

Good Dog Pod 60 – Identifying and Treating Orthopedic Disorders

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Laura Reeves:

Welcome to The Good Dog Pod, I am your host, Laura Reeves, and we have Dr. Marty Greer and Marty, welcome.

Dr. Marty Greer:

Thank you.

Laura Reeves:

I am very excited. This is going to be a really interesting one to me. You have a puppy and it's limping, so I thought we could go through some of the potential causes. Why is it limping? Let's look into some of that. Shall we?

Dr. Marty Greer:

I think that's a great idea.

Laura Reeves:

So we're making this up. My puppy is three months old. It's a German Wirehaired Pointer and it has collapsed screaming and it was fine yesterday.

Dr. Marty Greer:

Wow. Yeah, that sounds serious.

Laura Reeves:

Right?

Dr. Marty Greer:

Yeah. So there's a long list of things that can cause puppies to have acute onset of lameness. And one of the things that you want to start off with is what breed is the puppy? Which you've already told us. What age is the puppy? Was there any history of trauma? Is the puppy running a fever? Can you localize it to one limb or is it more the than one limb or does it change around from one limb to another? So all those things are important for us to take in the medical history. So that's where I would start is to find out those pieces of information. Then probably if there's no fever, I would be looking most likely at an orthopedic problem, which could be anything from trauma because heaven knows, puppies can get into all kinds of trouble, even when you're not looking.

Laura Reeves:

Even when you are looking.

Dr. Marty Greer:

Exactly. I've seen puppies get legs caught in crates, we've seen puppies that have fallen downstairs or had some kind of trauma. And sometimes there's a history of that, but not always, sometimes you weren't in the house when it happened. I've seen little children pick up puppies and of course, accidentally drop them. My attorney dropped a puppy of ours when he was at our house looking at our litter of puppies, he's 6'4 and he dropped the puppy. I'm like, oh my goodness.

Laura Reeves:

Oh, my God.

Dr. Marty Greer:

I thought it was only kids.

Laura Reeves:

No.

Dr. Marty Greer:

So he ended up buying a puppy from us, but it was a little bit worrisome for a bit. So there's orthopedic problems, if they're not running a fever, you'd be looking at orthopedic problems or nutritional problems. If they are running a fever, then we're going to go down a whole completely different path. So those are the things that you need to start off with. As far as orthopedic problems, front legs, we can frequently see OCD in the shoulder. We can see OCD in the elbow, ununited anconeal and fragmented coronoid in the elbow, in any of the legs, we can see Panosteitis. In the rear legs we can also see OCD, hip dysplasia, Legg-Perthes, patella luxation. In the front leg, again, premature ulnar growth plate closure, in any of the legs, we can see HOD or we can see trauma. So we can start off with those as a pretty comprehensive list of differentials for orthopedic problems that we can see in young dogs.

Laura Reeves:

Excellent. Let's talk about some that are genetic in basis and also maybe the top three most common. I know pano, Panosteitis is real common in a lot of the larger breeds. OCD I think, osteochondritis dissecans, common and HOD, Hypertrophic osteodystrophy?

Dr. Marty Greer:

Yes. Wow. You're good.

Laura Reeves:

Sad to say. I have actually personally encountered all three of these, so.

Dr. Marty Greer:

Yeah, so a lot of these are disorders of young, large breed, fast growing male puppies. So females can be affected, but not as frequently. And it has to do with their rate of growth and those types of things, but not all things happen in large breed puppies, things like Legg-Perthes and premature ulnar growth plate closure, so that's a back leg and a front leg thing, those will happen in smaller breed dogs. So premature ulnar growth plate closure will occur in the Corgi, the Basset, some of the Chondrodysplasia dogs, or it can happen in any dog that has trauma to the leg. And then it's enough trauma not to cause a fracture in the leg, but enough trauma to compress the growth plate at the wrist or at the carpus and the ulnar in the radius then will stop growing in sync with each other and you'll end up with deviation of the foot and lameness.

Laura Reeves:

Wow.

