



Maddie's Institute

## *Stopping the Scales, Greasiness and Odor of Seborrhea in Shelter and Foster Home Dogs*

Webcast Transcript

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*[Beginning of Audio]*

*Lynne Fridley:* Good evening everyone. Thank you for being here for the third installment in our webcast series on dermatology, "Stopping the Scales, Greasiness, and Odor of Seborrhea in Shelter and Foster Home Dogs."

I'm Lynne Fridley, Program Manager for Maddie's Institute®. Our speaker tonight is Dr. Karen Moriello, a clinical professor of veterinary dermatology at the School of Veterinary Medicine, University of Wisconsin—Madison, where she's been a faculty member since 1986.

Before we start, let's talk about a few housekeeping items. Please take a look at the left side of your screen where you'll see a Q and A window. That's where you'll ask questions during the presentation. Don't hold them until the end. Questions asked in the last few minutes will probably not be processed in time for a response. If you need help with your connection, during the presentation, you can click on the help widget on the bottom of your screen. The green file widget contains the presentation handout and a printable certificate of attendance for people attending this live event. So be sure to download, save, and print. For veterinarians and vet techs, your certificate of attendance will be emailed within two weeks of this presentation. Dr. Moriello, thanks for being here with us tonight.

*Dr. Karen Moriello:* All right, thank you, and I'd like to thank Maddie's Fund® for inviting me to speak. It's always an honor to help them and to work with them and with the important work with shelters. This evening we're going to talk about is seborrhea in dogs and what can be done in shelters and foster homes. It's definitely a problem and definitely there's a lot of things you can do to improve the quality of life of the patients, of essentially your guests until they find permanent and loving homes. I think the next slide, Lynne.

*Lynne Fridley:* Yes.

*Dr. Karen Moriello:* Maybe the next slide after that.

*Lynne Fridley:* Okay, well we'll go after that then. Well, we have our first poll question, right away. So everybody in the audience can take advantage of answering this and getting your opinion out there. How many people have owned a dog with chronic greasy, scaly skin, and/or ears, temporarily cared for a dog with chronic, greasy, scaly skin and/or ears, both A and B, or not applicable. So answer on your screen. How many people have owned a dog with chronic greasy skin, or temporarily cared for a dog with chronic, greasy, scaly skin? Boy, say that fast. Okay, let's look at the poll results here. Well, we have a lot of people who have temporarily cared for these type of animals, Dr. Moriello.

*Dr. Karen Moriello:* Right, now, this is very interesting because this reflects a big problem. You know a lot of people when we get our pets, they care for them really well, a lot of times we don't get dogs with skin disease, but those many, many dogs are actually given up because of chronic seborrhea, surrendered to shelters. And we see this in a lot of the rescue groups coming in, and many breeds are very common, like cocker spaniels and that, and it doesn't have to be a surrender situation, because a lot of times we can get to the bottom of it and find out what's causing this and find a way of controlling it and making it a much better situation for everybody.

So hopefully one of the goals of talking to everybody tonight is essentially to go ahead and give you some working knowledge on the topic so that if you are presented with a patient or a guest that you need to work with until you find a home, or maybe someone who is surrendering just because they have skin disease, you can maybe offer some suggestions to them, because I find a lot of people very sad when they have to do this, because a big part of it is the odor that people want to, that cannot deal with it.

So what is the term seborrhea? Seborrhea is a really old term and we don't use it anymore very much as a diagnosis because it simply is a clinical descriptor. The correct term is called a cornification defect and what that means is an abnormality in how the skin is formed. But for this presentation and just to make it easier because I think by the end of the evening I would be tripping over cornification defect, we'll just use the term seborrhea and understand that that's what it is. Now when somebody comes in and says my dog has seborrhea, what they're usually describing is scales and flakes, dandruff, and the skin may or may not be oily.

Many times there's other problems associated with it, and odor is a big one. The thing to remember is when you're looking at records or you're evaluating patients, is that it's a clinical description and not a diagnosis. There's – it's basically a problem with the production of skin cells, called

the epidermal cells and the oils, and there's basically two causes, when you see this "seborrhea", there's a primary cause which is a hereditary disease, which is noticed early in life and is life-long. These are animals who are born with a cornification defect and the strategy there is early recognition, and get them onto a topical therapy protocol so they can have really good quality of life before the skin gets really inflamed and chronically affected from the inflammation that can happen.

And the other cause is secondary and this is acquired, and this happens as a result of other diseases. And happily, this is the most common one that you encounter. So if you're looking at dogs that are scaly and odor, there's a good chance that you can resolve that if you can figure out what the underlying disease is. And the condition is much more common in dogs than in cats, although it can occur in cats, and just to deviate a little bit on cats, when you see a cat with a greasy, scaly, unkempt hair coat, that's generally a clinical sign that the cat has a systemic illness. That's part of it in dogs, but because cats groom, when it gets to that severity, it definitely is much more serious.

Okay, now, all right. Very importantly, I think the most difficult thing to deal with dogs with seborrhea disease is the odor. That's the elephant in the room, and sometimes people just breathe a great big sigh of relief when I say, wow, how are you living with this dog, he really, really has a strong odor? And the odor comes from the accumulation of all that oil on the hairs and how it breaks down. And the oil can be on the ears, it could be a pre-disposition, I apologize to everyone who likes springer spaniels, but I looked and looked and I couldn't find one slide that didn't have a dog with a muzzle on his nose. Seborrheic ears, and then there's some breeds, Shar-peis and that, that have allergies that, all of this can lead to becoming with seborrheic disease.

Okay, so, to really understand the treatment, we have to get into some boring, practical anatomy, because this helps us understand the disease. The skin is essentially built, kind of like your, with the epidermal layer, and so they're like the shingles, and then there's that blue band, which is the epidermis. And that's the growing area of the skin. And beneath that is all the supporting tissue that helps it grow with the blood vessels in the dermis. And the abnormality is in that blue part of the skin, and that's where the cells essentially start that are growing in a nice orderly fashion, they essentially are like a factory where there's been a defect in production, and they're broken when they come out, and they can have all sorts of problems with them.

For example, on this particular slide you see here, this is a histopathology slide of skin. On the left side is normal skin, a little bit of that basket-weaving, lacy-like scaling, and that little blue part you see is relatively

normal. On the other side you see a really thick area on top with, there's little blue dots in there, and that's excessive scale. So what happens is, the body is just producing so much of this scale from either a secondary disease or a primary disease, and it accumulates and then it predisposes the animal to infections and it causes a lot of our problems. So, it's right there in that surface area of the skin is where that problem is, is where we see.

Okay, so what's really happening here is that in seborrheic conditions, you have damage to what essentially is what we call the skin barrier or the epidermal barrier, and this barrier is really important because it prevents water loss from the skin. Dogs that have really dry skin essentially are losing a lot of water. Any disease that causes inflammation causes the dogs to lose water from their skin, and sometimes you can actually feel the skin kind of damp and wet. And when the skin dries out, that makes it more susceptible to disease. Now oftentimes, on the other side of it, you need a really good skin barrier to keep the body fluids in, like the blood and the lymph and serum and things like that, and so if you have a leaky barrier, you're losing it in all directions. The epidermal barrier protects both people and dogs from ultraviolet light damage, and there are diseases which is caused by excessive sun exposure in dogs, so you want to have that normalized. It can lead to squamous cell carcinomas being one of the most common ones. It protects the body against trauma.

Dogs with abnormal skin barriers are the ones that have a lot more inflammation, a lot more easily damaged skin, and so that itself can lead to problems. Interestingly, it wasn't until really in the last decade that we realized that those cells that produce the hard layers of skin and that blue layer that we were talking about actually have an important part in the immune function. They aren't just little machines, but that actually do help fight disease, and control the barrier and prevent things from getting into the body and controlling reactions. So it's really important. And of course the epidermal barrier prevents against infection and invasion of microorganisms. When you have a broken epidermal barrier, you get overgrowth of bacteria, yeast, and as you all know, my favorite topic, you can get fungal infections of the skin.

