

A Special Interview with Dr. John Lowe Thyroid Disease and Fibromyalgia

DM: Dr. Joseph Mercola, DO

DL: Dr. John Lowe

DM: Welcome everyone. This is Dr. Mercola. Today, we are very pleased to have with us Dr. John Lowe who is really a skilled clinician. One of his areas of expertise is he really focused a lot of time, effort, attention, and energy on this. He's really had become to be recognized as one of the leading experts on this area in natural medicine is the treatment of thyroid disease. That's a pervasive problem especially for women. We'll go into the reasons why that is very shortly.

Dr. Lowe, welcome and thank you for joining us. I really appreciate it.

DL: Thank you for having me. I'm very grateful.

DM: Why don't you discuss with our viewers and listeners first how you came to develop your experience in this and then we'll talk about some of the symptoms of how you would know if you have thyroid disease.

DL: I think those of us who have come into this field, you're trying to help people who have what I call inadequate thyroid hormone regulation. That covers both hypothyroidism where there is simply a deficiency of thyroid hormone and the considerable percentage of people who have a relative degree of cellular resistance to thyroid hormone.

The effects are basically one and the same but of course it varies from person to person. I'm sure you know, if you take 10,000 hypothyroid people you can divide them into some 60 different -- what we call clinical phenotypes -- groups based on how that group's inadequate thyroid hormone regulation is expressed.

For some people it's what is of late called atypical depression. For some it's infertility. For some it's just dry scaly skin. For many people, it's a mixture of a lot of those 60 somewhat symptoms and signs that any -- you know, you go back to William Osler -- end of the 19th century, beginning of the 20th century. Dr. William Osler was the last of at least the most prominent clinical medical practitioners...

DM: Many view him as the father of modern medicine. I think he was out of Johns Hopkins.

DL: I do. I certainly do. I had the privilege the way a lot of physicians did of having tutoring by Dr. Janet Travell. I would rank her with William Osler. She took care of John Kennedy. She was like a bloodhound sniffing out fungi on the soil just anything and everything that might be impinging on his health.

DM: I think she's passed away too now isn't she?

DL: She did. She died maybe six or seven years ago. She was about 98 I think when she died. A loss but...yeah, she's gone.

A number of physicians have written to me about a revival of clinical medicine where not only we pay attention to the modern technological methods we have for distinguishing between is it a malignancy or is it not a malignancy? Is it, you know, whatever.

We've got great tools nowadays that Dr. Travell and Dr. William Osler around the turn of the 20th century didn't have available to them. They used their eyes, ears, hands, noses, mouths if necessary. They touched, they felt, they listened to patients. I think that there is a revival of that.

I feel a little bit abhorrent to calling physicians nowadays alternative physicians because there are so many physicians who have jumped off the conventional bandwagon like the typical endocrinologist. You do nothing but look at the numbers on the computer screen and never bother to look at the patient to consider whether this patient's skin is so dry, it's flaking off her face, her hair is falling out.

Both you and I have referred to that as extremist medical technocracy -- extremist medical technocrats. There is a trend to go back to -- listen to the patients. Listen to what they have to say. Let's get a list of the symptoms. Let's look at them and touch them.

DM: I think that's particularly a point in point here especially for a disease like thyroid disease that is literally profoundly filled with clinical symptoms.

For our readers and listeners, if you can review some of those now that the astute clinician or even the educated consumer or patient can identify with and be sensitized to the fact that they may be struggling with an issue in this area even though their physician tells them they aren't.

Because there is this reliance, excessive reliance, as you mentioned on laboratory tests which are useful. Thank God they exist. They can really guide us. But they shouldn't be used exclusively especially when it comes to disease with the thyroid because it's really the combination of those two that makes a big difference.

So if you can enlighten us from your vast clinical experience. I think you had probably seen more people with thyroid disease than anyone I know personally. So your experience is really quite significant and will help us understand this at a deep basis.

DL: Going back 25 years or so ago, I became interested. I did myofascial trigger point therapy which Dr. Travell had taught because she kept John Kennedy out of as much pain as possible with myofascial trigger point therapy. Of course, he was in dreadful

pain and he had Addison's disease. She was treating him for it. It was a very tough job for Dr. Travell.

I treated patients mainly for myofascial trigger points. Most patients would come in and say, I leaned over to take some things out of the trunk of the car and I developed this aching pain going down into my sacroiliac joint down here in my low back.

With those patients, it was very simple. Dr. Travell and Dr. David Simons, that I shouldn't fail to mention who wrote the trigger point manuals. We had guide books to look at and say, okay, sacroiliac pain is likely referred from a particular muscle in the back called the quadratus lumborum. I would simply go in with my elbow and press down hard enough to find hopefully a trigger point. If I found it, I used any of a number of techniques that were highly effective.

Of course, Doctors Travell and Simons used stretch-and-spray with a vapo-coolant and then heat. But I would use continuous ultrasound, non-pulsed ultrasound, to neutralize the trigger point.

