



## **BRIARPOINTE VETERINARY CLINIC**

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### **PREGNANCY AND PARTURITION**

Breeding cats can be an extremely rewarding experience. However, before undertaking a breeding program, it is essential to understand what this involves, from the time of mating to the time of weaning. It is also important to remember that there are tens of millions of unwanted cats that will be euthanized every year and that breeder is responsible to ensure that permanent, loving homes are found for every kitten.



#### ***What happens when my cat comes into “heat”?***

Queens (intact female cats) come into “heat” many times a year. The correct term for this fertile period is *estrus*. Cats in estrus become very affectionate and vocal, demand attention and roll frequently. When stroked they raise their rear quarters and tread the ground with their back legs. These behavioral changes can confuse the inexperienced owner who may misinterpret them as pain or illness. The pattern of estrus is variable from cat to cat and is usually seasonal.

#### ***What will mating my cat involve?***

Queens are *induced ovulator*, which means that they ovulate in response to mating or sexual contact. When mating, the male cat holds the queen’s scruff in his teeth and when he ejaculates the queen cries out and frequently becomes aggressive. Although it appears violent, this is normal mating behavior. She will then wash herself, wait a while, and then start again.

#### ***How long will my cat be pregnant?***

Pregnancy or *gestation* ranges from 60-67 days, averaging 63-65 days. It is important to record the date of mating.

#### ***Will my cat’s diet need to be changed during pregnancy?***

During pregnancy the queen’s food consumption will increase above her pre-pregnancy level. By the time of weaning it may exceed twice the pre-pregnancy level. It will be necessary to increase the number of meals given and feed a diet formulated for pregnant females or kittens, since this provides the additional nutrients required for pregnancy and nursing.

### ***Will my cat's behavior change during pregnancy?***

During pregnancy the cat's behavior alters little, although some cats become more loving, and a few become aggressive. During the final week the queen may search for a suitable kitting bed or "nest". Cats should be confined indoors at this time. It is important that you are able to closely monitor the cat to witness any complications and prevent any suffering.

### ***What preparations are needed before my cat has her kittens?***

The kitting bed can take many forms, but a cardboard box lined with newspaper, old sheets or towels is ideal. The bed should be warm, cozy and private but must be observable.

### ***What are the stages in labor?***

#### *First Stage Labor*

This is essentially the relaxation of the cervix and vagina and the start of intermittent contraction in the uterus. The pelvic muscles slacken and the perineum, the area between the anus and the vulva, becomes looser and longer. At this stage the uterine contractions are not yet visible as straining, although movement of the fetuses may be seen and felt through the abdominal wall. There is little to see at this stage except repeated visits to the kitting bed, and many cats will desire reassurance from the owner. Scratching and bed-making may be evident and some cats may begin to pant. The queen usually stops eating during the last twenty-four hours before labor, and her temperature may drop below 100°F (37.8°C). Vaginal discharge is rarely seen. In many cats having their first litter, this first stage of labor can be prolonged, lasting up to thirty-six hours.



#### *Second and Third Stage Labor*

In **second stage** labor the uterine muscle begins stronger and more frequent contractions. As each fetus enters the pelvis, the outer layer of its membranes appears briefly at the vulva as the "water bag" which bursts and is cleaned up by the cat. The inner membranes remain on the fetus and act as a lubricant to assist its passage.

As the fetal head passes into the pelvis, its pressure causes voluntary straining using the abdominal muscles. This "bearing down" helps to move the fetus through the pelvis. This is usually the point at which the attendant can see that the cat is actually straining. Normally, delivery of a kitten from the commencement of the second stage may take from five to thirty minutes. Once the head is out of the vulva, one or two more strains should complete the passage of the narrower remainder of the kitten's body.