Dr. Marty Greer:

So it's not very common, but it is something that needs to be included in the differential, in any puppy that's had trauma. And sometimes they'll come in and they'll say, well, she fell down the stairs, she was limping a little bit, she seems okay. And even if you don't think that there's a fracture there frequently, what we'll do is take an x-ray at that point and then have them come back in a week to 10 days, re x-ray and see if there's any indication that that deviation is

starting to occur. There is a surgical intervention for that, but only if you get to it early and before the foot is significantly deviated. So it's important not to wait too long, even if you don't think that there's actually a fracture to take an x-ray.

Laura Reeves:

Okay. So let's take them one at a time. Shall we? Let's start with pano because I think it's probably the most commonly seen at least in large breed dogs.

Dr. Marty Greer:

So Panosteitis is typically a disorder of the large breed, heavily boned, rapidly growing male dog. It can also occur in females, but it's more common in males and it'll cause a shifting leg lameness, meaning one day you think it's a front leg the next day you think it's a back leg. Sometimes there's a low grade fever associated with it. And it can be really hard for an owner to try to describe to you as a veterinarian where the problem is because one minute they think it's one leg and one minute they think it's another. And in reality, that frequently can happen. On exam, if you start to palpate the dog's leg, you'll feel pain where the one third, two thirds of the bone joins the lower one, third of the leg and the backside of the humus, the backside of the femur, that's where the blood vessel goes into the nutrient foramen and that's where the dogs complain about pain.

And if you take an x-ray too early in the course of Panosteitis, nothing will show up on the x-ray, it takes a few days to a few weeks for them to start to see any changes. And the x-ray just shows a fluffy, vague density inside the bone where you normally would just see a very clear area and you can see clearly where the outside of the bone is, you'll see just a little fluffiness inside the bone. So it's a little hard to pick up on x-ray, it's not very clear. Sometimes it can be hard to tell which leg is the problem for the puppy. They may shift leg, lameness and some puppies are very cooperative when you're going over them and feeling them, other puppies are not, their hair hurts, everything hurts, anywhere you touch and they start to cry. So it can be difficult to localize pain because everything from the tip of their toe to their shoulder hurts. So localizing pain can sometimes be a little tricky.

Sometimes owners are really good at it, sometimes they've picked up better signals than we have. So it's a little bit variable and it can require some detective work to figure out where the pain is coming from.

Laura Reeves:

Excellent. Okay. And pano, do we know anything really? I mean, it's been a while since I looked into it, do we have any newer, good information about what's causing Panosteitis and how do we treat it?

Dr. Marty Greer:

It's just a rapidly growing puppy. I don't think that there's anything terrifically new with that. Treatment is anti-inflammatory typically the nonsteroidal anti-inflammatories you don't want to use anything that's a steroid in a young puppy, if you can avoid it. But again, you also have to read the label on the packaging because there are some drugs that are good anti-inflammatories but not labeled for use in especially young puppies because of the risk to their kidney and liver development.

Laura Reeves:

So do you have a particular one just that you're able to recommend? I mean, is this a Rimadyl or not a Rimadyl or what are we talking about with this?

Dr. Marty Greer:

Yeah, my favorite is Meloxicam or one of the other Metacam type of product, because it's really easy to adjust the dose. It comes in a liquid form, so you can really specifically adjust the dose to the size of the puppy. So you're not doing your best to come up with the right dose, but you're actually very accurate with it. But do have your veterinarian carefully read the packaging and make sure that your puppy isn't too young to use it, very young puppies can't metabolize it and don't do well on it. So you want to be careful.

Laura Reeves:

And pano, we see, at least what I've encountered, you will have more information on this age wise. That's typically an older puppy that you're seeing affected with Panosteitis.

Dr. Marty Greer:

Typically, but in German Shepherds it can occur up until five years of age. So just because they hit a year, doesn't mean that they're going to outgrow it. Yeah. I know, that's really bad.

Laura Reeves:

That's crazy.

