

Whelping Management

By Cathy Ochs-Cline

What do you consider a successful whelping? A successful conception, followed by a normal pregnancy, followed by an incidence-free birth with no neonatal deaths, followed by a quiet lactation period? This may be asking a lot, and at times problems do arise that need immediate attention. Early intervention can make the difference between a puppy's survival or death. Indeed, often it can mean the difference between the dam's survival or death. In order to intervene as early as possible in a problem situation, it is necessary to know as early as possible there is a problem. Close and careful monitoring of the entire whelping is the key.

Whelping is divided into four separate periods: breeding, pregnancy, whelping, and lactation. Each period requires special monitoring as it sees your bitch going through dramatic physical changes. Each period needs to be handled slightly differently.

Your work begins when the bitch comes into season. The first thing to do is to make sure she is in perfect health. Check to see she is free from internal and external parasites. If she has not had a DHLPP-parvo booster in the last six months, it may be a good idea to get her one in order to make sure she passes on the highest degree of protection to her puppies. Usually it is best to do this a few weeks before the bitch is scheduled to come into heat. Make sure the bitch and the stud have a negative Brucellosis test. If the bitch has any history of vaginitis, cystitis, or previous missed breedings, get a vaginal culture in the first four days of the heat cycle. If there are questions about the bitch's condition, consult your vet.

Carefully watch the bitch's heat cycle to decide when to breed her. Monitoring her vaginal cytology can be of tremendous help. It is very easy for the breeder to do this themselves by purchasing a good microscope, getting lessons from a good veterinary technician on how to prepare the slides, and reading a lot of slides and making comparisons with the textbooks (cf. Holst book in the bibliography). If you do not know how to do this, find a vet who can. NOTE: not all vets are equally experienced or competent at reading slides. Ideally, you should have vaginal smears done on the bitch several times during her heat cycle. Every second or third day is a good interval to start a new bitch. You are looking for the bitch's progress through her heat cycle. Progress is impossible to tell from one slide. Remember each bitch's cycle is different, as is each bitch's progress through that cycle. It is not always necessary to have a fully cornified smear to indicate a bitch is ovulating. Some bitches will never fully cornify.

The use of progesterone testing to pinpoint ovulation dates is becoming more widely used. There are different tests available to breeders and veterinarians and which one you use will depend on which you prefer and/or can afford. Since most of these tests need blood drawn from your bitch, a veterinarian usually gets involved. Your vet may have his own preferences for which test to use. Some tests are sent to laboratories (progesterone level tests), and others are done on-site (competitive LH surge tests). Check with other breeders and your vet to find out which test is best for you. When sending your bitch to another breeder, ask about the use of ovulation timing if you feel your bitch needs this.

Breedings using fresh chilled (extended) and frozen semen are becoming more popular. The advancement, availability and convenience of these methods compared to the rising costs and risks of shipping make them a real alternative for most breeders.

When using fresh chilled semen, progesterone testing is an absolute necessity. Advance planning is also necessary. There are now several companies that specialize in fresh chilled semen and you may need to research them in advance. The collection and extension kits need to be ordered and shipped to the stud owner as soon as the bitch comes into season. The stud owner must then be ready and available to collect the dog upon short notice. When the bitch's progesterone tests indicate ovulation, semen must be shipped within 48 hours. The semen is extended using a liquid medium, placed in a special container and shipped via airlines or overnight courier. Containers may be purchased or rented from the reproductive company. After the semen arrives at the bitch's end, it must be thawed to room temperature and inseminated. More than one breeding might be needed, and semen quality should always be checked before insemination.

Frozen semen breedings are similar. The semen is shipped to the bitch owner in a special container. The semen is then thawed and inseminated. Although normal inseminations are often successful, if the semen is not of perfect quality, a surgical insemination may be required. In this case, only one breeding is performed. A small incision is made in the bitch's abdomen and her uterus is located. The semen is then injected directly into the body of the uterus. Since the procedure is quick and complications rare, this method is preferred because of the increased success rate. NOTE: The AKC has special requirements for the use of fresh chilled and frozen semen. Contact them for the necessary rules and registration forms.