There were patients who came in who had multi-muscle trigger points. Many muscles in the body with trigger points. If I found one that appeared to be the most virulent of the trigger points, I would target that and I would treat it using the usual procedures that worked very effectively. I can get most patients out of the office released as recovered within two or three visits which a lot of chiropractors don't like. They like three times a week, two times a week for months and months.

I found that not only that this highly effective treatment -- it gave some of them palliative relief briefly but they kept coming back and they kept coming back. Some of them, this soothing, relaxing, palliative treatment actually made the pain worse. Because of that, I began to question, you know, what's wrong with these people?

I went to Travell and Simons textbooks and I found a huge section on perpetuating factors. What can make a patient resistant to usually effective myofascial therapy? Among those there were nutritional deficiencies. If patients don't take enough B complex vitamins, various ones of them can cause neuromuscular hyper excitability that has to be dealt with.

I would give patients injections of B complex vitamins and I would immediately get them on megadoses. Those patients, they might take rather than three treatments, it might take eight or ten but I was able to release them as recovered. There were some patients for whom none of those usual tactics worked. They kept coming back. The reprieve from pain might be only six hours and then it's back.

They had a section in their original 1983 textbook on myofascial pain and trigger points on hypometabolism especially due to inadequate thyroid hormone regulation. I became caught up in that. I found that a far higher percentage of patients that I would have expected had that as what Travell and Simons called a perpetuating factor.

I began referring to an internist I was working with who would do -- I ordered lab work back then but I tended to depend on the internists and others that I worked with. He did a usual TSH. Back then, he used what we all used to use back then, a total T4, a T3 uptake and free thyroxin index and of course, we don't...if you're looking for protein abnormalities in the blood, those are good tests but for the most part, to diagnose inadequate thyroid hormone regulation due to hypothyroidism we have free T3, free T4 and TSH now.

The internist also did a TRH (thyroid releasing hormone) stimulation test where he injected the hypothalamic hormone TRH or the analog of it whatever was available then. Ferring Laboratories produced it. We found that a lot of these people had what we could diagnose as central hypothyroidism.

They didn't have a thyroid gland problem per se where the thyroid gland wasn't a producing a thyroid hormone but they had either a problem with the hypothalamus or with the pituitary. We began a long, long term study that ended when Ferring Laboratories, under the influence of the endocrinology specialty, gave up TRH testing thinking that the third generation TSH test supplanted that which it didn't.

The first lady I referred to him had chronic headaches, cervical, upper thoracic pain and low back pain. He diagnosed her as having central hypothyroidism. Interestingly, he prescribed Synthroid. Well, through the years, my treatment and research group completely gave up T4 replacement with Synthroid, Lavoxil, and other, you know, there are other brands in other countries.

Amazingly, this woman, after a few adjustments with her dosage, completely seized to have pain for many of these trigger points that I have found. It vindicated Dr. Janet Travell's point of view that if the person is hypothyroid, get rid of the hypothyroidism. There will be enough energy extracted from say glucose, the chemical bonds of glucose in cells, to provide enough ATP for the contractual filaments to completely relax so that the trigger points just let go. It turned out to be true after treating many, many patients with that approach.

The majority of them just seized to have trigger points. We didn't even have to do any more trigger point therapy. Some of them, you know, one or two trigger points were so entrenched. The actin and myosin contractual filaments where so viciously ratcheted in that we had to do physical therapy to release those and then we released the patients as completely recovered from the pain. So that's how it all started.

DM: So you came in through to the backdoor of managing these pain conditions to trigger point therapy?

DL: Exactly.

DM: And you noticed a significant percentage of them had a challenge with the thyroid. What percentage would you say?

DL: I don't know if I have ever calculated that but it was... I don't know, maybe a third of the patients.

DM: Significant but not the majority.

DL: It was significant enough that it led me and my colleagues into investigating the thyroid status of patients who had myofascial pain syndromes that were unresponsive to the usual physical treatments. It was a sizeable percentage of patients.

Being a bit of obsessive compulsive the way I am, having been trained in research before I became a chiropractic doctor, I pulled out my old research training and began to work and put together a loose net research team and began investigating these patients.

That led to eventually us concluding that -- we maintained this today, very carefully worded and that is the main underlying factor in most patients, not all, but most patients so called fibromyalgia -- a word that I would like to see deleted from all the medical literature -- is due mainly to inadequate thyroid hormone regulation. Complicated usually by other metabolism impeding mechanisms like nutritional deficiencies, pro-inflammatory diet, medications that slow metabolism like beta blockers, atenolol is very popular. That is our stance now.

We have used what the mathematical physicist used which is deductively formulated theory to take all of the data. The rheumatologists valiantly started studying these patients back in the early 70s. It just so happens to coincide when Dr. Gowan and some others decided that based on the new TSH test, they should cut patient's thyroid hormone dosages in half across the world. And then various problems like chronic fatigue syndrome, fibromyalgia, the mysterious new diseases began to appear.