So when you're looking at dogs, it's really helpful to understand exactly how things happen. When you get the scale and the crust accumulating on the body, that's because the cell turnover time is really, really short. Skin cells should have 30 days to mature from essentially when they are born until they – up to the final epidermis. In diseases where there is seborrhea, that time can be as short as six days. So if it's happening really fast, you can really see how things accumulate, like a little avalanche of debris on the hair coat, and that's where it comes from, a fast turnover time, and it's usually due to inflammation. And then you get irritation, inflammation,

itching, redness, odor, and that's because when you've got a change in how fast the cells are being produced, there's no way that you can have normal skin oils and lipids produced.

And so when that changes, it leads to things like odor, because the oils just sort of degrade, and it can also lead to, predispose the skin to infections because the epidermal layer, the lipid layers are really what protect against a lot of the infections. So what's important about this is that it isn't just making the dog look better for a short period of time, it's about getting to the underlying disease and if we've got an animal that has got a chronic, life-long problem, what we have to do is think about our strategies. Are we getting scale and crust off? Is what we're doing getting rid of the inflammation, and particularly odor? Because owners will stick with us like glue if we can just make the dog aesthetic, and then the infections. The odor really is a huge problem, because it really changes the dynamic between the pet and the owners and whoever's caring for them too, because you know who wants to touch you if you smell.

Now some of you out there probably heard of seborrhea sicca and seborrhea oleosa. These are other terms, and if you start googling about seborrhea in dogs, seborrhea sicca is the old term for dry, scaly disease, and oleosa essentially is oil or greasiness, and these terms are essentially just descriptors and they're not really very important, because they don't talk about a specific disease. They're only important when you're determining topical therapy, and you know what, forget them. What you're looking at is, does my dog, does my patient, does my guest have dry, scaly skin, or is it greasy or is it a combination, because that's going to really help you when we talk about therapy, going and finding out what you can do to help. Okay. So I don't like to use those terms, because people seem to think that they're useful.

Okay, now it is important to understand that there are some breeds that have a primary cornification defect, and these are breeds where it's a hereditary defect, and this is something that comes in certain breeds like cocker spaniels, or it's a random genetic problem. And the earlier these can be recognized, the sooner that we can come up with good interventions. And they do make good pets, and they do have really good quality of life. The thing about them that's really important is it comes on early in life for many of these conditions, sometimes as early as just within the first few weeks of life, or definitely within the first couple of months.

We can manage these, but we can't cure them, and there's been a whole wealth of new topical therapies that have been very valuable. Now if you have a puppy with one of these diseases, and it's pretty classic, you might be able to go ahead and say, that's a primary cornification defect, but in general, the best approach is to give every dog the benefit of the doubt,

assume that what you're seeing might be secondary to something that's treatable and curable, hence it will go away, and so we diagnose these, or I like to say, you know it's a diagnosis by ruling everything out. You know you just don't want to walk in and slap a label on an animal, I want to make sure that I'm not missing anything.

*Lynne Fridley:*

Oh, and we have another poll question for the audience. I'd like to remind everybody to get your questions to Dr. Moriello, and you can do that on the left-hand side of your screen on the Q and A box. In the meantime, we have a poll question, and the question is, "What breed do you encounter the most with problems with greasy, scaly skin?" "German Shepherd, West Highland White Terrier, Cocker Spaniel, Labrador Retriever, Don't know" So, "Which breed do you encounter the most with problems with greasy, scaly skin?" Please answer on your screen. And we'll go to our poll results. And Dr. Moriello, I think Cocker Spaniel took the prize.

*Dr. Karen Moriello:*

They actually won, yes they do, and it's because it is a very big problem in this breed, both primary type, the type they're born with, and secondary to a lot of the other diseases that they get. It reflects how popular they are and also that they're a really big challenge, because they have the kind of coat that needs to be groomed a lot. German Shepherds, they tend to be, we'll see them on occasion with these problems, but not so much. White Highland White Terriers are definitely rivaling Cocker Spaniels, and Labrador Retrievers, there is some primary diseases that cause them to have problems, but in general in German Shepherds, in Westies, and in Labrador Retrievers, if you're playing the odds, there's probably an underlying disease there. For Cocker Spaniels, you might be on the money that this is something that they're born with.

Okay, primary breed predispositions. The cornification disorders, I could read you the list, but basically, you need to be suspect if the last name is Terrier, Spaniel, Hound, Retriever, or Setter. Those are the ones that can have it, that have been diagnosed with it. Some Cocker Spaniels, not only do they have an abnormality in how fast those cells turnover, but they can also have a nutritional deficiency, Vitamin A. This is difficult to diagnose because it's a response to treatment trial. It's not very common but when it happens, treatment response is pretty remarkable and very rewarding.

And then of course, there are zinc responses diseases, and certain breeds, especially the cold-weather dog here, Alaskan Malamute, Siberian Huskies, Samoyeds, those dogs and feral hounds have an inherited defect in their ability to absorb zinc, and so you will see this develop. There are some other zinc-responses skin diseases that will come in. And then West Highland White Terriers, not only do they have allergies, but they also come up with this, epidermal dysplasia is what you'll see lots of times on the internet, and basically what it is, is airborne with literally abnormal

skin. Epidermal dysplasia, you could also easily simplify this and say it's a cornification defect. It's pretty much all the same thing but you'll see this pulled out as a separate disease, and that actually is one of these, a little West Highland White Terrier with what looks like an epidermal dysplasia and that's what it's been called.

Now that I'm looking at this dog, and we know so much more about West Highland White Terriers, that little dog I would give huge benefits of the doubt to because I would want to get this dog on *[inaudible]*, I definitely want to treat for and look for yeast infections because I have seen dogs look just like this with chronic yeast dermatitis and of course then there's allergies, but then we have some little dogs and no matter what we do, we can't identify it and they're just little black Westie dogs. And then there is a new sort of emerging problem that we're starting to see. It's not a new disease, but we're starting to see ichthyosis which is an inherited problem in production of scales, more and more common, particularly in Golden Retrievers. It started out on the east coast and it's getting a little more common, so *[inaudible]* about those.

Okay, primary cornification defect, our Cocker Spaniel is clearly the poster child and these are some really big clues to this. Sometimes you'll see nasal hyperkeratosis and definitely when you're looking at dogs and doing groomings and examining them, and you see those adherent, thick crusts on the front part of the pad, that is very classic of a cornification defect. There is no information there. If you trim that away, it comes right back, and it's just, there's something abnormal right there in the growth there. Okay. And then also with the cornification defects, you can have, go to the other side instead of dry, you can have intense, intense oil production as in this dog, and unfortunately for this little dog, what we had was eventually really abnormal epidermal lipids, and this dog required a bath every single day to make him comfortable and acceptable. If he was left untreated, he essentially got really itchy and a lot of secondary infections, but that's really typical.

Okay, Vitamin A, as I told you before, very rewarding, this is one my most dramatic cases of Vitamin A that I saw, and it wasn't even a Cocker Spaniel of all things. But after treatment, the dog looked great, and it was a diagnosis by biopsy, yet it was, we didn't expect to see it there, and so we worked the dog up and we got to that and said, we're going to do a biopsy. But these are out there and they're missed and it's something to consider, and it's one of the values of doing a skin biopsy. Now, zinc-responsive skin diseases we most commonly recognize them in the sled dog groups, and they will start out usually in young dogs, and you will see the facial crusting around the ears, around the nose, and the elbows, and it's very, very symmetrical.

