

Future Birth Control Injections for Cats

Our topics for this week are:

- **Need for readily accessible and affordable, non-surgical means for creating infertility in cats**
- **Anti-Mullerian hormone effects on fertility**

Overpopulation of domestic cats is a significant problem in the United States. Approximately 3.4 million cats enter animal shelters each year, and 1.4 million are euthanized. Between 30 and 80 million cats are unowned and a large percentage are free-ranging and never presented to an animal shelter. Free-ranging cats are indiscriminate killers of wildlife, especially native song birds and game birds. They also spread diseases to other cats such as feline leukemia virus, immunodeficiency virus, and panleukopenia . Diseases transmitted to people include cat scratch fever (Bartonellosis), plague, ringworm, hookworm, salmonellosis, leptospirosis, rabies, and toxoplasmosis. They are the only species that can transmit toxoplasmosis, a cause of abortion in women, via their feces.

Control of cat populations requires surgery: castration (also called neutering) in males and spay operation in females. A spay is major surgery requiring deep anesthesia, an incision into the abdomen and excision of the entire uterus and both ovaries. The time and resources required for spay operations requires significant expense, often beyond the financial means of animal shelters and low-income cat owners.

A hormone injection has now been shown to possibly be a means of preventing fertility in female cats for at least two years. It is anti-Mullerian hormone combined with a viral vector. Anti-Mullerian hormone is a hormone normally produced by the ovaries and testes. Finding no anti-Mullerian hormone in a dog or cat's blood sample suggests it has been neutered or spayed. The Mullerian ducts are a primitive form of the uterus in a fetus. Both genetic females and genetic males have them. If the fetus produces a high amount of anti-Mullerian hormone, the uterus does not develop further. This occurs normally in a male fetus and the uterus does not form. Fetal females do not normally produce high levels of anti-Mullerian hormone. As a result, their Mullerian ducts do continue to develop into the uterus, the cervix, and upper section of the vagina. In young to adult females, anti-Mullerian hormone aids the selection of the most developed eggs to be released from the ovary.

A single anti-Mullerian hormone injection combined with a viral vector enables muscle tissue to produce anti-Mullerian hormone in large amounts, suppressing the growth of ovarian follicles and causing infertility for at least 2 years. Although it suppresses egg production and release, it does not affect estrogen production.

Proof of concept, safe, injectable, long-term infertility treatment is a major breakthrough for ecology and humane care of cats. Although this treatment is not yet available outside of research labs, it might be widely available within a few years.

Major funding for this study was provided by The Michelson Found Animals Foundation, the Joanie Bernard Foundation, and the department of Surgery of the Massachusetts General Hospital.

If you have comments or you're interested in particular animal handling subjects contact us at CBC@BetterAnimalHandling.com

Now let's recap the key points to remember from today's episode:

- 1. Feral cats can be ecological terrorists.**
- 2. A spay operation is major surgery at considerable expense.**
- 3. A single anti-Mullerian injection with a viral vector can produce safe infertility in cats.**

More information on animal handling can be found in my recent books, *Animal Handling and Physical Restraint*, *Concise Textbook of Small Animal Handling*, and *Concise Textbook of Large Animal Handling* all published by CRC Press and available on Amazon and from many other fine book supply sources.

Additional information is provided at: www.betteranimalhandling.com . This website has more than 150 past podcasts with notes on handling of dogs, cats, other small mammals, birds, reptiles, horses, cattle, small ruminants, swine, and poultry.

Don't forget, serious injury or death can result from handling and restraining some animals. Safe and effective handling and restraint requires experience and continual practice. Acquisition of the needed skills should be under the supervision of an experienced animal handler.