Dr. Marty Greer:

Now there's been a lot of people that have talked about vitamin supplements for these, vitamin C, vitamin K and there really isn't any strong evidence that shows that that's helpful. And in fact, you can overdose on vitamins. So you don't want to just go to the store and start pumping vitamins down your puppy, you want to make sure that you've talked to your veterinarian about the appropriate dose.

Laura Reeves:

Okay. Very good. Okay. So pano, next probably OCD. Don't you think? Next most common?

Dr. Marty Greer:

Yeah. I think OCD and it's a tricky one too. It primarily occurs in the shoulder, but it can occur in the hock, so the back leg, the hock, in the stifle, the knee and in the elbow as well. So it's one of the four kinds of elbow dysplasia that we see. So not to get too far off here, but four elbow dysplasia causes are OCD, ununited anconeal, fragmented coronoid and premature ulnar growth plate closure. So going back to OCD, most commonly seen in the shoulder. And what it is is that as the cartilage is developing inside the joint, regardless of which joint it is, it doesn't adequately adhere to the underlying bone. And as a result, it forms into this little flap that will move back and forth inside the joint when the puppy's walking, like walking with a rock in your shoe, it's pretty uncomfortable, just depending on if it's in the wrong place. So it can cause some inflammation in the joint.

The good news is the shoulder develops arthritis very slowly, the bad news is it can be a bugger to find on an x-ray. So even if you've got a good digital x-ray and a puppy well positioned, it can sometimes be very challenging to find. And the other real problem with it is that it frequently occurs in both joints at the same time. So both shoulders or both knees, both hocks, so when you go in with a puppy, even if it's only limping on one front leg, the recommendation is to take an x-ray of both shoulders. And there's some specific positionings that veterinary radiologists want us to use so that they have the best chance of trying to find the lesion inside the joint, because it can be tricky to see on x-ray. So it's a bit of a challenge.

Laura Reeves:

Definitely. Joint mice. I mean, what? Joint mice? It's so crazy to say.

Dr. Marty Greer:

Yeah. Not just the mouse next to your computer, it's inside your joint too. So some of these patients end up needing to go to surgery to remove the piece of cartilage and that cartilage, once it's removed, never forms back to a normal articular cartilage, it'll develop a fiber cartilage instead. But it can be better than having that loose piece of cartilage, either flipping back and forth, attached on one end or completely breaking off and serving as a joint mouse, like you said. The recommendation that our surgeon gives us for this is if you have a puppy that you suspect OCD and take your x-ray, see if you can see it. And then you do one of two things, you either do 30 days of intense rest, create rest, the puppy goes out on a leash, comes back in, basically stays in a crate for 30 days, or you take that puppy out and you just

run the little wheels off of it with the hope that if you rest it, the cartilage may reattach. Or if you exercise it hard, it may break loose and then you don't end up having to go to surgery.

But frequently these dogs end up with surgery and this is a pretty cool place for a thoracoscopy surgery, where they can just go in with a little scope, see the piece of cartilage and if it's small enough, it'll come out through the incision that they've made. If it's too large, they may either make the incision bigger to pull out the whole thing or they may take a chance on breaking it into smaller pieces depending on the surgeon and their skill level and their equipment level, take out little pieces of it and clean up the joint without having to take the puppy in and open the whole joint up completely.

Laura Reeves:

And this is a genetic disease, right? OFA has a OCD database, correct?

Dr. Marty Greer:

Correct. And many of these are, if we're talking about ununited anconeal, fragmented coronoid, hip dysplasia, Legg-Perthes, patella luxation, they're all orthopedic problems that are inherited. The only one that's on this list that isn't is either trauma or HOD and even HOD it seems to have a genetic component to it in that we can tell which breeds are more likely to develop it.

Laura Reeves:

And it also, from what I was able to learn when I had to deal with it runs in families.

Dr. Marty Greer:

Yes.

Laura Reeves:

It was a very interesting study that I did on it. So treatment is surgery, prevention is paying attention to your breeding practices. Yes?