Being able to tell if your bitch is pregnant is the oldest guessing game in the book. The dog is the only mammal that does not have a pregnancy-indicating hormone secreted by the female! Many companies have attempted to produce a

pregnancy test for dog. As of the updating of this article, most are still in the infancy or unproven stage.

Ultrasound is probably the best and most accurate method of confirming a pregnancy. It is also expensive, so may not be a viable alternative for most breeders. Ultrasound is non-invasive, safe and pain-free for the bitch. The belly area may have to be shaved, but no other preparations are needed. Ultrasound can be performed as early as 18 days, although 21-28 day is ideal. Heartbeats can be detected by 26 days. Although ultrasound is a good pregnancy indicator, it is not accurate for telling how many puppies a bitch will have.

Palpation is still the cheapest, easiest method of confirming a pregnancy. Again, some vets are better at this than others. Palpation should be performed at around 28 days post breeding. If you wait much past 30 days it becomes more difficult since the amniotic sac around the puppy is filling with fluid, making each fetus less distinct and harder to feel. Palpation should again only be used as a pregnancy indicator and not for telling how many puppies a bitch will have. If your bitch is pregnant, start changing her feedings at the same time her pregnancy is confirmed (i.e. about 30 days post-breeding). You will not need to start increasing her food intake at this point, but she should start receiving more protein and fat than in her normal ration. Substituting a high-quality premium puppy food for her normal food will accomplish this. Morning sickness or loss of appetite is normal at 30 days post breeding. Bitches will sometimes even vomit a little yellow bile in the morning. This stage should pass quickly and some bitches never miss a meal!

Two weeks before whelping start feeding her small quantities of high quality meat protein, such as chicken, beef, eggs, liver, etc. Meals can be divided and fed several times a day. By the end of the pregnancy, your bitch should be eating 50% more than usual, and should be getting approximately 25-30% of her total intake as protein. Even if you are feeding a food that has high protein, you will need to supplement with high quality meat toward the end of the pregnancy. It is important that your bitch eats more since she will need every ounce of fat she has stored once she has the litter. It is very frustrating when you can't get the bitch to eat what is offered. Most bitches will get picky about eating at some point in their pregnancy. If she refuses to eat her normal dry ration, substitute oatmeal, cooked barley, brown rice or wheat cereal. Use whatever you can to keep your bitch eating, but make sure her diet is still as BALANCED as possible.

Two weeks prior to whelping, start preparing for the "big day". First of all, start monitoring the bitch's temperature every 12 hours, and the last few days, every 4 hours. The drop in temperature is gradual, but what you are looking for is your bitch's daily pattern. Most bitches' temperatures will be slightly lower in the morning, rising until the evening, and then dropping off again. When you chart

your bitch's normal pattern you will know if a variation is normal, or if it could be signaling the beginning of labor. A normal temperature for a dog is usually 101.5-102.5 degrees F, but don't be surprised if your bitch is below 100 degrees F. A significant drop, which probably means labor will begin in 12-24 hours, is usually below 99 degrees F (or a normal temperature for a human being), and sometimes as low as 98 degrees F.

When you are setting up the bitch's whelping box or nest you need to find a quiet, draft-free area. Try to set the box away from other dogs or bitches with litters. If you are whelping her in summer and she is in a room with an air-conditioning vent, close it, or block it off. There are many different types of whelping boxes you can use. Plastic children's wading pools are ideal because they are inexpensive, portable, very easy to clean, and you can throw them out if they are chewed. Another feature of these pools is that they can be turned if your bitch moves away from you when she is delivering a puppy. If using a wood box, make sure it is painted with child-safe non-toxic sealing paint and thoroughly clean it with a strong disinfectant before using. Clean up the room as much as possible before the whelping, including vacuuming and dusting, and clean all near-by surfaces with an all-purpose disinfectant. Lysol is fine, but stronger disinfectants are now readily available from veterinary supply companies. Continue your preparations by washing all bedding and towels you will use in hot water and chlorine bleach before you move them into the whelping area. Clean all scissors with betadine and keep them covered until you need them. Place a heating pad in the bottom of a box to use as a puppy-warming box. Plug the heating pad in, but don't turn it on until the whelping begins.

