

How to Assist Appropriately during a Cesarean Section (C-section)

BACKGROUND

The time of birth can be an emotionally intense and exciting one, and birth by Cesarean section (C-section) is no exception. C-section means surgical removal of the puppies or kittens from the mother under general anesthesia.

If a C-section is performed during business hours, one or more veterinary technicians may be available to completely accommodate the delivery. If, however, a C-section is required after hours, or under any circumstances when the litter is large, you may be asked to assist in the delivery.

Since dogs and cats commonly have several offspring in a litter, your help may be valuable for handling the multiple babies as they are extracted one at a time during the surgery. To help make the surgery as successful as possible, the following information aims to describe some common dos and don'ts during this process.

GETTING STARTED

Materials needed by the support staff (including you if you are helping) for an uncomplicated C-section usually include clean towels, scissors, suture material, a suction bulb (large for large breed dogs, small for small dogs and cats), and a clean, warm place for the newborns to recover (preferably an incubator).

A C-section involves opening the abdominal cavity of the mother. It is therefore a major surgery requiring general anesthesia and aseptic technique; all equipment and materials used by the surgeon must be sterile.

The veterinarian performing the surgery will have prepared a surgically sterile area for the procedure. In particular, you should note that a cloth or paper drape lies over the anesthetized mother during the surgery. Be aware that this drape can be contaminated merely by your touch. If you are asked to assist the surgeon by entering the room where the surgery takes place, stay well clear of the edge of the drape at all times. Similarly, the surgeon's gloves are sterile, and it is absolutely essential for you not to touch the surgeon's hands when gloved; otherwise, the sterile barrier is broken, and a much higher risk of infection exists. You may be asked to wear booties over your shoes and a cap and mask over your head and face, also as part of minimizing the risk of infection.

TROUBLESHOOTING BEFOREHAND

In the past it was common to "swing" newborn puppies and kittens in a controlled drop motion to help revive them after delivery, but this is no longer an accepted practice. It has been shown that this does not help newborns and can harm them.

If you are squeamish at the sight of blood, let the veterinarian know beforehand so you can help with an appropriate task that is less bloody. It is also wise for you to have eaten a meal, drunk enough water, and used the bathroom just before beginning to participate in this process in order to not feel faint or need to step away at an important time.

PROCEDURE FOR ASSISTING DURING A C-SECTION

During surgery, the veterinarian (surgeon) will be handling the uterus and cutting into it to remove each newborn. It is normal for the uterus to bleed when cut into, and the surgeon will suture (stitch) the uterus to stop bleeding (or remove the uterus if the mother is to be spayed). Each kitten/puppy resides in its own compartment, or amniotic sac, within the uterus.

Next, the surgeon will remove the puppies/kittens one at a time. For each puppy/kitten, the surgeon will clamp the umbilical cord, remove the placenta from the uterus, break the thin, translucent amniotic sac that contains the newborn, and pass the newborn *and the attached placenta* to the assistant (the veterinary technician, you, or both). The remainder of this discussion will be presented assuming that you are the assistant.

At this point, you will receive the newborn *without reaching toward the surgeon*. Reaching toward the surgeon can contaminate the sterile surgical field. Allow the surgeon to pass the newborn to you to keep the surgical area sterile. The most common way to do this is for you to hold a towel in both your hands, cupped together, and for the surgeon to drop the newborn into your towel-lined hands. Be calm and as relaxed as possible to capture the newborns and begin reviving them.

With the puppy or kitten in hand, you will then need to:

- Remove the metal clamp (typically a scissors-like instrument called a *mosquito forceps*) from the umbilical cord and, using suture material, place a ligature in the umbilical cord, specifically placing it in the groove left by the clamp. This simply means tying a double knot, like a square knot, using suture material (like thread) at the place where the clamp was.
- With the knot in place, cut the umbilical cord above the knot. In other words, cut the umbilical cord between the knot and the placenta, approximately 1 cm away from the knot. This will separate the placenta from the newborn.
- Using the suction bulb, gently suction any mucus/fluid from the mouth and throat area. This often requires you to gently pry the mouth open with the tip of the bulb. Use care, because aggressive suction can damage the lungs.
- Once the airway is clear, vigorously rub (without squeezing) the newborn along the length of its body. The motion is front-to-back along the whole little body, and the purpose is to stimulate the newborn to breathe and move. Be very mindful of holding onto the newborns; they are small and coated in fluid, which makes them slippery. A good approach is to be sitting in a chair, legs together to catch the newborn in your lap if he/she slips out of your hands. The pup or kitten is in a towel (standard terrycloth type), and you gently but quickly rub back and forth with cupped hands, similar to rubbing your hands together when it is cold outside. The rubbing is at a rate of perhaps 90 per minute, or 15 per 10 seconds. If the newborn is already breathing and moving, there is no need to do this. However, many or most newborns who are born by C-section need this stimulation to come to life, and this is a crucial point in the birth. Be patient, persistent, and gentle. Even for a healthy newborn, it may take several minutes of vigorous, light-pressure rubbing to see a response. Watch for movement, squealing, pink gums, tongue, and toes. It can sometimes take 10 to 15 minutes to revive a newborn. Rubbing back and forth is appropriate, but be sure not to be pushing down or inward, which can squeeze the small and pliable chest cavity and prevent the kitten or puppy from drawing in the first breaths.
- If it takes longer than just a few minutes to complete the listed tasks and revive a newborn, you and/or other assistants will need to divide time between the first delivered and the following newborns.
- Once a newborn is showing vigorous signs of movement, is vocalizing, and has pink gums, place it in a warm incubator.
- Repeat this procedure for each newborn.

AFTERWARDS

The bitch/queen will be recovering from surgery but will be replaced with the newborns as soon as possible. Once the mother has recovered from anesthesia, it is safe to encourage the newborns to nurse. As soon as is recommended by your veterinarian,

take the pet and the newborns home and provide a warm, quiet location for the group to be together. Optimal temperature (warmer than room temperature but not too warm), protection from injury (especially the mother sitting or lying down on the newborns), and nutrition (nursing, or bottle feeding if nursing is not feasible) are cornerstones of early neonatal care.

FREQUENTLY ASKED QUESTIONS

How many pups can I expect there to be?

There may be as few as just one puppy and occasionally as many as 12. Usually the larger the breed of dog, the greater the number of pups, but this rule is very variable.

Do they all live?

In many litters, one or more pups or kittens may die at birth or be stillborn. There are many reasons for this to happen, including pregnancy complications, birthing complications, infectious diseases, and internal birth defects incompatible with life. The purpose of helping with a C-section is to give each newborn the best chance of survival.

Will nursing/suckling interfere with the mother's healing after surgery?

Usually not. The abdominal incision of a C-section is indeed where the nursing takes place: between the left and right series of mammary glands. Most pups/kittens will not bother the incision, but you should monitor the incision for increased redness, swelling, or fluid discharge, which are common signs of infection. Be sure to notify your veterinarian if any or all of these signs occurs, or if the mother seems to be deteriorating in energy level and appetite rather than improving. If a single newborn develops a habit of suckling on the incision, it may be necessary to remove that pup and bottle-feed him/her.

OTHER RELATED INFORMATION SHEETS

- [How to Provide General Postoperative Care at Home](#)
- [How to Syringe-Feed, Tube-Feed, or Bottle-Feed a Pet](#)
- [How to Monitor a Surgical Incision during Healing](#)

Practice Stamp or Name & Address