Dr. Marty Greer:

Right. And then most of these orthopedic problems, not letting the puppies get too heavy or beyond too much nutrition, they do make large breed puppy diets that are commercially available. And that's made a huge difference in the orthopedic problems that we see. So if you have a large breed puppy, even if it's not exhibiting signs of lameness stick to the large breed puppy diets that are made commercially, and please don't start feeding Romy diets and unbalanced diets to these puppies because there's a huge number of nutritional problems that we see associated with that. So use the diets that have spent millions of dollars on research. And I quite literally mean that, whether it's Royal Canin or Iams, Hills Science diet, Prescription Diet and Purina diet, they've all spent millions of dollars, developing large breed puppy foods that reduce the incidence of some of these diseases. So take advantage of those and just feed them. Don't get too creative with your diets. Don't start adding calcium, don't start adding vitamin A, don't start adding C&D, K vitamin, just feed nutritionally, appropriate foods to your puppy.

Laura Reeves:

Absolutely. And high protein, are you using high protein specifically, or just the actual calories they're getting when you're talking about too much nutrient?

Dr. Marty Greer:

Actually the calories, that we'll see.

Laura Reeves:

Okay. Very good. Okay. So our next one then would be HOD, Hypertrophic osteodystrophy.

Dr. Marty Greer:

Yeah. And again, this is a tough one.

Laura Reeves:

The case study I started with, what I broke out with that actually is a real thing. It happened to me with one of my puppies

Dr. Marty Greer:

And it does start off very acutely. The puppy can be absolutely perfectly normal one evening and the next morning you get up and the ends of the bones just above the wrist and just above the hock are swollen, they're painful, they are running a fever and it's sometimes associated with a recent vaccination. So by people that have lines of dogs that they know that they have HOD in, number one, of course, they're careful with their breeding and they're trying to breed away from that. But number two is they're very careful with their vaccines and they're cautious not to give too many immunizations at one time.

Laura Reeves:

Yes, indeed. And so HOD, talk a little bit about the x-rays that you can use to diagnosis this, first, you have the fever, that is a big one that I heard. And then the x-rays I thought was a fascinating piece that was so classic the way they described it.

Dr. Marty Greer:

There's a very specific look that you see at the ends of the bones when you see an HOD puppy. So you can see this flare at the growth plate in the front leg, at the wrist, at the distal radius and in the back leg at the distal tibia, so it's very characteristic looking. The puppies will come in acutely painful and I mean, really painful, not just a little bit sore, but these guys are really hurting and it happens very suddenly. So it's pretty startling to owners when it happens. And it tends to be a matching set. So for instance, both front legs are going to be looking the same or both back legs, which is a hint that it's probably not trauma. If it's trauma, you're going to expect it to be just one leg, but if it's caused by HOD that you will see in the matching front leg or the matching back leg. It can also cause sometimes problems in some of the other joints, but typically it's distal radius ulnar and distal tibia that's most noticeable on x-ray.

Laura Reeves:

Yeah. This puppy that I'm talking about, was in so much pain he couldn't stand up. I mean, he couldn't stand up to pee, it was ugly. So again, and causal factors.

Dr. Marty Greer:

Genetics, vaccines, and treatment consists of nonsteroidal and anti-inflammatories like we talked about for something like Meloxicam or Rimadyl and then usually they'll do an antibiotic in case there's any signs of pneumonia associated with it.

Laura Reeves:

And pano, OCD, HOD, Legg-Perthes I think is one that's interesting. And definitely again, has an OFA database for it?

Dr. Marty Greer:

Correct. And it's mostly a disorder of small breed dogs. It's usually just one side unilateral. And again, the puppy at around nine to 12 months will be completely normal. And then suddenly very lame on one leg, carrying the leg very painful and an x-ray is very easily diagnosed on these unless you think that there could be some sign of trauma. We did have a puppy in the practice a few months ago that there was a lot of discussion back and forth, whether it was Legg-Perthes calves or whether it was trauma. Trauma can cause a fracture at the same place, but basically what this is, is a loss of blood flow to the neck of the femur at the hip joint, because the blood flow is lost. You get an avascular necrosis,

meaning that without blood flow, the tissues become necrotic and then they collapse down so that the hip joint is no longer complete and normal.