A week before the whelping it is a good idea to put together all the things you will need. A whelping list is at the end of this article. At the same time put together any forms you will use to make a record of the whelping. Place them on a clipboard in the whelping box so they are handy to make notes on. I have included copies of the forms I have created for my own use at the end of this article. When monitoring the bitch's temperature use the Litter Medical form to note the time and temperature. Also use this form to make general notes as to any physical or mental changes your bitch goes through in the last days of pregnancy. Carefully note the signs she shows of starting labor. Each bitch is different, but most bitches will follow their particular pattern in subsequent whelpings. It will help your memory to have these things written down.

In further preparation for whelping give your bitch a full body bath. It will probably be the last one she can have for a while. Trim her toenails, and make sure her teeth are clean -- she could pass an infection to her puppies when biting their cords if her teeth are dirty. Carefully clean her nipples and breasts with betadine scrub or phisoex. Remove any excess skin deposits and dirt. Treat any sore spots with A&D ointment or plain vaseline. One week before her due date, start washing her breasts daily with plain water and a terry washcloth. This helps to

toughen up her breasts, making vigorous nursing less painful to her in the first few days and decreasing the risk of her rejecting her puppies.

Three to five days before the bitch's due date you may x-ray her to determine how many puppies will be in the litter and the size of the whelps. Multiple views are needed to be able to accurately count puppies. One view should be with the bitch on her side, and the other view with her on her back. Count heads and spines. Another helpful hint: If you can clearly view scapulas and femurs, the bitch will whelp within 5 days. If you see tib/fibs and radius/ulnas, the bitch will probably whelp within 48 hours. In most cases, you can get an accurate count of the number of puppies. However, a dead, deformed or partially formed puppy will often cause your count to be off. Be careful with small or single puppy litters. These puppies often look very large on an x-ray because they have more room to stretch out in the womb. Although these puppies are often large, many times this an optical illusion, and the puppies are a normal size.

One other thing I keep on hand during whelpings is a vial of oxytocin. It should only be used by those who are experienced and should never be used just to speed up a delivery. The most important contraindication in using oxytocin is a mechanical blockage. If you can not reach up inside your bitch and safely say that there is not a puppy in the birth canal, you **SHOULD NOT** be using oxytocin. A good way to speed up labor is just to let the puppies nurse in between deliveries. Nursing causes the bitch's hormones to flow, effecting a speedy delivery. Another way to help deliver a stubborn puppy, is to "feather" the bitch. Carefully insert a finger into her vulva (always wash your hands first and wear lubricated gloves) and gently rub along the top wall of her vagina. This will usually cause strong pushing contractions. Feathering is also a good way to tell if the bitch is through delivering all her puppies. Abdominal palpation can be difficult at the end of a whelping since the uterus is still swollen and it is difficult to feel even large masses. This can be further complicated if there is one or more retained placentas. Feather the bitch when you think she is done having puppies. If the bitch pushes against your hand, even a little bit, it usually means there is a puppy still in there. If she doesn't push, she is finished.

During whelpings use incontinence bed pads instead of newspaper to line the whelping box. These underpads are very convenient because they soak up a lot more fluid than newspapers and they have a plastic bottom, making clean ups between pups much quicker and easier. They are not expensive and usually come in bags of 20.