DM: When did you start exploring this? Was that in the 80s or 70s?

DL: 1978 or 1979 was my first publication in this area. It was a case report of that lady that I had sent to my internist.

DM: So over 30 years.

DL: Yes.

DM: Definitely one of the researchers who have been out there the longest studying this. It's a long time to be doing clinical studies. There is no question about it. Three decades is compiling a good wealth of information.

DL: Yeah, it's a good long time. Of course there are others, you know, Jay Goldstein. Out in California, Dr. Jay Goldstein. I think he's retired now. There are many others who were in on it too.

The advantage I had was that I had prior training as a research psychologist and I was able to pull forth that training and enlist physicians on the research team. It was a loose net research team until it eventually became a non-profit organization called the Fibromyalgia Research Foundation. It became more formalized then. A lot of physicians have struggled with this and even though they didn't do it in a systematic way that someone might who had a prior training in hardcore research methodology.

I'll tell you, I was delighted -- this maybe seven maybe even eight years ago -- I gave a presentation at the Fibromyalgia Coalition International based in Kansas City. I was the last speaker of something like eight. I wasn't able to get there. I'm still practicing clinically then. You know what a pin down that can be.

I got there late and I heard none of the other presentations. When I gave my presentation, people began standing up, physicians in the audience and patient advocates and patients saying, "Dr. Lowe, you've used the word integrative metabolic therapies for getting patients free from chronic fatigue, fibromyalgia." It just so happens, every single one of the -- at that point, considered alternative doctors -- have said exactly the same things. Through their personal, clinical experiences they had come to the same conclusions we had.

If they used metabolic integrative therapies, nutritional deficiencies, anti-inflammatory diet, exercise to tolerance, getting off medications that impede metabolism, and possibly treating cortisol deficiency, possibly balancing sex hormones but treating the patients with effective thyroid hormone therapy which usually means getting them off Synthroid and lamoxil, putting them on Armour or Cytomel and now Erfa thyroid. They got the patients well.

One of the physicians said, "Look, you don't have to live this way." We've learned that integrative metabolic therapies -- and they had used slightly different terms. I said the same thing they had said. My experience was based on rigorous scientific testing. Their experience was based on intuition and the wisdom that comes from listening to patients and working with them.

DM: Clinical anecdotal wisdom. But interestingly, this approach was advocated by all the physicians and yourself. In my experience, it's not only useful to treat thyroid disease but just about every other chronic degenerative disease that we know such as heart disease and arthritis and cancer. You know what, any weird disease that hasn't yet been given a form or label.

It's kind of shocking after decades -- I've got not quite as long, have been practicing as long as you but I've come to the same conclusion this is simple basic strategies that work for everything else. Of course you need some tweaking. If the gland is

degenerated to the point where it needs hormonal support which you're going to enlighten us on with your years of wisdom then you had the fine tweaking for that disease but for the most part, the bulk of the therapy is the same for all diseases.

DL: I absolutely agree. I detest that overused word but I absolutely agree. I don't practice clinically anymore either. There is just simply too much research to be done to help millions instead of one at a time. But for many, many years, we've said the same thing that I think any wise intuitive clinician who is as sincerely dedicated to helping patients come to the same conclusion.

There are certain things you're going to have to do. It doesn't matter whether you have cancer or whether you have so called fibromyalgia, hypothyroidism. You have got to get on clean, hopefully organic raw foods, nutritional supplements. You're going to have to exercise to tolerance. If that means sitting in a wheelchair squeezing a tennis ball two times a day, you'll find you can squeeze it more on subsequent days. Staying off conventional medications that are likely to impede your progress...

DM: Which is just about all of them.

DL: Well, just about all of them. I think you and I can concur completely on that. But hormonal therapy, as you know, changes occur as time goes on and we have to -- like with the decline in DHEA. It's at some point prudent add some DHEA in appropriate amounts, less for women than men in my experience but the hormonal issues need to be dealt with.

There are probably genetically programmed age changes and there is the whole anti-aging movement. I know hundreds of doctors who are involved in that. They have their own guidelines. They don't have to listen to the American Association of Clinical Endocrinologist dictates about T4 only and so on and so forth.

There are thousands of these doctors not only in the U.S. Dr. Herzog in Europe. There are plenty of them all over the world. I encourage patients to go to them and get away from the conventional doctors who are basically, in my personal opinion, a sales force for big pharma. Whether a person gets well or not, it's not their concern.

DM: Or the legal drug cartel.

I first learned about you through Mary Shomon's About.com. She continues to educate millions of people about this important topic and probably is the most important educator worldwide in helping people understand this. But she's not a clinician. She just takes information from people like yourself and others to help them understand how to treat this process. She's written several books.

