Saving Ryan’s Privates: An overview of the pertinent bond, physiological and behavioral factors that contribute to companion animal gonadectomy

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The title of this presentation originally was intended to honor the memory of a delightful dog whose owners were convinced to castrate their pet against their personal feelings to prove that they were responsible pet owners. Later it was discovered that Saving Ryan’s Privates is also the title a pornographic film. Rather than negating its use, this awareness communicated yet another level of meaning attached to the subject of neutering as practiced in the United States: many who profess to love animals find the idea of an intact pet dog (or cat) obscene. This article will explore the history of companion animal neutering, the claims made for it, and the implications for companion animal health, behavior, and the human-companion animal bond.

The History of Neutering

Many pet owners and even some animal care professionals believe that companion animal gonadectomy (i.e. removal of an animal’s reproductive organs) evolved from the same practice in food animals. However in food animals this practice is almost exclusively limited to the castration of males for several reasons. One: a male-female sex ratio of 1:1 results in far more males than necessary to ensure offspring. Two: the higher reactivity and larger size of intact (unneutered) male animals requires more human knowledge and skill to properly handle. Three: intact male hormones impart an odor and texture to meat that humans find unacceptable. Four: it is more cost-effective and energy-efficient to control population by castrating males than performing ovariohysterectomies (spaying) on females because the male testicles are outside the body wall. Not only is the procedure much less complicated technically, the fact that the body wall is not penetrated greatly decreases the probability of post-operative complications.

In the companion animal arena however neutering initially focused on females. Later as questions regarding the biological soundness of this approach grew, male castration was added to companion animal veterinary recommendations. However, whereas spaying females prior to sexual maturity was always the norm, even as late as the early seventies when the author attended veterinary school, students were taught to delay castration until males were sexually mature.

If companion animal neutering practices did not derive from farm animal practices, from where did they come? This gives rise to another question: in what other species does the incidence of surgical removal of female sex organs exceed that seen in males? One need only ask a group of older men and women how many still have all their reproductive organs or have chemically or surgically altered their reproductive physiology for birth-control purposes to know the answer to that! When modern veterinary medicine eschewed its “horse doctor” roots and patterned itself after human medicine following WWII that conceivably included the contraceptive gender shift practiced by the human medical profession. That being the case, in order to understand the origins of companion animal gonadectomy we must understand those of these same procedures in humans.
Views regarding the relationship between human and animal gonadectomy fall into one of two opposing groups:

Humans learned to neuter each other from neutering farm animals
Humans learned how to neuter farm animals by neutering each other

The former represents the more widely held view such as that put forth by Taylor (2000a) which maintains that humans got the idea of neutering each other from observing the benefits the practice conferred on the human-animal relationship. Because it made reactive animals more docile/submissive, why wouldn’t it work the same way on human slaves and prisoners of war?

In addition to using neutering as a means to subjugate others, human males also paradoxically castrated themselves in an attempt to increase their status. According to Kuefler (2001), legends and ancient writings speak of men called galli who castrated themselves to honor a goddess known variously as Cybele/Kubala, Mater Deum, Magna Mater or Caelestis wth links to Aphrodite, Rhea, Isis, and Hera. Kuefler maintains that these men were the forerunners of others, including early Christians, who castrated themselves to prove their loyalty to higher ranking religious, political, or military figures or ideals. Conceivably this process never attracted women because the likelihood of surviving the process was so low compared to that of males. It was one thing to neuter female slaves or prisoners of war because their lives had little value. However, the galli’s elevated status came from surviving self-neutering, not merely attempting it. The lower the probability of surviving to reap the benefits, the less reason to attempt the procedure.

It is also notable that the earliest descriptions of human castration refer to the removal of testes and penis, a process that would be considerably easier to perform on a human than on an animal for anatomical reasons. Logic argues that early humans more likely first associated reproduction with the engorged penis than testicles with the removal of testicles being accidental in those early crude attempts. Logic also suggests that, had those early humans decided to develop their castration skills on members of another species, the dog, that most ancient of domestic animals, would have been the species on which to do this. Were those early humans to try this, however, their attempts to prevent male nonhuman animal reproduction by removing the penis could have experienced a major set-back, thanks to canine anatomy. Unlike the human penis which hangs free from the body except at its proximal end, most of the canine penis is firmly attached to the body wall. Additionally and unlike these organs in humans, horses, bulls, and boars, the canine penis contains a bone, the os penis, which keeps the organ relatively stiff at all times. (This structure also exists in male cats, but not in any other domestic animal.) (Miller et al.1968) Thus early attempts to remove canine penises with crude implements may have yielded such poor results that it wasn’t worth the effort. This, in turn, may have discouraged ancient humans from attempts to do this to members of other, less tractable species. Thus human attempts to castrate dogs could have preceded or followed human attempts to castrate each other, but the widespread castration of farm animals suggests it followed it.

