

# SPAYING YOUR DOG

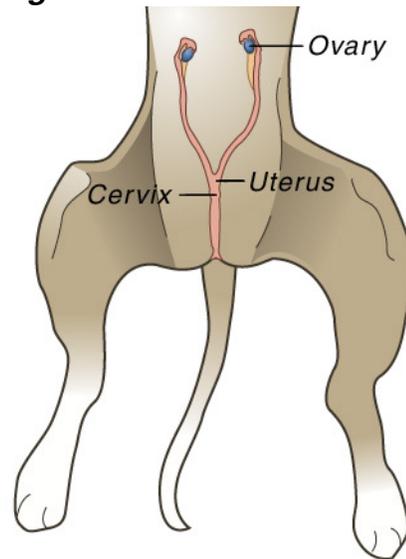
The medical term for the “spay” procedure is ovariectomy, often abbreviated OHE. During this procedure, the ovaries and uterus are removed. Other similar procedures are discussed below – the ovary sparing spay, and the ovariectomy.

## ***Why should I have my dog spayed?***

We recommend spaying all female pets prior to old age, ideally at 5 years of age or younger. The benefits to your pet’s health and to help reduce the pet overpopulation crisis make this decision easier. It should be remembered that owners of Guide Dogs for the Blind, Hearing Dogs for Deaf People and Dogs for the Disabled routinely have their female dogs spayed.

## ***What are the advantages of spaying in the female dog?***

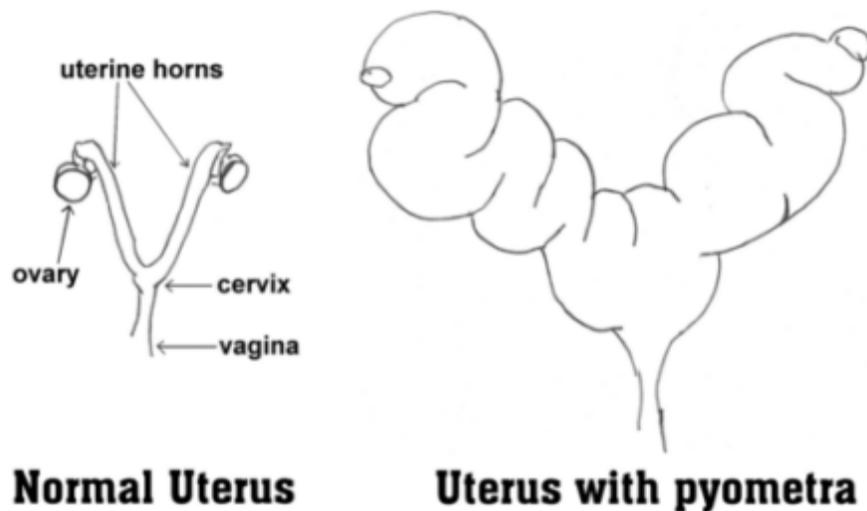
- The obvious – preventing unwanted puppies, when they are killed by the millions in shelters in the US every year. Puppies are harder to sell than you might think. Many times, you can’t find good homes even if you give them away.
- Prevention of “heat” or estrus. When in “heat”, the female experiences an urge to escape in order to find a mate. This unwanted and dangerous behavior is eliminated. The heat cycle is accompanied by bloody discharge for 1-2 weeks that can be accompanied by an objectionable odor. The older unspayed female dog may have irregular heat cycle, but there is no end of cycling comparable to human menopause.
- It eliminates the possibility of false pregnancy following the “heat cycle.”
- Prevention of uterine infection known as pyometra, which can be life threatening. One in four female dogs who survive to ten years of age will develop pyometra. Mortality rate due to pyometra is 15-20%, and it is completely prevented by spaying.
- The prevention of breast cancer. Dogs spayed before the first “heat” have less than 0.5% chance of developing breast cancer. After the first heat, this risk climbs to 7%, and then 25% after the second heat.
- Elimination of the risk of uterine and ovarian cancer.



## ***Is spaying performed for any other reason?***

The operation may be performed for several medical conditions. These include:

- Treatment of intractable false or phantom pregnancy.
- Females with irregular or abnormal cycles due to ovarian cysts, which can be painful.
- To help correct certain behavioral problems, such as aggression, fighting and roaming.
- Treatment of uterine infection (pyometra) or cancer.
- Dystocia (difficult birthing) or post caesarean-section surgery.
- To stop seizures precipitated by the heat cycle.
- To reverse insulin dependence in some diabetics.



When all is considered, there are several studies that show that spayed females live 23-26% (2-3 years) longer than intact female dogs (Cooley et al 2002, Banfield 2013, Hoffman et al 2013). There is one study that shows that Rottweilers that live to be older than 13 years are more likely to have \*not\* been spayed prior to 4 years of age. Some have said that a 13 year old Rottweiler has an age equivalent of a 100 year old person. So it's hard to say whether what happens in this very small group of dogs that have an exceptionally long life has anything to do with most dogs.

### ***What are the disadvantages?***

Obesity is probably the most commonly quoted disadvantage of spaying. There is no question that spaying the female dog in many cases reduces the metabolic rate, so that fewer calories are needed each day. However, obesity is the result of overfeeding and lack of physical activity. By regulating your dog's diet and caloric intake, you can easily prevent obesity in spayed female dogs.

