

December 8, 2002

PHFasDog: As part of PetHobbyist.com's annual Chat Week, DogHobbyist.com is proud that leading canine reproduction expert Dr. Robert Hutchison was our special guest at a canine reproduction chat on Sunday, December 8, 2002, at 8 PM Eastern. The transcript of that chat follows.

Question: Progesterone

I'm amazed at looking at the questions that were posted on the board, how much misunderstanding of progesterone there is both by breeders and by veterinarians. In this day and age, with the importance of progesterone, it's amazing how people misunderstand the significance of progesterone, both on timing the ovulation and on maintaining the pregnancy.

In a perfect world, the progesterone rises to 2-3 nanograms and tells the brain that the follicle is ripe and ready to ovulate, and then the brain releases the lutenizing hormone, the LH, which causes ovulation. Unfortunately, we were told that you only needed to know when it rose to 2-3 nanograms, which used to be called the initial rise. We have now found that not all follicles, especially in bitches under stress, immediately respond to the LH. So for progesterone testing to mean anything, one has to test the bitch until she goes above 5 nanograms. The day the progesterone rises above 5 nanograms IS the day of ovulation, so all breeding is based on the day of ovulation and how long we expect the semen to live. Fresh semen will live 5, 6, 7 days in a bitch. That's why we used to be able to breed by vaginal smears, color of the discharge, and day of the cycle - things that made us feel scientific but probably mattered very little.

So once the egg is ovulated, it is an immature egg that takes 48 hours to mature, then we have about 36 hours when the egg is fertilizable. So if we're using fresh semen, we can breed the day of, or the day after, she ovulates and expects the semen to live until the egg is ready to be fertilized.

However, with frozen semen, which only lives for about 12 hours in the uterus, we have to use it when the egg IS ready for fertilization, which is why, with frozen semen, we breed 72 hours after the bitch ovulates.

Fresh cooled probably lives about 48 hours, so we use it 2 days after she ovulates. So the timing is based more on how long we expect the semen to live, rather than the day of ovulation.

Question: How high should a bitch maintain her progesterone to remain pregnant? At what intervals should it be tested so you are sure it is high enough during the pregnancy?

Once the bitch ovulates, the progesterone rises to a range of 15-40 nanograms and is maintained here for the next two months, whether the bitch is pregnant or not.

In the bitch, unlike the cat, the ovary is the sole source of progesterone. The bitch doesn't change part of the progesterone responsibility to the placenta. So a premature drop of progesterone causing resorption or abortion is rare. So a bitch only needs 2.5 nanograms of progesterone to maintain a pregnancy.

If one suspects a problem, usually testing it at ultrasound time, around 26 days after a breeding, is a good time to make sure the progesterone is in the 20-30 nanogram range. It will cause birth defects in bitch puppies to give progesterone if it's not needed. I only supplement if the progesterone is below 5 nanograms with longer than 7 days to go.

Question: Are there any measures to be used to prevent resorption?

The main thing in resorption is to confirm that they were pregnant. Just because a bitch goes into a false pregnancy does not mean she was ever pregnant. Things that cause resorption are 1) uterine lining problems, the uterus not able to support the placenta; 2) genetic problems in the fetus stopping it from growing; 3) some different infections and viruses. Herpes has been blamed; brucellosis; there are some chemicals and toxins that will cause it; and probably lowest on the list is premature drop in progesterone.

It does seem as a BREED that the English Mastiff does have a higher rate of bitches that prematurely drop their progesterone. It is thought that for many bitches that do prematurely drop their progesterone, it may be a primary immune-mediated problem rather than an ovarian failure.

Question: Can a maiden dog/bitch be carriers of brucellosis? If this is true, is there any way of testing them as a puppy for this?

YES! Brucellosis can be passed in all body discharges including urine, blood, milk, prostatic fluid, vaginal discharge. So if a male or female has been to a show, a field trial, a boarding kennel, they possibly have been exposed to brucellosis. Most of the human cases of canine brucellosis have been from contamination of infected urine. So it is a fallacy that brucellosis is only passed during breeding. You should test for it within the month of when you expect your bitch to come in season, and males should be tested at least twice a year even if they're only bred to negative females.