Unlike human male prisoners or slaves, whose death from post-castration complications


may have been of little consequence, castration of early domesticated farm animals was almost surely done to control these animals because they were so valuable. Consequently, it seems reasonable to suggest that their castration occurred after humans realized the role the testicles played in reproduction and behavior. While testicular anatomy is such that a single ligature around the spermatic cord can control hemorrhage, one can cause atrophy of these organs—and thus sterilize the animal—simply by tying a ligature around the scrotum of a young animal, negating the need for any cutting. Compare this to removing the penis which involves freeing the penis from its protective sheath in which it is held firmly by the retractor penis muscle. (Local anesthesia is used in veterinary medicine to relax this muscle sufficiently to expose the organ.) Because the penis also serves as a mechanism for emptying the urinary bladder, ligation of this organ would result in death. Add a highly complex and diffuse vascular system compared to the relatively simple testicular one which would make bleeding and infection more of a problem, and limited flexibility which makes it difficult for hooved animals to keep the genital area clean, and it again seems more likely that humans honed their castration skills on themselves and each other before trying them on farm animals. (Sisson and Grossman 1968)

At the same time, however, the fact that self- or other gonadectomy does not commonly occur in nonhuman animals would seem to negate the premise that early humanoids did this. However exposure of the genitalia to signal submission routinely does occur in social mammals. While dogs normally will roll over on their backs to do this, members of other species will “bow” such that their external genitalia is exposed. Although conspecifics who trigger such a response could easily remove these bodily parts, they do not. One reason they do not is because the submissive gesture and its accompanying physiological changes serves as such a potent indicator of rank that further action is rarely necessary. The bowing posture also exposes the anus with its anal glands whose secretions contain a wealth of pheromonal data. Once rank is established, the animals’ chemistry changes to reflect their relative positions. This message is transmitted and reinforced via pheromones in urine, feces, and other bodily secretions. Pheromones also may directly and indirectly affect behavior, including suppressing sexual behavior, triggering abortion, and preventing others from settling too close. (Grier and Burk 1992; Drickamer et al. 2002)

It seems probable that the loss of olfactory ability that accompanied the evolution of human facial features undermined the use of pheromone communication and forced evolving humans to find other ways to control the behavior of conspecific competitors. Castration could be extrapolated as a viable solution to the problem, based on the changes observed in young male animal behavior as testicles descended and enlarged. A major drawback of this system compared to the pherhormonal one is that it is irreversible. Animals physically castrated are permanently removed from the breeding population whereas those whose sexual behavior is inhibited by intraspecific chemicals secreted by others only persists as long as those substances do. This would not be a problem in slave-making species such as ants, but would pose one for members of social species who engaged in group hunting and protection. The permanent loss of early humanoid males from the breeding population might explain the why the monthly human estrus cycle replaced the breeding seasons seen in other species.
Animals also use submissive displays to ingratiate themselves to those perceived as more dominants in a particular situation and gain their protection. It is not such a great leap from these animal displays to self-castration for the same purpose in humans.

But while human males were castrating each other and themselves for a variety of nonmedical reasons that continued until India outlawed harems and the last of the eunuchs in 1955 (Taylor 2000b), human females (and their reproductive organs) took two quite different paths. As mentioned previously, self-castration was done to prove loyalty to various goddesses and other high-ranking religious and political figures. During this same period, however, female reproductive organs were claimed by the medical community. The first recorded hysterectomy was performed in the 2nd century AD by Soranus of Ephesus for a prolapsed, gangrenous uterus. By the 1950s, the hysterectomy was one of the most commonly performed human surgeries whereas male castration for medical reasons was, and remains, relatively rare.

An Overview of Companion Animal Gonadectomy

It would be interesting to know how much of an effect the choice of the American veterinary profession to align itself with the human medical community had on the evolution of pet dogs and cats from members of unique species with unique needs into quasi-human family members. While this was a positive transformation for those who desired to practice a more sophisticated, technologically advanced form of medicine and those humans seeking more intimate companion animal interaction, it set the stage for the gonadectomy dilemma that exists today.

Once people did so identify with their pets, those same social forces that affected their views of human reproductive medicine were bound to affect how the felt about that of their animals. For example, two studies published by Schneinder (1969,1970) explored different factors that influenced canine mammary cancer and compared human and canine breast cancer. In the veterinary community’s and thence the public’s mind, these studies linked breast cancers to intact uteruses in both female dogs and women. Spaying one’s female dog was presented as a way to prevent breast cancer as well as control canine population, a message that surely struck a responsive chord with the feminine majority who took the family dog in for veterinary care.

Within the male arena, repeated attempts to obtain supporting data from the American Veterinary Medical Association failed (because it apparently was not kept), but it appears that chronologically the push to neuter male dogs paralleled the development of feminism, the interest in male vasectomy as an alternative form of human birth-control, and the rise in the number of female veterinarians that began in the late 1960s and early 1970s. During this period veterinary schools first recommended that males be castrated at a year of age (i.e., after they had achieved sexual maturity). This was later dropped to 6 months of age, the same time-frame recommended for spaying females. As with spaying, castration was linked with health benefits such as its role in the resolution of prostatic hyperplasia, the excess growth of normal prostate tissue (Catcott 1968). Other studies, such as one done by Hopkins et al. (1976), which concluded that castration conferred behavioral benefits on males, also helped convince veterinarians and
other animal care professionals, and then the public, that castration represented a valid approach to canine population control.

