

Pure Dog Talk 416 – Neonates 6 Danger Signs to Watch for in Your New Litter

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Laura Reeves:

Welcome to Pure Dog Talk. I am your host, Laura Reeves, and my favorite returning guest, Dr. Marty Greer from the Veterinary Village in Wisconsin is joining us. We're going to talk about a topic that is near and dear to both of our hearts, and that is neonates and baby puppies, and some troubleshooting guidelines because I've got a litter right now. I've been through some stuff this last year. I've been through several stuffs. Marty's got a situation of her own, so I think all of us that breed dogs, no matter how long you do it, you learn something new every time. Right, Marty?

Dr. Marty Greer:

I think you're right. And about the time you think you know it all is when someone puts their thumb on you and says, "Huh, just kidding," whether it's whatever deity you believe in or don't believe in.

Laura Reeves:

Yes, man plans, God laughs.

Dr. Marty Greer:

Exactly.

Laura Reeves:

That's one of my very favorite truisms, and you can replace God with whatever you want, but the fact of the matter is, we have all these big plans and Mother Nature is a wicked, wicked mistress.

Dr. Marty Greer:

Yes, she is.

Laura Reeves:

So I thought it would be really useful for our listeners who are new to breeding who have not maybe encountered some of these wild and crazy things to just go through half a dozen signs that you could have problems with your puppies; things that you could catch early that will save your puppies' lives, and how to get a diagnosis on them, and how to treat them.

Laura Reeves:

So I think probably the first one we could start with is dehydration because it's the one that I think is the most common, wouldn't you think?

Dr. Marty Greer:

It's really common. It's up there. It's hard to know which of the... I consider the four H's-

Laura Reeves:

Right.

Dr. Marty Greer:

... hydration, hypoxia, which is low oxygen, hypothermia, and hypoglycemia to be the four H's. So they all compete, and they all interlock or overlap with each other, so it's hard to pick one out and say it's the worst because if you have hypoxia, you also have hypothermia. And if you have hypoglycemia... They're all intertwined.

Laura Reeves:

Right. So let's go through your four H's then. Let's start with hypoxia. Let's start with you can't breathe because if you can't breathe, the rest of it doesn't matter.

Dr. Marty Greer:

Exactly. And that's where we always have to start is just like with CPR and the ABCs... That's airway, breathing, circulation.

So hypoxia happens sometimes immediately and sometimes down the road a bit after a puppy is born, so we need to start with making sure that the puppies get delivered quickly enough, that they can get out of the birth canal, out of the sac, out of the C-section, whatever direction they come out, sac off the face, airway cleared, and oxygen delivered as quickly as possible. That's really critical to good health, good brain development, and the whole rest of the cascade starts with that.

Laura Reeves:

And we'll get to the hypoxia and some of the potentially corresponding neurological problems down the road, right? That all goes together.

So hypoxia, you've got to make sure they're breathing. You've got them out of the sac. You've got the airway cleared. The DeLee mucus trap we've talked about before. We have all learned by now that we don't swing our puppies to clear their airways like we used to when I was a kid-

Dr. Marty Greer:

Right.

Laura Reeves:

... and how to do that safely. So let's talk about hydration.

Dr. Marty Greer:

Sure. And hydration goes along with food. With a puppy, if they're not nursing, they're going to dehydrate. And if they're going to not nurse, they're going to have low blood sugar, so, like I said, these all intertwine.

So dehydration is really common. It's one of the four H's, hydration. So it's really important that we keep the puppies nursing. If they're not adequately nursing, then the way to assess that is going to be, if they're not gaining weight and if their urine color isn't a pale, pale yellow. Puppies should not have a dark-colored urine after the first time that they urinate, so it should be pale yellow. The puppy should be gaining weight.

You can't really assess hydration on a puppy the way you do an adult dog or cat, where you pinch the skin on the back of their neck and see if it seems tacky or sticky because puppies don't have enough body fat to have that work the way it does in other ages of animals, so we really have to look at urine color and weight gain.

