Hi there and welcome to Lesson Eight, flipping the genetic switch: how to use nutrition to promote good healing and good health.

There's a lot to this topic, so let's just go ahead and get started. And I want to begin by really just talking a little bit about nutrition in general. So we spoke in Lesson Six about nutrition from the standpoint of what is an optimal diet and the benefits of fresh whole food diets, and the benefits of fresh, whole food diets cannot really be overstated. But now we're talking about moving a little bit further down the road in so much as using nutrition from a therapeutic standpoint to both prevent and potentially treat disease. So there's a number of different ways to do that.

And the first thing that I want to talk about is something called glandular therapy. So really when we use the term glandular therapy and medicine, what we're really referring to is using whole food items, generally speaking, animal-based whole food items to support specific body functions or specific organs. So realistically speaking, one of the most basic ways to explain glandular therapy is really kind of a like supports like theory. So for example, let's say a person or an animal has heart disease. So their heart muscle is stressed and for some reason is not functioning well. So when we look at how to treat the heart from a nutritional perspective, the best way to treat the heart muscle nutritionally is to feed the patient the nutritional building blocks that their body will need to help repair heart, muscle, and what tissue or what nutrient is it that has the best nutrition for the heart, muscle, but heart itself.

So in other words, patients that have heart disease, you would feed them heart. So, whether or not it might be, you know, bovine or sheep or pig or something to that effect, what you're doing is you are feeding them the nutritional building blocks they need to support a specific organ. Similarly with kidneys, if for example a cat has kidney disease, you might think about giving them a supplement or a diet that actually has kidney tissue in it because kidneys have all the nutrients, all of the composition that their body is going to need to hopefully support and maintain their remaining kidney tissue. So that is one facet of glandular treatment. There is another type of glandular therapy which is a little bit more sort of conventional, if you will, in the medical sense.

And that is hormone replacement therapy. So, for example, dogs very commonly become hypothyroid. So in other words, their thyroid gland does not produce enough thyroid hormone and the thyroid hormone controls the basal metabolic rate. So if thyroid hormone levels are low, then it can cause really a whole cascade of physiologic and medical problems. So the way that you treat that problem is to

literally replace the thyroid hormone they are not producing by feeding these animals thyroid glands from another animal. And that is very, very commonly done in medicine, in both animals and in people. Now there are now synthetic forms of thyroid hormone which can also be given, but it's still very commonplace to use to use desiccated thyroid gland in the treatment of low thyroid function.

Similarly, sometimes we'll have patients that have low pancreatic function. So in other words, their pancreas is not secreting the enzymes that it normally should secrete in order to digest food properly. And the results of that can be a chronic gastrointestinal upset, vomiting, diarrhea, weight loss, pretty wide ranging problems. So one of the things that we can do is we can feed the patient desiccated pancreas tissue, which contains the enzymes that their pancreas is not producing and not secreting. Therefore we can improve their digestion. We can improve their nutrient absorption by replacing a tissue that they are not producing for some reason or another. So as you can see there's really two specific forms of glandular therapy. There's the sort of feeding an organ to support another organ or there is actually replacing hormones or enzymes that are not being produced by the body.

Now when we look at the first type of glandular therapy, these are usually accomplished by whole food supplements. There's a number of companies out there that produce these kinds of whole food supplements. And as a general rule, these are not prescription items. These are things that are either sold over the counter or frequently sold by natural or holistic practitioners that practice glandular therapy. Conversely, when we're looking at things like hormone replacement therapy, like for example thyroid hormone replacement, that actually is a prescription drug. Even if it is from natural desiccated thyroid tissue, that's not something that you would be able to go by over the counter or go buy from anyone other than somebody that is FDA licensed in order to prescribe medication. And the reason for that is if a person or an animal were to take thyroid hormone when they didn't need it, it could actually be quite dangerous for them.

It could cause all kinds of problems. So really that's the overview of, of glandular therapy. The next thing to talk about is something called oral tolerance. Oral tolerance describes making the body accustomed to things that it may otherwise have have a reaction to or an issue with. So in other words, let's say that a dog or a cat has allergies to something in the environment, so they may be allergic to various types of plants in the environment, maybe it's oak trees, maybe it's grass, some kind of other, other plant out thing in the environment. So the theory here behind oral

tolerance is that if we present very, very small amounts of the thing that the pet is allergic to and give it to them orally so it passes into their gastrointestinal tract.

The hope is that over time we can effectively desensitize their body to these things that they're allergic to. Now the reason why we give these things orally is because it's important to remember that 70% to 80% of the immune system lives in the gastrointestinal tract. So when you put whether it's food or one of these oral tolerance products in the gastrointestinal tract, you are presenting those products, those antigens, if you will, to a large, large portion of the immune system. So really the goal here is to get the immune system used to or accustomed to seeing these things. So that way when they see them out in the real world sense, maybe they don't have as strong a response. Now, it may be that some of you, either personally or for your pets have had some sort of allergy desensitization therapy like allergy shots. Allergy shots work exactly the same way as what we're discussing.

What you're doing is you're giving tiny amounts of the thing that the person or the animal is sensitive to with the hopes of desensitizing their immune system over time. This is something that at best takes months to achieve. To be honest with you, sometimes it's effective and sometimes it's not as effective as we would like it to be. But that certainly is something that we can do. Now you may be wondering, from an oral tolerance standpoint, if my dog is allergic to grass or oak pollen, what am I supposed to feed them in order to in order to achieve this kind of desensitization? And you know what the easiest thing to do is, it may sound a little bit interesting to you. It's bee pollen. So, bees, they fly around from plant to plant gathering, gathering pollen from various flowers and plants and trees and whatnot.

And all of this pollen very frequently possesses the antigen that your dog is having an allergic response to. So if you give them small amounts of bee pollen on a daily basis, you're able to provide them with that material that they may be having a reaction to, but in such a small amount that it's not going to be an issue. Now one thing to be cognizant of when it comes to bee pollen, if you're going to do this, it's critical that you use local bee pollen. So in other words, you need to use bee pollen from in the immediate area where you live in order to make sure that it contains the things in it that your dog is sensitive to. So, for example, if you buy something in the store that maybe was harvested hundreds of miles away from where you live, it may not have the type of pollen in it that you need it to have.

So my best suggestion as it pertains to bee pollen, check your local farmers market. Frequently farmer's markets, there's somebody there selling honey and bee pollen

and that sort of thing. So that's kind of an overview of oral tolerance. Lastly, let's get to the science of nutrigenomics. Nutrigenomics is a really fascinating area of study and what this is looking at is the way that food and the way that things like herbs and other natural medications can literally turn on and off genes in the body. To be honest, nutrigenomics is really in its early stages of study, but what we know is that in many animals and in many people, we find that genes can literally be manipulated in the sense of they're either turned on or turned off by various herbs, supplements, that sort of thing.

In addition to that, similar things can happen with specific food items. So for example, if an individual is sensitive to let's say chicken. So it may be that every time your dog eats chicken it causes inflammation in their gastrointestinal tract, which is going to affect not only their GI tract but their entire immune system because you recall that 70% of the immune system lives in the gastrointestinal tract.

Now even though this area of study is really in it's very, very early stages, there are tests that are available that you can screen your dog using saliva to find out what type of food items they may be sensitive to, which can begin to give you a roadmap of what is best to feed them and what is not best to feed them. As far as what types of herbs or other supplements may be beneficial for your animal, that is something that you really would have to speak with your veterinarian about and work to determine what is the best combination of things for your pet. So really that's the overview of using nutrition to promote health and healing. So thanks so much for joining us on Lesson number Eight. We look forward to seeing you again.