

Consideration of Spay | Neuter of Bernese Mountain Dogs

What's a Berner owner to do?

Sorting through all the factors that need to be looked at in management of a male or female Bernese Mountain Dog's reproductive status is the focus of this article.

Spaying and neutering dogs is a commonplace occurrence in the United States.

It's almost a given, in the US, that 'responsible' pet ownership involves spaying/neutering dogs that are not used for breeding; this is true even in the purebred dog sector. Many purebred dog breeders sell pups as 'pet' quality dogs not designated to be used as breeding stock. Purebred dog breeders frequently require 'pet' quality dogs to be spayed/neutered – this requirement may be understood by the breeder and buyer or may be written into the breeder's contract which is signed by both breeder and puppy buyer.

- Spaying and neutering of dogs is an elective surgery.
- Recommendations to spay/neuter are made by veterinarians - pet owner clientele request spay/neuter services.
- An owner's decisions regarding spay / neuter may be influenced by specific conditions set forth in their breeder's contract. A contract may contain requirements specifying at what age the pup should be spayed /neutered. 'Pet' buyers are encouraged to discuss spay/neuter with their dog's breeder - breaching terms in a contract can carry legal consequences.

Owner management considerations matter...

There are pros and cons associated with spay/neuter.

See the Kennel Club (UK) article **Puberty and neutering** at <https://www.thekennelclub.org.uk/getting-a-dog-or-puppy/general-advice-about-caring-for-your-new-puppy-or-dog/puberty-and-neutering/> which includes considerations - pros and cons. On the pro side of spay/neuter for females, altering eliminates owner concerns related to life threatening uterine infections (pyometra) and in males neutering minimizes development of prostate infections and hypersexual behavior. For both sexes altering can impact the expression of highly undesirable, disruptive behaviors, i.e. less territoriality/fighting/aggression which are behaviors that lead to owner surrender of dogs to shelters. The KC's list does not mention cons of higher licensing fees for intact dogs or mandatory spay/neuter laws or cost or required permits to keep intact dogs that apply in some locales – the AVMA provides an overview of Mandatory spay/neuter laws in the US at <https://www.avma.org/Advocacy/StateAndLocal/Pages/sr-spay-neuter-laws.aspx>.

And please, if you are considering keeping your dog intact... keep in mind... intact dogs can make puppies in the blink of an eye!

There are significant challenges faced by owners who want to responsibly manage an intact male or female.

- It is completely understandable that a pet owner wouldn't want to deal with managing an intact female or male. Many dogs are kept as companions, treated as family members - never purchased for or intended to be used to produce pups.

Unwanted pregnancies are not desirable. Be careful!!!

- Intact males will seek out in-season bitches - they are good at that! Berner males can have viable sperm at as young as 5 months of age.
- Intact Berner males don't discriminate between breeds - ? - have you got a Golden Retriever or a Beagle or a mixed breed female in your neighborhood in 'heat'? Does your male dog walk by the houses where intact female dogs live? Does the wind blow from the direction of a close neighbor's house – INTACT BERNER-BOY KNOWS!!!
- Berners - males and receptive females in 'heat' have been known to climb or jump fences – even to breed through fences, escape from yards, slip through doors that are ajar, go through window screens to 'get the job of breeding done'.
- Not to mention, there are significant trials involved in caring for a pregnant bitch and a litter of puppies – breeding dogs requires knowledge, time, space, money and work - including the owner's responsibility to carefully evaluate

the suitability of the bitch (and her mate) for breeding i.e. health testing. Placement of pups in suitable, forever homes can be very challenging.

The question comes up all the time... At what age should a Berner be spayed/neutered?

Some veterinarians recommend spaying or neutering male or female dogs at young ages, between 4-9 months.

The AVMA's spay/neuter resources are located at <https://www.avma.org/News/Journals/Collections/Pages/AVMA-Collections-SpayNeuter.aspx>.

Veterinarians are advised by the AVMA to be aware of current research and to consult with the pet owner to discuss risks and benefits of spay/neuter.

While the health benefits of spaying and neutering dogs are many – ongoing scientific research during the past decade or so points to instances of long-term undesirable health effects of spay/neuter.