You can easily screen the other dogs. The main thing is to test dogs BEFORE they are introduced into your kennel. Most of my experience of kennels with problems is where they brought in untested dogs that contaminated everyone. Numerous dogs had incurable diseases and had to be euthanized.

Because the test in the veterinarian's office is not made from dog brucella, 20 percent can come up not negative, or a false positive and would require further testing that can take up to three weeks to get the results. SO DON'T WAIT UNTIL THE LAST MINUTE!

Question: When you have two bitches in season at the same time that need to be bred to the same male, what would be the optimum breeding intervals to cover both?

A normal male has a sperm reserve of semen he made months ago, so the average male could be used twice in one day or could be used 4-5 days in a row without doing any damage. But since it takes a male around 55 days to make a sperm cell, if you overuse your male, you are putting yourself out of breeding commission for a minimum of 2-3 months

There is no reason to be breeding a bitch 5, 6, 7 days in a row because the length of semen life is multiple days, and with progesterone testing, we should be able to pinpoint exactly when the bitch is ready to be bred.

Question: I have a 5-1/2 year old Weim bitch that you did a frozen semen implant on 2 years ago (produced 8 bouncing babies). Her heat cycles have been normal since the delivery (had to do the last baby via c-section) until this year. She came into heat in June and it only lasted 6 days. Thyroid tests normal range, blood workup normal ranges. What might have caused her to stop mid-heat back in June? She's in heat again now, and I'm waiting to see if it's full cycle.

I LOVE these success questions!

In any heat cycle that one is concerned whether it's a normal cycle or not, ALWAYS do a progesterone test after the cycle to see if the bitch ovulated or not. If she did NOT ovulate, which may account for the short cycle, a number of things such as stress, ovarian cysts, or environmental changes can cause a bitch to go back out of season, but only the progesterone test would allow us to know.

So THIS cycle, if we are going to breed, we need to start running progesterone tests at about day 6 and then run them every third day until we confirm ovulation and hence breed her, OR if the progesterone does not rise and she goes out of season, then we should be doing things like ultrasounding the ovaries and looking for reasons that are preventing ovulation.

Question: Do you know if mibolerone is available again in the USA? And, if so, is it as safe (or not) as the previous 'Cheque Drops'? Any contraindications or cautions in using it? Thanks!

I feel like Christmas has already come! Mibolerone is back on the market since August. It is the SAME volume and same concentration as the old Cheque Drops, even though it is made by a different company. The price has gone up significantly, so I am recommending for dosing to start the bitch daily for ten days and then go every other day as a standard dose. Be sure that the bitch has had her first cycle before starting on them, and I ALWAYS recommend having an ALT, which is a liver enzyme test, to be sure there is no liver disease, before I start on the drug. It is still one of the most valuable drugs available to preserve the uterine lining from the damage of progesterone from the bitch's own heat cycle.

Question: Where can we obtain mibolerone?

A company out of New Jersey called Wedgewood Pharmacy, but you need to purchase through a veterinarian. You should breed your bitch on the first cycle after they go off the drug; you do NOT need to skip that cycle. The normal bitch cycles 70 days after you take her off the drug, even though most bitches fall back into their normal cycle, be it May and Nov or June and Dec. And that may affect the timing of her first cycle after coming off the drug. I still think it's one of the greatest drugs we have out there.

Even though the bitch's own body produces the progesterone, the progesterone causes inflammation of the uterine lining, and the uterus is never as healthy after a heat cycle as it was before that heat cycle.

Question: Can Dr. Hutch tell us how safe are Cheque Drops?