And the dogs are pretty much otherwise healthy except for the scaling and crusting, and there are some other diseases which can cause this marked crusting that we worry about such as immunity disease such as pemphigus, but what distinguishes it is that these dogs are otherwise healthy and there's a breed disposition. And these dogs respond well to treatment. Diagnosis is by biopsy. There's also another zinc-responsive skin disease that we don't see very much anymore because everyone is much more attuned to the importance of nutrition, but it occurs in young, rapidly growing dogs that are fed diets that are unbalanced, especially niche diets, and what distinguishes them is that they're young dogs, puppies, their skin is warm and hot and they feel sick, they act sick and they're lame and one of the things that you notice is the skin is really scaly. I've worked several of these up and then you run, and you finally say, I don't know what else is going on with the dog, let me do a biopsy, you go, oh my gosh, it's zinc, and these dogs respond very well to temporary zinc supplementation and of course the primary thing being is getting a proper diet.

Okay, and now ichthyosis, this is the one I think that is probably creeping into a lot of areas in the country and you may be seeing it on the left-hand side, is ichthyosis in the young dog, just a lot of scaling. What you're seeing on the right-hand side is the *[inaudible]* leg of a Golden Retriever that is six months old. Those white legs there are giant bales that have formed abnormally, so instead of being little pieces of dust, they're just thickly adherent, almost like tissue paper and there's no inflammation. The dogs aren't itchy, the owners come in and say, you know what no matter what I do, this is what the dog looks like. And diagnosis by biopsy, but many times, when we're looking at this and it's pretty classic in Golden Retrievers, we'll get a history from the owner of other dogs, and we can pretty much tell it's a hereditary problem.

They make great pets, just don't breed them. Now when you're thinking about ichthyosis, because now that I've raised that big word there, one of the clues is really, really big scales, and what I mean by really big scales is really big scales. This is a picture of them, and you just brush them off and they're huge. They can be anywhere from a dime to a quarter size as opposed to little pinpoint scales. And so when you see that in any young dog, that's one thing, and there's not much inflammation in the skin, that's one of the things that you might see in dogs with this ichthyosis. And we can do something for that.

Now other types of cornification defects can be localized. On the right hand side, we have our classic Cocker Spaniel with the hyperkeratosis on the nose, yes the heartbreak of hyperkeratosis. This doesn't usually cause the dog too many problems. Many times owners find it annoying because, well one lady was very distressed because she came in with her dog, she said the dog ruined her nylon stockings all the time because he would rub

up against them and all of her sheer draperies and what can we do, and we solved that problem with some topical therapy. But generally most dogs do pretty well with it.

Now on the left hand side is a Labrador retriever, and they actually have a hereditary disease. It is hyperkeratosis and parakeratosis of Labrador Retrievers. It doesn't cause, it doesn't progress to any disease, but it causes a lot of scaling and discomfort on the nose, and a big differential for this is lupus on the nose. Once we've ruled that out, it's a matter of topical therapy. But you may see dogs with that, but in usually the big clue is that they're young dogs with this.

And then you can have localized disease, and these are important things to start looking for when you're looking at dogs and you're trying to decide, what do I have here? Do I have a dog with cornification defect? Well classically, in Cocker Spaniels, you will have the nose and then you will be looking at the footpads for the classic kind of crusting, and then very importantly, turn these dogs over. Look under the hood and look around the nipples, because if you see scales and crust adherent around the mammary, that is really, really classic for dogs with primary disorders of keratinization or the cornification defects, and with that little bit of information, you can get your guest onto a really good bathing protocol and more them up in their search for a home.

Now, disease can be localized again to the ears. On the right hand side we have ear margin, cornification defect, often called ear margin seborrhea. This doesn't cause the dog much discomfort. A big problem with it though is everyone wants to wash those ear margins, and sometimes they'll wash them and the ears will start to split and they will get kind of bloody. On the other side, on the left-hand side is probably one of the most dramatic and unusual types of cornification defects I've seen on the ears. The dog is brought in because they thought maybe it had warts, and it wasn't. It was just a dramatic case of what's seen on the right, and these will just sort of fall off and it didn't cause the dog too much trouble, and the owners were able to come up with a plan for that, just topical therapy to massage these off and to a point so they were not sticking out so much but yet making the dog comfortable and avoiding bleeding.

So it can be quite dramatic. Now that's a primary disorder of cornification. So when you're in your clinical situation, you're looking at the nose, around the mammie, the ear margins, you know if you have those signs and the dog isn't itchy, that is very suggestive that is where your problem is. However, as I said earlier, the biggest grouping for cornification defects is it's secondary. It's secondary to anything that causes problems in dogs. And we've talked about itchy dogs and that is one of the biggest things that you will see in dogs that have parasites,

internal parasites, very much so and external parasites. So internal parasites, how do they get scaling from internal parasites?

Well, when you're nutritionally deficient, the skin requires a lot of nutrients and if you don't have enough, the body shifts it over to more important organs such the brain, the heart and the kidneys and the skin gets shorted and you get abnormal scaling. Inspections are very common causes of it, because you have infection in the hair follicle. The hair follicle only has so many ways of responding and you get a lot of scaling, loss of hair and crust. Allergies, inflammation, illnesses, any time a dog is ill again, there's a number out there that the skin requires about 20-25% of the bodies nutrients and proteins every day and that can be five times as much as it's trying to heal from something. So if you have an animal that's ill and there's just not enough nutrients to go around, it's going to be reflected in the skin. And sometimes it's the first thing that people will notice when an animal is ill. And then there's chronic nutritional deficiencies.

Okay so German Shepherds are my favorites for coming in and they have a lot of underlying diseases, they are big allergic diseases dogs, and they will come in really scaly, and what's unique about them is because their coat is really, really thick, it's the closest to the wild dog coat, you'll see a lot of scaling, and it's dark, and you will see a lot, it will be very, very dramatic. The other problem with German Shepherds is that, you know I said one of the most common causes of bacterial skin infection, but because of their thick coat, it's very difficult to actually see a pimple or a pustule, a little crust on them. So you need to flip them over, look at the abdomen and sometimes even shave a little window, do you see little crusts and pustules on the skin. But these dogs, very, very much should be pursued for underlying causes of underlying diseases, secondary to bacterial pyoderma, this is – there's little epidermal collarettes there. In the center of the screen, you can see little circles, and whenever you have a pimple, it starts out as a bump, it goes to a pustule, it crusts. The crust falls off and you get scaling, and that's one of the most common causes of scaling, is a bacterial pyoderma. So when in doubt, treat topically for a bacterial pyoderma. When you have a dog, if you think it's ringworm, treat for a bacterial pyoderma, because bacterial pyoderma mimics ringworm and it's much more common in dogs, bacterial pyoderma that is.

Now parasites, scabies is a big one which will cause crusting, but one of the biggest ones that will cause a lot of scaling in particular, a lot of oiliness in the skin is demodicosis, and that is easily something that we want to identify really quickly and inexpensively by doing hair plugs and the scaling and greasiness will not go away until you get the successful resolution of the Demodex. And the Demodex is going to flourish if there is a lot of scaliness to the skin because they live in the hair follicles and

the hair follicles are producing a lot of oil. So it becomes sort of a Catch-22 there. Yeast will give you, whenever you have a dog that's extremely odorous and greasy, think yeast, and that will be very, very high yield, a cytology, or even just treating topically for yeast with an anti-fungal shampoo, but that is one of the ones that you look for when you see greasiness is looking for yeast.

Okay, very common problem, secondary scaling and greasiness is very common in dogs with allergies. On the left-hand side you see a German Shepherd with kind of red ears and scaly skin and it doesn't look that terribly dramatic, but that was one of his complaints. Obviously on the right hand side, you look at that dog, and you go oh my gosh, what's wrong with that dog. And that's a dog, you can sort this out by plugging him into our little workup for itchy dogs as we've talked in a previous webinar, but one of the hallmarks for things to look for when you see greasiness and you see oil and scales, that is a dog that invariably is going to be itchy, whether or not anybody has reported it or not, because stressed dogs are not going to show the behaviors of itching, scaling and rubbing, rubbing and scratching, but they may show licking, and it may take watching them for about five to ten minutes after they've calmed down to see that behavior. If you're not sure, a really good clue you can look at to see if a dog is itchy is kind of lift up the teeth and look to see if they have hair lodged between the teeth and the gums, because the gums don't have any hair follicles, so the only way to get them there is if the dog is chewing on itself.