Laura Reeves:

Interesting.

Dr. Marty Greer:

And a lot of people will think that they've checked hydration, but they really haven't unless they looked at urine color and weight gain. So if the puppy's not gaining weight, and the puppy's got dark-colored urine, you have a dehydration issue.

Laura Reeves:

Let's talk about some of the symptoms of dehydration. Hypoxia, they're not breathing. We can tell they're not breathing, but, in addition to the dark color of urine and then not weight gain, I have seen puppies that are just lethargic, that are just obviously down.

Dr. Marty Greer:

Right.

Laura Reeves:

And that's one of the things I look for in those puppies.

Dr. Marty Greer:

Right. And it's pretty common to see that. You'll see a puppy that seems weak, seems lethargic, seems listless. It may be really quiet or it may be crying. It just depends on the puppy and what stage in which they're in.

And I think it's kind of interesting when we get to this because a lot of people will believe or see that they have a puppy that's off to itself. It's off by itself. It's not with the rest of the puppies. Sometimes you'll see a bitch that pushes a puppy away, but in my humble opinion, and I've looked at a lot of litters over the years, I think puppies swarm as a group, and if they're swarming and they're healthy, they're staying together. They're moving towards mom. They're moving toward a heat source. They're feeling each other and they swarm together.

But that puppy that's dehydrated, that's hypoxic, that's lethargic, that's not doing well, tends to get left behind because it doesn't swarm with the rest of them.

So if you think of a swarm of bees, that's how I think of puppies in the whelping box. So if I see a puppy off by itself, it may not be that the bitch pushed the puppy away. It may simply be that that puppy needs to be warmed, needs to be hydrated, need some oxygen. You do those three things: you feed it, you hydrate it, you warm it up, and you give it oxygen, and boom. All of a sudden that puppy regains its strength and it starts to compete and be back with the rest of the group very quickly.

Laura Reeves:

Very, very quickly. And add now another H, the hypoglycemia. So you see a puppy that's having some of these problems and maybe it's not strong enough to nurse. Karo syrup? What are some of our quick and easy, "Let's try and get this guy up and moving"?

Dr. Marty Greer:

Yeah, Karo's okay, but you're going to get a big spike and then you're going to see it drop again as soon as the pancreas starts to produce enough insulin. So it's most important that you don't just address low sugar itself.

There is a way that you can test it. If you have a glucometer at home for a family member, or yourself, that's diabetic, you can check a puppy's glucose with that glucometer, or you can go to the store and buy one.

There are veterinary ones. The one we prefer is called Pet Test. It's made by a company that specifically makes dog and cat glucose monitors. And there's just a little test strip, just like there are for people. You can just poke the bottom of the puppy's foot pad and take a little tiny drop of blood, put it in the glucometer, and you can assess very quickly if that puppy has low blood sugar. Blood sugar on a puppy should be above 90, so if you have a low glucose, that's what you need to do is give some Karo, and then you need to get some real groceries into them.

So I prefer the formulas that are already made up. It depends on which company you want to work with, but I try not to use the homemade formulas. I try to use the ones that are commercially available because they're made to have the right fat content, the right protein content, the right amino acids, the right electrolytes in them. They're all tested, and they've all been assessed to make sure that that happens. And I know a lot of people use homemade formulas, but I really prefer the ones that are commercially available. You mix it with water or they come premixed. You put that down the feeding tube if the puppy's too weak to take a bottle. If it's strong enough to take a bottle, that's great. Do not use the makeup sponge feeding technique, please. Either tube feed or bottle feed if the puppy's strong enough.

Laura Reeves:

Speak about that because you said something about that another time, and somebody asked about it. Talk to us about why, because I know a lot of people that really are into that.

Dr. Marty Greer:

Yeah.

Laura Reeves:

So can you give us some input on that?