And again, surgery is the option for this. It's very good outcome for these puppies, they feel much better after surgery, but you do remove the head and neck of the femur so the joint is never normal they go on to form a false joint, and these dogs are usually too small for an implant for a hip replacement. So it's typical that these puppies, if it was a show puppy probably will never regain a normal gate and probably will not be something that you can successfully go on to finish. But again, it shouldn't be something in your breeding program. So it's not a hard decision to say that this puppy should be probably placed as a pet and not included in a breeding program.

Laura Reeves:

Absolutely. Okay. So any other that you're thinking of in the genetic disorder, before we move into infectious diseases, and some of the other things we were talking about?

Dr. Marty Greer:

Well, hip dysplasia is abnormality in the hip joint in large breed dogs and a lot of people understand this pretty well. Again, it can show up when the puppy is anything from very young, maybe four months up and frequently if we take an x-ray, we'll see that the puppy between nine and 12 months is really pretty painful. And then they go on to be a lot more comfortable until they're several years old. And then we can start talking about whether the dog needs to have any kind of intervention done surgically, but this is again, not a dog that should be in a breeding program. So that's another rear leg lameness problem. Another thing in the rear leg is the patella luxation, it can be trauma, but frequently it's a genetic disorder, usually in small breed dogs, but I've seen it in even larger breed dogs, as large as Rottweilers, when the angulation isn't correct in the rear leg and the patella doesn't sit neatly into the groove of the front of the femur it'll slide on and off.

And those puppies will be acutely lame and then the patella pops back into position, and then they go running off looking completely normal and then two minutes later it's popped out again. So it can be very confusing for owners because they're just not sure what the underlying problem is. And then ununited anconeal and fragmented coronoid processes are where the growth plates in the elbow, the anconeal is just above the elbow and the coronoid is just below the elbow where the ulna hooks around the end of the humerus, where those growth plates don't adequately close. And then they end up with, again, a joint mouse in that there's not good construction of that joint. So again, that may or may not end up to be a surgical intervention, but elbow dysplasia is in the OFA database as well. And we recommend a lot of dogs get their elbows x-ray at the same time that we x-ray hips for hip dysplasia in a screening program, because you don't want to end up breeding dogs with this disorder.

And it is really common in certain breeds, German Shepherds, Bernese Mountain Dog, some of those breeds, so be very cautious. Labradors, oh my gosh, we see a lot of Labradors with this. It doesn't get diagnosed until they're maybe five or six years old and by then surgical intervention can be very difficult. I understand there is one place in the country that's doing elbow reconstructions with implants, and I believe that's in Georgia. So some things are really advancing, pretty interesting choices for clients to make, but it is expensive intervention, but can be life changing for the dog.

Laura Reeves:

Absolutely. So what are some of the other, are we thinking tick-borne diseases, infectious diseases that could be causing a young dog to be lame?

Dr. Marty Greer:

Well, certainly tick-borne diseases, including Lyme disease, but not exclusively. It can be anaplasmosis, Ehrlichia can cause some of those things as well. And then as I was thinking through this, I came across a few things that I knew about and a few things that I didn't, they did list cellulitis, which would be puppy stranglers as a possible cause for lameness. Usually that causes skin disorders around the muzzle and the ears, but if it's advanced enough that the lymph nodes are painful for the dog, they can have a front leg lameness. Discospondylitis is an odd little disease, I only see maybe one or two cases over a year, and it's typically a rear leg lameness in a young dog associated with a fever. And they're very specifically painful in the area where the growth plate of the vertebrae is.

And on x-ray initially again, it may not look like anything, but if you come back and x-ray a few days to a few weeks later, you can see a fuzziness in that area. And these dogs respond very well to an antibiotic. So it doesn't mean that every time you have a puppy with lameness you should automatically put them on an antibiotic, but it is something to include in the list of differentials. And like I said, we see a couple of these a year, just enough to keep you on your toes-

Laura Reeves:

On your toes. Yeah.