Now, medical illnesses, very, very common. This is a Golden Retriever with hypothyroidism, and he was untreated for a very long time, because it came on very gradually and it just wasn't noticed, and he lost a lot of his hair and scaling, but this could also be a dog that has liver disease. This could be a dog with kidney disease. Now granted sometimes there's other clinical signs that you'll see, but when you're looking at older animals that suddenly come in with a lot of scaling and greasiness to their hair coat, and you get a good history, or you look at the old records and you don't see any signs of a history of skin disease, you might start thinking, does this animal have a medical illness we should be pursuing.

And in a couple minutes, we'll talk about what's cost effective diagnostic tests. A really common scenario is this, and what you're looking at is this, and what you're looking at you're probably wondering why am I looking at here, and what you're looking at is the bum of a dog. On the right-hand side, there's the tip of the tail, on the left-hand side is his bum, and this red area, if you look in a little bit closer, there's giant blackheads that you want to squeeze out and this dog has been rubbing and itching so much that he's plugged up the hair follicles and they've turned into giant blackheads, and so this is really common. And you look at this and you

go wow, yeah, there's definitely something wrong with the skin turnover, there's something wrong with the lipids and everything, and it doesn't look typical for any kind of one cornification defect, so what do you do? Well when you sort it out, you're kind of here, itch and infection, and you have to sort that out and start working up these dogs because whenever dogs are itching, they get infection, and this will lead to these really dramatic signs, and this is what you see a lot in dogs, the secondary seborrhea.

So how do we spend money wisely? Clearly, upon first acquisition of a new guest, you're looking at checking the vaccination history and doing your intakes. You're doing nutrition, and it doesn't take very much of an examination to really determine, a lot of these animals are in poor body condition, or maybe so you even feel like you're somewhat okay, you start to notice a lot of hair loss, epilation and scaling. That's an animal where the nutritional defects and micronutrients, protein nutrients are going to be showing up a little quicker before you actually get a poor dog that looks this emaciated.

And of course then, endo-parasites. So those are the things that everybody knows to do right off from the get-go. Second thing is to absolutely, assume this is secondary seborrhea that you're seeing, secondary until proven otherwise. And so again, at intake or acquisition, do your endo-parasite control, because the flea control products that we have are very effective against a lot of topical active parasites, and sometimes we have to get very specific with things, but do that. And then again, when in doubt, or if you're not sure, do the skin cytology for bacterial and yeast overgrowth. We've talked about that in the previous itchy, pruritus one, but you can take that right at the time of intake, you can look at it later to see what's going on, but those things are not very costly, and neither is a hair trichogram, looking for Demodex, and this is all something that is done at the point of care at the spot on.

So, again, what does this look like? In practice, what do I do? Well, you do your standard intake. Do flea control strategies. But I like a flea control strategy that also will treat for scabies or Cheyletiella such as using Selamectin or Moxidectin, a [*inaudible*] combinations, something that catches all the parasites. Looking through your hair trichogram, you do your skin cytology. Wood slants are highly recommended at intake obviously for all animals, but you need to be really careful in dogs with scaling, and with greasy hair coats. With ringworm, the scales, the glowing scales mean nothing. It is the hair shafts that need to be glowing. However, in dogs with greasy, greasy hairs, that greasiness will start all the way into the hair follicle and when you pluck the hairs, it will look maybe as if the hair is absolutely glowing. But when you look, you look really closely it isn't a bright, brilliant green it's sort of an off-yellow kind of mustard-ish color of green.

So in dogs when it's greasy like that, you can easily over-diagnose [*inaudible*] infection, but once you have it that badly to be glowing that much, you'd have a bald dog. So if you have matted hairs, probably you would have seborrhea. When in doubt obviously follow your standard protocol for whether or not you culture or not. And then bacterial overgrowth is common, it may not be possible to treat every dog systemically. I'm not suggesting every dog that's given a prophylactic course of antibiotics, but at least treat topically, because when these animals come in with the scaling, you don't exactly know what the cause is, but with parasite control and topical therapy for either bacterial and yeast combination products, you can remove parasites off of your differential list pretty quickly and infections.

All right, other diagnostics. If the animal is otherwise healthy, I would not recommend routine laboratory work, because a complete blood count isn't going to identify a cornification defect. A chemistry panel isn't going to be helpful for any skin diseases or any cornification defects. So, your analyses, if the animal is sick, a different story, then you have to use your best clinical judgment to determine what tests are most appropriate, especially if your clinical exam reveals that what you're seeing here, the skin essentially an innocent bystander of an internal disease. Now as far as an allergy workup, my strategy there is don't do that in these dogs. That's something that would be done by an adoptive family or if you're really get down the bottom of our flowchart for itchy dogs. An allergy workup is indicated if resolved all secondary greasy signs of scales, removed infections from you differentials and parasites, and then you're thinking about allergy. And oftentimes it's much more important to just manage those dogs and let the permanent family do that.

As far as thyroid function tests, you need to be really careful in doing thyroid function tests, unless you've got other signs that a dog has hypothyroidism, such as a low heart rate, kind of a lamentation. A two year old Golden Retriever; you're flipping a Frisbee in front of him, and he's like, "I don't care," - may be that's a good test. But in general, it's not a good first line test, and also dogs that are ill will have abnormally low thyroid tests, so you can't necessarily sort it out, and the same thing with adrenal function tests. Now one of the tests that might be appropriate to do after your intake procedures are done and the dog is back on a good plan of nutrition and you're pretty sure it's not infection, and you're pretty sure it's not parasites and the animal is not itchy, a skin biopsy might be indicated if you need to come up with a diagnosis before you can decide where next to place your patients or your guests.

So a couple of times when you may want to move a little quicker on doing a biopsy might be if you have a breed such as one of the sled dogs with the symmetrical scaling and crusting. That's a dog that is very highly suspect

for having a zinc-responsive skin disease. You know giving a dog zinc as a supplement in just vitamins isn't enough. It isn't enough in the diet. What they need are super-physiological doses. You really want to be solid in your diagnosis here and not just give it to dogs prophylactically or just as a responsive treatment because it takes a while for there to be a response to treatment. It does make them nauseous, so you may have to go through several different formulations to find one that the dog will tolerate, and you're looking for response to therapy. But a biopsy is going to be diagnostic.

The important thing there is don't rub the skin before you take the biopsy because your clues are there. And another indication might be in a dog that you discover, and particularly in an older dog who doesn't have a history of any skin disease, but has diffuse, big scales, particularly if they're a cocker spaniel, because one of the signs of early skin cancer or cutaneous lymphoma is redness and scales, really big scales, very much like the ones I showed you with the ichthyosis in the golden retriever. And that's something, the cutaneous lymphoma can only be diagnosed by biopsy. A lot of times, by the time the dog is seen at a veterinarian's office or been surrendered, there will be other signs of cutaneous lymphoma, maybe big lymph nodes, maybe lumps or bumps.

Okay. Moving on here. Okay, diagnosis via biopsy, a couple of diseases that are absolute, you can't do vitamin A responsive skin disease unless you've got compatible findings. Zinc as I said, medical conditions such as cutaneous lymphoma, a disease called sebaceous adenitis, which is an immune attack against the sebaceous glands, it can look like a lot of different diseases and usually what we find in doing that is you get the diagnosis and the reason you biopsy it because there is no other diagnostic test, no matter what you do, you can't find an improvement. A disease in Springer Spaniels I'd like to point out to you is called lichenoid psoriasiform dermatitis, I'll talk about that in a second, and I'll show you some pictures. And of course nasal parakeratosis when you have crusting on the nose, you may want to rule out immune mediated. Not so important in a dog that is healthy, not so important in a dog such as a Cocker Spaniel or Labrador Retriever, but much more important if you have a dog that also has some bloody mummies or depigmentation, and it may be helpful in ichthyosis for primary cornification defects. The problem is that with ichthyosis and cornification defects, you need to take, have a really thorough workup which essentially may be very expensive and you need to take a lot of biopsies to find just that right piece of tissue and section that will give you your diagnosis.