Dr. Marty Greer:

Yeah. The reason people are into it is because they're afraid to tube feed. So there's really good techniques that we can use to tube feed. We have videos on it. I have all kinds of information. That's beyond the scope of what we really can completely cover today, but the important thing about the makeup sponge feeding is you can't quantify how much fluid the puppy is getting. When they suck on the sponge, they get a lot of air. We don't know what kind of fibers and other petroleum products are in those makeup sponges. You can't sterilize them. There's just a lot of real significant problems with that.

The video that was made popular with this had a neck band on the puppy to keep the puppy from using its front feet, and puppies are meant to knead with their front feet; go right, left, right, left, right, left, as they're nursing. That's part of a normal mechanism to help them with the rhythm and the swallowing and the things that go with that.

So when that video came out, all the veterinarians that do Theriogenology, or reproduction, they just lost their minds over it. They're like, "Oh, please don't do that." So you can't quantify it. You can't sterilize it. You can't really do a good job with a makeup sponge. So use either a feeding tube or a bottle, and effectively learn how to tube feed.

And, like I said, there's definitely some great techniques that you can learn, but you need to make sure the puppy is warm. They need to have a body temperature of at least 96 degrees. The formula should be warm, so you shouldn't be putting cold formula down a puppy. And with appropriate tube feeding, you can do a very effective job of supporting these puppies nutritionally.

Laura Reeves:

So we've got hypoxia, hydration, and hypoglycemia, hypothermia.

Dr. Marty Greer:

Right. Those are the four H's.

Laura Reeves:

There you go. That's to keep them warm.

Dr. Marty Greer:

So those are the four things we need to really focus on when these puppies are really, really young.

Laura Reeves:

Right, and we had a prior podcast to this. I have a whole podcast with Jean Dodds talking about fading puppy and the herpes virus type of thing, and I'll make sure that that's linked, but just give us a quick overview so people know, "Should I go look at that or should I not?"

Dr. Marty Greer:

Oh herpes? Or on fading puppy? Fading puppy is really not a diagnosis. It's a description. And there are a thousand reasons that a puppy can fade or fail to thrive or whatever term you want to use. And, unfortunately, we don't always get an opportunity to get a good diagnosis.

Neonatology is a field that I think is absolutely fascinating. I would love to see a neonatal and pediatric specialty in veterinary medicine, but at this point we don't have one. They fall into either the internal medicine people or the theriogenology, which are the repro people that manage these puppies.

The challenge here is to make a diagnosis, so you can do some of the same diagnostics on puppies that you do on adult dogs. Puppies are just little dogs. So, veterinarians, including some of the doctors that work for me, they see a little dog and they're like, "Oh, what do I do?"

Well, you can take x-rays. You can do ultrasound. You can do blood work. You can do urine samples. You can do cultures. There's all the same diagnostics that we do on a big dog, we can do on a little dog.

Laura Reeves:

Okay.

Dr. Marty Greer:

Like when I take an x-ray on a little dog, which I actually just did on one of my puppies the other day, I put them in a plastic tube, just a clear plastic tube, like a water bottle with the ends cut off, so that they're nice and straight. You lay them on the x-ray machine and you take an x-ray. They're just a little dog.

And if you're not sure what you're looking at, then take an x-ray of a litter mate, the same size little dog, and compare them to see if there's anything that you can distinguish between the two.

Ultrasound you can do. Hydrocephalus, if there's a soft spot. You can ultrasound the abdomen to see if the bladder's intact, to see if there's free fluid in the abdomen. Lots of things you can see on x-ray.

On blood work, you can do a CBC, complete blood count. You can do chemistries. You can do bile acids to look for liver shunts. You can do DNA testing. You can do organic acid testing. There's DNA tests for all kinds of interesting genetic diseases that are done at PennGen, at University of Missouri, at all the DNA companies. Embark.

Laura Reeves:

Embark. I just spent today Embarking 13 puppies, I'm just saying. That was an adventure. That was good fun.

