Lesson 3. What's in a test? So, if we are not practicing conventional medicine, and we're not looking for a diagnosis in the highs and lows of the markers, then what benefit can we actually get from testing? Well, the first thing I would ask is, could low or high levels demonstrate a normal for the client based on their own diet, lifestyle, and environment? What does that mean? What does that look like? A client is under severe stress. What might the blood test show?

Even if the sodium marker is low and potassium marker is optimal, it represents exactly how that client is being affected by stress, as we could potentially relate their case information with the need to support the HPA axis. Now this is the picture, and I would call it a normal picture of what a stressed out person could look like on a blood test. Do they need our help?

Yes, but they don't need our help to raise the sodium marker up. They need help addressing the stress. So we're not looking to change a marker. And we also have to see the difference between an alert or what is normal for that person in the stage of their health as they sit now. So we can't look at this low marker and think, oh wow, that's low, it needs to be fixed. Instead, we think, okay, that represents the client's current biochemistry and what's happening in their life. It's expected. I mean, this marker, the way it looks, it's expected based on all we know about them.

And we now know why it's low and low is normal for this picture. It's not normal for us to be stressed out and have our HPA axis not function properly and create this marker. But it is normal based on what we know about the client. Now looking at an organic acid test for example, you can understand this even if you have never seen an organic acid test. But on a note test, at the very, very bottom of the test results, they pick out all the highs and lows and they tell you all the supplements or the vitamins that are low and the supplements you should use and target. So in allopathic fashion, we could read that final analysis and we could counter everything with supplements to raise or to lower the levels that we see. Now it might work, usually it would work for those who aren't that ill, but ultimately no matter what, it's not going to resolve the problem as we're just putting a band-aid on the issue and really not identifying the root cause.

Now on an organic acid test, we need proteins to make organic acids. So if this client has a known issue with digestion, well, when we get the test results back, we might see markers that are lower and appear normal. And you might think to yourself, now wait a minute, this client came to me and they have all these symptoms. I know that there are these many different issues going on with the client. And maybe you fully expected to see all the markers at elevation levels. But the test is just not telling us that that many metabolites showed up in the urine.

or vegetarian diet, or low protein diets, or low stomach acid, or dysbiosis with poor absorption. These examples are not giving us the protein in the body to sufficiently test the client. And if that's what you want to see, that's what you test. Before testing, I typically am going to make sure that this client is eating very sufficient protein and protein that would be more absorbable than just say a steak, especially if I know they're having trouble digesting food. So why do we do this? Well, because we have to understand can be seen based on metabolites and without sufficient protein absorption we just can't get that picture. So we start to see that just because one marker went low, it could be from a shift in another marker that drove it low.

So for us to try and elevate that low marker is pointless if we discount all else that's happening in the body. Now vitamin D is a classic example of this. So a lot of times we will see these outrageously low vitamin D markers like 15 or 20, 22 stands out always in my head. And vitamin D, while you might just immediately suspect, okay, it's wintertime, they're not supplementing, they're not getting sun, we have to look at everything else that's happening in the body. And then we have to ask, what about inflammation? So vitamin D can be driven very low like that due to inflammation in the body.

So pumping in more vitamin D is not going to help until the inflammation is addressed. And I've seen

it many times come back on its own without over supplementation. Now iron is another example. I have seen iron low and the doctor recommends iron supplementation, of which you know I am not a fan, but when they are working with a doctor, we work with what we have. And yet taking iron supplementation didn't raise their iron up. Okay, so what does that mean? Well, that's a signal, it's a clue. There's not a problem with the iron, there just happens to be very low copper. And copper is necessary in the gut for iron absorption.

So they could be eating enough, but if copper is not in place where it should be in a bioavailable aspect, iron won't get absorbed. And if that's the case, then we have to look elsewhere, but iron is not the problem. And iron being low, shifted. And it shifted because copper was low. And now we have to make other connections as to other shifts in these patterns. And the biochemistry behind the markers, we understand the pattern. For example, somebody that claims to be overwhelmed with stress for a long time, and here's the low sodium, the biochemistry, and there's also an optimal potassium. That's the pattern.

helps us to figure out how the biochemistry has shifted or adapted to accommodate the threats that the body is feeling. Now these threats they can be stress, infections, toxins, low nutrients, anything really. So as we have said many times throughout our lessons there are no good or bad markers. The body is doing exactly what it is supposed to do according to what it needs to keep you alive. And it's adjusting and adapting to our diet, our lifestyle, and our environment. Now our job is not fixing the marker, but understanding why and what has caused the need to shift and then address that factor. So moving into investigating blood chemistry patterns. We're going to look at a couple of examples here, just a couple ways that we can start incorporating these small patterns into the decisions that we make when we look at the case history of the client.

Now all markers have a reference range and in functional medicine we call this a functional reference range. It's dynamic like the body and some days the blood chem test might be in flux and going up and down. This is the main reason that we can't view the markers as absolutes, because they are always changing according to diet, lifestyle, and environment. Sometimes we might get anxious if we see one or two that are too low or too high. Really, this is where we need to step back, take a breath, and view with a different frame of mind. Many things are tightly regulated in the body and when skewed, the patterns that occur give us insight into what might be underlying as a root cause.

Now the blood chemistry test alone will not tell us all we need to know about what's wrong with this client's health. That's why we must fully ask all the questions to understand the case, the history, the symptoms, to understand how the blood chemistry can bring us the full picture of what's going on. So I want you to take a look at this blood test. And this is a previous client. And I want you to pick out the different highs and lows. Look at the markers. What are they telling you? What kind of patterns can we see here?