I've known about you for a long time and I had forgotten of your experience with fibromyalgia. The interview seems to be taking a different turn. Why don't we finish off on fibromyalgia and then we'll go to discuss thyroid because it's obviously another

passion of yours. I know you detest the term. So if you want to give it a new term we'll reference it as that term. But anyway, it's the set of conditions that many people struggle with primarily women in my experience.

Interestingly, that seems to be the subset of the larger amount of people who have struggled with thyroid issues also. Can you share with us some of the wisdom you've learned over the years to treat fibromyalgia and then we'll transition into the thyroid component.

DL: What we've learned in working with thyroid patients is basically what we needed to know to deal with thyroid patients whether hypothyroid or thyroid hormone resistance. If the name fibromyalgia wants to be, you know, whoever wants to keep that term that's fine with me as long as...

I'm writing a book now that I doubt that many people will read. If you look at Steven Hawking and Einstein who got a little left behind because he found quantum physics abhorrent. If you look at these guys who have done what they have done in physics -- they have truly changed the world in positive and some negative ways but they were positive at the time like the development of nuclear weapons.

They used a method called deductively formulated theory. It is the ultimate and logic of problem solving. It's virtually never used in medicine. I spoke at a conference at Baylor Medical School going back 10 or 12 years ago. There were two people in the audience who understood what I was talking about when I used formal logic to explain how we thought at that point that we had solved the problem of fibromyalgia.

One was Elizabeth Rauscher who was a physicist and had taught the philosophy of science. She understood. John Getty, who was a physician and surgeon from England who had been essentially kicked out of England for protesting the use of medicine for military purposes. He had become a philosopher of science and logician. Two people out of an audience of maybe a hundred.

If you take deductively formulated theory as I'm going to explain and demonstrate in this very small book, what you do is you take competitive theories or hypothesis about what causes something. You use the methods of mathematical physicists to show which hypothesis tops them all out.

Well, there simply is no competitor to inadequate thyroid hormone regulation that accounts for some 43 of the 46 subjectively verified findings in fibromyalgia -- reduce brain blood flow, inhibitory alpha-2 adrenergic receptors, platelets that cause constriction of arterials and cold fingers. I mean, you can go on and on and on and no need to go into that.

If anybody looks at the method of deductively formulated theory and they compare the inane serotonin deficiency hypothesis which has been refuted beyond -- I mean, it's

refuted and should be thrown in the trash can. There are no competitive theories. That doesn't mean that every single patient has inadequate thyroid hormone regulation.

We had a patient who recovered back in the old days when we used Nystatin, Diflucan and the newer -- she completely recovered within a very short period of time and no longer met the criteria for fibromyalgia.

Hippocrates wrote about people with these symptoms and said, you know, if these people will get off their, you know, (indiscernible 28:03) and get a reasonable amount of physical activity, stop eating the trash that the aristocrats eat and start eating vegetables and fruits, they'll recover. Nothing has really changed there.

What we learned about fibromyalgia patients is that is only one set of symptoms; chronic, aching, and pain that lasts for three months or longer and abnormal tenderness with associated symptoms, there are 12 of them. They are all classic hypothyroid symptoms. It's just another of what we call a clinical phenotype as you know. It's just one clinical phenotype.

For some, like in my family, the males tend to kill themselves from thyroid hormone resistance -- my father and two of his siblings. Luckily, I found out with a help of a brilliant psychiatrist sort of the nature of my problem was and I've been treated for 25 years for thyroid hormone resistance. I haven't yet blown my brains out. So it worked. I think it would have worked with my father and his two siblings.

But what we learned about fibromyalgia patients -- what happened is, most of the patients were either hypothyroid or thyroid hormone resistant.

DM: Interesting. Can you differentiate between those two for our listeners and viewers?

DL: Hypothyroidism means -- hypo (low). Those people simply aren't producing enough thyroid hormone. Not enough to maintain normal metabolism, not enough to convert tyrosine downstream to dopamine, norepinephrine, epinephrine to keep their thinking snappy enough. They don't generate enough ATP molecules to keep the core temperature of the body high enough and most of them tend to be cold.

Thyroid hormone resistance is something that began being investigated in the 1950s. It baffles me that I talked to endocrinologists nowadays and they have never heard of it or think it's some rare condition.

The difference between hypothyroidism where there is a deficiency of thyroid hormone and thyroid hormone resistance is the same amount of thyroid hormone within the laboratories' reference range that would maintain normal metabolism in cells don't do so adequately. Those people need a much higher dosage. A dosage that would cause most endocrinologists to scream, you're going to die of heart attack if you don't get off that.

Just for example myself. I've been on the full replacement dose. If somebody is thyroid hormone deficient ranges between 50, 75 and 100 micrograms of synthetic T3 if you're going to use that. For 25 years, I found my optimal dosage with a help of a brilliant elderly psychiatrist, a wise old man, to be 150 micrograms.

