Definition: Behavior and hormone levels consistent with a bitch or queen in heat (proestrus or estrus) despite the fact that the animal has had an ovariohysterectomy (been spayed).

What causes this syndrome? There are three likely causes: 1) Improper surgical technique where one or both ovaries are not completely removed. 2) Ovarian tissue was accidentally dropped into the abdominal cavity where it became functional again. 3) Ectopic ovarian tissue (tissue that functions like an ovary, but is in another location, such as the ovarian ligament or the abdominal wall near the ovary). This syndrome is more common in the queen than the bitch.

What signs will I see? Your bitch or queen is attracting male cats or dogs, female dogs may have periodic vulvar enlargement and can have a bloody vaginal discharge. Any behavioral signs that you might normally see in a bitch or queen in heat can be observed.

How is it diagnosed by my veterinarian? Vaginal cytology, taken when the bitch or queen is in heat (estrus), shows 80-90% “superficial” cells when evaluated under a microscope. This is diagnostic for elevated estrogen levels. In addition, blood can be drawn to test for estrogen or progesterone levels. An abdominal ultrasound may show suspicious tissue responsible for the hormone production.

How do I treat it? Ideally, your dog or cat will have the remnant tissue removed surgically. The surgery is called an exploratory laparotomy. The best time to perform the surgery is while the cat or dog is in heat, and the ectopic tissue is enlarged and functional. Surgery is not always successful because the remnant cannot be identified, and some females are not good candidates for anesthesia or surgery. Medical management using megestrol acetate or milbolerone can be attempted. These drugs prevent the female from going into heat, but have side effects which your veterinarian can discuss with you. Hopefully, newer, safer drugs inhibiting cycling in female dogs and cats will be developed in the near future.