**Third stage** labor follows immediately and is seen simply as the passage of the membranes, complete with the greenish black mass of separated placenta or "after-birth". A set of membranes is normally passed immediately after each kitten, although sometimes a second kitten will follow so quickly that the membranes from the first will be delayed temporarily. As each kitten is born, the mother will tear open the membranes and clear the mouth and nose area of the kitten, bite off the umbilical cord and subsequently eat the after-birth. Intervals between kitten births are variable. On average they last ten minutes to an hour.

## **Interrupted Labor**

So-called “interrupted labor” is sufficiently common in the cat to be considered a normal occurrence. In this case the queen ceases straining, rests happily, suckles those kittens already born and accepts food, despite still having more kittens to deliver. This resting stage may last up to twenty-four or even thirty-six hours, after which straining recommences and the remainder of the litter is born normally.

Owners should observe the process closely, but should not upset the queen by interfering any more than absolutely necessary. Most cats deliver their kittens without complications; however, first time mothers should be attended by their owners. Once all of the kittens have been born, the dirty bedding can be removed and replaced.

### ***What problems can arise during parturition?***

Most cats give birth to their kittens without difficulty. However, *dystocia* or difficult birth can occur.

You should suspect that something may be wrong if:

1. Twenty minutes of intense labor does not produce a kitten.
2. Ten minutes of intense labor does not expel a kitten seen at the queen’s vulva.
3. If gentle traction on the trapped fetus causes the queen pain.
4. The queen is depressed, lethargic or has a fever (rectal temperature greater than 103<sup>0</sup>F or 39.4<sup>0</sup>C).
5. The queen loses fresh blood from her vulva for more than ten minutes.

Any of these are considered emergency situations and you should contact our clinic or if this occurs after hours, the emergency service.

### ***How do I revive a non-responsive newborn kitten?***

1. Tear the membranes from the nose, wipe the nose and open the mouth, tilt the kitten head down and clear away any fluid.

2. If the umbilical cord has not broken on delivery, tear it an inch from the kitten and remove the wet, sloppy bulk of the membranes. Complicated cutting and tying of the cord are not necessary. The cat would chew it through, providing a blunt crushing action to prevent bleeding; you can tear it between your first two fingers and thumb, which accomplishes the same thing.

3. If the kitten is not breathing, or if it was delivered tail first and possibly inhaled fluid, it is necessary to clear debris and fluid from the air passages. Take the kitten lying in the palm of the hand, its back towards the palm and neck between forefinger and third finger, its head protruding between the fingers. Enclose the kitten in the fingers and, turning the hand palm downwards with the arm extended; rapidly swing your arms in a downward motion several times. Make sure that you are not near a table or other protruding edge when swinging the kitten. The swing will have the effect of forcing fluids out of the air passages and a further wipe of



nose and mouth will clear it away. The swing will also serve to stimulate respiration. The kitten's tongue is a reliable indicator of success. If the kitten is receiving sufficient oxygen the tongue will be pink, if not it will have a bluish tint.

4. The next move imitates the licking of the abdominal wall and stimulates respiration. It comprises a stroking, rubbing movement with a clean towel. Follow this by a brisk, general rub dry, assuming that the kitten is now showing regular breathing. If it is not, some further form of artificial respiration may be necessary. Of these, mouth to mouth resuscitation is probably the most useful if carried out carefully. There are several essential points to remember. Firstly, it is no use blowing fluids and debris further down the respiratory tract. These secretions must be cleared by the swing method and/or gentle shaking of the kitten in the head-down position. Secondly, the capacity of kitten lungs compared to the human is quite minute. Blow very gently and allow a pause for expiration. Repeat this cycle every three to five seconds. Ideally, use a short drinking straw to blow through since this is more hygienic and reduces the risk of damaging the kitten's lungs by over-inflation.

