REVERSE ALZHEIMER'S SUMMIT

Your Eyes - A Canary for Alzheimer's Disease

Dr. Heather Sandison, N.D. interviewing
Dr. Thomas Lewis

Dr. Heather Sandison, N.D.
Welcome back to the Reverse Alzheimer's Summit. I'm so thrilled to have Dr. Lewis here today. He's a medical scientist with advanced degrees from MIT and the Harvard School of Public Health. He has developed novel algorithms to predict and measure chronic diseases with emphasis on neurodegenerative diseases. He uses a combination of risk assessments, biomarkers and pathology testing, mainly using the eye as a canary in the coal mine to health to determine where you lie on the health disease continuum. His team of doctors and coaches run a virtual practice that reverses even the most severe diseases. A key area of Dr. Lewis's work is in chronic infection and its relevance to chronic disease and its treatment. Alzheimer's disease, for example, is often caused or exasperated by chronic infection like periodontal pathogens or Chlamydia pneumoniae. If you're not testing, you're guessing. Dr. Dr. Thomas Lewis, welcome to the show.

Dr. Thomas Lewis
Thank you so much, Heather. Pleasure to be here.

Dr. Heather Sandison, N.D.
I am so thrilled to get into this with you because I have a patient who's been seeing you and is getting really great results. So that is why I've invited you is because I think everyone should know about the role of infections and also some very cutting edge testing so that we can understand these a little bit better and also go ahead and treat it and get those results that we're looking for that we so desperately need. So how did you become interested in dementia and Alzheimer's? What's your personal story?

Dr. Thomas Lewis
That's a great question. I was interested in Alzheimer's about 30 years ago, and then coincidentally, my dad came down with it shortly thereafter. He was doing some very bizarre things you wouldn't have expected him to do, but then we realized that he had something going on in his brain. He actually died of the disease 19 years ago. But 18 years ago, I met a gentleman at Harvard, an ophthalmologist of all things, who really, really illuminated what goes on in Alzheimer's to me because he was reversing this disease in people, and I mean reversing it, 20, 30 years ago, very profoundly, but he had to do it very quietly because his wife Xena would tell me, Clem is 40 years ahead of his time. Unfortunately, I think he's even more ahead of his time than that. So when I saw what he could do, it was life changing for me and I knew I had to take on that mission because he was just working as a humble clinician of ophthalmology at Harvard and I knew it had to go beyond that.

Dr. Heather Sandison, N.D.
Wow. So the eye, tell me a little bit more about how the eye is directly related to Alzheimer's and neurodegeneration.

Dr. Thomas Lewis
Well I have a couple props for you. And I think the key one was by a chaired professor at Harvard. And if you know, there's as an assistant professor, associate, a full professor, than a chaired professor, the fancy one. So this is John Dowling and he wrote this book called the, it's really a textbook, "The Retina: The Approachable Part of the Brain", but really the retina is an outcropping of the brain. It is part of the brain. And so very often what's going on in your eye portends or is exactly the same as what's going on in your brain. And what you can see when you look at good study, something like glaucoma, which some researchers call glaucoma is Alzheimer's of the eye and Alzheimer's is glaucoma of the brain.

They're the exact same pathology and physiological antecedents that lead to this disease. But see glaucoma will show up 10 to 20 years earlier. And that was my dad's case. He had glaucoma first before we even had any clue of even the mildest cognitive impairment. And the beautiful thing about the eye is that, you know, you don't have to cut a hole in your skull to see what's going on.

The instrumentation that optometrists and ophthalmologists have to analyze disease is so superior to whatever anybody else is doing. I'll give you a simple example. OCT, optical coherence tomography, tomography's the key word. It's an instrument that makes three dimensional imaging sort of like an ultrasound or an MRI. But OCT has much better resolution than MRI. So when a urologist looks at the brain with MRI and they say, "Eh, a little loss in mass but we really can't see anything, probably not much going on", OCT can measure thickness and volume of your retinal ganglial cells, which again are a surrogate for your brain down to the micron. So we can see the changes very accurately with this technique. And it's not invasive and it's very low cost, pennies compared to an MRI.