Okay, this disease, lichenoid psoriasiform dermatitis in Springer Spaniels. It is a hereditary disease. It was very, very common about 15 to 20 years ago, and much to the credit of the breeders, they are selectively breeding it

out of the line, but what you will see is some very classic, classic signs. First you may see some raised little plaque-like bumps around inguinal area, particularly around prepuce. But the real clue is on the ears. These are dogs that may have been surrendered or you may see with what looks like very, very thick plaques that don't peel off and they're very well demarcated on the inner ears, and you look and you go, well there's no pus there, there's just these scales, there's no other signs of disease, and when you see this, this makes it very, very suspect, and it's something that you could go ahead and do a diagnosis and you're going to rule out some other types of ear diseases which are much more popular, primary Seborrheic Otitis, which we're going to talk about. But this disease is one that we can manage, and the clues here are the breed and this well-demarcated plaque-like disease on the ears, and it's really rough. You can't rub it off like you can other kind of accumulations of debris.

Now when you start into what you can do, and I'd like to acknowledge that this came from Google Images, and there was a series of many, many dogs of before and after pictures, grooming is always indicated. One of the best things you can do with any dog with a lot of scaling and greasy coat is to shave it and you cannot over bathe it. Bathing is really, really helpful for so many reasons but the big one from a very practical sense is allowing the medicated shampoos to actually get down to the skin level and in a little dog like this, no amount of medicated shampoo is going to remove all that debris and tell you what's underneath there. So they just need to get buzz cuts.

Okay, so topical therapy. What do you really need in your situation? There's a lot of therapies that you can use, but you can get the simplified. The first thing is you need one good, besides a really good pair of clippers, one good cleansing shampoo that removes debris and just general dirt, and this common one, the best one are just routine flea shampoos. They're very aesthetic, they lather very well, they maybe drown fleas, they have no residual activity, but they're one of my favorite cleansing shampoos because they're very acceptable to the dog, they smell nice and they do a good job. You need one product that's got an antibacterial and antifungal in it such as Chlorhexidine, Ketoconazole, or *[inaudible]*, and Miconazole, a lot of those products because these animals will have antibacterial and antifungal shampoos and you only need one combination of tar and sulfur and salicylic acid. This is a common question I get all the time. When do I use tar? When do I use sulfur? When do I use salicylic acid, because these are the three components in some of the most effective shampoos for seborrhea, the greasiness and the scaling? And what we've found now is basically some combination of all of them, because dogs usually have a little bit of all of it. And then you need a good de-greasing shampoo.

Some of these dogs look like they've rolled in bacon grease, and even if you clip them, they're still greasy, and my favorite one is benzoyl peroxide. It's not only degreasing but it's antimicrobial, another good reason to have benzoyl peroxide. It's what we call follicular flushing. It opens up the hair follicles, so it's really good for using in Demodex dogs. So that's really good. The problem with it though, you need to be careful, because with repeated application of benzoyl peroxide, what happens is that the skin can get really, really red and dry, red and it can also get really dry. Also you need to use it with care in little white dogs, because they seem to be really sensitized to benzoyl peroxide, but it's one to have in your armamentarium, okay, and then a moisturizing product because dogs that have gotten dry, scaly skin, an particularly some dogs like Doberman Pinschers or German Shepherds, they need moisturizing, just like you have the winter dryness, the same thing for dogs. There are many commercial products out there that are available. Some of them are spray humectants, Humilac is one, the Douxo brand like *[inaudible]* will make some, but one my favorites that works really well is a 50% mixture of propylene glycol and water in a spray bottle or even Alpha Carry lotion, generic is beautiful, one to ten and you spray it on the coat and then comb it through and that can provide a lot of moisture benefit. And what it does is sort of seal the skin, and when you use a moisturizing product would be after the bath to kind of seal in the water. That can be very helpful. And then one non-irritating cleaner. The way you determine it's not irritating is you go around and you find somebody with a paper cut and you put a couple drops on their paper cut and say, hey does this hurt and if it doesn't hurt then that's the one for you, because one of the problems you have with dogs with chronic ear disease is pain, and the pain comes from the irritation of ear cleaners or over use.

So while you're working these animals up and you're trying to figure out what it is or while they're in your care or while you're trying to find them a home, what do you do for shampoo therapy? How do you keep it simple? Well first thing you do is, after you've clipped them and groomed them, is you put in the ear cleaner. That's the first thing you do. The ear cleaners need to sit in the ear a little bit and take some time to actually do their work. To squirt them in and wipe them out, totally useless, total waste of your product. The second one is bathe your dog in a cleansing shampoo to remove the debris. Medicated shampoos don't remove debris and they work better when it's down and they're at the hair follicle level. I always pre-dilute shampoos, one to two or one to four, make up a little washtub of it, apply it to the whole dog, lather them up, wash nose to tail, tail to nose, top to bottom, and then wash and rinse. You don't have to leave it on for any particular length of time, just enough to get the dog clean and rinse them thoroughly. This will greatly, diluting it will prevent the irritant reactions that you oftentimes see, especially in the axillary area of this and it will make your cleansing shampoo, which, even if you get it for free, it's

still a very valuable commodity or if you have to buy it, it's a valuable commodity, so make it last a little bit longer.

Then when you have any dog with the greasy, scaly skin, or that, you're probably going to want to be alternating your bathing between antimicrobial shampoos that's just one that's got an antibacterial agent in it, an antifungal, and an anti-seborrhea shampoo, so one time one shampoo, one time the other. And what that does, is the antimicrobial shampoo will kill any of the bacteria and yeast on the coat, help control that and then the next time, a couple days later, when you come and do the bath, you can help remove a lot of the scale, and a lot of the anti-seborrhea compounds have some anti-microbial function to them so it's actually a really big benefit. And avail you always definitely want to pre-dilute these shampoos. When you read bottles, they say leave on for ten minutes, and what I find is that's almost asking the impossible, so if you've got this dog well-bathed and you've got them, lather them all up, and by the time you massage from the nose to the tail, tail to the nose, top to bottom, that's generally really adequate, and a lot of these dogs, I find are really starved. Even pet dogs that have been sort of ostracized because they smell and no one wants to touch them, they're so happy to be touched again that sometimes you don't even mind bathing if they're that, but this is really important because it connects people with their pets, so bathing's all around good for everyone. And then rinse again and again and again, because if you leave the shampoo on there, what will happen is it can be irritating.

If your guest has really, really dry skin, after you towel them dry, you may want to put on your moisturizer. And the last thing you would do is finish cleaning the ears, sometimes you have to squirt in a little bit more ear cleaner to do it. Now someone is probably going to ask, what is a really good way of getting ear cleaner in the ears, what I like to do is to soak a cotton ball with the ear cleaner and put that cotton ball in the ear and squeeze it into the ear and let it kind of drizzle down into the ear and because it's not cold, ear cleaners when you put them in the ear can be really objectionable because they're cold. If you don't know that, then I suggest you take a brand new bottle of ear cleaner and squirt it in your ear and you find out you don't like it. Another thing is, if you squirt ear cleaner into a dog's ear and it's cold, some dogs will get very acute but very temporary neurological signs. They'll get vestibular signs, and that can be very, very scary and very confusing. So doing it this way makes that unlikely to happen. And also, it's a little bit easier on the dog.

