



THE LATEST FACTS ABOUT SPAYING AND NEUTERING

Why neuter (castrate/spay)?

Spaying and neutering should be the natural choice for most pet owners. Apart from population control, there is evidence that early neutering is often better for the health of the individual animal.

When should you neuter?

The latest recommendations are that spaying and neutering should be carried out at an earlier age than has previously been suggested. It is now recommended that in most cases:

- Both male and female **cats** should be neutered/spayed at 4-6 months of age. Queens and tomcats can be neutered as early as 4 months of age if both male and female cats in house or in the case of outdoor cats, such as strays or feral cats.
- Both male and female **small dogs** should be neutered/spayed at 5-6 months of age - i.e. before a female dog's first season/heat.
- Both male and female **large breed dogs** should be spayed/neutered at approximately 9 months of age (after a female dog's first season) to ensure these larger breeds are more skeletally mature - e.g. Old English Sheep Dog, Doberman, Weimaraner, Springer Spaniel, Rottweiler, Irish Setter, Golden Retriever etc.
- It is currently believed it is beneficial to delay neutering/spaying male and female **giant breed dogs** until at least one year of age - i.e. after a female dog has had at least one season. Again, this allows them to be more skeletally mature before neutering and may help to reduce the likelihood of osteosarcoma in these breeds.
- All bitches should have a pre-op check prior to neutering. It is not recommended to spay bitches when in season or while they are lactating. Ideally, if a bitch has had a season, neutering should be performed 10-12 weeks after the end of the last season to reduce the risk of post-spaying false pregnancy. If a bitch has had a litter, it is generally safe to spay about 10 weeks post whelping as long as her milk has subsided. Neutering may also be delayed by medical issues such as juvenile vaginitis or a history of urinary incontinence.

The above suggestions are guidelines only. Every animal should be assessed as an individual and the pros and cons of neutering must be weighed up in every case with a risk on the basis of benefit analysis tailored to the individual cat or dog - e.g. social issues, convenience, dogs coming into season etc.

What is the evidence for health benefits of early neutering?

FEMALE DOGS

- It is nearly always best to spay a small bitch before her first season. This eliminates the risk of unwanted pregnancy, dystocia and the physiological and behavioural changes associated with the six-monthly reproductive cycle. It also dramatically reduces the risk of mammary cancer and eliminates the risk of pyometra, which occurs in 23% of intact females and kills approximately 1% of intact females. The risk of a non-neutered female dog developing mammary tumours during her life drops from 70% to 0.5% if neutered before her first heat. Mammary tumours are the most common malignant tumours in female dogs - neutering before 2½ years of age greatly reduces the likelihood of this cancer. Osteosarcoma is very rare in small-medium breed dogs.
- Early neutering also confers health benefits to large breed and giant breed females such as reducing or eliminating the risk of mammary tumours, unwanted pregnancy or pyometra. However, there is no evidence to suggest that allowing a bitch to have a litter of pups confers any health benefits.
- Neutering eliminates pseudo-pregnancies and reduces the risk of perianal fistulas, while removing the risk of uterine, cervical and ovarian tumours.

FEMALE CATS

- Entire cats are seven times more likely to develop mammary cancer than those spayed at puberty. Mammary cancer is the third most common form of neoplasm, though with a lower risk than in female dogs. 80% of feline mammary tumors are malignant.
- Neutering female cats also prevents pyometra, which though not common in cats, is not unheard of.
- Prevention of unwanted pregnancy/litters, eliminates the risk of dystocia.
- Spaying eliminates or reduces the occurrence of certain feline behaviours.

MALE DOGS

- Castration eliminates the risk of testicular cancer, the second most prevalent cancer among male dogs.
- Castration dramatically reduces the incidence of other non-cancerous conditions of the mature prostate (e.g. benign prostatic hyperplasia, prostatitis/prostatic abscesses, prostatic cysts and paraprostatic cysts). Prostatic hyperplasia starts at 1-2 years of age with 95% of dogs affected by 9 years of age.
- Castration dramatically reduces the risk of tumors of the perineum such as perianal adenoma, and perianal fistulas.
- It may possibly reduce the risk of diabetes.
- Castration can reduce aggression and dominance in male dogs and sibling rivalry, minimises territorial marking with urine, lessens the likelihood of roaming/straying, and dry humping cushions, owners legs etc.