Dr. Marty Greer:

Yeah. So there's lots and lots of tests you can do. The question is, can you figure out what tests to order that make the most sense? You can do a culture if you think a puppy is septic. You can culture their urine. You can culture their blood. You can culture any kind of a wound.

So, all the same things that you do on a big dog, you do on a little dog. If the dog is sick and it needs fluids, you put in an IV catheter and give fluids. If you can't get an IV catheter in, you can go into the bone. You can give plasma, you can give antibiotics, you can give fluids, you can give glucose. All the things that you do to a big dog, you do to a little dog. It's just a little dog.

So you calculate the drug doses and the fluid doses a little bit differently. You interpret the test results a little bit differently, but they're just little dogs. So don't let that little dog syndrome freak out you and your veterinarian. You just go for it.

Laura Reeves:

Okay. You just said something that triggered for me. And again, we have other episodes on this that I'll post up, but fresh frozen plasma for those puppies that are having a hard time, and orally for the first 24 hours and then sub-q for the next couple days?

Dr. Marty Greer:

Yeah. It's somewhere between 12 and 24 hours. We don't know exactly how long the gut will stay open to the point that they can get the large proteins that are the antibodies to get through the gut. And I still will use it orally even later than that if I'm trying to get local immunity in the GI tract. So if I have a puppy with really bad diarrhea and it's three weeks old, I may give the plasma with a feeding tube just to get local immunity. They do it in calves, and it probably works in calves... Calves, baby cows, not cats. So it probably works in puppies as well.

But yes, you can give plasma. And if you don't have plasma, sometimes you can get enough colostrum from the mother. I have done that where I've milked out the colostrum and given it to a puppy with a feeding tube or with a bottle. You can do that, but I love plasma. I use lots and lots of plasma. I always get it from Jean Dodds and her Hemopet group. And their plasma is absolutely credited with saving hundreds of puppies' lives in our hands, including some of my own, which I actually named a puppy after it. I named one of my puppies Jeanie in a Bottle because of Jean Dodds. Her name then ended up being Wish because-

Laura Reeves:

Oh my god, I love that.

Dr. Marty Greer:

That saved my puppy, so-

Laura Reeves:

Yeah, her plasma saved a couple of mine in a previous litter this year, so.

Dr. Marty Greer:

Yep. So, that was my Jeanie in a Bottle puppy.

Laura Reeves:

Oh my gosh. I love that. Okay. So, you were just talking GI, so let's move to diarrhea. So, when we're seeing diarrhea in two and three week old puppies, there's certain things that I've seen over the years, like color and consistency, making a significant difference. There's what I like to refer to as the "goat milk poop."

Dr. Marty Greer:

Yeah.

Laura Reeves:

That other poop. So, we've done the poop happens thing, but we could hit on that just a little bit.

Dr. Marty Greer:

Sure. And we don't see vomiting often in real young puppies, so if you're seeing vomiting, you've got bigger trouble than you really think. I, typically, don't see vomiting in puppies that are under three weeks of age.

If you are seeing vomiting, it may be regurgitation. It may be vomiting. You may be overfeeding or the puppy may be over-nursing. And that's another really common cause of diarrhea. If a puppy's eating too much and engorging themselves, or you're being overzealous about supplementing the puppy, then you will get diarrhea. Sometimes it'll even be the color of milk because it just comes through the gut so fast that it isn't fully digested. So be cognizant of the color and the character of the stool.

If you see blood, of course, blood is always the scariest. Watch the color. If it's yellow, a normal puppy stool should be yellow, seedy and soft. It should have the little flecks that look like seeds in it. That's completely normal.

If you see green stool, if you see brown stool, if you see white stool, if you see blood, those are all reasons for concern, but they don't always help us to make a diagnosis.

