



Chihuahua

Update

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C-Sections Offer a Safe Birthing Alternative for Difficult Deliveries

Cesarean sections are sometimes lifesavers for Chihuahua bitches that are not able to deliver a litter of puppies. Fortunately, advances in anesthetics and technology have helped to reduce the risks associated with C-sections.

"C-sections are safer now than ever," says Robert Hutchison, D.V.M., owner of Animal Clinic Northview in North Ridgeville, Ohio. "I suppose there's always a risk, but in all honesty, the biggest risk is probably riding in the car with the owner to the clinic. I seriously believe that."

Kit Kampschmidt, D.V.M., co-owner of Brittmoore Animal Hospital in Houston, agrees that C-sections are safer today than in the past. "Nowadays, with improved anesthesia and surgical techniques, it is not a high-risk procedure," he says.

Finding a Veterinarian

Because of their relatively large heads and small pelvises, Chihuahuas make up a significant percentage of the overall C-sections performed. Generally, Chihuahuas, along with Bulldogs, Labrador Retrievers, Boxers and Pembroke Welsh Corgis, are among the five most common breeds for emergency C-sections, according to Paula Moon-Massat, D.V.M., DACVA, associate professor of clinical sciences at Cornell University College of Veterinary Medicine.

Successful whelping involves finding a veterinarian who is available 24 hours a day should the bitch need help delivering puppies. "Finding a veterinarian who is willing to make himself or herself available and who has the equipment and experience necessary for performing C-sections on a routine basis is important," Kampschmidt advises.

Unfortunately, many veterinarians will wait too long to do a C-section, Kampschmidt says. An experienced veterinarian who has proper monitoring equipment can determine the need for surgery and perform a C-section before puppies are compromised.

Figuring the Due Date

Among the technological advances that have helped to boost live puppy births is the ability to precisely determine a bitch's due date.

Knowing the due date allows the breeder to schedule an elective C-section, rather than forcing an emergency one, on bitches that may have problems delivering. Hutchison estimates that about 75 percent of the 250 C-sections he performs annually are scheduled.

By measuring the levels of progesterone, a pregnancy hormone, in a bitch's blood, veterinarians can determine when ovulation occurs. When progesterone levels rise above 5 nanograms, a unit of measurement that equals a billionth of a gram, a bitch is ovulating. If the bitch is bred, puppies will be fully developed 63 days later. This helps to take away the uncertainty about the due date and the fear of a premature C-section.

"The due date is 63 days from ovulation," Hutchison says. "It has nothing to do with the breeding date. Measuring progesterone levels helps to take away the guesswork.

Since puppies actually double in size during the last 12 days of gestation, getting the due date wrong by only three days and delivering prematurely

could be significant in terms of the viability of the pups."

In addition, an ultrasound taken during pregnancy can help to indicate a bitch's due date, says Kampschmidt who recommends to his clients to have one performed around the 24th to 30th day of gestation. The ultrasound process involves measuring the gestational sac and using a formula to determine the age of the fetuses and thus accurately predict the due date. "In cases where I've known the date of ovulation, I've found that the due date determined through ultrasound usually matches

the date determined by ovulation timing," he says.

Performing a C-Section

Kampschmidt prefers bitches to begin labor before delivering the puppies surgically. "During the first stage of labor — the panting and nesting — important maternal hormones

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Continued on page 2

Emergency C-Sections

Breeders should watch for these signs of a difficult labor that may indicate the need for an emergency C-section:

- Prolonged first-stage labor (when the bitch nests, pants and her temperature drops) that lasts longer than 12 to 24 hours.
- Nothing happens or the bitch's temperature returns to normal after it's dropped.
- Bitch strains for longer than an hour without a puppy being delivered.
- More than three hours go by between puppies.
- Black, green or red discharge before delivery, indicating placental separation.
- The bitch is worn out.
- A puppy is visibly stuck.

C-Sections

continued from page 1

kick in. Though there is no scientific backing, I feel that if you let a bitch go into labor, the hormonal influences will benefit her mothering ability, plus you know the puppies have reached full maturity."

Once a C-section is indicated, a veterinarian must anesthetize the bitch. In the past, effectively anesthetizing a bitch without negatively affecting puppies was a challenge; however, the short-lasting anesthetics used today help to reduce the risks. "The newer anesthetics we're now using are so quick, safe and non-lin-gering that it can actually be safer for the puppies to be born by C-section than naturally," Hutchison says.

