

# Pyometra & Infections of the Uterus in Dogs

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Pyometra is a disease mainly of middle-aged female dogs that have not been spayed. In the past, we thought pyometra was simply a uterine infection, but today, we know that it is a hormonal abnormality, and a secondary bacterial infection may or may not be present. Pyometra follows a heat cycle in which fertilization did not occur. Typically, within two to four months after the cycle, the female starts showing signs of the disease.

What causes pyometra?

The two main hormones produced by the ovaries are estrogen and progesterone. An excessive quantity of progesterone, or the uterus becoming oversensitive to it, causes pyometra. In either case, cysts form in the lining of the uterus. These cysts contain numerous secretory cells, and large quantities of fluids are produced and released into the interior of the uterus.

This fluid, along with a thickening of the walls of the uterus, brings about a dramatic increase in the overall size of this organ. The uterus is made up of a body with two horns. In the unaffected dog or cat, the horns are smaller than a common pencil. However, in cases of pyometra, they become large, sac-like pouches the circumference of cucumbers and 12 to 18 inches long. Normally, the entire uterus in a 40-pound dog will weigh two to four ounces, but in cases of pyometra, this typically ranges from one to four pounds.

As the disease continues, fluid spills out of the vagina causing the animal to lick this area in an attempt to keep itself clean. Bacteria commonly colonize the uterus by entering through the cervix. This produces an even greater response by the body, as it showers additional fluid and white blood cells into the affected organ.

After a while, the cervix closes. This effectively traps all of the fluid within the uterus. Still, the body continues to transfer more fluid and white blood cells into the organ, causing even further dilatation and growth. The uterus can rupture, spilling its contents into the abdominal cavity. If this occurs, the dog or cat usually dies in less than 48 hours. In most cases, this does not happen.

The body will attempt to eliminate the problem by carrying the wastes and excess fluid through the bloodstream to the kidneys. However, the amount of material in a dog with pyometra is too great to be eliminated in this fashion, overloading the kidney system. The normal toxins that should be excreted from the body build up, and the animal goes into uremic poisoning. Untreated, she will die from kidney failure.

## Symptoms

As the body attempts to flush out the build-up of waste products through the kidneys, the animal will drink excessive quantities of water (polydipsia) and urinate large amounts frequently (polyuria). She will lick at her vaginal area while the cervix is still open and the uterus is discharging a white fluid. She may run a low-grade fever and if blood work is done, she will show an elevated white blood cell count. As the uterus increases in size and weight, the dog shows weakness in the rear legs, often to the point where she cannot rise without help. As the dog enters kidney failure, she stops eating and becomes very lethargic.

## Treatment

Since toxicity may develop very quickly in dogs with pyometra, it needs to be treated promptly. Dogs will receive intravenous fluids, usually for several days, and antibiotics. In most cases, the preferred treatment is a complete ovariohysterectomy (spay). This removes the ovaries, oviducts, uterus, and all associated blood vessels. These animals can be a surgical challenge because of their poor overall condition. In some females valued for breeding, prostaglandin and antibiotic therapy may be tried instead of surgery. The prostaglandin is given for 5-7 days and causes the uterus to contract and expel the fluid. In mild cases, when the cervix is still open and the fluid is draining, the success rate is excellent. This therapy should only be used in dogs 6 years of age or younger, who are in stable condition, and have an open cervix. Prostaglandins can have side effects, especially after the first dose, including restlessness, panting, vomiting, increased heart rate, fever, and defecation.

## Prevention

The best prevention is to have all female animals spayed at or before six months of age. If the animal is used for breeding, then spaying the animal after she is past her breeding years is highly recommended. Pyometra is a fairly common and serious problem and is just one of many compelling reasons to have your female pet spayed at an early age.