And what can we discern about this client? So go ahead and pause the video, take your time going through and answering some of these questions. Okay, now you've had a chance to go ahead and look at this, analyze this based on the questions that I asked you. So can you tell that this client has severe Lyme disease? Can you tell that this client is affected with mold toxicity.

Can you tell that this client has chronic fatigue syndrome? Blood test looks pretty good, doesn't it? And it doesn't tell us all these details nor the amount of poor health being experienced by the client. So this is what I want you to understand. When a client is in poor health, we will not always see poor looking markers. We can't look at them that way. We cannot look at them as good and bad. As in very sick, very poor markers. Really healthy, They are just a picture of biochemistry. Again, there are many markers that are tightly regulated.

And we look to sodium and potassium being tightly regulated, the electrolytes being tightly regulated, magnesium is another one. And the body will pull from other resources to keep these as regulated and within an optimal range as possible. We don't know what's happening on the back end. Magnesium, for example, it's typically going to be in the 2 to 3 range and that's going to be an optimal level when we draw just a serum, magnesium. But what you don't know is, and the reason why we can't use this marker for any clear data, is that even though magnesium stores in the body might be very depleted in the blood, it must maintain and regulate a certain amount of magnesium.

So, when you see a lower end magnesium level in the blood, that will indicate to you that magnesium stores in the body are very severely depleted and it has nowhere else to pull from. Now I mentioned that we are going to talk about some basic patterns and these basic patterns that I have chosen fit the foundational health chart. So we want to look at dehydration, and we want to look at low stomach acid. Now, both of these are well written out in Dr. Weatherby's book on blood chemistry and the levels that are in there, and he has many different patterns that he lays out. In dehydration, when blood urea nitrogen or BUN is increased, we might suspect dehydration.

We could also suspect low stomach acid or hypochlorhydria. couple other similarities between these two. Not complete. And there is no absolute here. But in dehydration, we would expect to see an elevated hemoglobin and elevated hematocrit increased RBC and potentially an increased albumin and an increased serum protein. We may have some of those markers that fit the pattern and not all. Dr. Weatherby notes that you could see a relative increase in sodium and potassium. Even in some of my stronger dehydration clients where it truly did exist, I haven't necessarily seen an increase in sodium and potassium. So I personally don't fit those two in right there with dehydration. or decreased total protein or albumin. And we might see an increase in globulin levels along with that increased BUN that we mentioned earlier.

Another marker that we might also see a decreased calcium and iron. So we have to think about this. If stomach acid is low and we're not digesting our food and we're not getting nutrients, then we're probably not gonna get iron. So this is what we do have to consider. We might also see an increased NI gap, which is going to be based on the formula for sodium plus potassium minus chloride plus carbon dioxide.

And that will give you the anion cap. So if it's greater than 12 then this could be a sign or a clue that we would want to consider for low stomach acid. Now we can ask the client many other questions regarding how they feel when they eat and what they're experiencing in the way of symptoms when they're eating food and what types of food. So all of this plays into supporting what we're seeing on the blood test. Now outside of the foundational chart, I want to touch on the thyroid because the thyroid is of such great interest in so many groups.

So the thyroid chart and the thyroid pathway chart, first of all, are both stored in your resource drawer. One of the concepts that seems to be very difficult for many coaches and practitioners to understand is that every gland in the endocrine system functions well unless it's influenced by other dysfunction or imbalances in the body. And when those dysfunctions happen, it is at that point that we see imbalance in the hormones from glands. And in this case, we're speaking specifically of the thyroid. These hormone levels give us insight into what dysfunction might be present. When balanced out, the hormones will then balance out as well. This is why I am cautious of coaches and practitioners who try and balance the thyroid or the HPA axis without first addressing the foundational needs of the body.

So what kind of patterns are we going to see here? What will they tell us? So again, I would encourage you, either now or when you finish this lesson, to open up the thyroid chart slide for nutrients and the thyroid pathway slide looking at different considerations that we could learn from the different levels of the thyroid markers that we see in the blood. Now from a blood chemistry we

can look at a couple different areas that are telling us or being told to us from the thyroid, that there is a deeper dysfunction in the body. So what if we're seeing poor TSH production and signaling?

Well, we might suspect low magnesium, low zinc, low B12, low vitamin A. What about poor thyroid hormone production in general? Well, we could consider low B2, vitamin C, copper, manganese. And when we look at poor T4 to T3 conversion, we know all the places that that happens. In the liver, in the gut. But what about the nutrients? Well, when we have low selenium, low zinc, low glutathione, which that's going to be also connected to that low albumin and high GGT level, or low ferritin, then we might expect to see poor T4 to T3 conversion. So, when you say this client has a thyroid issue, understand that what you are really saying is not that they have a thyroid issue, you're saying that they have an autoimmune issue, a gluten sensitivity, they have a chronic infection, they have toxins, they have nutrient deficiencies, they have gut dysfunction, they have liver dysfunction, they have stress and HPA axis dysfunction, they have inflammation, they have a medication issue, or a brain injury.

Supplemental thyroid support will not address this root cause. Any of them. So, a correct way to reframe the thyroid issue statement is to say that there is an imbalance in the thyroid hormones due to an underlying factor such as infection or nutrient deficiencies, whatever the case might be for that client. Something underlying the thyroid is causing a shift in the biochemistry and this is truly what we mean and what it looks like to have an imbalance or a shift in biochemistry where an infection can affect thyroid hormone levels. That's the shift. We resolve the infection and the thyroid hormone levels go back to optimal.