Dr. Marty Greer:

Yep. Exactly. Sterile meningitis is another disorder we can see in young puppies, it's usually associated with neck pain and fever, but it can be hard to tell if it's pain in the neck or pain in the front leg, on young dogs. Like I said, if their hair hurts and everything hurts, they'll just complain when you touch them. But sterile meningitis is usually associated with fever as is immune mediated polyarthritis, both of those can be seen in young dogs. The scary part about strangles, sterile meningitis and immune mediated polyarthritis is many times we have to put those dogs on a fairly significant dose of steroids to control the disease. And you've got to be absolutely dead-on certain before you blast a puppy with steroids that you know you're treating an immune mediated disease and not something infectious. Because if it is an infectious disease and you put them on that dose of steroids, you can cause this disease to get much worse. So you've got to be very comfortable in your diagnosis.

And then there's a few things that are a little bit more rare strepto and strep canis can cause lameness and it's a problem in young puppies and young kittens. And recently our local shelter had an outbreak from some dogs that were brought in from the South. So it can be infectious and it has a very low risk, but still a potential risk to humans handling those patients. So those have to be carefully managed. Then we're getting into the more rare things like Toxoplasmosis and Neospora, which will cause not just a lameness, but a neurologic weakness in frequently the rear legs. And if the mother was infected with either Tox or Neospora, the puppies can be born with this, and I've seen a couple of cases of it. So it's not at all common, but it is something out there that if you're chasing a lameness or a weakness or something, and you're not quite sure what it is, it's something that's worth discussing with your veterinarian. And the treatment again is an antibiotic, but specifically clindamycin.

Laura Reeves:

Interesting.

Dr. Marty Greer:

So it's not the typical antibiotic that you'd pull off the shelf like you would usually use doxycycline if you thought it was Lyme disease in the puppy that's old enough that its teeth were all in or amoxicillin. I mean, dispondylitis will get better with amoxicillin, it doesn't require high powered antibiotics, but Tox or Neospora, will require specifically clindamycin. And then I just want to make sure we don't overlook cats completely in our discussion because there is this odd little calicivirus that we can see in young kittens, even if they're appropriately vaccinated, they can still pick up a calicivirus and it will cause very sudden lameness and fever in kittens. And personally, I had two of my own, very young kittens that came from a shelter that ended up with this. So it's a little off topic, but don't forget the cats with an infectious cause for this as well.

Laura Reeves:

All right. We covered a lot of ground here, man.

Dr. Marty Greer:

We did. And there's one other thing I just want to very briefly mention and that's we see puppies that end up growing really fast. Again, typically male dogs and they'll end up with a calcium phosphorus imbalance that's not particularly well understood by most veterinary nutritionists or veterinarians, but we'll see puppies that have this kind of bulge and breaking over at the wrist or at the carpus, so when they stand, instead of standing up their toes underneath them, the toes start to buckle forward and the wrist is in front of the toes. I commonly see this in puppies that are growing very quickly and that are on too hot of a diet. So we'll switch those puppies either to a large breed puppy food, if they've

been on regular puppy food, or even to an adult breed food for a week or two. They straighten right out, they look really good, but if you don't catch it at a vaccination appointment, or if you don't notice it or your veterinarian doesn't notice it, it can be progressive and can be very difficult to get these puppies straightened back out.

Laura Reeves:

I think we could do an entire episode on feeding your puppies to grow them properly. I think that would be an amazing topic, so.

Dr. Marty Greer:

I think that'd be great.

Laura Reeves:

Thank you so much, Marty. I sure appreciate your time and we'll talk to you again soon.

Dr. Marty Greer:

Okay. Thank you.

Laura Reeves:

Good Dog is a secure online community that advocates for dog breeders, educates the public, helps informed puppy buyers connect directly with certified good breeders and promotes responsible dog ownership. Good Dog is offering its good breeders, special advanced access to the video recordings and transcripts for the full three-part Q&A webinar series with Dr. Hutchinson. All you have to do is sign up as a breeder at gooddog.com/join or click the link in the show notes.