Parasites, of course... Anytime after a puppy is two weeks old, parasites can be an issue, so I really like having my bitches on panacur during the pregnancy to interrupt any of that lifecycle that could cause roundworms and hookworms to become a problem in very young puppies. But if you haven't done the panacur protocol, which is a five-week protocol during the last three weeks of pregnancy and the first two weeks of lactation, then you want to start deworming the puppies at two weeks of age.

Kittens we start at three weeks, but puppies we start at two weeks because they have a different lifecycle of their parasites. So puppies can have parasites. By the time the puppy is two weeks old, they can have two week old parasites, but the parasites aren't old enough to find on a stool sample. So if you take a stool in and your veterinarian doesn't find any eggs, they can either do an ELISA test, or you could do the thing that you should have done in the first place, and that's just start de-worming at two weeks of age.

Laura Reeves:

Right.

Dr. Marty Greer:

So, we de-worm at two weeks, four weeks, six weeks and eight weeks, and I use pyrantel, which is Nemex, or RFD, or whatever brand that you prefer. And it works really, really well, and you may not see parasites pass with the first de-worming because they can be so small and so young that you won't see those worms yet.

Laura Reeves:

And do you use panacur on your babies or only on the mom?

Dr. Marty Greer:

I use panacur on the babies when they get over six to eight weeks old. I use pyrantel when the puppies are two and four weeks. So, I just think it's a really gentle, safe wormer.

I'm so old that I remember Task De-wormer. It was an organophosphate, and although it was very effective, it was really hard on puppies. I remember a friend of mine's puppy nearly died the day it was de-wormed, but we don't see that kind of a reaction with pyrantel or with panacur. They're very gentle wormers, but they're very effective.

The only time we see a loss of efficacy is if the puppy wasn't weighed and an accurate dose of de-wormer wasn't given. So, Nemex 2, which is the double-strength pyrantel, you give one CC per two pounds of puppy body weight. So, get a scale, go to the store. I went to Walmart a couple of weeks ago. They had eight different kinds of digital scales that weighed both in ounces and in grams, all under \$30, very affordable, very effective. Just figure out what style you want. If you want a bowl, or you want a platform. And if you don't have a bowl, put the puppy in it.

Laura Reeves:

I'm telling you, my Spinone client introduced me to the concept, which was a strange concept to me of a fish scale. You hang them in a bag. And I have Wirehaired Pointers. They don't just lay there on that little ditch.

Dr. Marty Greer:

No, no, you've got to have a bowl.

Laura Reeves:

It doesn't matter what kind of way... I've got puppies trying to climb out of a grocery bag, okay?

Dr. Marty Greer:

Okay, then get a fish scale.

Laura Reeves:

So the concept of this hanging scale, I'm like, "That is genius."

Dr. Marty Greer:

Yeah, but they don't have as many at Walmart, and so when you're in a pinch, sometimes you've got to buy what they got.

Laura Reeves:

Yep, absolutely. Okay, so get them dewormed. Absolutely.

Hang tight, guys. Got a little bit of information for you. We'll be right back to the podcast in a minute.

All right, folks. 2020 has, to put it mildly, presented some challenges for all of us. You know the good news? Our patrons numbers are still growing almost daily. I truly, truly cannot thank all of you enough for your support. It's been overwhelming. And for those of you who've had to reassess your budgets, please know, I totally get it. And I will always be grateful for your belief in this program and the power of great content.

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Laura Reeves:

We missed the one that I wanted to get to a little bit earlier, which is low birth weight and poor weight gain that goes with some of the dehydration and hypoglycemia, and some of that. Talk to us about... If you're a brand-new breeder, you don't know, necessarily, how much these puppies are supposed to weigh.

Dr. Marty Greer:

Right.

Laura Reeves:

Like when I have a litter of puppies, I know they're supposed to weigh a pound, and when they weigh eight ounces, I freak out. Okay?

Dr. Marty Greer:

Yeah.

Laura Reeves:

So, how are we to know and how are we to gauge their weight gain?