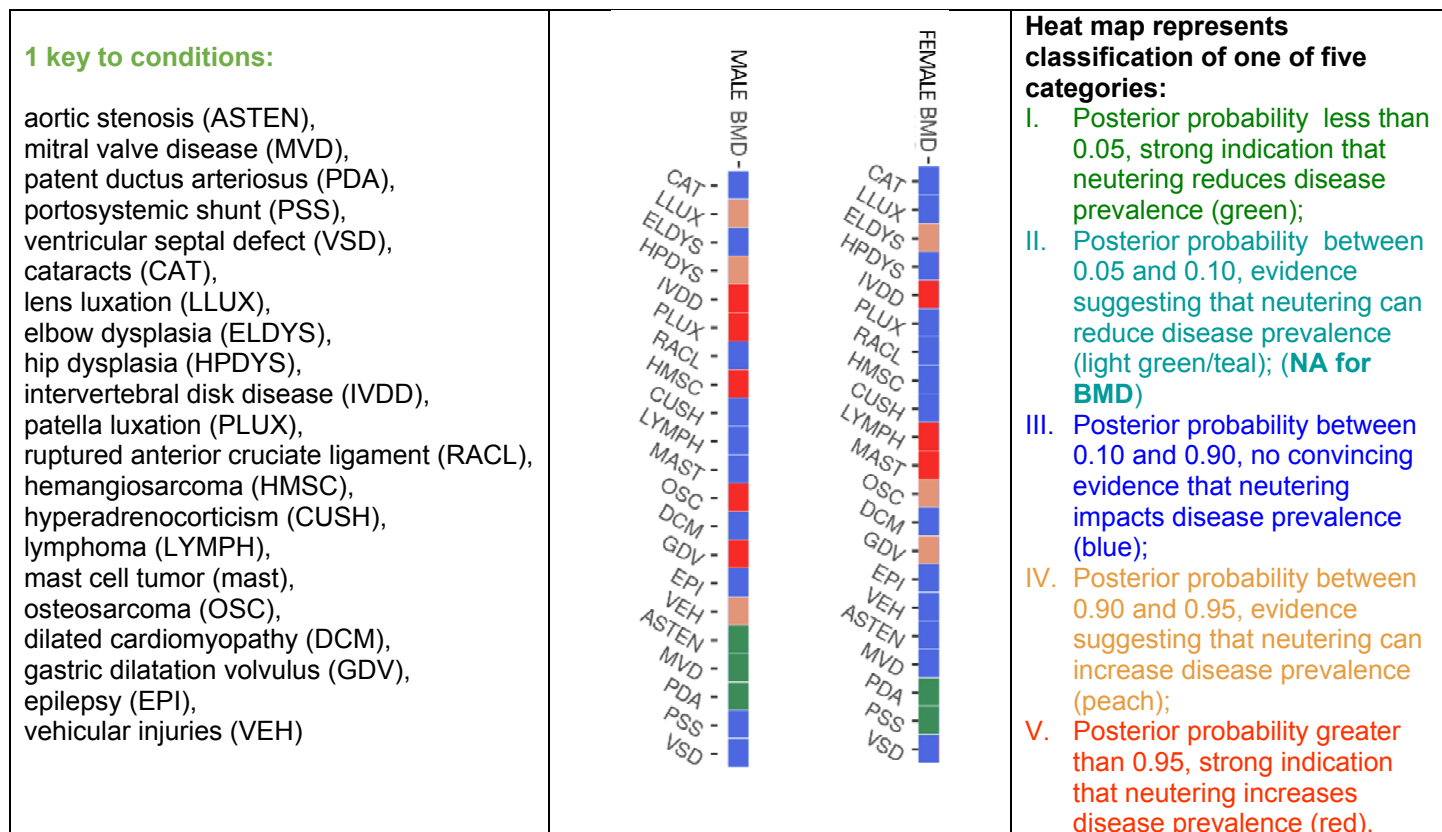
Statistics presented in numerous studies of purebred and mixed breed dog populations have shown that spay/neuter is associated in some breeds with development of health issues such as increased incidences of some cancers, problems with cruciate ligament ruptures, orthopedic issues i.e. HD/ED/IVDD, thyroid issues, heart problems, epilepsy and other conditions that negatively impact dog's health, result in diminished quality of life and can lead to shortened lifespans.

Breed-specific data has been collected for several purebred dog breeds - Golden Retrievers, Labrador Retrievers, Boxers, Rottweilers and Vislas to mention a few. Research papers are available as open-source documents. We'll concentrate on presenting the most current research (below) which contains data on numerous purebred dog breeds, including the Bernese Mountain Dog, as well as data on mixed breeds.

A 2017 study: Correlation of neuter status and expression of heritable disorders by Janelle M. Belanger, Thomas P. Bellumori, Danika L. Bannasch, Thomas R. Famula and Anita M. Oberbauer. The authors analyzed data from 90,090 individual dogs seen at the University of California William T. Pritchard Teaching Hospital from 1995 through the end of 2010.

Below – extracted BMD data from the study: Correlation of neuter status and expression of heritable disorders

<https://cgejournal.biomedcentral.com/articles/10.1186/s40575-017-0044-6>



Note: The authors of this study "emphasized that low sample numbers of cases in each sex class requires caution in interpretation for individual breeds."