This trio of benefits—population control, better health, and improved behavior—all were placed under the umbrella of “responsible pet ownership”. In other words, only irresponsible people who did not care for their pets would fail to spay or neuter them. Those who still resisted were—and sometimes still are—hounded by veterinarians, trainers, and self-professed animal-lovers, among others, to do so.

Paradoxically, in many ways the passions associated with and tactics used by the more rabid pro-spay and neuter proponents are similar to those used by anti-abortion/pro-human life factions. Those who favor animal gonadectomy do not believe pet owners should have the right to decide the reproductive fate of their companion animals any more than pro-life forces believe a woman has the right to determine her own. To make their case, the pro-gonadectomy forces repeatedly bring up the subject of all the innocent young animals who must be killed and even may illustrate this point with graphic photographs reminiscent of those of dead fetuses favored by more rabid abortion foes. Because shelter workers in the past bore the brunt of euthanizing unwanted pups, it is understandable that they would want to do anything to spare themselves that disturbing task, including castrating or spaying very young puppies or kittens prior to placing them in homes. Furthermore they can point to studies of shelter populations such Patronek et al. (1995) which indicate that those problem dogs who wind up in shelters are more likely to be intact.

Outside the shelter movement, however, currently another picture is emerging. More researchers are challenging the notion that reproductive hormones only affect reproductive function. Studies by Katzenellenbogen (1997), Kuiper et al. (1998) Lievertz, (1987), Malsbury and McKay (1994), Shibata et al (1997) and others describe the occurrence and function of estrogen and testosterone receptors all over the body.

Further undermining the once seemingly inviolate link between gonadectomy and good health are studies such as Kelsey et al (1998) and the data being collected by the College of Veterinary Medicine at Texas A & M’s Oncology which looks at the risk factors for cancer in dogs. While gonadectomy might decrease the probability of some kinds of cancers, there are many neutered animals succumbing to other forms.

Similarly, those studies that link early neutering in male dogs to decreased behavioral problems are being neutralized by those that challenge the testosterone = violence belief. So much new research on the subject exists that Neihoff devoted an entire book to its review.(1999). Meanwhile other studies indicate that gonadectomy prior to sexual maturity may worsen the behavior in so-called androgenized or masculinized females because such surgery removes the behavioral modulating effects of the female sex hormones that affect the brain at sexual maturity.(Borchelt and Voith, 1996; Knol and Egberink-Alink, 1989 ). The oft-derided observational awareness of old-time dog-owners that females who have experienced several heats or had a litter of pups make better pets has at least some truth to it. Other studies of non-
shelter populations reveal equally serious behavioral problems in the neutered canine population. (Guy et al. 2001). Hart’s study (2001) linking canine cognitive dysfunction to neutering parallels work on the effects of reproductive hormones on the brain. Then there are those estimated 20% of all spayed females dogs who experience urinary incontinence, only 67-75% of whom respond to medication. (Rawlings et al. (2001). Some castrated males also experience similar problems. Can we continue to ignore the negative effects this has on these animals and their relationships with their owners?

In their essay “Dogmatism and Catechism: Ethics and Companion Animals” (2001), estheticists Bernard Rollins and Michael Rollin question the morality of mass gonadectomy. Currently the idea of the pet as a beloved family member has the blessing of all those animal-related professions that wish to profit from this relationship. However, does it seem unlikely that one day pet owners might look at this accumulating data on the negative effects of neutering and ask, “Would we allow others to badger us into spaying or neutering one of our kids?”

What Lies Ahead?

A final consideration takes the form of a question: When all the responsible owners neuter their pets, who is left to determine the future of the domestic canine (and feline) species? In some parts of the country such as the Northeast and large metropolitan areas, there are few pups available in shelters. We might consider this a victory for widespread gonadectomy except that, of the few puppies available many have serious behavioral and/or medical problems that preclude their adoption. Similarly, many adult dogs in shelters may have problems that require more financial, time, physical, and emotional resources than the average shelter can invest in one animal or the average adopter can muster to properly care for that animal. Currently shelters with an excess of adoptable dogs are sending these to other shelters with empty cages. While this prevents good dogs from being euthanized for lack of space, it does nothing to address the underlying problem: the lack of animals with the physiological and behavioral wherewithal to enjoy a quality life in the average American pet-owning household.

Using a practice that sounds disturbingly similar to eugenics, breeders of purebred animals often insist that “pet quality” animals be spayed or neutered and only “show quality” animals be bred. The net result of this is the concurrent shrinkage of purebred gene pools that in some cases were inadequate from the beginning. And the net result of that is the loss of the potential for physiological and behavioral flexibility at a time when their physical and emotional environments placed increasing demands upon our pets.

For as deeply entrenched and emotionally seductive as the “responsible pet ownership” campaign is, the time has come to bring the subject of gonadectomy out of the closet and objectively analyze its benefits and costs to the nonhuman as well as human animal populations involved. We may very well conclude that this is the path that we as a society choose to take for our own convenience. Although such a view will do nothing to help the individual animals and species adversely affected by this practice, at least it would end the hypocrisy of pretending that we do it for them.