Dr. Heather Sandison, N.D.
And so could a patient who's curious or wondering, maybe even someone who's presymptomatic, doesn't have symptoms of dementia yet, but curious if there are changes in the brain happening, could they just go into an ophthalmologist and get this test?

Dr. Thomas Lewis
So I actually recommend an optometrist and I have a network of optometrists, they don't work for me, but there's groups that do higher level training in optometry. And the reason why I steer you towards optometry rather than ophthalmology, ophthalmologists are actually, even though they're MD's, they're actually fallen into surgery. So they tend to want to do aggressive treatments and I don't want them to do that. I want to just do an analysis. So I'm probably one of the, I might be the only person in the world that's regularly doing eye evaluations. I have a very simple thing. You order an Ida brain test with me and I give you a link to a couple of the optometry associations.

I send you there with a form and I do the following. Do not tell your optometrist you're going to get evaluated for Alzheimer's. All I want them to do is do a complete eye exam looking at very well-known disease states and pathologies. Cataracts, cataract is the number one surgery in the world. A certain type of cataract portends Alzheimer's. And that's not me. That's Rudy, Dr. Rudy Tanzi, chaired professor of neurology at Harvard. Who's higher than him? Wrote a paper in 2003 how supranuclear or cortical cataracts are the exact same pathology as the 142 beta amyloid plaque in the brain of Alzheimer's patients.

Now optometrists and even ophthalmologists generally ignore cortical cataracts 'cause they don't affect central vision. So they're just observed in the standard of care. And the next test is macular degeneration, a very common test, fundus camera, looking for something that Don Anderson out of UC Santa Barbara whose been studying most of his life called drusen. Drusen are little yellow globules that show right up in a fundus camera view. And these little yellow globules contain the same protein. They call it a misfolded protein, but that's a misnomer. It's actually all these amyloids are actually part of your innate immune system that's trying to protect you against something underlying that's causing deterioration mainly to your vasculature. Little known is that you have to have a capillary within three cell diameters of any living cell. So think about a little teeny vessel and it starts getting diseased. And now you're four cell diameters away from that capillary. Well that retinal ganglion cell four cells away is struggling if not dying.

So, you know, macular degeneration is a vascular disease, but it will affect the nervous tissue. And then the last one is really just looking for a glaucoma screening. They'll do pressure. And that's mainly what ophthalmology and optometry does. It's a disease or pressure, quote unquote, it really isn't. It's a disease of inflammation. Pressure goes up with inflammation. But really what we see in this tomography system, similar to MRI but much more precise, is we can measure the thickness and volume of the retinal ganglion cell tissue called your retinal nerve fiber layer with great, great precision. And the beautiful thing about that test, if I take a 20 year old and an 80 year old, the test is normalized to your age. So you're really seeing how you compare to your age cohorts.

And I think we should have published a paper a while ago, but I'm not really a researcher, I'm more a translator, I like working with people, but we show that we can actually restore nervous tissue, okay, we can rebuild that tissue. And it's not a guess. OCT is so precise we can measure it accurately. Imagine if you had a set of calipers and you could see this tissue, it's here, now it's here. And this is the kind of thing that's really profound in terms of neurodegeneration. Can you rebuild tissue? And that's the challenge we all face. And really I look at it as a three legged stool to accomplish that.

Dr. Heather Sandison, N.D.
Yeah so go into that. What is that three legged stool? How do we rebuild neurodegenerated tissue and do you see clinical results? So do people's symptoms track the changes that you're measuring?

Dr. Thomas Lewis
Oh yeah. Because it's easy to do, we run the mini mental test, which is a very simple test, everybody should score a 30. One of my most recent patients, we retested him very recently, went from a 17 with 25 and his retina is showing a two percent increase in thickness as he's aging. Normally you'd expect a two percent decline. So that's really critical. So we can definitely see these things. I know the Bredesen protocol using CNS vital signs is a much more accurate characterization of brain function, cognitive function, motor function from the brain, all of that stuff. But at the end of the day, what myself and my partner in crime and this functional doctor, Dr. Michael Carter and I do, is we look at disease, particularly chronic diseases, in the healthcare system is the the code book for the doctors, right? It's the ICD-10. 69,000 diagnostic codes for diseases.