Well, 150 micrograms will send most people to the emergency room with tachycardia, you know, a heartbeat over 100 beats a minutes and tremors. A hundred and fifty micrograms, we know, because we do continual physiological testing. I haven't exactly the basal metabolic rate predicted from equations for my sex, age, height, and weight and my lean body mass.

So for me, for any person who has peripheral thyroid hormone resistance, that person needs to take a high enough dose of thyroid hormone. There are glitches with T4 so T3 is usually almost always the choice treatment. Take a high enough dosage that will scare the hell out of most endocrinologists but eliminate hypothyroid symptoms without over stimulation of any sort. It doesn't raise the voltage of the EKG, any of the measures that we can take and those people are healthy and happy.

Their thyroid profile which is a very low TSH, suppressed TSH, a low T4 and a relatively high T3 -- mine is so high the labs can't accurately measure it -- that is normal for them. I lived on this for 25 years. I'm among the healthiest 64 -- 65 in a couple of months -- men that I know. If that were going to harm me, I think I would have done it a long time ago.

DM: Is this thyroid resistance -- I was going to mention the receptor sites -- is that similar to insulin resistance? In other words, the same issues cause it, or is it more of an autoimmune phenomena? What are the clinical parameters that contribute to that condition?

DL: With insulin resistance, I'm sure you know that if somebody has chronically high cortisol, the cortisol would inhibit gene transcription for insulin receptors and the number of insulin receptors on the cells will decrease. So someone with high cortisol, you know, we want to do something to get that down to a reasonable level so it will stop inhibiting the production of insulin receptors and raise them.

The evidence is conflicting in some ways but it appears that hypothyroidism and thyroid hormone resistance also causes a decrease in insulin receptors. Somehow T3 -- I'm in communication with molecular biologists trying to get the data before they publish it.

Hypothyroidism and relative resistance to thyroid hormone also decreases the number of insulin receptors. Of course that person is going to have most likely high glucose and high insulin until eventually the insulin that is toxic to the beta receptors damages the beta receptors and the person may move into type 1 diabetes.

The difference with thyroid hormone resistance is, you know, the first unequivocally proven cause of thyroid hormone resistance was mutations on chromosome 3 on what's

called the c-erb-A beta gene. That gene codes for the beta 1 thyroid hormone receptor and that's what thyroid hormone binds to to produce most of its beneficial effects.

Someone that I have the benefit of tutoring from was Steve Usala who was an endocrinologist married to a chiropractor so he and I got along. He loved chiropractors. But he discovered the first mutation -- they are now called polymorphisms of course -- he found the first mutation in that gene, on chromosome 3. There was a nucleotide substitution and later they found nucleotide deletions, the little alphabet that tells the work part of the cell how to produce a thyroid hormone receptor.

Because of that one defect, when the thyroid hormone receptor was produced, one amino acid in that overall protein was the wrong one. That caused a low affinity for T3 binding to that receptor. For a good while, that was the only unequivocally proven cause of thyroid hormone resistance.

About five years ago a group of Belgian physicians summarized all the data on all of the different possible causes of thyroid hormone resistance and there are quite a few. We can include dental workers working with mercury vapor. It inhibits (indiscernible 36:23) that converts T4 to T3 and instead another enzyme converts it to reverse T3. Depending on one's definition.

DM: Let's go back to fibromyalgia again. You found a significant percentage, probably the majority of people who suffer with this clinical condition, again primarily women, would have very specific -- I mean, perhaps you can review it briefly the diagnostic criteria for that which in my understanding is a clinical diagnosis only. There is no test for it but a specific point of tenderness in areas and locations in the body.

When people suffered from this condition that properly assessing their thyroid function and then compensating for that after it was abnormal would help most people with this problem. Is that correct?

DL: I'm sorry could you encapsulate that.

DM: Those who suffered with this condition (fibromyalgia) which consist of pain in very specific locations on the body because there is no blood test for fibromyalgia. When you encounter people with that, in your experience, did you find that the majority of them had challenges with their thyroid hormone and then when you assessed them properly and compensated for that dysfunction that they got better?

DL: Initially, yes. We didn't have what's called indirect calorimetry then. That's been around for 400 years. It was made into a clinical diagnostic procedure in about 1895. The units were so expensive that our poor non-profit research foundation couldn't afford one. What we had to do is we used everything -- first of all, we came to distrust the blood tests because we may have a patient who had a reference range...

DM: Which blood test is this -- the thyroid hormone test?

DL: Right, the TSH, the free T3 and the free T4. They would all be within the reference range what used to be called the range of normal. They had fibromyalgia symptoms. They had the tenderness. They had widespread pain and the associated symptoms, often depression, fatigue and so on and so forth.

I had a number of courageous physicians in my practice then. One was a pain management anesthesiologist who was particularly interested in pain in patients. What we found was if we said, "Well, to hell with the blood tests. Let's treat them anyway with thyroid hormone." They got well. As long as they were taking nutritional supplements and adopting a wholesome diet, exercising to tolerance which again might be just doing one crunch a day would lead up to a hundred crunches. But they got well.

