



# Neutering Factsheet

Many new Wolfhound owners ask for advice about spaying or neutering their puppy. The IWHG has created this factsheet to assist owners looking for information about the benefits and risks associated with this procedure.

**Whilst many vets may recommend *early spay or neuter*, this document will hopefully help you and your vet to understand why this is not a recommended procedure in a giant breed like wolfhounds.** There is now a great deal of research showing that to remove the sex hormones of an immature animal of a large or giant breed can lead to serious long term health issues.

Having researched the available literature, we have found one review paper which we feel best summarizes the findings of over 50 scientific papers dealing with this topic. It is very easy to read and has been linked to on our website, you may even want to download it, print it out and take it to your vets: [Long-Term Health Risks and Benefits Associated with Spay / Neuter in Dogs](#) Laura J. Sanborn, M.S. May 14, 2007

The following are a few key reasons taken from the above paper why the Irish Wolfhound Health Group does not recommend early spay or neuter.

## Osteosarcoma

For both male and female dogs, if they are neutered before 1 year of age, the risk of osteosarcoma, or bone cancer, is significantly increased. Since it is estimated that osteosarcoma already kills around 20% of Irish Wolfhounds, increasing this risk further is not considered an advisable action.

## Bone growth and development

Irish Wolfhounds take a long time to reach full growth and maturity. Spaying or neutering an immature dog delays the closure of the growth plates in bones that are still growing, causing those bones to end up significantly longer than in intact dogs or those spay/neutered after maturity. Since the growth plates in various bones close at different times, spay/neuter that is done after some growth plates have closed but before others might result in a dog with unnatural proportions, possibly impacting performance and long term durability of the joints. It has been shown in other breeds that neutering, particularly of immature animals, leads to an increased risk of cranial cruciate ligament injury and hip dysplasia. It has also been shown to lead to remodelling of certain joints and a net loss of bone mass.

## Cancer

When a dog is neutered the risks of some cancers increases while the risk of others decreases. These risks should be weighed for each different dog breed, but for Wolfhounds, after osteosarcoma at 20%, lymphoma at 4.7% and hemangiosarcoma at 2.3% (figures from IWF newsletter Summer 2016) are the two most common cancers. The risk of developing either of these types of cancer has been shown to increase in spayed/neutered dogs with an association not only with an increase in likelihood of development but a correlation between ages of spay/neuter and age at diagnosis. That is, dogs which were spayed/neutered earlier also developed cancer earlier in life. The risk of hemangiosarcoma is particularly increased in female dogs. Therefore, especially in female dogs the increased risk should be weighed against the benefit from the decreased risk of mammary tumours, the most common malignant tumours in female dogs across all breeds.

In short, every case must be treated individually, and the risks and benefits weighed for each dog (and owner). There are no 'one size fits all' solutions. Other considerations might include the possibility of behavioural changes, risk of urinary incontinence and obesity.

Traditionally, vets will recommend spay/neuter at around 6 months of age, some will even perform paediatric operations much earlier than this - we strongly recommend that this is not undertaken until the dog is at least two years old and in bitches, not before their second season.

However, there are now other options available to owners wishing to remove the breeding capability of their dog without removing the hormones. Instead of an entire gonadectomy, (castration or spay), owners might consider a vasectomy or chemical castration for males (e.g. Supralorin), and tubal ligation or an ovary-saving spay for females. These options should be discussed in full with your primary care vet and could provide a way of allowing earlier neutering without increasing the risk of later health problems, but this would still not be a recommended option for paediatric or immature dogs.

Whichever route is chosen, we hope you will understand why for a giant, fast growing breed like wolfhounds we recommend you should wait until our young hounds are physically and sexually mature.

## Other references and reading material:

- Salmeri KR, Bloomberg MS, Scruggs SL, Shille V. Gonadectomy in immature dogs: effects on skeletal, physical and behaviour development. JAVMA 1991; 198:1193-1203.
- <http://grca.dcwdhost.com/wp-content/uploads/2015/08/EffectsEarlySpayNeuterPurina2.pdf>
- Grumbach MM, Oestrogen, bone growth and sex: a sea change in conventional wisdom. J. Pediatr Endocrinol Metab. 2000; 13 Suppl 6: 1439-55.
- Gilsanz V, Roe TF, Gibbens DT, Schulz EE, Carlson ME, Gonzalez O, Boechat MI. Effects of sex steroids on peak bone density of growing rabbits. Am. Physiol. 1988 Oct; 255 (4 pt 1) E416-21
- Slaughterbeck JR, Pankratz K, Xu KT, Bozeman SC, Hardy DM. Canine ovariohysterectomy and orchiectomy increases the prevalence of ACL injury. Clin. Orthop. Relat Res 2004 Dec (429) 301-5
- [Spivak, M. Recent Research Raises Concerns Regarding Early Spaying/Neutering. November 2015. ResearchGate.](#)
- Behavioral and Physical Effects of Spaying and Neutering Domestic Dogs (Canis familiaris) Summary of findings detailed in a Masters thesis submitted to and accepted by Hunter College by Parvene Farhooody in May, 2010. © 2010 Parvene Farhooody & M. Christine Zink.
- <http://www.dogsnaturallymagazine.com/three-reasons-to-reconsider-spayneuter/>
- Meuten DJ, Tumours in domestic animals 4th edition. Iowa State Press, Blackwell Publishing co. Ames Iowa (p. 575)
- Stocklin-Gautchi NM, Hassig M, Reichler IM, Hubler M, Arnold S. The relationship of urinary incontinence to early spaying in bitches. J. Reprod. Fertil. Suppl. 57: 233-6, 2001
- Torres de la Riva G, Hart BL, Farver TB, Oberbauer AM, Messam LLM et al (2013). Neutering dogs: effects on joint disease and cancer in Golden Retrievers.
- Pessina MA, Hoyt RF Jr., Goldstein I, Traish AM. Differential effects of estradiol, progesterone and testosterone on vaginal structural integrity. Endocrinology 2006 Jan. 147 (1): 61-9
- Kim NN, Min K, Pessina MA, Munarriz R, Goldstein I, Traish AM. Effects of oviectomy and steroid hormones on vaginal smooth muscle contractility. Int. J. Inpot Res. 2004 Feb; 16 (1) 43-50
- Aaron A, Eggleton K, Power C, Holt PE. Urethral sphincter mechanism incompetence in male dogs: a retrospective analysis of 54 cases. Vet. Rec. 139: 542-6, 1996
- Panciera DL. Hypothyroidism in dogs. 66 cases (1987 - 1992) J. Am. Vet. Med Assoc., 204: 761-7 1994
- Howe LM, Slater MR, Boothe HW, Hobson, HP, Holcom JL, Spann AC. Long term outcome of gonadectomy performed at an early age or traditional age in dogs. J. Am. Vet. Med. Assoc. 2001 Jan. 15: 218 (2): 217-21