

# The Use of Melatonin as Birth Control in Female Cats

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“My girl kept me up all night long! What can I do to stop the howling? I need some sleep!” says the newbie breeder.

“Have you tried giving her melatonin?” says the experienced breeder. “It really knocks mine out of heat in a hurry!”

Wander a show hall in the late winter to early spring and you are likely to overhear a similar conversation before very long. Most female cats are not bashful about announcing their availability during estrus (“heat”), and their continual howls can leave a new breeder—or even an experienced one—wondering why they ever thought breeding cats was a good idea.

It’s not just the noise that makes frequent heat cycles without a pregnancy a bad idea; they can be detrimental to the prospective queen’s health. Repeated heat cycles can result in the formation of cysts in the lining of the uterus, known as cystic endometrial hyperplasia, which not only can be painful for the cat and reduce fertility, they are also prone to bacterial infection, particular while the cervix is open during the heat cycle and mating. This is known as pyometra, a severe uterine infection that is difficult to treat and can lead to infertility, spontaneous abortion, sterility, and even death in an afflicted queen. Queens with strong heat cycles in show halls can be problematic for both their handler and their neighbors. Their calls and their pheromones are stress-inducing for neighboring cats, particularly adult males, not to mention the girls themselves. At best, the cycling cat and her neighbors may become a little difficult to handle; at worst, someone could get bitten.

Breeders hold off mating females for a variety of reasons: the female is younger than desirable to become a mother; the owner would like to the title the girl before mating her; family or workplace demands dictate that it would be prudent to wait. Unfortunately, finding an FDA-approved temporary birth control solution for cats in the United States is not an easy task. It’s not such things don’t exist. they do, but there are challenges present in contraceptives that suppress the estrous cycle such as orally administered progestins (side effects) and Suprelorin, a long-term gonadotropin-releasing hormone (GnRH) agonist implant (unpredictability of return of estrous and limited availability)<sup>1</sup>. Because of this, many breeders have turned to the naturally occurring hormone, melatonin, to curb their female’s heat cycles.

## Melatonin and the Feline Reproductive Cycle

Melatonin is found in both plants and animals. In animals, it regulates the sleep-wake cycle, and the duration of melatonin secretion is proportional to the length of the night. Because cats are a long-day breeder species, meaning that ovarian activity starts during early springtime as the days lengthen, melatonin production decreases in cats as the day lengthens, which stimulates the increase of sexual steroid hormones.<sup>1</sup>



It has been known for decades that melatonin effectively inhibits ovarian activity in cats. In the 1980s, studies were conducted on injectable and oral melatonin. Researchers discovered that while impractical for the average cat owner, five-milligram injections of melatonin every other day effectively inhibited ovarian activity. However, four milligrams given orally daily had little effect. While higher doses of 30 milligrams per day did produce measurable changes in the queen’s estrus cycle, the response was not uniform and the length of suppression greatly varied.

More recently, melatonin implants in varying dosages have been studied, and in most cases, when timed properly, have proven to prolong the cat’s naturally occurring anestrus period. However, as with oral melatonin, individual responses varied greatly. It was also noted in one study that all eight test subjects demonstrated some level of uterine pathology, such as uterine thickening, endometrial hyperplasia, and cyst formation. While there was no direct evidence that the implants were responsible for these changes in the uterus, the possibility needs to be considered and the queens monitored.<sup>1</sup>

## Summary

The use of melatonin in queens, if timed and administered properly, can be an effective way to delay the onset of the estrus or “heat” cycle in queens. However, it should always be remembered that the use of melatonin disrupts the natural reproductive cycles of the queens, and the possibility of undesirable side effects, such as delayed return of the heat cycle or pathological changes to the uterus should be CAREFULLY considered. It should also be noted that use of melatonin to suppress estrus is an “off-label” use in cats in nearly every country. Given the relatively low demand for a temporary, non-surgical solution to preventing pregnancy in cats it is unlikely that a pharmaceutical company will make the significant effort required to gain approval for use in this manner anytime soon. As always, consult your veterinarian before using one of these protocols.

### References:

1. Schafer-Somi, S. Effect of melatonin on the reproductive cycle in female cats: a review of clinical experiences and previous studies. *Journal of Feline Medicine and Surgery*.(2015) Volume: 19 issue: 1, page(s): 5-12.