Cheque Drops, in my mind, are one of the safest drugs we have. Side effects include 1 percent tear from the eye; they will get a musky odor; and the most misunderstood side effect is that it puts the bitch back into puppy vaginitis again. Unfortunately, many vets and breeders alike interpret any vaginal discharge as pyometritis. Cheque Drops actually PREVENT pyometritis. I never hesitate to use this product on my own bitches.

Question: What can you tell us about Canine Herpes virus?

Canine herpes virus is part of the kennel cough complex. It is one of the most common viruses our dogs are exposed to, which is why it is so rare to have a problem with the virus. Any bitch that has been to a show, a kennel, a training class, probably has herpes virus, and when she has the puppies, she passes the protection to the puppies through the colostrums, and the puppies are now protected. Where herpes becomes a problem is in puppies from bitches who have never BEEN exposed to herpes virus. The puppies have no protection, and the herpes virus causes an extreme vasculitis and hemorrhaging throughout the body and is almost always fatal.

Why it does not cause the same problem in an adult dog is that with a body temperature above 100 degrees, the virus causes only a mild cough. If body temperature is less than 100 degrees--and as I'm sure all our breeders know, a newborn puppy's normal temperature is 96 degrees, and a newborn puppy's temperature does not reach 100 degrees until 3-4 weeks of age--it can be devastating.

The treatment is trying to raise the puppy's body temperature to 100 degrees. The drugs that are used in humans for herpes are not successful.

Question: Is supplementing a pregnant bitch with high doses (2000 mgs a day or more) of Ester C potentially dangerous for either the bitch or the whelps?

Vitamin C is part of the water-soluble vitamins, so building up in the body is not a problem. It normally passes out in the urine. It can be a problem supplementing some other vitamins such as A and D; it can cause problems in the puppies. Oversupplementation is probably not necessary in this day and age. The bitch also does not require the elevated doses of folic acid that human women require. It is a fallacy that supplementing folic acid stops cleft palates in dogs; cleft palates are primarily a recessive genetic trait.

Question: I had a litter of toy pups whelped today, 56th day. Weights are 3 to 3.5 ounces (normal is 5-6), and they are not nursing but appear strong.

Always check the puppy's temperatures if they are not nursing. If the temps are below 94 degrees, they should NOT be nursing, and you should NOT be tube feeding. Puppies that are not nursing must be monitored. Are they gaining weight, losing weight, staying the same, crying, is their coat rough, etc. Puppies should not stop nursing. Puppies should not stop nursing, but a chilled puppy will stop nursing and should not be supplemented until their temp is back above 96 degrees. Please see your veterinarian about these puppies. Many things can cause puppies not to eat. Have them examined by your veterinarian.

Question: I have a 5 YO bitch that has had 3 litters. She has been "open" for 3 seasons. I plan to breed her in April. She will be 6 at that time. Any special recommendations for a bitch that age? She has conceived easily all 3 times previous and had healthy litters. We plan a natural breeding.

With her age, it is possible she is starting to get uterine lining changes. You may see a smaller litter because of the thickening of the uterus. She may not be spotting as early as when the bitch was younger, so be CERTAIN to do the progesterone testing to ascertain the exact day of ovulation. Once a bitch reaches six years of age, her chances of conceiving drop 33 and a third percent due to nothing more than the progesterone effect on the bitch's uterus over her lifetime. You'll want to be more precise on the timing and breeding than when the bitch was younger.

Question: I have a 3-1/2 year old male (Paul) who was recently diagnosed as sterile. His grandsire and great-grandsire also went sterile at this age. What is the probability that Paul will pass this to his male offspring?

We have followed numerous breeds, cockers, ESS, English Setters, where the males will be fertile and then, as time goes on, the semen count drops until they have no sperm at all. Some of these are genetic, and some the genetic part is where we get the body destroying its own sperm cells. I normally work these dogs up and may even do a testicular biopsy to try to determine what was the cause. Was it genetic and maybe even is it correctible.

Dogs that lose their sperm is NOT due to thyroid disease, NOT due to bacteria, and is normally something that can go on inside the testicle as opposed to something affecting it from the outside. Anytime you get three generations doing the same thing, I'd expect it was genetic and could be passed on to the offspring.

