

## **C-SECTION: THE BIG DAY, STEP BY STEP**

by Dorit Fischler, DVM  
(*Frenchie Forum* Vol. 6 #3, Sept. 1998)

Today is the day, determined either by slides, or by a real temperature drop — namely below 37.5° C (99.5 ° F) for at least 6 hours and significantly lower than previously measured temperatures.

If you have doubts regarding your dates, temperature drop, or diestrus (first day out of last heat, as determined by vaginal slides), you may still want to wait for your bitch to show signs of first stage labor (panting, shivering, nesting, small contractions) to confirm your timing. This is, however, a situation I try to avoid; hence my strong emphasis on accurate timing with vaginal slides. (See previous article on C-Section: When to Cut). The procedure described in this article is my preferred approach that works well for me, but does not exclude other methods.

The bitch should be admitted for surgery on an empty stomach if possible. When you go to your clinic, take a box with soft towels and a hot water bottle for the puppies to go home in.

Your veterinarian will have mobilized extra staff to help with puppy resuscitation. (Number of staff needed is based on the number of puppies counted on an X-ray taken a week before.) I like to have at least one person per 2 puppies.

After a general exam, the bitch is started on a well-balanced intravenous solution, and then, with someone holding her gently on her side, her abdominal hair is clipped and prepared for surgery. She gets an intramuscular injection of atropine, a drug to prevent her heart from slowing down during anesthesia. Recently I have started to give a subcutaneous injection of Vitamin K to support blood clotting during surgery. Once the bitch has been removed to the surgery table, she gets a calculated dose of Propofol (a short-acting anesthetic agent) intravenously for immediate effect. As soon as she is ready, a tracheal tube is placed into her airway and connected to an Isoflurane anesthetic machine. (I used to give gas with a mask as an anesthesia induction but found the procedure time consuming and often problematic in Frenchies; the airway would become partly obstructed when the bitch was becoming sleepy and still not ready to be intubated.

Time and speed are of primary importance in this procedure and the surgeon is by now scrubbed and ready to make the first incision. A qualified technician is monitoring all vital signs and the depth of anesthesia. Once the abdomen is opened, the uterus is lifted out. An incision is made in the body of the V-shaped uterus (the middle part where the two horns join), rather than in the horns, so as to avoid destruction of future placental sites in the horns.

The puppies are removed from the uterus and handed to assistants who will immediately clean up the puppy's mouth and airway. Then the puppy gets rubbed and stroked gently to stimulate its circulation and its breathing. Its chest can be pumped at regular intervals to prompt air movement in the lungs. Sometimes a puppy can be swung (held very securely) in a downward motion a couple of times to try to rid the airway of any fluid. (This procedure has been criticized as causing brain damage, but in my experience, performed sparingly and correctly, is very helpful.) The puppies occasionally need as much as 20 to 30 minutes of work until they breathe reliably and well. So be patient and persistent. The puppies are then placed in the box that has been warmed ahead of time with a water bottle.

Meanwhile, the surgeon has closed up the uterus. An intramuscular injection of

oxytocin has stimulated the uterus to contract. This also helps to control bleeding. The abdomen is closed up in several layers as usual. I prefer avoiding outward stitches in the skin of a nursing mother.

As the bitch is disconnected from the anesthetic machine and recovering, when she is able to swallow, the tracheal tube is pulled from her mouth. Typically, as in all post anesthesia situations in bullies, the airway may be too relaxed and partly obstructed. So, immediately after withdrawing the tracheal tube, we usually hold the mouth slightly open and pull gently on the tongue, which maintains the airway open and allows air passage through the mouth. As the bitch wakes up fully and has more control of her airway, we let her breathe without assistance. But sometimes it can take up to 10 minutes until she breathes freely without needing her mouth held open and her tongue pulled. Not to further delay her recovery, I avoid giving painkillers after C-section surgery that I usually give after other anesthetics of Frenchies (with some exceptions, of course), since they may cause extended sedation accompanied by breathing problems.

Occasionally a bitch will start vomiting while recovering, and her tongue and mucous membranes' color will turn blue from lack of oxygen. In this event her head should be lowered to allow any stomach contents to flow out. An injection of an antiemetic will prevent further nausea. Once the bitch is stable and well awake, we disconnect her from the intravenous line. I usually send her home with a prescription of antibiotics (Amoxil) for 8 days.

## **CARING FOR YOUR GIRL AFTER A CESAREAN**

Offer water often by syringe or by bowl in the whelping box. Carry her outside for her usual business. Start offering a pediatric canned diet by hand 6 to 8 hours after surgery in small amounts, 3 times a day. Be conservative in feeding the first 2 days; then gradually increase, keeping an eye on her stools. Do not overfeed; she will get diarrhea. Most Frenchies produce a lot of milk, and the puppies tend to overeat. Gradually adjust her diet over the first week to her needs and litter size. Start mixing dry food with the canned.

## **TIPS FOR NEWBORN PUPPIES**

In elective C-sections, the bitch will often produce only colostrum (yellow sticky fluid) from her mammary gland and the real milk can take up to 3 days to come in. In nine years of breeding, I have never had a bitch without colostrum. The puppies will suck often and not gain weight right away, but they are generally nice and content. I do not recommend to supplement these puppies. This could cause serious harm.

If ever the need arises to supplement a weak newborn, use only a 5% glucose solution (have a pharmacist make this up ahead of time) in the first 24 hours, and a 50% diluted formula (diluted with sterile water) for the first week. Nurturall, a ready-made puppy milk, is my favorite if I need to supplement.

Puppies cannot regulate their body temperature and need to be kept at 80 degrees F for the first week. This temperature can be lowered very gradually over the next 3 weeks to attain comfortable room temperature.

**VERY IMPORTANT!** Bitch and puppies should be supervised around the clock. If you need to leave the whelping room (during the first week), place the bitch in a crate (never for longer than 2 hours). It takes a few days for a reliable routine to develop, and the small puppies can easily be smothered.