizes all these benefits. About 50% of surrendered animals are unaltered at the time of relinquishment, about 80% of hit by car dogs and dog fight victims are intact males. It should be clear that an intact male dog represents a threat to himself and to other dogs. As dogs and cats mature, it's the hormones of puberty that precipitate many behavioral issues. By removing the source of these hormones we can modulate negative behavior much more easily.

2. Obesity is primarily affected by diet, activity level and age. Neutered females are 2x more likely to be obese, but they live longer and tend to have more pampered lives. It

should be noted that neutered animals in general require about 30% less calories. It can also be noted that many Iditarod dogs are sterilized and not fat at all. Obesity is a problem in America for humans and our companion animal friends. Years of working with feral cats and street dogs reveal a lot healthier yet not obese animals as compared to their intact counterparts. Prepubertal neutering helps delay obesity if anything but clearly is not a primary factor. Feeding less and exercising more will keep your pet fit and trim for life.

3. Skeletal growth is controlled by the hormones of puberty. Prepubertally sterilized animals have a slowing in the closure of their growth plates. The result is slightly more growth of the long bones. There is not scientific data indicating this represents a problem. We do have years of anecdotal evidence that these prepubes animals are leaner, lankier, and live longer healthier lives.

4. Urinary system issues have consistently been a major complaint with prepubertal neutering. The scientific and anecdotal evidence is in agreement with regard to prepubertal neutering. Prepubertal males will have an infantile penis but their urethral diameter & function are the same if neutered at 7 weeks or 7 months. All veterinarians should know that Feline Urology Syndrome in cats is due to diet and genetics. There is no advantage to waiting and numerous advantages to prepubertal neutering. With regard to urinary incontinence, the literature is in conflict and inconclusive. Studies place incontinence from 4% to 20% of neutered female dogs and 0.4 to 8% in unaltered female dogs. What is clear is that large breed dogs are more commonly affected than small breed dogs. Many factors including breed, thyroid level, allergies and level of obesity have not been fully evaluated. Blaming urinary incontinence on lack of estrogen is not logical or fully supported by research. Why is it that pregnant bitches don't have increased rates of incontinence, given they have extremely low estrogen? It is possible that obesity (controllable) and hypothyroidism (treatable) may prove to be primary factors in urinary incontinence. At this time it is clear that prepubertally neutered females actually have a lower incidence of incontinence than those neutered at the 'traditional' age. Also, the overall benefits of neutering are much greater than the alternative.

5. Anesthetic and surgical protocols are well developed for the prepubertal puppy or kitten. The primary considerations are how prepubes process the drugs being used, taking into account higher metabolic rates and lower blood volumes. Statistically speaking, prepubertal animals are **less** likely to die under anesthesia and recover faster than their adult counterparts.

The following are guidelines for successful prepubertal sterilization:

- De-worm and vaccinate several days prior to surgery
- Withhold food 2 hrs. prior to surgery for kittens and 4 hours prior to surgery for puppies
- Administer glucose or honey and water in small amounts 15-30 minutes before surgery and as soon as possible post-surgery
- Administer heated subcutaneous fluids prior to surgery
- Keep all prepubes on heated surfaces during surgery and recovery
- Keep prep to a minimum and use non-reactive suture material

We see the absolutely lowest complication rates with kittens neutered by 12 weeks and puppies neutered by 16 weeks. Surgical time for kittens is 3-6 minutes, and 4-8 minutes for puppies. The surgery requires less time, less anesthesia, less recovery and virtually never results in post-operative complications.

Prepubertal dogs never develop ovarian or uterine tumors, get pyometra or go into heat. Mammary cancer (the #1 cancer in female dogs & the # 3 cancer in female cats) is almost eliminated with prepubertal neutering. Testicular cancer is the #2 cancer in male dogs and a full 60% of unaltered dogs over the age of 5 develop prostate problems. Perianal

tumors are the most common tumor in male dogs and are directly correlated with testosterone.

The research, literature and anecdotal evidence are quite clear. Prepubertal neutering has many more positive benefits than negative. Prepubertal neutering must become a major tool in the fight against companion animal overpopulation. Prepubertal animals are just healthier, happier pets that will make any adoption program more successful.

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