Question: Lots of questions were submitted on thyroid issues.

The thyroid gland has little to do with reproduction, and in male dogs, it's been shown that one can totally destroy the male thyroid gland and have no negative impact on sperm production at all. And in the female, if she comes in season and ovulates, pretty much the thyroid has done all that it needs to do. So low thyroid is not going to cause a bitch to miss, is not going to cause the bitch to resorb puppies, and many of the things that have been attributed to thyroid disease. And supplementing thyroid medication in an individual who does not need it can, down the road, cause them to become hypothyroid.

Question: I plan on taking my bitch to England and having her bred. It will be an 8-hr flight. Would it be better to take her a little earlier so that she settles better so that her cycle will not be affected by the flight, etc.?

Stress and steroids both can have the same effect, by suppressing the pituitary activity in the brain. So shipping a bitch for breeding should be almost a thing of the past. With the advent of fresh-cooled and frozen semen, and also with the restrictions by the airlines and increased costs, it is becoming almost prohibitive to ship a bitch.

As I say that, especially crossing multiple time zones, if one has to travel or ship a bitch for breeding, the best time to do is the day after her progesterone goes above 5 nanograms because the bitch cannot UNovulate. Breeding her within the next 48 hours should give her the best chance of conception.

One of the other mistakes that breeders make is shipping bitches early with the thought that the bitch is going to suddenly like these people she's never met when she'd rather be

home on the sofa with you watching Oprah. And many times, with bitches that are shipped early, we'll get that phone call from the people on the other end saying, "Hey, why did you ship this bitch? She's not even in season!"

Many bitches under stress will simply go back out of season without ovulating. Think how stressed we get when we're going to travel, and WE want to go!

Question: When is the best time to collect a male?

A male's peak sperm production should be between 2-7 years of age. A male normally has sperm after ten months of age, even though we have successfully frozen dogs 10-14 years of age, but the younger and healthier a male is when his semen is frozen the better collection and recovery of the sperm cells.

The male does not produce semen seasonally, but there is no doubt that many dogs coming off a hot, hot summer do not have the semen quality they do at other times of the year. And we need to realize that the testicles are outside the body because they need to be COOL. So heat of summer, laying on hot concrete driveways, overuse of hairdryers, and frostbite during the winter can cause damage to the testicles and their ability to produce sperm. Once healthy semen is properly frozen, it is usable for probably a thousand years.

Question: I am having a problem with my 2 & 1/2 year old CH. bitch. She had a surgical implant done at your clinic, which resulted in 5 puppies. This was her first litter. We did a planned C-section in June. Her last heat cycle was over 6 weeks ago. Everything seemed normal. But about 3 weeks later I noticed a small amount of discharge on her white britches. It looks like old blood.

As long as the discharge isn't persistent, then I probably would not worry about it. It is more than likely just the body cleaning the uterus out. It's not a reason to start her on antibiotics, nor would we have to worry about pyometritis because pyometritis occurs when the uterus is under the prime effects of progesterone.

Question: How does cabergoline work and what specifically does it do?

Cabergoline is the new "wonder drug" that we're using to induce bitches into ovulatory heat cycles. The drug is what is known as an anti-prolactin drug. After the bitch ovulates, the body maintains the progesterone for two months. It is prolactin that keeps her from cycling right away and is why the bitch's interval between cycles is 6-7 months. Since we don't know exactly what makes a bitch come into season, we looked at it from the end of what prevents a bitch from coming into season. By taking out the prolactin, using

Cabergoline, the bitch will come into a cycle on her own. It is NOT an artificial cycle. We've done nothing to hormonally manipulate it; we've just removed the stopper.

Cabergoline is an oral product used once a day for 10 days. Usually the bitch comes in within 2-3 weeks. It is a very safe drug with minimal side effects, but it is a human drug and can be relatively pricey - a couple hundred dollars.