A Healthier Respect for Ovaries 2015 - <http://www.gpmcf.org/hro2015.html> covers research done on female Rottweilers living in North America and Canada. "Dr. Waters' team spent a decade collecting and analyzing medical histories, longevity, and causes of death for 119 Rottweilers in the United States and Canada that survived to 13 years of age. These dogs were compared with a group of 186 Rottweilers with more typical longevity." A follow-up study, **Exceptional longevity in female Rottweiler dogs is not encumbered by investment in reproduction** <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3825016/> concluded that "independent of reproductive investment (*pregnancy/pup production*), the duration of lifetime ovary exposure was significantly associated with highly successful aging. Our results from exceptionally long-lived pet dogs provide rationale for further investigative efforts to understand the ovary-sensitive biological factors that promote healthy longevity in women and pet dogs."

So what's all this got to do with spaying or neutering my Berner?

We all want our dogs to be given the best care there is – we want them to live as long as possible – we want them to be the best they can be – as healthy as possible.

Is there a good reason to wait for a year or more to spay/neuter my pet?

- The Bernese Mountain Dog is a **large breed**. Berners mature slowly - they are not fully grown until they reach 2-3 years of age. One need only observe spayed and neutered Berners to notice that they can look a little different than their intact counterparts. Some spayed dogs or bitches can be a bit overweight particularly with age (*easy keepers :-)*), their coats often are very long and dense. Many mature Bernese that were spayed/neutered young (~6 months) never developed bulk and heft and may appear shallow-chested and leggy – which is considered atypical for the breed. These sorts of differences in outwardly visible physical characteristics between altered and intact dogs and bitches are also seen in other breeds.
- Undoubtedly the presence of hormones associated with reproduction (estrogen and testosterone) have a bearing on growth, development and on temperament – these matters have been studied for decades.
- See **Clinician's Brief** - a paper written by Clara S.S. Goh, BVSc, MS, DACVS (Small Animal), ACVS Founding Fellow (Surgical Oncology) Colorado State University - **Age of Neutering in Large- & Giant-Breed Dogs** <https://www.cliniciansbrief.com/article/age-neutering-large-giant-breed-dogs> for more information specific to spay/neuter in large breed dogs.

Well then, is there an optimal age at which an otherwise healthy Berner should be spayed or neutered?

There's no solid, one-size-fits-all answer to the question. It's a matter of opinion. Some Berner breeders suggest that waiting till a Berner is older is the best course - after the dog (male or female) is 12-18 months of age; in females, some say to spay after their first heat cycle. Some say spay/neuter dogs by 6-8 months of age – before behaviors typically associated with hormones get started – before there's any chance of pregnancy. Given what scientists are still learning about the influence of hormones and relationships to disease, long-term health and longevity, we don't yet fully understand or can we say with certainty when the optimal time is to spay or neuter to ensure health or longevity – which stand aside from other breeder and owner based management concerns related to intact or spayed/neutered dogs.

Questions...

Do scientific studies provide breed specific information on the health effects of spay/neuter in Bernese Mountain Dogs?

- **Some, but there is very limited breed-specific information on spay/neuter available at this time for BMD's. (The study mentioned above contains data on the Bernese Mountain Dog breed.)**

Can we extrapolate that spay/neuter of BMDs is a 'bad' idea at any specific age based on findings from other breed-specific research studies?

- **One would be foolish to ignore other breed-specific studies which contain data that indicates there are increased risks for dogs to develop health problems associated with spay/neuter. But the simple truth is, even the researchers themselves are saying there is need for further research on the effects of hormones on health and disease.**

What sorts of recommendations do veterinary professionals make regarding spay/neuter of 'pet' dogs?

- **Variable, good Vets listen to their human client's concerns - ask your dog's vet to discuss the benefits and drawbacks of spaying/neutering in terms of your dog's health.**

Do we have any info on spay/neuter in breed-specific health surveys?

- **Yes. BMDCA's 2000 and 2005 Health Surveys**
 - http://www.bmdca.org/health/pdf/2000_Health_Survey.pdf
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Males 2005 Total	103	Average age	89.9 mos.
Neutered	75	Average age	94.4 mos.
Intact	27	Average age	76.3 mos.
Bred	21	Average age	98.8 mos.
Males 2000 Total	118	Average age	76.61 mos.
Neutered	70	Average age	92.96 mos.
Intact	42	Average age	59.88 mos.
Bred	26	Average age	85.19 mos.
 			