As the puppies are being born, write down all pertinent information on the Puppy Birth Record Sheet. It is very important to note when each puppy is born so you know the time space between puppies. Also note if the bitch has retained or delivered all the placentas. This may make the difference between having to use

an antibiotic after the delivery. As each puppy is born, dry it off with a hand towel and examine it carefully to make sure it has no physical birth defects. Check inside its mouth to make sure its palate is complete and check to make sure it has an anal opening - these are the two most common and obvious birth defects. Trim the umbilical cord with dull scissors or shred the cord between your fingers. There will be less bleeding from the cord if you crush the cord as you are tearing or cutting. If there is any bleeding from the stump, tie the cord off near the end with dental floss. After the cord is trimmed and tied, dip it in iodine. This helps dry it out and also helps to keep infections from entering through the open blood vessels. A neatly trimmed cord, coated in iodine will keep your bitch from excessively worrying the puppy's cord. Weigh the puppy after it is thoroughly dry (sometimes you have to wait hours if you have an enthusiastic dam) and record the birth weight. Also record any distinguishing markings, or those easiest to see when standing above the puppies. Do this as the puppies are born or you could get confused later. Some people like to identify their puppies by putting different color ric-rac (cords) around their necks (I have never done this, but I assume its safe since I know so many people who have.). Start a Puppy Data Sheet on each puppy and use it to record the markings and other information you may need later.

At the end of a whelping you may wish to take your bitch and her puppies to the vet. There is some risk involved with taking them out so young, so guard them as best you can. Put the puppies in their puppy box with the heating pad in the bottom and cover the top with a towel. Plug the pad into the nearest socket as soon as you get to the vet clinic and make sure the puppies stay warm. If curious people want to look at them, uncover them briefly for a peek and never let them be touched by anyone other than the vet. It can be extremely helpful to have your vet examine both the bitch and her puppies as soon after whelping. Discuss the whelping, any complications or any concerns you might have. Take all your whelping records and let your vet review them. The decision about a clean-out shot of oxytocin or an antibiotic shot or therapy is called for at this point. If you have any question about whether your bitch has completed the whelping, have her x-rayed. This is certainly optional, but a retained puppy is a very serious problem that at best can cause the puppy's death, and at worst can cause a potentially lethal or devastating infection for the bitch.

When the trip to the vet is over, bring the bitch and puppies home and settle them all into their nest. The most common loss of puppies in the first week is chilling. Keep a room thermometer on the floor of the whelping pool and keep the area at around 75-80 degrees. Remember that warm air rises, so it is important to have the thermometer as close to the floor of the whelping box as possible. There are many different methods of heating the whelping area. It is best to warm the whelping environment, rather than just the whelping box, or you may expose the puppies to drafts. A regular light bulb in a reflector is an excellent source of heat. You can place it close to the box and move it further away when

the desired temperature is reached. You can use a high watt bulb and gradually change to a lower-watt bulb as the puppies get older. A normal light bulb does not tend to dry the environment out as rapidly as a heat lamp or heating pad. Watch your bitch and puppies to make sure the area temperature is comfortable for them. If you warm the area too much, the bitch will become hot and she may move away from her puppies. Puppies laying around in a loose pile are comfortable. Cold puppies will pile together and become restless. Puppies sprawled out away from each other with open mouths are too warm.

Put carpet or towels down in the box over a thick layer of newspapers so the puppies can have a good surface to crawl on and push against when they move around. A large piece of bathroom carpeting cut to fit the box is excellent. Many companies make fake lambskin pieces to fit in the whelping box and these are good, also. Although newspaper alone is more economical, the pups have a hard time moving across its slippery surface. Light colored carpeting is best because it helps you see if any pups are bleeding or having abnormal stools, and also helps keep track of your bitch's vaginal discharge. Change the rug and papers in the box at least once a day, or more often depending on how clean mom is keeping the puppies. All bedding and towels used on the pups should be washed in hot water and chlorine bleach after being soiled. Accumulated urine and feces in a rug can quickly gather bacteria and put puppies at risk.

The first week after birth monitor the pups and dam closely. Continue to take your bitch's temperature for the first week after birth, or as long as she is on antibiotics (due to delivery complications). Keep track of what she is eating and how often, and if you have time, take notes on her behavior with the puppies and her attitude in general. Anything abnormal about her behavior needs to be noted and watched in case it is a sign of a problem. Often the first indication of an infection is a bitch who begins to lose interest in her puppies. Keep an eye on the color and consistency of her vaginal discharge. A normal discharge will be dark red or brown after delivery, gradually lightening and thinning within the first week. If her discharge darkens or thickens, or if it has foul odor or abnormal color, it may signal a problem. Check the dam's breasts several times in the first week to be sure that there are no hard lumps or sores that may mean the beginnings of mastitis. Also check the color of the dam's gums several times in the first week. Most bitches will lose some of the normal pinkness of the gums due to the generalized blood loss during the delivery, but her gums should return to normal rather quickly.

