

HOW I TREAT DYSTOCIA

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Cesarean-section (C-section) is indicated in emergency situations of dystocia where the dam is unresponsive to medical treatment, if the puppies are distressed, or if there is evidence of fetal death. C-sections are also performed on a planned basis for dogs that had previously undergone C-section for dystocia, or if dystocia is anticipated due to the size of the puppies or the size and conformation of the dam's pelvic canal.

There are significant anesthetic concerns when performing C-sections, and these issues are addressed elsewhere. A large support staff is necessary for this procedure and two teams are usually identified: one to take care of the dam (anesthesia and surgery) and one to take care of the puppies (neonatal resuscitation). If possible, it is ideal to have one person for each puppy in the litter.

A large caudal midline abdominal approach is made following induction of general anesthesia. Care must be taken to avoid lacerating engorged caudal epigastric vessels or damaging mammary tissue. Good depth control must also be exercised when approaching the abdominal wall to avoid accidental penetration into the gravid uterus. The linea alba is carefully incised and the uterine horns and uterine body are exteriorized. The rest of the abdominal cavity is packed off to prevent contamination from uterine contents. At this point, there are two methods for performing a C-section.

A hysterotomy can be performed if the dam is not going to be spayed, if it is difficult to isolate the ovarian pedicles, or if there is a puppy wedged in the uterine body and cervix. A longitudinal incision is made in the uterine body, large enough to fit a puppy through without tearing the uterine wall. Each puppy is gently milked out through the incision and each placenta is gently detached if possible. The amniotic sac is opened and the umbilical vessels are clamped with a mosquito forcep then transected from the placenta. The puppy is then handed off in a sterile towel to an individual on the puppy team for resuscitation. Once all the puppies are removed, a routine ovariohysterectomy can be performed. Otherwise, the hysterotomy incision is closed with absorbable monofilament suture in a single or double-layer continuous pattern. If there has been contamination of the abdominal cavity, it is extensively lavaged and then closed routinely.

An alternative technique is to perform an *en bloc* ovariohysterectomy. Large clamps are placed across each ovarian pedicle and then the uterine body. The entire tract is removed and handed off to the puppy team where the uterus incised and puppies recovered. As oxygen and blood supply have been cut off, the team must work very quickly to remove the puppies. The pedicles and uterine body are ligated routinely. Abdominal closure is also routine, except that the skin is typically closed with an intradermal pattern, so that the puppies can nurse without disrupting the incision.

References

- Evans KM, Adams VJ. Proportion of litters of purebred dogs born by caesarean section. *J Small Anim Pract.* 2010;51:113-8.
- Traas AM. Surgical management of canine and feline dystocia. *Theriogenology.* 2008 Aug;70(3):337-42.