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## **PYOMETRA**

Pyometra is a hormonally mediated disorder characterized by cystic endometrial hyperplasia (uterine thickening) with secondary bacterial infection. Pyometra is reported primarily in older bitches (>5 yr old), 4–6 wk after estrus (after heat). However, all intact female dogs are at risk.

Additional factors that are associated with occurrence of pyometra include administration of longlasting progestational compounds (drugs) to delay or suppress estrus, administration of estrogens to mismated bitches (mismatch shot), and post-insemination or post-mating infections (normal regular breeding).

The hormone progesterone promotes endometrial growth (uterine thickening) and glandular secretion while decreasing myometrial activity (uterine contractions that normal clear junk out of uterus). Cystic endometrial hyperplasia (uterine thickening) and accumulation of uterine secretions ultimately develop and provide an excellent environment for bacterial growth and infection sets in. Bacteria from the normal vaginal flora or subclinical urinary tract infections are the most likely sources of uterine contamination.

By itself, the hormone estrogen does not contribute to the development of cystic endometrial hyperplasia (uterine thickening) or pyometra. However, it does increase the stimulatory effects of progesterone on the uterus. Administration of exogenous estrogens to prevent pregnancy (ie, “mismatch shots”) during diestrus (post mis-mating) greatly increases the risk of developing pyometra and should be discouraged.

### **What signs will you see in a dog with pyometra?**

Clinical signs are seen during diestrus (usually 4–8 wk after heat cycle) or after administration of drugs (progestins or mismatch shots). The signs are variable and include lethargy (being very tired and not wanting to do anything), anorexia (not eating), polyuria (increased urination), polydipsia (increased drinking), and vomiting. When the cervix is open (Open Pyo), a purulent vulvar discharge, often containing blood, is present. When the cervix is closed (Closed Pyo), there is no discharge and the large uterus may cause abdominal distention. Signs can progress rapidly to shock and death with closed pyometra. (The uterus can very, very large full of pus and this is very dangerous and life threatening).

Physical examination by the veterinarian reveals lethargy, dehydration, uterine enlargement, and if the cervix is open, a sanguineous to mucopurulent vaginal discharge. Only 20% of affected animals have a fever. Shock may be present.

Pyometra should be suspected in any ill, diestrial (after heat cycle) bitch, especially if polydipsia, polyuria, or vomiting is present. The diagnosis can be established from the history, physical examination, abdominal radiography, and ultrasonography A CBC, biochemical profile,

and urinalysis (blood work and urine work up) to evaluate renal function, acid-base status, and septicemia. The uterine exudate should be cultured and sensitivity tests performed.

**Ovariohysterectomy (SPAY) is the treatment of choice for pyometra.** Medical management could be considered if preserving the reproductive potential of an excellent show bitch is desired (but is not recommended). Fluids (IV) and broad-spectrum, bactericidal antibiotics should be administered during surgery. Fluid, electrolyte, and acid-base imbalances should be corrected as quickly as possible, before surgery is performed (to get them out of shock so the surgery won't kill them). The bacterial infection is responsible for the illness and will not resolve until the uterine exudate is removed. Oral antibiotics (based on the results of the culture and sensitivity) should be continued for 7–10 days after surgery.

The drugs used for medical management (non-surgical) of pyometra if an owner decides not to spay are very hard on the dog and have many side effects. This is only indicated in open pyometra. Medical management is NOT advocated for closed pyometra (cervix is closed shut so the toxic debris cannot get out). After medical therapy, the prognosis for initial resolution of the pyometra is good if the cervix is open but guarded to grave if closed. Of those animals that respond, as many as 90% of bitches with open-cervix pyometra may be fertile. Recurrence is likely; 70% of bitches treated medically for pyometra had recurrence within 2 yr. Therefore, the animal should be bred on the next and each subsequent cycle until the desired number of puppies has been produced, and then spayed.

**TAKE AWAY: please spay your dog if you are not using her for breeding. Please don't gamble with her life. Don't overbreed her as well. It's ok to skip a heat but don't skip too many!**