Kampschmidt agrees that the newer anesthetics that quickly leave the body are safer. "Some of the older anesthetics could affect the way the bitch would take care of the puppies," he says. "The ones we use now are very safe, and I think the dogs wake up and do a great job returning to normal function very quickly."

In Chihuahuas, like all Toy breeds, it is particularly important for veterinarians to conserve the bitch's body heat during surgery. "The biggest challenge with Toy breeds is keeping their body temperature up and not risking heat loss," Hutchison says. Not exposing the uterus to the air for very long helps. "It sucks the heat out when you bring the whole uterus into room temperature," he says. An intravenous line inserted before surgery helps to provide fluid that increases blood flow and thus body temperature.

Puppy Survival

Research shows that C-sections result in a greater number of living puppies. "One of the best ways to overcome the No. 1 cause of lost puppies is to do a C-section," Hutchison says.

One study by Moon-Massat, published in 2000 in the *Journal of the American Animal Hospital Association*, indicates that survival rates for puppies born by C-section are higher than naturally whelped puppies immediately after birth, two hours after birth, and seven days after birth.

Moon-Massat's study found that the following factors increase the likelihood that all puppies in a litter delivered by C-section would be born alive:

- Surgery is not an emergency.
- Dam is not a brachycephalic, or short, broad-headed, breed.
- Four puppies or fewer in the litter.
- No naturally delivered or deformed puppies.

- All puppies breathed spontaneously at birth.
- At least one puppy vocalized spontaneously at birth.
- Older anesthetics that suppress the puppies or that lower the blood pressure of the dam, thereby endangering the puppies, are not used.

Post-Operative Management

Pain management for a new bitch is important. Hutchison prefers using a local anesthetic injected into the surgical site. Other pain medication isn't desirable, because 3 to 4 percent of everything that goes into the mother crosses into the milk. "For C-sections, we don't use a lot of the oral anti-pain drugs that we use in other surgeries," he says. "Generally, these mothers are pretty comfortable. They have other things on their mind."

In both practices, the veterinarians make sure that the puppies are nursing before sending them home. It takes about 90 minutes from the moment the anesthesia is administered to the mother presurgically until everyone is going home.

It is important for breeders to keep an eye on the mother, making sure she's feeling well, accepting her puppies and taking care of them properly, Kampschmidt says. If the mother is uncomfortable or agitated after the surgery, she might not be doing her

job. He suggests talking to the veterinarian in advance to learn signs that indicate that pain medication or sedatives might be needed.

Hutchison recommends cleaning the incision with peroxide and turning a new mother over a couple of times a day to let air get to the incision; otherwise, the glands producing milk hang down and prevent air from reaching the incision. Other than that, no special post-operative care is necessary. "We don't send them home on antibiotics or other drugs," he says.

A Safe Way to Deliver Puppies

Without the risks once associated with C-sections, surgical deliveries are safer than ever. What's more, the uterus, or the womb, of a bitch whose puppies have been delivered by C-section may be in as good shape — if not better — as the uterus of a bitch that whelped naturally.

"If you look at the uterus of a bitch that had a planned C-section, it looks excellent as opposed to some of the swollen, bruised uteruses of dogs that have been in labor," Hutchison says.

When you consider that not all bitches are able to deliver litters of healthy puppies, it is reassuring to know that C-sections provide an alternative birthing method to help save the lives of puppies. ■

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Myths about Cesarean Sections

Advances in anesthetics and new technology have helped to eliminate many of the concerns that people once held about veterinary Cesarean sections. Robert Hutchison, D.V.M., of Ridgeville, Ohio, debunks the following myths.

- **A bitch can only have three C-sections in a lifetime.** Having a C-section doesn't affect breedability.
- **You don't get as many live puppies because C-sections are risky.** Not true. Improved anesthetics have made C-sections as safe for puppies as natural deliveries.
- **You have to skip the next breeding cycle after a C-section.** The uterus is just as healthy after a C-section as if a bitch had puppies naturally.
- **Bitches that have had C-sections don't take care of their puppies because they don't experience the pains of labor that trigger their maternal instincts.** Hutchison has not found this to be true, although Kit Kampschmidt, D.V.M., of Houston, thinks a bitch that has gone into early labor is sometimes more maternal.
- **A bitch won't produce milk.** With a proper C-section, milk production should not be an issue.
- **Subsequent puppies will have to be delivered via C-section.** Simply not true.