All right, everybody has seen this ear, there's probably no one in the audience that hasn't seen this ear, and we don't even need a scratch and sniff function of the Maddie's webinar thing here, we can imagine, if this is a dog that you can smell coming into the room, you just know it. And

this is seborrhea otitis. And this is a hugely problematic problem, and very problematic in the sense that how do you control it and what do you? It's definitely a manageable situation. It's caused by increased ear secretions. When you see an ear like that, you either have a treated and curative disease or you have a dog with a primary problem, like a Cocker Spaniel with seborrhea otitis and no matter what you do, the next day you come there and there's a lot of oil and debris in the ears. This ceruminous debris leads to bacterial overgrowth.

Inflammation causes the ear tissue to swell and proliferate, making for more ceruminous debris and it is that maceration and that degradation of oils and the bacteria there that causes the intense, putrid odor. And of course it's worse if it's a little yeasty and even worse if there's pseudomonas infection that gets present. So you're going to need to treat this microbial overgrowth and be cleaning the ears at every bath. One of the things you're going to have to determine is whether or not you want to go, how aggressive you want to go with working these dogs up and actually in our next webinar which is just shortly coming up here, we're going to be talking about otitis, but your treatment of the microbial overgrowth based on your cytology, which you can do at point of care, do you have yeast?

Do you have rods, which are a type of bacteria, cocci? Many of the ear cleaners have an antimicrobial function in there. You need to be a little alarmed if you see neutrophils present that usually indicates that there's a need to culture, a need to be more aggressive with treatment. But those dogs need to be treated at every bath. If you have a dog where you don't have neutrophils, but you just have some yeast or nothing, you do an ear swab and you don't see any kind of organisms present, these are dogs where you can do a lot with by cleaning and by helping to treat this with one of my favorite products that you can compound, which is propylene glycol and dexamethasone in one to one dilution. These dogs, once you get them managed, and I'll give you an example in a second of one of them, can do very well and you can maintain them in remission from this really odorous proliferation by using a topical application of steroids, and I feel really comfortable recommending that even in a shelter situation because a steroid is only absorbed at the site of the ears and not systemically, so I don't feel that it proposes a risk.

*Lynne Fridley:*

Oh, and we have another poll question. And this is a really good poll question. I'll let you look it over for a minute while I remind you to please get your questions in for Dr. Moriello. We're getting toward the end of the presentation, and if you have any questions that you'd like to pose, she'll be answering those at the end. Also there is a certificate of attendance for people that want to download and print it in the green file folder at the bottom of your screen. Okay the question is, "For a 30-day period of time,

how often should you bathe a dog in your organization?” Or could you based on, yeah.

*Lynne Fridley:* “How often could you bathe a dog in your organization?”

*Dr. Karen Moriello:* Thanks Lynne.

*Lynne Fridley:* “One time a week, two times a week, three times a week, just once if we're lucky.” So, “For a 30-day period of time, how often could you bathe a dog in your organization?” Please answer on your screen and let's look at the results.

*Dr. Karen Moriello:* Not surprising there. Just once if we're lucky or one time a week. Yes. This is probably again, you know when we're working with, not just with rescue organizations, or anyone asks me for help, or owners, I talk about bathing, and they just look at me like, what do you mean bathe the dog, I don't have time to cook dinner for myself, I live out of the microwave. Well, so here's what's kind of like, again, it's a great question. How often should you bathe them? Well it comes down to, in reality what is really, really practical. When you're doing the early part with these patients and these guests, when they're really greasy, if you can muster the help to be aggressive in the first one or two weeks, you can put a lot of these into remission.

So what does being aggressive mean? If you have your volunteers clustering on the weekends when they're present, maybe, maybe not, but if you can bathe the dog once in the middle of the week and then on Saturday and Sunday, just do that for two weeks, you will get these patients into really good remission and once a week thereafter, will probably be really, really all you need to do if you are doing flea control and addressing the underlying problem. But when you have the dog, that primary cornification, primary seborrhea, or secondary problem and you're working it put, if you can just do that in the middle of the week and then really good on Saturday and Sunday, that's great. And actually, that's a strategy that pediatricians use.

Here's children, you want to treat your kid, it's really, really busy, mom and dad are busy. So you start really aggressively going ahead, treating once a week and then concentrating treatment on the weekends. So if you can muster your staff to do bathing that way, which would be great. Otherwise, if you can just do one bath, shave them down, and then do the best possible bath you can do in your organization, and if bathing isn't the easiest thing you can do, there are some products on the market that actually are spray topical shampoo substitutes that can be really helpful. The downside is they're a little bit expensive. But again, if you can do that in the early part. We're looking at just two weeks.

Okay, now, nasal and digital hyperkeratosis. How do you treat these? Well lots of times, you can just leave the nose alone if it's just a little bit. And this little dog on the left, that's a little bit crusty, and this little dog has a couple of things. One, you can do just some general cleansing with any of your medicated shampoos around the nose there or even just with baby wipes to clear up the folds. But on the nose itself, you can use some over the counter products that have salicylic acid in them, and they're present at Walgreen's. Burt's' Bees even makes them, and you would moisturize, what you would do to get that down is you would put a warm compress on that nose, moisturize that dry scaliness and then rub a little topical ointment in there and then the question in everybody's mind is well, that's stupid because how do you keep the dog from licking it? Well you really can't, but one little trick I have done is I'll put it on the dog's nose as I've done and then I'll cut a little piece of cellophane and put it right on the dog's nose, being sure that it doesn't tickle the airway, and you can get maybe a couple of minutes of application of a topical product underneath the cellophane there and it can make a big difference.

The other thing is, don't put a lot on there. It's better to put a little bit and repeatedly apply it on there. You could leave this dog untreated provided that the scaling wasn't so bad it was painful, made it difficult to handle or if it was bleeding. And then what about the pads. Those pads there, when you've got those little hyperkeratotic fronds, those can easily be clipped off with little nail clippers if they're really causing the dog some problems and getting caught up in the hairs, causing them to walk abnormally. One thing that is important to look for when you are looking at dogs with these hyperkeratotic pads is, in this second picture, that abnormal growth like that is not because the dog has a problem with the skin production, but because he's not walking normally and that's due to a lameness. So you have a dog with pads that look kind of thickened like that and you do a good exam and you don't see anything on the nose you're not seeing anything on the rest of the body, nothing on the mammie, and you don't see that crusting on the tips of the pads like I've been showing you, but you see this, and that's when you take maybe another step back and look at it because that dog may be – what you may be seeing there is a lameness and very often it's not on all four paws as it should be in a disease that is present with a hereditary problem of production. It's maybe present just on one paw or particularly in dogs with hip dysplasia, you'll see it on both of your paws.

Ear margin hyperkeratosis, the most important thing here is don't pick at these, because once these ear margins start to bleed, they're hard to keep from bleeding and then they bleed and they fissure and they bleed and this is where you end up having to do surgical ear cosmetic surgery cutting back on the ear margins to get ahead of this because the ears sort of melt

away. So anybody who has dealt with that knows how difficult that is. So for these dogs, these are ones that if you could leave it alone, please do. It's not bothering the dog. If it is bothering everybody, these are dogs that definitely need to be bathed less than once a week, because this is tissue there that is very thin and there isn't a whole lot of epidermis there and once it gets caught and inflamed, it's really hard to heal, so I like to leave it alone. And most dogs that have it would rather have you leave it alone. Medical treatment, this is a sled dog that was treated with zinc-responsive disease and when you see it, it's quite dramatic, and when I talk about how long does it take, well it will probably take you a couple of months. What you do in the meantime if you do get a dog with zinc-responsive treatment, zinc disease, you do want to soak off those crusts and get them on the supplement. Again this is in super-physiological doses, and they're generally on it for life.

So what can foster families do? There's a couple things, and this is probably the biggest one here. Dogs with this type of ear. This can be lifesaving for this particular dog. This dog has a primary disorder of keratinization. Some of the clues besides knowing the history is the nose is all crusty, but that ear is very smelly and it just looks like a cauliflower ear. And the real thing here that we're trying to determine is whether or not we can manage this dog medically or whether or not the best recommendation is to take this dog and do surgery.