The puppies in the first weeks should be treated with the utmost concern. A normal, healthy pup should be round and fully packed, and feel heavy when picked up. It may take several days, or longer in large litters, before you get to this stage. Puppies doesn't do much in the first week except eat and sleep. While sleeping, the puppy will jerk and shudder. This is called activated sleep and is perfectly normal. The pads on their feet should be dark pink. The puppy should

have good muscle tone and never be listless or limp when picked up. Spend at least 10 minutes twice a day observing the puppies. If you do not see a puppy jerk or move at least once in a two minute period, it is time for a closer inspection.

Monitor the weights carefully in the first week. Take weights once a day on normal puppies, and twice a day on problem puppies. Examine each puppy as you weigh it. I have included a Weight Work Sheet that I use. A puppy will normally lose a little weight in the beginning 10 days.

Watch the pups nurse and compete for the nipples. If a puppy appears sluggish or continues to get knocked off a nipple you may want to supplement to help it build up its strength. You can do this by tube feeding lactated ringer's solution or glucose solution (5% can be purchased at a grocery store in the baby section) every hour until the puppy does better. Glucose solutions can be absorbed by the stomach and do not need to be digested, therefore they provide a quick source of energy for the puppy which requires very little energy expenditure to digest. Do not feed a chilled or ill puppy milk replacer as it will not be digested.--it will just sit in the pup's stomach and ferment. If a puppy does not respond to supplementation and does not thrive, have it checked out by a vet - there may be a problem you can't see.

When checking weights twice a day also check these other things: 1) Make sure that the puppy is not dehydrated. Lift the skin over the shoulders and if it does not quickly fall back into place the puppy is dehydrated. Begin supplementing with the glucose solution. If the puppy does not respond within a few hours take it to the vet. 2) Check the temperature of the puppies. If a puppy feels cool to the touch, insert a finger into its mouth. If it is also cool there, then warm the puppy gradually (place in a towel in your shirt, or place on a heating pad on LOW) and start supplementing with glucose solution. When a puppy is chilled it cannot digest food, so do NOT supplement with milk replacer. 3) Put iodine on the cord stump until it falls off and then onto the abdominal site for a day afterwards. If the cord does not dry up properly, or if it looks red or inflamed around the abdominal site, take the puppy to the vet. 4) Check the pup's anus to make sure it is not red and inflamed. If it is the pup may have diarrhea - watch to make sure. Some pups get diarrhea just because they are overeating. A few drops of Milk of Magnesia on their tongues twice a day may be all that it takes to clear this up. If the Milk of Magnesia does not help, then go to the vet.

Does all this seem to take the fun out of raising a litter? Raising a litter is a lot of work, but when you are doing all this checking and recording, remember to cuddle the pups and the dam. Everyone will benefit from it. I think of the whelping area as a hospital. Does this make things too clinical? I don't think so. Remember, many human mothers and children have benefited since doctors

decided that giving birth in a hospital was advisable. Giving birth in a hospital may not be easier, but keeping mothers and problem children alive during those first crucial few days is. Everything is monitored and watched. If you are having bitches who whelp poorly and lose a lot of puppies, it may not be the bitch's fault. It may mean that there is something that could be done differently to manage the whelping. I also include a schedule of events when raising a litter to use as a checklist.

When raising a litter there is no substitute for common sense. It never hurts to be an alarmist. If something does not look or feel right, go with your instincts. Don't let your vet make you feel like a doting mother. If you can't work with your vet...find a new one! Remember, most vets don't have much experience with normal whelpings. You are probably more experienced than s/he is in this respect. The vet is there to help with a problem. The mother and the litter are your future and a tremendous investment of your time and emotion. Knowing proper management techniques is one of the best ways to protect your investment.