It was mentioned in one of the recent AKC Gazettes. It is NOT an experimental drug, as was said in the Gazette. Where I'm using it is on bitches that have not cycled within 12 months, or I'm using it more and more for convenience for my clients to have puppies when they want them.

It takes a bitch 4-1/2 months for the uterus to get over the previous heat cycle, so we can use Cabergoline any time after 4-1/2 months since the previous cycle, follow our progesterone, breed her, and expect to have puppies!

It is NOT successful for bringing bitches into a first heat cycle.

Question: Do you feel the bovine colostrum they have out in health stores or in the dog catalogs are actually good to give to dogs and puppies to boost their immune system? And would it be helpful for those pups that didn't get mom's colostrum?

Bovine colostrum is not really that useful because puppies aren't exposed to the same problems that calves are. So giving bovine colostrum is nowhere near as useful as using stored bitch's colostrums. What we do as a practice, and what anyone can do, is the next time you have a bitch with a lot of milk, is to milk out some of the colostrum and put it in the freezer. We feel that it is probably good for a year, based on work that is done with equine colostrum. This is something we use many times in our practice.

Colostrum is the accumulated exposure of the bitch's lifetime, so there are many things a puppy gets from colostrum that you cannot vaccinate for. A study out of Louisiana showed that puppies who do not get colostrum actually have a shorter life expectancy. Another concern is that we used to believe that colostrum could be absorbed during the first 48 hours. A recent study showed it might be absorbed only during the first 24 hours.

A puppy, through colostrum, gets half of the mom's vaccination protection and that cuts in half every nine days. So the higher the mother's protection, the higher the puppy's protection is going to be.

If a puppy does not get colostrums, we will oftentimes give blood serum from the mother to at least give the puppies SOME protection. And some of us old codgers remember the old vaccinations used to be toxoid, which is a passive protection, as opposed to stimulating the development of protection.

Question: What is the treatment for puppy vaginitis and does it lead to problems later in breeding?

Puppy vaginitis is a NORMAL mucous production in young bitches before their first heat cycle. The total treatment is warm water on a cotton ball and wipe. These bitches DO NOT need to be on antibiotics. It does NOT lead to infertility. And it does NOT make them prone to pyometritis. It is not an infection at all. Usually, it's worse when the humidity is high.

Question: There was a question on the board about how long it should take to get the results of progesterone testing.

You really need to have a lab be able to get you your results within one day. If you can't, send it to me. I'll do it!

Question: Is it common for a bitch to continue to have occasional vaginal discharge up to 4 months after whelping?

Any bitch up to 7 weeks, discharge is normal. Beyond that, especially if it looks like blood, probably it's subinvolution placental syndrome. This is a condition that we started to see when people got away from giving their post-whelping oxytocin. It is due to the cap where the placenta pulls off not resorbing; it keeps bleeding from the area. It is not infectious, so antibiotics don't help. At this stage, giving oxytocin isn't going to help, or prostaglandin. Usually, it goes away on its own. If it doesn't, sometimes infusing with a betadine solution will help to treat the area. They should have it examined by their veterinarian.

Question: You did a surgical AT on my Rottie bitch this last summer. Everything went fine, until she delivered 8 dead puppies. An autopsy showed staph/strep infection. When I breed her again, do I need to do anything different?

The actual cause of death was probably NOT the staph or strep. Staph and strep are such common bacteria everywhere, that if staph and strep were going to cause puppies to die, dogs would be extinct. Usually, what happens is that puppies are stressed, usually due to premature placental separation, some viral problem affecting the placenta, or even progesterone dropping prematurely. Dead puppies are unfortunately a great area for bacteria to grow. I do not believe in any way that if she had kept this bitch on antibiotics during the pregnancy that she would have eight live puppies.