When they have this chronic, severe otitis, you can help, within 30 days, you can help make that decision obvious. So what they need to do is they need to be in a home for 30 days. They need someone who is going to bathe them and clean the ears and most importantly they need a milligram per kilogram orally once a day for 15 to 30 days of prednisone. What the prednisone does, is if this is a disease that can be managed medically, if the ear is not end-stage, it will decrease the swelling and open up the ears and canals, and it can be very, very dramatic, and this can be life-saving for many of these dogs because sometimes surgery is simply not an option, but you can answer that question. And once the ears are opened up, you can get on an ear-cleaning regime, such as any of the medicated ear cleaners that are antibacterial, antifungal, and definitely back to that dexamethasone ear drops.

So for example, this happens to actually be a German Shepherd with proliferative otitis in the ear, and this was really hard an firm, you couldn't find the ear orifice, you couldn't get a Q-tip down in there, and so all we had the caretakers do is clean the ear itself just to keep it clean and keep all the debris from accumulating and then after, giving the dog steroids for 30 days, there was a marked opening of the ear canal. A lot of that proliferative tissue just decreased in swelling and resolved and we could easily get a *[inaudible]* applicator down, we could see it with an otoscope,

and this dog was greatly maintained with a topical steroids and just ear cleaning and went on to live a very happy life.

Okay, the other thing that foster families can do that's really helpful is to help treat dogs that need intensive therapy to get into remission, and this would be a dog maybe with secondary skin problems but it's a yeasty, greasy, smelly dog that really needs that mid-week and end of the week, Saturday, Sunday bathing because not only is it going to help with the smell and the odor, but you won't ahead of the disease even with systemic therapy without that. So these might be dogs in workup and once you get that infection under control, the itching may go away and there be no need for further workup or you can find out, well the dog doesn't have *[inaudible]* allergic dog and you've got him in remission, with bathing we keep this comfortable and we can manage the itch until they can find a home, but at least people are willing to look at them and have them as possible pets, because this is, as you all know, everyone who answered the poll question, this is a real obstacle.

Then the other side, back to our dog with ichthyosis, somebody may not believe that a dog like this can be a really good pet, and they can be. But you just need to get them, once you recognize this, get them into remission with bathing and with a humectant, so that they essentially are a happy little dog and you can essentially tell people, hey this is what we did. What not to do? We're back to our bums. One of the things is squeeze, and it's really hard for dermatologists not to squeeze things, but please avoid squeezing any comedones, because that will make it worse in seborrheic dogs. It can really make it inflamed. So when you're talking about transitioning these dogs to permanent homes, the things that are most important to give people is what controls the odor and the scale, particularly the odor. And that is going to invariably clipping of the hair coat, regardless of the underlying disease, whether it's a secondary or primary disease, medicated bathing, and bathing with either flipping between an antimicrobial shampoo and anti-seborrheic shampoo to keep the odor down. If the odor's down, everyone is very willing to work dogs up. So it's basically, how much do you have to do? And you can get this down to once a week, and you may have very valuable information to say well, this is when I need to go to twice a week, or if it really gets bad, I go to twice a week for maybe two weeks or three weeks and we're back into remission for four or five months for Cocker Spaniels.

And also what products work, because not all products work on all patients. What products are irritating? We don't want you to lose ground, and if you can provide that information, it's hugely helpful. And then information all the diagnostic testing, particularly that core information, if the dog has this persistent greasiness and scaliness and it persists in the face of good flea control with Demodex ruled out, with scabies ruled out,

with infection or resistant infection ruled out, that tells us where we might go in our workup. And that also will tell, you know, give information to the primary care veterinarian to tell them what they need to do to pursue, because one of the things that's really frustrating for people is having a lot of testing repeated and it's frustrated for veterinarians too if you don't know what was done. But foster families can do the most with those ear dogs and dogs that need to get in remission so that they can really be considered to be much more appealing and much more adaptable.

All right, Lynne, I think I have chatted enough, and if you have questions organized, I would be happy to try to answer one or two or three.

*Lynne Fridley:* Yes, we do. Well we do have questions and hopefully we can get more than two, and we have a little bit of time here so everybody stay with us. Our first question is, is an injection of Convenia a good choice for dogs with pyoderma due to Demodex or otherwise?

*Dr. Karen Moriello:* Okay, hugely controversial question, but a great question. In my opinion, if you have a dog with demodicosis and you have got secondary bacterial infection of the skin present, you definitely have it, then it is very cost-effective when you are looking at a very short time to get this animal its best possible care, not just one injection of Convenia, but at least two at ten days apart. It is a good choice. You will find dermatologists who are going to tell you that's not the thing to do because you were worried about resistance and again as we all know, we don't want a dog to not get adopted for a treatable disease or a situation. Along with the Convenia, I would definitely add topical therapy, but you'll get a pretty good response pretty quickly and that usually gives people, once they see a response, they're a little bit more willing and happier to continue with the topical therapy.

*Lynne Fridley:* Very good. Here's the next question. For chronic seborrheic otitis, do you taper the prednisone at all?

*Dr. Karen Moriello:* Okay, so with the milligram per kilogram, if I get a response within 15 days, I will start tapering. If I don't get a response in 15 days, I go the full 30 because I want to give that dog every chance. And once we know that the ear canals are opened up, I start with the topical steroid in the ears and then I start to taper down the pred (nisone) and I will go down – there's a lot of different tapering protocols, but what you want to do is taper over several weeks, not just for the immune system and the endocrine system, but because you don't want to just pull the rug out from underneath these ears and have them flare back. You want to give them a chance to let that topical steroid to control it, so yes, we taper.

*Lynne Fridley:* Excellent, another question. How often is thyroid behind this condition, and in thyroid testing, do you recommend the full panel or is just the T-4 enough?

*Dr. Karen Moriello:* Okay, so as far as seborrheic conditions, a thyroid disease you would see, that would be a situation where you had secondary seborrhea, the scaling, and crusting. If you have a dog that is hyperthyroid, you will actually see clinical signs of it. You'll see that heart rate, you'll see the lamentation, probably elevations on the cholesterol. Is it common? Yes. Scaling is really common in dogs that have hypothyroidism. What you oftentimes see with the scaling or the history you may get is recurrent infections of the skin. If you are going to be doing a thyroid panel, you need to do the full panel, a T-4 is not enough for a diagnosis. It is enough to monitor therapy but it is not enough for diagnosis. You want to do the full panel because it is a really difficult disease to definitively diagnose. You talk about putting an animal, recommending therapy that's lifelong and thyroid hormones are not innocuous. Hyperthyroidism from exogenous hormones can cause a lot of metabolic and medical problems, especially dogs that are pre-disposed to cardiac disease.

*Lynne Fridley:* This is a good question. Does frequent bathing dry out the skin?

*Dr. Karen Moriello:* Oh yeah, that's an excellent question. The answer is, in a dog with skin disease, no. You cannot bathe them enough because if they have got a dry coat to begin with, what the bathing does with the right products is it adds moisture to the skin and particularly when you're using products with tar, it helps normalize the skin. Now when people are really worried about drying out the skin of say, their dog that doesn't have skin disease, that's because they were using a lot of human products that, back 20-25 years ago were drying not only to dogs but to humans. There are many products available, many grooming shampoos available that if you have someone that wants to bathe their dog every single day, they can do it very safely without drying out the skin because the shampoos are not only cleansing but they have inherent moisturizers in them. If the dog's got a skin disease, you can't bathe them enough. If they have a skin disease and something's relapsing, bathing is your go-to immediate treatment.

*Lynne Fridley:* Okay, here's another question, Dr. Moriello. Any recommendations for topical or systemic meds to keep on hand for basic care in a shelter?