Dr. Marty Greer:

So, the bigger the litter, typically, the smaller the puppies, although every now and then we'll have a female that only has one puppy and everybody else in the litter was resorbed. And so, there was some abnormality with the placental development and that one little puppy just barely hung on.

A normal birth weight for a toy breed puppy should be one to 200 grams. That's very small. And there's 454 grams in a pound, so that would be a quarter of a pound, four ounces or smaller.

A normal Labrador-sized puppy, or, like you said, the puppies your size, the dogs that are 60 to 80 pounds as adults, are, typically, around a pound, which is 450 grams.

Giant breed dogs can be 600 to 800 grams, but I've seen puppies as heavy as two and a half pounds at birth, believe it or not.

Laura Reeves:

Aah. Tell me it was a Mastiff, right?

Dr. Marty Greer:

No, it was not. It was a Coonhound, remarkably. Yeah. She was about a 60-pound dog. She had a giant puppy. But we see puppies as little as one to two ounces. Those puppies don't do well, and we know low birth weight puppies don't fare well, just like low birth weight babies. Unfortunately, there's a lot of things we can't do because most of our dogs haven't been smoking or drinking, so that those risk factors are not present in most dogs. So, don't smoke around your dog and don't let your dog consume alcohol while she's pregnant. So, avoid those things.

Laura Reeves:

Or at all, P.S.

Dr. Marty Greer:

Yeah, well. Every now and then, I'll prescribe a little bit of beer to a female that's not doing very well with her lactation and her maternal skills.

Laura Reeves:

Interesting.

Dr. Marty Greer:

Yeah. Give them a little light beer. So, I'm pretty careful with the amount, but a little light beer can go a long way.

Laura Reeves:

Well, mine likes the dregs so I can get that.

Dr. Marty Greer:

So, anyway, make sure your bitch is well-nourished during her pregnancy. I feed a pregnancy diet or a puppy diet. There is only one pregnancy diet in the market that's made by Royal Canin. That's HT42d.

So, your female should go into her pregnancy at a good body weight, and she should gain 10% a week for the last three weeks of her pregnancy, because that's where two-thirds of the puppy's growth is in the last one-third, in the last few weeks of pregnancy.

So make sure she's well-fed. Make sure she's on a performance or a puppy diet. Make sure it's a good brand. My brands are Iams, Eukanuba, Royal Canin, which are all one company. I'll buy Mars, Hill's, and Purina. So those are the three brands that we recommend in our practice.

I don't like the raw meat diets. I don't like some of the homemade diets and some of the others because we just don't know, nutritionally, if we're providing adequate nutrients to these females, and, in particular, there's micronutrients like folic acid, which prevents midline defects, and there's DHA, which improves brain and eye development. Those are micronutrients that you may not be able to get in adequate amounts if the dog food isn't commercially made for that. So make sure she gets enough to eat.

The bigger the litter, typically, the smaller the puppy. So, if she's going to have 14 puppies, she's, typically, going to have smaller puppies than if she had four. That also makes it harder for all the puppies to come out alive because there's a long labor, and during that long labor, they're more likely to develop low blood oxygen.

But on the other hand, if you have a female that should have 10 puppies and she has two, those puppies might be quite large, so that can make a difficult delivery as well. So, there's no way you can control the number of puppies in the litter, other than good timing and good semen quality, and there's no way you can completely control their birth weight. So, it makes it a real challenge, but all you can do is keep her fit, keep her well-fed and don't let her smoke and drink.

Laura Reeves:

I love that. Okay, so, couple things that I want to touch on. First of all, what are some of the things that can cause a bitch to not want to eat that last week of pregnancy, or week plus, causing your poor, low birth weight? Hello. Speaking about me. What are things that we can do to resolve that?