I always remind myself that the skin is covered with staph and strep. It is only when we get an irritation from fleas or a bite or a scrape that the staph and strep on the skin form a hot spot. These are not primary disease causers, and the bacteria that are commonly found in the vaginal tract oftentimes are staph, strep, e-coli, pasteurilla, and mycoplasma. They

really serve a purpose by keeping out disease-causing organisms, so putting bitches on antibiotics pre-breeding or doing routine vaginal cultures and treating the organisms that are found probably makes us more PRONE to having a problem by killing the protective bacteria, allowing the disease-causing organisms to come in. Also, putting a bitch on antibiotics pre-breeding does NOT prevent her from developing pyo, because pyo is due to the inflammation of the uterine lining from progesterone, NOT due to bacteria that comes through the cervix.

Any time that you have puppies born dead, it is probably important to try to save a placenta to have the pathologist look at to determine the cause of death. The placenta is more important than the puppy because the placenta is the life connection between the puppy and the bitch.

Next time you breed her, at ultrasound time draw a progesterone check every 10 days-2 weeks. Check heart rate: Are they growing right? At whelping time, be sure the bitch goes into labor at the proper time. This can be determined because her due date is 63 days from her ovulation date, NOT breeding date. I would suggest another surgical AI regardless of the semen being used, to have the uterus evaluated.

Question: I have been told that back-to-back breedings are actually safe for a bitch. What are your feelings on this, and if you agree, at what age do you feel the first breeding is best planned?

I normally suggest the first breeding after 2 years of age because that is when the health clearances are done. This varies by breed.

Because the bitch is unique in that her heat cycle is progesterone driven, the progesterone in a non-pregnant bitch lasts just as long as in a pregnant bitch. There is NO ADVANTAGE to skipping a cycle in a bitch, and a uterus is probably healthier in a pregnant bitch than in a non-pregnant bitch.

Question: Transcervical vs surgical vs natural?

We now have multiple methods of artificially breeding a bitch. If the bitch is over three years of age, and we're using frozen semen, I normally suggest a surgical insemination because it's the greatest chance of having puppies because it gives me the ability to evaluate the uterus.

We now do laparoscopic surgical inseminations in bitches such as bulldogs or in bitches that have had multiple abdominal surgeries. The transcervical insemination allows us to look at the opening of the cervix, and we thread a catheter into the uterus, but we are not evaluating the uterus at that time. This is a popular method with fresh-cooled and in a young bitch. It's all done on television; it's a very cool technique.

The vaginal AI deposits it in the vaginal tract and depends on the body to pump the semen into the uterus.

I determine which to do based on the type of semen we're using and the age and breed of the bitch.

Question: What does the future hold?

In our practice, we are now freezing ovaries so that some day we can hopefully harvest the eggs out of the ovaries and use them for in vitro fertilization. This is NOT being done in the bitch now. This will probably be something that will come out of cloning research.

A bitch never goes into menopause. Her ovary constantly keeps working regardless of her age. You should spay a bitch when you're finished breeding her, so she doesn't go into pyometritis.

SOMEDAY we'll be able to use these frozen ovaries to make puppies. We take the ovaries from a spayed bitch.

We could go on for days; there is so much exciting stuff.

Wow! What a night!! The questions tonight and on the board have been outstanding.

I want to wish everyone a safe and very happy holiday season. I am sure I will see many of you at the Cleveland Classic Dog Shows this week. Stop by and say hello. To all of you, thank you, you are indeed the best!!

PHFasDog: On behalf of Jeff Barringer, Christie Keith, myself, and everyone at DogHobbyist.com, thank you for attending this event tonight, and we hope you enjoyed it. We especially want to thank Dr. Hutch for giving so generously of his time and information. A transcript of this chat will be available at <http://www.doghobbyist.com/CanineRepro.html> tomorrow, and a link to it will be emailed to everyone who signed up for the email reminder. We hope you will enjoy the other events of Chat Week, which you can find listed at <http://www.doghobbyist.com/DogChat.html>. Please join us in our Dog Breeders Chat every Tuesday, 9-10 pm Eastern, in this room, which you can reach at www.doghobbyist.com. Goodnight and thank you again!