Females 2005 Total	112	Average age	98.3 mos.
Neutered	96	Average age	101.4 mos.
Intact	16	Average age	80.1 mos.
Bred	39	Average age	103.1 mos.
Females 2000 Total	142	Average age	91.58 mos.
Neutered	105	Average age	101.77 mos.
Intact	34	Average age	67.21 mos.
Bred	60	Average age	98.52 mos.

Summary

From the responses submitted to the BMDCA's 2005 and 2000 surveys, both of which were voluntary owner participation surveys, which include club and non-club member respondents, the following statements are accurate:

- Female BMD's live longer than male BMD's.
- Intact males and females have shorter average lifespans than their neutered counterparts.
- Males and females that were bred live longer than their respective intact counterparts.

The 2000 and 2005 Survey respondents were primarily located in North America. Respondents reported on multiple or single dogs. Country of origin of the dogs in the reports is not available. BMDCA Club members represent the majority of survey respondents in both surveys.

- *Speculative statement: Greater longevity in males and females that were bred may reflect the standards of care these dogs received – high value, income producing animals – also during the years reported in these surveys bred dog's owners were likely involved in clubs and exhibitions (implication - educated, responsible dog owners) or is greater longevity in bred dogs influenced by the presence of hormones?*

Are there cultural or country-specific considerations on spaying/neutering of dogs?

- **Yes.**

Science Nordic: Should dogs be neutered?

December 29, 2011 - 05:00

- <http://sciencenordic.com/should-dogs-be-neutered>

RELEVANT: Recent Research Raises Concerns Regarding Early Spaying/Neutering

Nov 2, 2015 from Comprehensive Pet Therapy and Dog Training at <http://cpt-training.com/recent-research-raises-concerns-regarding-early-spayingneutering/> Includes a history of spay neuter in the US along with many references to position statements and research... includes cultural comments and country-specific information...

"European Statistics and Policy -- Interestingly, the public policy is very different in much of Europe, where the spay/neuter rate is much lower than in the USA. For instance, in Sweden only 7% of dogs are spayed/neutered.[31] In Hungary 43% of dogs are spayed or neutered.[32] In the United Kingdom 54% of dogs are spayed or neutered.[33] The sharpest difference from the USA lies in Norway. The Norwegian Animal Welfare Act forbids spaying or neutering, except in cases of medical necessity.[34][35] Yet, Scandinavian countries appear to have a much lower stray pet problem than in the USA,[36] most likely because the Scandinavian culture is such that people rarely abandon their pets or let them run loose.[37]"

What sort of information on spay/neuter does the American Kennel Club offer?

AKC: Should dogs be neutered?

December 29, 2011

- <http://www.akc.org/content/news/articles/new-spay-neuter-position-statement/>

AKC-CHF: Determining The Best Age At Which To Spay Or Neuter

03/24/2008

- <http://www.akcchf.org/canine-health/your-dogs-health/determining-the-best-age-at.html>

A degree of skepticism and caution never hurts... but, don't discount the research either

A Scientific American article written by Jessica P. Hekman (2015), **Do Spayed and Neutered Dogs Get Cancer More Often?** <https://blogs.scientificamerican.com/dog-spies/do-spayed-and-neutered-dogs-get-cancer-more-often/> offers a perspective on looking at data used in scientific studies - is there bias?

Studies do have limitations; and findings may not accurately represent the bigger picture of health in different breeds or reflect meaningful breed-specific information. We know based on the development of genetic tests for heritable diseases that genes associated with expression of a specific disease in one breed may not be the same genes that are operating in another breed; so what's true and provable by a preponderance of evidence collected for one breed may not apply or apply limitedly to another.

Mentioned in the Scientific American article was research published in 2013, **Reproductive Capability Is Associated with Lifespan and Cause of Death in Companion Dogs**, by Jessica M. Hoffman, Kate E. Creevy, and Daniel E. L. Promislow at <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0061082>.

The study's authors acknowledge that... "Finally, as previously mentioned, the link between sterilization and the observed outcomes cannot currently be known. A direct cause-and-effect relationship between reproduction and cause of death is possible, but the actual relationship is likely more complex. In mammals, removal of gonadal hormones has been shown to alter hematological and coagulation parameters, the pituitary-adrenal axis, satiety, neurotransmitters, thymic tissue, and behavior [11], [45], [46], [47], [48], [49], [50]. Any or all of these factors could mediate the differential causes of death observed between the reproductively intact and sterilized dogs of this report. Documentation of these outcome differences now creates the exciting opportunity to investigate the possible causal mechanisms in dogs and other species."

Long-term, breed-specific studies will eventually provide more insight allowing veterinarians, breeders who sell puppies and owners of dogs to make the best, informed decisions regarding spay/neuter and the optimal age(s) at which the procedure should be done.