Dr. Marty Greer:

With big litters, they have a harder time, both at around four weeks, when they're first diagnosed pregnant with ultrasound, they tend to have a pretty crummy appetite. Then it tends to pick up pretty well from about week five to about week eight. But all you can do during the last week of the pregnancy is feed her small meals and keep the food interesting. I mix Royal Canin Starter Mousse, I'll mix bratwurst, I'll mix in ice cream, cottage cheese, yogurt, chicken. There's a variety of different things you can do to try and encourage her to eat. And that's really all you can do is small, frequent meals because remember her stomach is getting very crowded by those big puppies that are growing in there.

Laura Reeves:

Right.

Dr. Marty Greer:

There's probably some gastric reflux, gastrin levels probably go up that cause her to have some nausea. So, there's a lot of things that come into play during pregnancy that really mess with the appetite.

Laura Reeves:

Right, right. So then, just to finish up, we talked earlier about hypoxia and getting the puppies out quickly. And so, let's talk about some of the neurological signs that we can see that can be either the result of hypoxia or as we have learned, speaking for myself, bacterial infection.

Dr. Marty Greer:

Right.

Laura Reeves:

So can we talk a little bit about that?

Dr. Marty Greer:

Sure. So, in our practice, we recommend the Puppywarmer incubator and the Puppywarmer oxygen concentrator. I find this to be really great tools, and you can purchase those directly from puppywarmer.com or from Revival Animal Health. And that is a way that you at home can control the environmental temperature and the amount of oxygen that your puppy gets.

The oxygen concentrator takes room air, which is 20% oxygen, and turns it into 95% oxygen. And there are definitely puppies that we think have brain damage as a result of low oxygen, so the sooner you can get them into oxygen, the better. And putting them in a chamber with 95% oxygen will not cause harm to the development of their brain or their eyes or anything. There are some concerns with too much oxygen in human babies, but we haven't seen that in dogs.

As far as other neurological things besides low oxygen, yes, we can see neosporum and toxoplasmosis, which we can see transmitted through raw meat diets that can affect puppies' neurologic development.

If you're lucky and you catch it early and your veterinarian is on top of things, you may be fortunate enough to turn that around with the use of clindamycin, which is an antibiotic. It's dosed at 12.5 milligrams per kilogram, twice a day, which is a slightly higher dose than most of the time that we diagnose that we treat clindamycin. That is a good broad-spectrum antibiotic. In the case of middle or inner ear infections, antibiotics can also be useful. So clindamycin may not be the drug of choice for those, but clindamycin can still help if you think you have neurologic disease from that.

In other neurologic diseases, there can be glycogen storage diseases, which are metabolic disorders. UPenn runs a number of different tests on urine looking for those types of disorders that can affect the puppies' brain development.

So, there's just a number of different neurologic diseases that we can see. Hydrocephalus, which is fluid in the brain. You can see that mostly in the puppies that are the short-faced brachycephalics like the pugs, the Frenchies, the shih tzus, and the Bulldogs.

If the puppy has an open fontanelle or a soft spot on the top of their head, you can ultrasound through that spot and see the size of the ventricles or the chambers in the brain, and if they are excessively large, then you have a pretty good confirmed answer of hydrocephalus. Unfortunately, there's not a good treatment for that in dogs. Even in humans, there's not a great treatment, so we can see that.

Those are primarily the things that we can manage. Liver shunts usually don't happen as very little itty bitty babies, but as they become more mature, the puppies can develop liver shunts. And those will also appear to be a neurologic disorder. The puppy will be dull, not as bright as the rest of the litter mates. Sometimes they get lost in the corner of the whelping box. They just don't function normally. That's a blood test that we can usually diagnose that with, a bile acid test.

So, there's a lot of different things it can be, but, basically, my rule of thumb, my mantra, when we have something wrong with a puppy, whether it's neurologic or GI or what it happens to be is treat for the treatable. So, basically, if you have a disorder that you think an antibiotic or a medication or a nutritional supplement or something will help, treat what you think it could be, and if it gets better, great. You treated for the treatable. That's what we did with your litter. And if it doesn't get better, well, at least you tried to make a diagnosis and you tried a treatment plan. And if it didn't work, it didn't work, but at least you treated for something that you could potentially make better.