What we said to ourselves is, these laboratory test levels have to be irrelevant at least to these people. So we came to distrust those. We are about to publish a study -- we'll publish it after the first of the year. Interestingly, a physician, Dr. John Lee in Queensland, Australia has done a similar study. They are really one and the same. He has 950 data sets on a smaller number of patients treated on different dosages of thyroid hormone.

Our statistician yet hasn't told us 140 or 160 patients -- Dr. Mercola, when we've measured the metabolic rates, we've measured the voltage of the EKG which is a function partly of how much thyroid hormone the person has. Too much voltage, the R wave is way up. Too little, the R wave is down. There are specific criteria for that. We have an expert interpreter who is doing that of course.

Dr. John Lee and we found exactly the same thing. When we measured metabolic rates and we do these physiological measurements that tell us what this person's thyroid status is in regard to that tissue, the TSH never correlates with those measures. The T4 which a lot of endocrinologists do reflex testing, well, if the TSH is a high test the free T4. The free T4 never correlates with the effects of thyroid hormone.

The free T3 correlates -- and Dr. Lee and I found the same thing -- I had to have a hundred subjects in the study before the free T3 weakly correlated with patient's metabolic rates which tells us that in general clinical practice those tests are completely useless.

DM: That's a very profound statement you've just made with amazing implications. That is really the basis and the foundation for how we address this. Other than diabetes, the most common endocrinological problem that physicians face is thyroid disease.

You're saying from your three decades of research and work in this area that the traditional testing that is used does not correlate with the far more powerful assessment of the thyroid hormone in the body which is this basal metabolic rate.

DL: And two studies now, rigorous studies...

DM: That is a profound statement.

DL: I have the benefit of Professor (indiscernible 42:14) who is an associate professor of statistics at the university, who runs our stat. I used to run them. We would check them against -- we would have a professional statistician check them. Professor Doss is in my opinion a genius statistician. He has looked at the data and said, "These tests should be thrown out. They are of no use."

DM: Would it be fair to say that in your extensive experience in treating patients with this clinical condition that is traditionally labeled fibromyalgia that thyroid disease or dysfunction seems to be a component and you can virtually throw out the thyroid test because it's not going to correlate and just clinically treat them with thyroid hormone until their symptoms improve. Is that an assessment of your experience?

DL: Right. Being a researcher, I'm obsessed with data. We give patients monitoring forms. One of those forms is the 20 most common symptoms of thyroid hormone over-stimulation. That's a protector. It makes a lot of physicians more comfortable that the patients are keeping that.

We have a monitoring form where the patients record their basal metabolic -- I'm sorry, you can't do the basal metabolic rates at a distance -- they record their basal body temperature, their basal pulse rate and the pulse rate in most of these patients is too low for their levels of cardiovascular conditioning. It's under regulation of the thyroid heart. Some of them are bradycardic, you know, less than 50-60 beats per minute.

If weight is an issue, they measure their weight after getting out of bed before consuming any water, liquid, solid -- temperature and pulse rate. We have a lot of symptom severity scales which we would call visual analog scales where they estimate the intensity of their symptoms. We have them do fill out this form at least three times a week. It's easy for us to chart the data on line graphs.

We can see, as the dosage increases, are the data points moving in the right direction? Is the temperature arising properly? Is the pulse rate coming up so that it's more appropriate to that person's level of cardiovascular conditioning? We're systematic even when we deal with patients at a distance.

DM: That is profound. Would a fair one-line summary of this, it would be fair to say that thyroid hormone, the missing ingredient in the treatment that is nearly universally overlooked in fibromyalgia?

DL: Correct.

DM: There are some variations of that but that is profound. That is something I did not know before we started this interview.

DL: I'll tell you, about three years ago, the old guard rheumatologists, and psychiatrists and various other specialists who started the study of fibromyalgia going back some 30-40 years ago -- and I praise them. They were valiant. They initially were publishing papers saying this is psychoneurosis. It's psychogenic pain. This people are just neurotic.

There was a rheumatologist, Hugh Smythe in Canada who had written papers like that. He is considered the father of fibromyalgia at least by that camp, the rheumatology paradigm guys. Hugh Smythe, two years after publishing a paper saying these people are just psychoneurotic. He backed up and he said, "Wait a minute, there is something seriously wrong with these people. We've got to use our talents..." Of course, physicians aren't trained as researchers. I think they should have hired professional scientists to solve the problem but at least Hugh Smythe began.

He started the whole thing and then Harvey Muldovsky, a psychiatrist who studied sleep disorders came on board and hypothesized the non-restorative sleep syndrome hypothesis which in 1989, I heard him apologize for it at a conference. He said, "It's wrong. That's not the cause of fibromyalgia."