*Dr. Karen Moriello:* Okay, with respect specifically to seborrhea, I would look for that cleansing shampoo such as a flea and tick control. I would find a benzoyl peroxide shampoo that has a moisturizer in it, and obviously there's several big dermatological companies out there that make veterinary products, but there are sometimes smaller ones too that make excellent products. And then for the tar, sulfur and salicylic acid products, there are

again, you can buy from the big brands or you can buy one of the smaller companies, they do, like Davis has some very, very good products in that, and those are the big ones.

As far as ear cleansing products, you don't want to be using alcohol, you don't want to be using any hydrogen peroxide. Most of you have got the Epi-Otic or Otocleanse and those are very good. As far as systemic meds, you can write a prescription for Cephalexin, and you can write a prescription for antifungals and you can get Terbinafine and Cephalexin cheaper than you can buy it and stock it on hand. So I guess I wouldn't spend my money on those drugs.

You might want to have an injectable dexamethasone and propylene glycol so you can make dexamethasone eardrops because you can use it on a focal, topical things. I think just have in your little first-aid kit of some chlorhexidine and four by four gauzes to just wash things, and that's your basic antibacterial go-to if you have nothing else, that works great.

If you can't find an antifungal shampoo, you can use over the counter Nizoral shampoo, which is Ketoconazole. You can get that down at your big box store, or local pharmacy, and those are the basic things to have here. And I think the other thing which you can't emphasize enough, which are really good clippers. You know, not just number 40, but a number 10, and maybe somebody who really, really likes doing grooming is helpful because getting the hair cut short is really important.

*Lynne Fridley:* Great, thank you, and here's another question. Do you recommend use of essential fatty acids as an adjunct to topical therapy?

*Dr. Karen Moriello:* Oh wonderful question, and you know I'm glad somebody asked it because I really debated about whether to put this in. So essential fatty acids. There's a couple formulations that are out there. There's the oral formulations, and what those oral formulations do is they're anti-inflammatory and they have some anti-pyretic component to them and they will improve the hair coat. But very recently, there have been some spot on products of essential fatty acids that have come onto the market and although there's no good blinded control studies, there are many, many pre and post studies of pictures from clients of them being very beneficial to dogs such as West Highland White Terriers, and it works really well. A few of my clients have used those drop spot on essential fatty acids in dogs with seborrhea otitis and have really liked it. The only thing that I've noticed is that many of the products have sort of a strong odor to them, and it might bother the dog. What we think is very fragrant may be very offensive to the dog, so if the dog really, if he sees that little tube coming and runs, it maybe that he really hates stinking like that for a while and smelling it.

*Lynne Fridley:* That's what I would think.

*Dr. Karen Moriello:* Yeah, I know. I know.

*Lynne Fridley:* One more question. Do you see a vaccination link in these types of skin conditions?

*Dr. Karen Moriello:* Okay, another really good question. There has not, the vaccination link as far as leading to triggering the primary disorders of cornification, where that came from is that those diseases are seen in young animals about the time that we're vaccinating them. But we know them to be primary disorders of retinization because in situations where animals have been in breeding colonies and vaccinations have needed to be different, these diseases have gone on to progress in the absence of vaccinations. We don't see an increase in them of dogs who are not vaccinated. So I would not worry in the least bit about vaccinating dogs because one of the things is, I truly believe that dogs shouldn't die from disease for which we have vaccinations, appropriate vaccines for.

*Lynne Fridley:* That was a great answer, here's another question. How often do you see this cornification defect in Pitbull type dogs?

*Dr. Karen Moriello:* In Pitbull type dogs, a primary disorder is not very common. Occasionally you'll see it on the nose, but not very common. Usually in the American Pitbull dogs, what we see is secondary problems and they're secondary usually demodicosis or allergies and those are the two big ones that I see. So it's usually a secondary thing, not primary.

*Lynne Fridley:* Okay. Thanks. Let's see here, we've got another one coming up. Is prednisone at one milligram, kilogram times 30 days given orally, can you confirm?

*Dr. Karen Moriello:* Yes. Yes, that's given orally.

*Lynne Fridley:* And usually with some food?

*Dr. Karen Moriello:* Yeah.

*Lynne Fridley:* All right, the dogs that I have had with seborrhea have all had eye discharge or dry eye. Is this common?

*Dr. Karen Moriello:* I don't know that there is a study that shows that there's a definitive link between seborrhea and dry eye, but I think what happens is that, because the KCS is a [inaudible] disease in dry eye, that's pathogenesis, I think there may be a genetic tendency for those two things to occur in the same

breeds, because you will get dogs with dry eye that have no primary disorder of cornification – boy I'm slipping here tonight too, and the other way around. So I think it's an unfortunate dog that has both of them.

*Lynne Fridley:* Okay, do you do skin scrapings routinely on all dogs who come into the shelter looking like this?

*Dr. Karen Moriello:* Okay, not sure what they're looking like, but the answer is what I do is hair pluckings on every dog. The reason I would do a hair plucking is that there's one form of demodicosis that just presents as sort of an oily, seborrheic disease, so I think that this is really inexpensive. It costs you a couple drops of oil and a glass slide, and it is really money well spent, particularly on dogs that may come in with really bad facial oiliness. The only way to get a good sample from there is to pluck the hairs because you can pluck a bunch of hairs really quickly, very safely rather than doing a skin scraping, and skin scraping can, especially if you're doing them with a blade can injure you or the dog, and even with a spatula, sometimes pinching that skin can really be problematic. But a quick pluck almost always can be done safely.

*Lynne Fridley:* Do you ever use Pentoxifylline to treat skin problems?

*Dr. Karen Moriello:* Right. I'll help you there, that's Pentoxifylline. And Pentoxifylline is a drug which opens up small blood vessels, it has anti-inflammatory effects, and yes. We use it, in some dogs it can be used to help itching. It doesn't work on all dogs, but we use it in dogs that have autoimmune diseases of their nails called systemic lupus onychodystrophy, used it in dogs with cutaneous lupus on the nose, used it dogs where we've had just where the ear margins continually bleed, and we've used it – the theory is that it opens the blood vessel to help get blood there to cure it, so yes, we have used it. And I think there's a very good review article online in *DDM 360* about that particular drug.

*Lynne Fridley:* We'll take two more questions here. When do you suggest grain-free food?

*Dr. Karen Moriello:* Okay. Another great question, hugely controversial, and I'm just going to say it as it is, there is absolutely no evidence whatsoever that dogs need anything grain free at all. Nothing, zero, you do not need to feed a grain free diet. Period. We don't recommend it and we actually dissuade people from spending the expensive money on that. Go for complete and balanced and everything else they need.

*Lynne Fridley:* Excellent. Can you have this if there is no odor but does have the greasy, waxy feel to the skin, with excessive crust?

*Dr. Karen Moriello:* So I think the question they're asking is, can you have seborrheic skin and scaling in the dog, essentially you don't mind sitting next to them on the couch? Sure, of course you can. Some dogs are just like that. The odor and that will oftentimes be triggered big time severe when there's a lot of infection. But if you have a dog that just has greasy coat and doesn't have secondary infections, sure they may not be odorous at all. However at some point I would bet they get a little bit stinky. Or maybe you don't think they stink, but maybe somebody else might think they stink. Just not so bad to knock your socks off.

*Lynne Fridley:* Okay. Well, thank you Dr. Moriello. This has been very informative. That's the end of our event. We want to thank Dr. Moriello and all of you for your time tonight, and let me push this next slide. We invite you to take a few minutes to complete our survey. Your feedback is important to us. Click on the link on your screen. If for some reason you don't see the link, it's also in the resource file at the bottom of your screen. The link will be also emailed to you in a few days. This webcast will be available On Demand shortly and we hope you'll share this information on your social sites. We hope you can join us for the last webcast in our dermatology series, "What to do About Ear Problems in Shelter and Foster Home Dogs," on June 4<sup>th</sup>. Thanks again for being with us here tonight. Good night.

*[End of audio]*