Things like inborn errors of metabolism, we can't make better, but if you can with an antibiotic or with an appropriate other medication... And antibiotics are not the be all and end all so I don't start everybody on antibiotics, but there are absolutely times that there are things that you can treat. So when you can treat, when you think you can treat for it, go for it.

Laura Reeves:

Right. Absolutely. Well, I can absolutely attest to the fact that it made the difference, quite literally, between life and death for the puppies I have here, so.

Dr. Marty Greer:

And a pretty quick turnaround, too. Puppies are amazing.

Laura Reeves:

Literally, 12 hours. That was what blew my mind is how fast and how dramatic the change was from the antibiotics, so.

Dr. Marty Greer:

Yeah. And puppies that are vomiting, that have diarrhea, that are sick with respiratory disease, remarkably, they get sick really fast, but they hit bottom, and they turn around really fast. If you're on it, if you're on top of it, and you keep them

fed and hydrated and appropriately warm, and you've got a thermometer in where the puppies are so you know that they're not too hot, they're not too cold. If you do all those husbandry things well, and you're on it, you would be surprised how many of these puppies do make a really great recovery.

And I don't take a runt puppy or a sick puppy and say, "Nah, yeah, it's not worth treating." No, no, no. Nothing dies of starvation at my house. Nothing dies of dehydration at my house. There's plenty of reasons things can go wrong, but it shouldn't be very basic husbandry and very treatable disorders.

Laura Reeves:

Right. Basic husbandry, and I think that's a lot of what I was trying to get to tonight with this podcast is just, these are basic things that I've learned in my own 40 years involved with breeding dogs, and you have medical knowledge to share. And I think it's important for people to have this that don't necessarily have our 40 years each. How else are they going to get it if we don't help them?

Dr. Marty Greer:

Exactly. And so, we're putting together a scoring system. It's not ready to roll out yet. I've been working on it for both puppies and kittens. Scoring systems so that clients can assess their puppies and call their veterinary clinic and have all the numerical information because if you call your vet and just say, "Well, I don't know, the puppy's just not right." That doesn't help very much. But if you know their weight, their weight gain or their weight loss, their temperature, their hydration, their glucose... If you can call with some numerical, some hardcore information, your veterinary clinic can help you a lot better.

I can show a video to a bunch of the old ladies who are in the Poodle Club in Milwaukee, and within 10 seconds on a video, they can pick out the sick puppy in the box. They're that good.

But when you're new, or you haven't had the experience to raise children, raise other animals, you're just inexperienced at it, you need something that you can quantify. You need something you can wrap your arms around. So, we're trying to put together a numerical scoring system... Well, I actually have it together. I just have to get it put in a format that's useful for other people. So if you can score a puppy or a kitten and you can call the veterinary clinic with quantification, and they can say to you, "Okay, these are the things that you need to be concerned about. This is not something to be so worried about. Come in. Don't come in. Do this at home. Don't do that at home, it's going to be lifesaving for many, many puppies and kittens.

Laura Reeves:

I love that. Very excited about that. And when it's ready, you're going to come and tell us all about it.

Dr. Marty Greer:

You bet I will.

Laura Reeves:

Awesome. All right, Marty, as always, you are the bomb.com. I am so grateful for your time and your expertise and your love of knowledge and sharing it. You make a difference and I think that's important.

Dr. Marty Greer:

Thank you.

Laura Reeves:

You have a great night.

As always. If you have any questions or input, we'd love to hear from you. The show notes and links to resources on today's topic are available at puredogtalk.com. Drop us a note in the comments or email to laura@puredogtalk.com. Remember guys, this podcast is for you. So if you want to know something, give me a holler. We'll do a podcast for you.

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