But the point is, about three years ago, a book was published where all of these old camp guys came together and they said, "Here is what we know about fibromyalgia now." Hugh Smythe wrote the foreword to the book. To think of it he was the father of fibromyalgia. Smythe pointed out, he said, you know, it's interesting what we've covered here is things that have happened in X number of years. We have completely left out all of that data from all those years ago.

My hobby is mathematical logic, symbolic logic. I am obsessed with how physicists solve their problems. When I did deductively formulated theory and I used that data from the old days and combined it with the data from the new days, there is only one conclusion, there is no competitor for the inadequate thyroid hormone regulation hypothesis in fibromyalgia.

Again, I qualify that by saying that is not the only cause of people developing this -- you know, there are other causes. Formulating a scientific hypothesis the way physicists do, they never say there are no statistical outliers, there are no other causes of this. But if you do deductive logic and use the data available to you, you can come down like Albert Einstein did to a microscopic measurement that is a hair off at most.

So I'm getting this book out. I don't know what to name it yet. Probably nobody will read it.

DM: We can help you with that. This really sounds like you're really breaking phenomenal ground and helping so many people. There are literally millions of people who suffer with this condition. You've provided a fairly sound argument for the notion that is reprehensibly negligent to ignore thyroid function even in light of normal thyroid

tests with someone who has condition because invariably, a high likelihood, they're going to have it.

There may be better ways and there are better ways -- that's what I wanted to tangent to next is how you would provide people with assessment tools because of the blood tests aren't used. What can we do to identify if they truly are dysfunctional and that we rely on the clinical symptoms?

That's a profound advancement of this area. How many people do you think suffer with fibromyalgia? It's got to be millions, isn't it? I haven't looked at the data for awhile.

DL: Millions. Different epidemiological studies have been done giving the percentage. People in Scandinavian countries, there is a higher percentage there. It's cold. The people have what's been described as Raynaud's disease because they have too many alpha receptors constricting the arterials so they don't get enough blood in the capillaries of the fingers. So those people suffer inordinately.

In the United States, studies say 2% or 4% of the population, a lot of people. Most of these people, their physicians refer them to rheumatologists who have been misled by the rheumatologists who head up that dead paradigm. Ten years ago, I had described it as a fallen and dead paradigm and they're still going to these people. Things are changing. They are really changing.

DM: I'm so glad that you're sharing it with our audience because we'll help catalyze and facilitate that shift in consciousness and awareness. My experience is, you only have to educate about 10% of the population to get it and then things shift. That's why I'm so excited about having the platform to really share these noble concepts.

DL: I hope you're right about that.

DM: Malcolm Gladwell did a book on it called *The Tipping Point* a number of years ago. It's fairly consistent across industries. It's not just true for healthcare. It's true for almost every industry.

Can we transition into the symptoms and perhaps even you can recommend a resource on your site or your books that has a list, perhaps a checklist that people can go over and understand if they are at risk for this or even have it based on the results of this survey.

You mentioned Raynaud's, people with Raynaud's, is that almost invariably related -- assuming there is not a peripheral arterial obstruction blockage of some sort. Is that almost always due to thyroid issue?

DL: It doesn't matter what symptom or sign objectively verifiable abnormality you identify. There can be other causes for that particular problem. Cognitive dysfunction,

most people don't take enough B complex vitamins. They don't take enough omega-3 or choline.

DM: They don't sleep.

DL: They don't sleep.

DM: Simple basics.

DL: That is a symptom that is classically characteristic of inadequate thyroid hormone regulation. Thyroid hormone controls two key enzymes that convert tyrosine downstream to dopamine, norepinephrine, and epinephrine -- two key enzymes.

If there isn't enough thyroid hormone to produce enough of those key enzymes, the person ends up without enough epinephrine which is relatively limited in the brain but norepinephrine is all over the body. They may not have enough. They may not have enough dopamine. If they don't have enough dopamine, they don't have enough motor drive.

If you cause dopamine deficiency in rats, you can starve them for a week and put food two inches from their mouths and they don't have the motor drive to get up and eat it. So many hypothyroid -- thyroid hormone resistant, fibromyalgia patients which are one and the same to me -- they say, "I wake up in the morning and it's like I'm a lizard on a hot rock. I know I've got to get rolling but I just don't have the drive to get up."

And then on the other hand, you have people like the lady who started our non-profit research foundation. Her husband did. He was involved in non-profit law and accounting. I was treating her with a neuropsychiatrist because she had been seeing him first. She was lethargic, overweight, could barely move. It was probably within three weeks that she came in -- I had never heard the term before but she said, "I did power housekeeping." She had totally absolutely within a couple of hours completely cleaned the house, put it in order, fired their maid.

That's the typical thing you see in a patient who hasn't had enough dopamine or have had too few dopamine receptors due to inadequate thyroid hormone regulation. It's just like rats in a laboratory. They will lie there and starve to death before they'll move an inch to eat the food that's in front of them.

