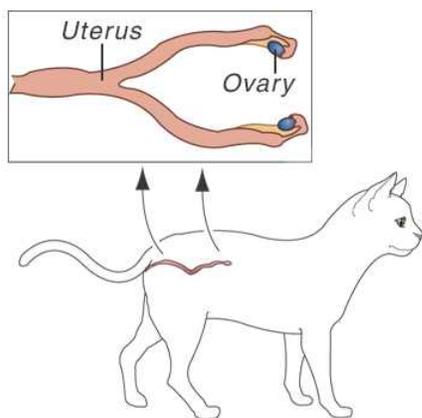


## PYOMETRA IN CATS

### ***What is pyometra and how does it occur?***

In its simplest terms, *pyometra* is an infection in the uterus. However, most cases of pyometra are much more difficult to manage and potentially more dangerous than other common infections.



Infection in the lining of the uterus is established as a result of hormonal changes. Following estrus or “heat”, progesterone levels remain elevated for eight to nine weeks, stimulating the uterine lining to thicken in preparation for pregnancy. If pregnancy does not occur for several estrus cycles, the lining continues to increase in thickness until cysts form in the uterus. The thickened, cystic lining secretes fluids that create an ideal environment in which bacteria can grow. Additionally, high progesterone levels inhibit the ability of the muscles in the wall of the uterus to contract. Another contributing factor is the fact that during estrus, white blood cells are removed from the uterus to allow safe passage of

the sperm. This lapse in protection often leads to infection.

### ***Are there other factors that cause pyometra to develop?***

The use of progesterone-based drugs can increase the risk of a cat developing pyometra. Estrogen will increase the effects of progesterone on the uterus. Drugs containing both hormones are used to treat certain conditions of the reproductive system.

### ***How do bacteria get into the uterus?***

The cervix is the gateway to the uterus. It remains tightly closed except during estrus. When it is open, bacteria that are normally found in the vagina can enter the uterus rather easily. If the uterus is normal, the environment is hostile to bacterial survival; however, when the uterine wall is thickened and cystic, perfect conditions exist for bacterial growth. In addition, when these abnormal conditions exist, the muscles of the uterus cannot contract properly. This means that bacteria that enter the uterus cannot be expelled.

Pyometra may occur in young to middle-aged cats; however, it is most common in older cats. After many years of estrus cycles without pregnancy, the uterine wall undergoes the changes that promote this disease.

The typical time for pyometra to occur is about two to eight weeks after estrus or the “heat cycle”.

### ***What are the clinical signs of pyometra?***

The clinical signs depend on whether or not the cervix is open. If it is open, pus will drain from the uterus through the vagina to the outside. This discharge may be observed on the skin or hair under the tail, or on bedding and furniture where the cat has lain. In many cases, the fastidious nature of the cat causes her to clean up the discharge before it can be seen. With an open pyometra, fever, lethargy, anorexia, and depression may or may not be present.

If the cervix is closed, the pus that forms is unable to drain to the outside. It collects in the uterus causing distention of the abdomen. The bacteria release toxins that are absorbed into circulation. Affected cats often become severely ill very rapidly. They are anorectic, very listless, and very depressed. Vomiting or diarrhea may be present.

Toxins from the bacteria affect the kidney's ability to retain fluid. Increased urine production occurs, and the cat drinks an excess of water. This occurs in both open- and closed-cervix pyometra.



### ***How is pyometra diagnosed?***

Cats that are seen early in the disease may have a slight vaginal discharge and show no other signs of illness. However, most cats with pyometra are not seen until later in the illness. Any very ill female cat that is drinking an increased amount of water and has not been spayed is always suspected of having pyometra. This is especially true if there is a vaginal discharge or painful, enlarged abdomen.

Cats with advanced pyometra have a marked elevation of the white blood cell count and often have an elevation of globulins, a type of protein produced by the immune system, in the blood. The specific gravity of the urine is very low due to the toxic effects of the bacteria on the kidneys. However, all of these abnormalities may be present in any cat with a major bacterial infection in another organ.

If the cervix is closed, radiographs (x-rays) of the abdomen will often identify the enlarged uterus. If the cervix is open, there will often be such minimal uterine enlargement that the radiograph will not be conclusive. An ultrasound examination can be helpful in identifying an enlarged uterus and differentiating that from a normal pregnancy.

### ***How is pyometra treated?***

The preferred treatment is to surgically remove the uterus and ovaries. This is called an ovariectomy or "spay" surgery. Cats diagnosed in the early stage of the disease are very good surgical candidates. The pyometra surgery is only slightly more complicated than a routine spay. However, most cats are diagnosed when they are quite ill, increasing the risk of surgery. Intravenous fluids are often needed before and after surgery. Antibiotics are usually given for two weeks post-operatively.

### ***I want to breed my cat in the future. Is there an alternative to surgery?***

For most cats, we strongly recommend surgery to treat pyometra. There is a medical approach to treating pyometra. Prostaglandins are a group of hormones that reduce the blood level of progesterone, relax and open the cervix, and cause the uterus to contract and expel the bacteria and pus. They can be used successfully to treat this disease, but they are not always successful, and they have some important limitations and potential risks.



They cause side-effects of restlessness, panting, vomiting, defecation, salivation, and abdominal pain. The side-effects occur within about fifteen minutes of an injection and last for a few hours. They become progressively milder with each successive treatment.

There is no clinical improvement for about forty-eight hours so cats that are severely ill are poor candidates.

Because they contract the uterus, it is possible for the uterus to rupture and spill infection into the abdominal cavity. This is most likely to happen when the cervix is closed.

There are some important statistics that you should know about this form of treatment:

1. The success rate for treating open-cervix pyometra is 75-90%.
2. The success rate for treating closed-cervix pyometra is 25-40%.
3. The rate of recurrence of the disease is 50-75%.
4. The chances of subsequent successful breeding is 50-75%.

### ***What is likely to happen if I do nothing?***

The chance of recovery without surgery or prostaglandin treatment is extremely low. If treatment is not performed quickly, the toxic effects from the bacteria will be fatal. If the cervix is closed, it is possible for the uterus to rupture, spilling the infection into the abdominal cavity. This will also be fatal.

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*This client information sheet is based on material written by Ernest Ward, DVM  
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