### ***Where should I put the newborn kittens?***

**Warmth** is essential for the newborn. The kitten cannot react to cold by shivering and cannot control its own body temperature. In nature, warmth is obtained by direct body contact with the mother and conserved by the enclosed nest bed. The first point to remember is that a newborn wet kitten loses heat very rapidly, hence the brisk rub dry. If the mother is ill or uncooperative, gently lay the kitten in contact with a warm, well-covered hot water bottle and conserve heat with a covering blanket. Great care must be taken not to inflict contact burns by having the bottle too hot. An acceptable alternative is the infra-red lamp. Its disadvantages are that many cats dislike the open bed required for its use, and that it may make both mother and kittens too hot and lessen the close normal nursing contact. Ideally the temperature in the box should be maintained at 85-90°F (29.4-32.2°C). The box should be large enough for the kittens to move away from the heat if they become too hot. The temperature can be gradually reduced to 80°F (26.7°C) by seven to ten days and to 72°F (22.2°C) by the end of the first month.



### ***Do I need to help my cat raise her kittens?***

Occasionally kittens will be born **prematurely**. They will be small, thin, and have little or no hair. These kittens require intensive nursing care. Premature kittens often fail to nurse, and often need to be fed with a syringe, bottle or stomach tube. They also need to be kept warm if the queen rejects them.

A normal healthy kitten, when warm and dry, needs no assistance in finding its mother's teat and suckling. Occasionally an exhausted, restless, nervous or ill queen may fail to assist her kittens. Failure on the part of the cat to nurse her kittens is a veterinary emergency because if the mother is unable to care for the kittens they may need to be hand fed. (For further information on raising kittens please see Raising Kittens Handout).

### ***Are there any post-birthing complications I may need to know about?***

#### **1. Retention of Fetal Membranes**

Occasionally a cat may fail to pass the final set of fetal membranes after parturition appears to be complete. These cats often show signs of restlessness and abdominal discomfort, and may be unwilling to settle with her kittens during the twenty-four to seventy-two hours after parturition. Her

appetite may be poor and a brownish vaginal discharge may be seen. Examination will show a raised temperature and palpation of the abdomen will disclose a thickened lumpy area of womb. Veterinary treatment is required. Antibiotic treatment is necessary and medications may be necessary to cause the expulsion of the retained membranes.

## 2. Metritis or Endometritis

*Metritis* or inflammation of the uterus or womb usually occurs within three days of parturition. The cat is much more obviously ill than with retention of fetal membranes. She will be dull and lethargic, completely ignore her kittens and refuse food. She may have an increased thirst and may vomit. A purulent, foul-smelling discharge is present coming from her vagina and she will have a fever. On palpation the abdomen is tender and the uterus is thickened. Veterinary treatment is required, usually consisting of antibiotics.

## 3. Mastitis

*Mastitis* or infection of a mammary gland in its acute suppurative (pus-forming) form sometimes occurs during early lactation. It is usually confined to one gland and may follow a simple congestion or overstocking. The affected gland will be tense, hot, painful and enlarged. If it is only congested, the application of gentle heat and subsequent gentle massage will bring normal milk out of the teat orifice, and the situation may be speedily relieved by milking the gland concerned. If an abscess is present, the cat will not eat, be lethargic and feverish, and in addition to pain and swelling in the gland, a purplish area of accumulated pus will be seen. Veterinary treatment is needed.

## 4. Lactation Tetany or Milk Fever

In the cat lactation tetany tends to be seen seventeen days to eight weeks after the birth of the kittens. The condition involves a sudden drop in the amount of calcium circulating in the bloodstream, associated with the demands of milk production. The affected cat usually has a fairly large litter to suckle. The first signs of the onset of the condition include incoordination and tetanic muscular spasms, with later collapse and coma. Treatment with intravenous injection of calcium preparations leads to a spectacular reversal of the condition. A later subcutaneous injection may be required to maintain the recovery. Kittens should be removed from the cat if old enough, otherwise their numbers must be reduced or supplementary feeding given. Any affected cat should only be allowed to rear a small number of kittens at any subsequent litter. Lactation tetany often occurs after each kitting so this must be remembered when considering the advisability of breeding from an affected queen.