But if for that particular person, low dopamine is an issue, that person turns into -- if someone will say, I just can't stop running. I want to go out three times a day and run around the block or the neighborhood or whatever.

DM: Is there a list of symptoms that you could refer us to or a chart or a table that you've compiled or can you verbally review that? So that people can have a checklist that they can use as an alternative to the blood test because, you know, for the most

part, I mean, if it shows an abnormality and clearly there is something but if it doesn't, it doesn't mean that you're okay with the message that you're telling us.

DL: That's right. There are some 60-something symptoms and somewhat fewer signs. I took these from old endocrinology books back when these guys studied this sort of thing. You won't find them in the new endocrinology books as you undoubtedly know.

At www.DrLowe.com which is my main website. I apologize for the appearance. We're revamping it. It's being aesthetically improved but if they go to the homepage, overall the left side is general issues. Click on that and there is a link to all of the classic hypothyroid symptoms and signs. Interestingly, one will find fibromyalgia symptoms and signs in there because they are an integral part of those classic symptoms and signs.

Fatigue, hair loss especially in women, weight gain. You know, thyroid hormone controls gene transcription for what's called lipolytic enzymes. They are the sets of enzymes that lower cholesterol and breakdown the triglycerides and the fatty tissues so that they are released. Even if the person doesn't diet and exercise, having enough of those enzymes is going to decrease the fat tissues of the body, the adipose tissues.

Low motor drive, just not having the drive to do what one knows needs to be done. Dry skin and hair, dry eyes and other mucous membranes which the fibromyalgia researchers describe as Sicca syndrome can be caused by antibodies that destroy the lacrimal glands on the eyes. But if those glands are hypometabolic, they are going to produce insufficient fluids and the person is going to have dry eyes, dry mucous membranes.

Trigger points -- excess muscle tension and trigger points. It seems like a paradox but for muscles -- it seemed a paradox to me when I first learned about this. For muscles to completely relax, their contractile filaments have to lengthen and separate. That is a fueled process. It depends on having enough energy and little ATP molecules to fuel the detachment of the heads of the myosin filaments from the actin filaments and they stretch.

Think about rigor mortis. When the person dies, there is no energy in the muscle. After an hour or so, the person goes into a global body contracture that may last for 10 or 12 hours. And then when the muscles begin to deteriorate, the person becomes lax. Excessive muscle tension, and studies have shown that you can have a hypothyroid patient, a fibromyalgia patient contract the biceps and then relax it. Well there is some measurably increased time before it relaxes compared to people who have adequate thyroid hormone regulation. Trigger points to me are miniscule rigor mortis.

DM: Would that be the delayed deep tendon reflexes?

DL: That's very important, a slow relaxation phase of the Achilles reflex. You're exactly right because thyroid hormone controls gene transcription for what's called calcium ATPase. When we hit the Achilles tendon and the foot goes down rapidly, and it will go

right down rapidly in a person with hypothyroidism or thyroid hormone resistance but it comes back visibly slowly. It contracts quickly, it comes back slowly or it may sort of jerk wobble at the end and then come back more quickly.

What's happening is because of too little thyroid hormone regulation there isn't enough of that molecule that provides the energy for the contractual filaments to separate and relax. So they separate and relax very slowly and you get a visibly slow relaxation phase of the Achilles reflex. That's famous.

To show the ilk of the endocrinology specialty, a study was done -- I didn't mean to bash them. They can't sue me because they are more than 50 members so they can't sue me in the United States. They tested the slow relaxation phase in the Achilles reflex. It didn't correlate with a high TSH. So even though the Achilles reflex had been used through the 20th century, they said, we have to throw that test out on the presumption that if it was the slow relaxation phase was due to hypothyroidism, there would be a high TSH. They presumed.

You know, Dr. Mercola, they never -- and I know this because I have verbatim texts from the conferences. When they decided in the early 1970s that TSH was the be all and the end all of determining whether somebody needs thyroid hormone or how much, they never bothered to test that against the basal metabolic rate.

DM: That is just profoundly irresponsible because it's the well established gold standard. You can't throw away the gold standard because you have a newer test that's supposedly supercedes it. That's insane.

DL: It's bringing in billions of dollars.

DM: I guess endocrinologists may but in most cases, they probably don't directly benefit from the lab test, occasionally they do.

DL: There was a study done in England -- I forget the exact numbers but scores of millions of those tests were ordered. They didn't get in to the money involved but that's scores of millions of TSH tests.

In the United States, Abbott Laboratories, for example, and this is documented and documentable, periodically give the American Association of Clinical Endocrinologists one million dollar grants for unrestricted educational purposes which I parenthetically call for propaganda that will facilitate the flow of money into us so that we can give you another million dollars a few years down the road.

DM: Sure, they're not foolish marketers. They know a good return on investment when they see it. That's a wise business choice.