MALE CATS

- Neutering reduces fighting and territorial behaviour by over 80%, significantly reducing cat bite abscesses, as well as reducing the risk of FIV and Feline Leukaemia viral infection.
- Neutering also significantly reduces male urine marking behaviour.



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Is there any evidence of any adverse effects of spaying or neutering in dogs?

- While it is true that castration is associated with an increased risk of bladder and prostate cancer, the incidence of these cancers remains very low compared with testicular cancer and other prostatic diseases in entire dogs.
- Spayed and neutered animals are more likely to become obese (changes in the sex hormone levels after neutering may slow down the animal's metabolism), but this can be easily prevented or treated by following sensible nutritional advice.
- There is some recent evidence that spaying and neutering before skeletal maturity increases the risk of bone tumours (osteosarcoma) in large and giant breeds of dog, a factor which should be taken into account when advising owners of these types of animals. However, in most cases, the benefits of spaying outweigh the risks of neoplasia which are likely to happen only in a low percentage of individuals.
- A recent on-line paper has suggested that Golden Retrievers neutered before one year of age are slightly more prone to certain diseases than their non-neutered counterparts, e.g. hip dysplasia, cranial cruciate ligament tear, lymphosarcoma, haemangiosarcoma and mast cell tumour. However, the number of dogs analysed in the study was small, and the study was limited to patients at a referral hospital only, so it is difficult to know if these results could be extrapolated to the general population. The issue of causality is also a problem in this study, e.g. did neutering cause hip dysplasia in these dogs, or were the dogs neutered at an early age because they showed evidence of poor conformation and gait, while animals with sound gait may have been kept entire for the purpose of breeding? Thirdly, the incidence of many of these diseases increases with age and in this study, most of the neutered animals were older than their entire counterparts, e.g. haemangiosarcoma is much more common in dogs aged 7 or over, compared with dogs of only 2-3 years of age.
- Urinary incontinence is more likely to occur in bitches that are spayed at any age (4-20%) compared with bitches that are not spayed (0.3%) and can occur soon after a spay or after a delay of several years. Urinary incontinence is commonly called 'spay incontinence' and is caused by urethral sphincter incompetence. However, the evidence for a causal relationship between spaying and urinary incontinence is weak, although there is some evidence that the risk of urinary incontinence may decrease as age at spay increases up to 12 months of age, after which, there is no evidence of an effect of age at spay. However, the majority of cases respond well to simple treatment, and most people agree that this risk is much less serious than the alternative risk of malignant mammary cancer. There is still debate over whether spaying before the first season marginally increases or decreases the risk of this problem.
- Some studies have made tentative links between neutering and cardiac haemangiosarcoma, hypothyroidism, progressive geriatric impairment, urinary tract cancers, orthopaedic disorders, adverse vaccine reactions, splenic haemangiosarcoma, recurring urinary tract infections, urinary tract tumours, recessed vulva, vaginal dermatitis and vaginitis if spayed before puberty. However, many of these studies had skewed study populations, did not have a substantial study population size and are relatively old studies, so further studies would be required to substantiate them.

Is it controversial to recommend spaying and neutering as a general policy?

- The driving force behind the SpayAware campaign is to tackle the massive pet overpopulation problem in this country. Vets have an important role to play in challenging Ireland's established "non-neutering" culture. If we can generate the widespread understanding that neutering is normal, then we stand a greater chance of getting this message to those whom we do not currently find it easy to reach. An ambiguous approach on this issue breeds confusion. If we take a "maybe" stance that openly invites choice, then the choice that will most readily be made is the one that involves taking the least action and spending the least money. As a result, many bitches and dogs will remain entire and countless further unwanted puppies and kittens will be born and then destroyed. It is the opinion of the SpayAware team that there are issues for discussion with concerned clients who wish to understand the risks of neutering and to weigh them against the benefits. Debate should be welcomed: spaying or neutering may not be the most appropriate decision in all cases.
- In recent years new methods of data collection and computerised analysis, together with increased research in this area, have greatly increased our knowledge of the effects of interventions such as spaying/neutering. Hopefully with time, any uncertainty pertaining to neutering will be resolved. For example, a current UK study is looking into the effects which early neutering may have on dog behaviour, so we can look forward to learning more about this complex issue over the next couple of years.