Cancer and other common canine diseases are a mixed bag. Bone cancer and bladder cancer are definitely more common in spayed female dogs. Lymphoma and mast cell tumor have mildly increased risk in spayed female dogs. Mammary cancer, and melanoma are much more common in intact female dogs, and ovarian and uterine cancer are almost never found in intact female dogs. Autoimmune diseases and low thyroid function are more common in spayed females. Degenerative diseases, vascular diseases, infectious diseases and trauma are more common in intact females.

### ***When should the operation be performed?***

Most veterinarians recommend spaying between four and six months of age, prior to the first heat, essentially eliminating the risk of mammary cancer. However, recent research has shown that large breed dogs who are spayed before one year of age have an increased risk of some orthopedic problems (hip dysplasia, elbow dysplasia and ruptured ligaments in the knees), and are increased risk for urinary incontinence. Small dogs seem to do very well being spayed prior to 1 year of age. Many large dogs spayed prior to 1 year of age do just fine, but it does seem reasonable to delay spay until after they are all grown up, to prevent orthopedic problems. For dogs that reach an adult ideal weight of 50-80 pounds, this translates to being spayed at 1-2 years of age. For dogs that reach an ideal weight of greater than 80 pounds, this often translates to being spayed at 2-3 years of age, or even later. We recommend that all female dogs be spayed by 4-5 years of age, as there are no known health benefits to remaining sexually intact after 5 years of age, even in giant breed dogs.

### ***What about ovary sparing spay?***

In order to prevent pregnancy while hoping to reap the benefits of not being spayed prior to 5 years of age, some have advocated a procedure called "ovary sparing spay" prior to one year of age. When a dog is spayed in the usual manner, both ovaries and most of the uterus is removed. With an ovary sparing spay, one ovary (usually the left) is not removed, while the right ovary and most of the uterus are removed as usual. The theory is that pregnancy is prevented, but theoretically, the diseases listed above that are more commonly found in animals spayed at a young age might be prevented. Because there are no known benefits of keeping ovarian tissue after 5 years of age, the author of this handout recommends removal of the left ovary at 5 years of age, to prevent mammary cancer, stump pyometra and other conditions that are more common in female dogs that have not been spayed. Keep in mind that if you choose ovary sparing spay, your dog will go through normal heat cycles, attract male dogs, and will like want to breed twice a year. At this time, all benefits of ovary sparing spay are theoretical. There are no studies on outcome of this procedure to date.

### ***What about ovariectomy?***

Some veterinarians recommend removing only the ovaries, rather than both the ovaries and the uterus. This can be done a little bit faster, and can sometimes be done through a smaller incision, that theoretically may cause less post-operative discomfort for the patient. Some veterinarians have theorized that pyometra will not happen in a dog that has no ovaries, because the ovaries cause changes in the uterus over time that predispose to pyometra. However, pyometra has been reported in ovariectomized female dogs.

### ***Are there any dangers associated with the operation?***

Spaying is considered a major operation and requires general anesthesia. With modern anesthetics and monitoring equipment, the risk of a complication is very low. Minor complications occur at a rate of 3-5% and major complications at a rate of 0.3-0.5%. Death due to spay is not impossible, but it is extremely rare. It has been said that your pet has a greater chance of being injured in a car wreck than having an anesthetic or surgical complication.



### ***What happens when I leave my dog for this procedure?***

Make sure you take up all food after dinner time the night before surgery. There is no need to withhold water – we will take up the water when you bring your dog in on the morning of surgery, prior to 9am.

Your pet will be examined by your veterinarian and pre-anesthetic blood tests will usually be performed. If everything is acceptable, your pet will then be anesthetized. After your pet is anesthetized, a breathing tube will be placed in her windpipe. This will allow the delivery of oxygen and the gas anesthetic directly into the lungs. The surgery consists of making a small incision just below the belly button and removing the ovaries and uterus. Many veterinarians use absorbable sutures to close so that you do not have to return to have them removed.

Your pet will need to stay indoors the night after surgery, in a place that is warm, dry and supervised. Many vets prefer to send patients home the evening after a spay, and others allow them to go home, if adequate after-care can be provided at home.

### ***Are there any post-operative precautions I should take?***

The evening after surgery, small amounts of water or ice cubes can be offered, as long as there is no vomiting. Nausea and vomiting for about 12 hours after anesthesia is not uncommon. Pain medication can be given as directed. The following morning, a small meal can be offered, and after that you can gradually return to normal feeding. Rest and restriction of activity are the primary post-operative care you should provide. Most dogs can resume normal activity five to ten days after surgery. Until then, leash walks, no running or climbing stairs and lots of rest are the rule. You will get more specific instructions when you take your dog home after surgery.

### ***I am told that letting my dog have one litter will calm her down.***

There is no scientific evidence that having puppies has any calming psychological effect, and there are no known health benefits. This is quite honestly more myth than fact. Spaying doesn't cause a change in personality, guarding instincts, intelligence, playfulness, energy level or affection. The female dog's reproductive tract is dormant for most of the year. It only activates for the three-week period of heat. This means that from a behavioral stand point, the female dog acts spayed most of the time.

### ***I have been told that spaying tiny dogs is more dangerous. Is this true?***

This is a commonly held misconception. If the dog is healthy, spaying a tiny dog carries no greater risk than spaying a larger dog. In fact, the procedure is much less demanding on the surgeon and usually quicker when done in a small dog as compared to a larger dog. No dog is too small to spay safely.

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#### ***References:***

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*Wendy Brooks, DVM – VeterinaryPartner.com*