In our world, there are four mechanisms, okay? And they apply equally as well to diabetes, cataract, Alzheimer's, autism it doesn't matter. And the first one is poor repair and recovery. If you're not eating well, or more importantly, if you're not digesting well, 'cause you are what you absorb, not what you eat, that's the first place to start. I was in line this morning in a store and there was a gentleman in front of me and I was calm, he was rail thin. And I just made conversation 'cause he had a really dark tan. He said, "Well, my skin is like onion paper and if I press on it, I bruise easily." It's not the bruising, it's the fact that over time, his repair and recovery pathways are in the toilet. So yeah, all his tissue is on the edge of giving in. And the brain and the eye are a really good, it's a really good place to study because your brain is 10 times more metabolic than any other tissue.

Dr. Seneff talks about this, but it's well published. 25% of the oxygenated blood that leaves your heart is going to your brain yet your brain is only two and a half percent the mass of your body. So it's 10 times, it's using 10 times more oxygen. That means it's working 10 times harder. Now if you did this with a weight all day long and worked that bicep all day long, that bicep would get tired.

Your brain's the same thing. Now the only thing that's more metabolically active than your brain, guess what? Is your eye. The eye is teeny, but in terms of vessel density, there's nothing denser. So if your repair and recovery pathways are not good, these highly metabolic tissues, retina, eye, brain, are going to suffer. So that's the first place to start and that's easy. The next thing is food sensitivities or sensitivities in general. The third is are you always in a fight or flight mode? If your cortisol is always up, you're always stressed, you're not sleeping well, guess what? It's gonna affect your repair and recovery pathways.

And you sleep for your brain and your eyes. Once again, your biceps not tired. Most people's biceps not tired, but your brain and your eyes never shut off. Okay, so you've got a rest for them. And then the fourth thing is what I call chronic toxicity. But chronic infection is the biggest part of that because you could identify you've been exposed to lead or something like that and you can detoxify and you can chelate out the lead. But when an infection takes hold, two important things, it can replicate and grow inside you without further exposure. And secondly, it can wind up in tissue, in very localized tissue rather than being systemic. So it can be in the hippocampus. It can be in the retina.

It can be in the joint for arthritis. So this is where the science and art of diagnostic comes in because you look at all the blood you have in your body, yet you only have this small piece of tissue that's infected that your immune system is chasing down. And so your labs may not go up but by a pittance yet you have a very severe infectious, insidious infectious process going on in a very small amount of tissue. That can have a profound effect on your health, eyesight, cognitive function, things of that nature. So this is where it testing really becomes, well, I like to think we've made it very scientific. Do I dare go into that now?

Dr. Heather Sandison, N.D.
Well, it sounds like it. So say what you mean by that. What do you mean by you like to think you made it very scientific?

Dr. Thomas Lewis
So if you look at lab tests online and you see what the normal reference ranges or reference intervals you'll get from LabCorp and Quest are ranges like this. And they're really looking for acute disease. Are you sick? Do you need to see a doctor or a specialist right now?

So it's unscientific. And I was just in Dr. Trempe's office, this had to be 15 years ago and he goes, "Tom, the only thing that really matters is mortality." And more specifically, early mortality. Okay and there's a lot of misinformation about longevity. National Geographic did a great study in 2013. The title of the article is called "100 Candles: People Who Live to 100". And what they showed is if you live to 100, you have nine years of declining health. And everything is an asymptote, it's like this. So you actually, the nine years, a lot of those years are still pretty good. If you live to 80, you have 19 years of declining health.

So what we did is we said, okay, mortality or early mortality is an endpoint published in many medical scientific papers. So what we did is we looked at things like C-reactive protein, white blood cell counts, neutrophil to lymphocyte ratio, fibrinogen, erythrocyte sedimentation rate, and looked at where good studies could show that these markers showed the first increase in mortality. And the simplest one is white blood cell counts. A white blood cell count is so inexpensive. Now this is a Harvard study, just to give you an example, Harvard study, they oversaw the women's health initiative, 138,000 women that they studied prospectively. What that means is they measured these women very accurately in many, many, many centers, and then followed them and see what happened to them and they measured who died and whatnot, their ages and all that.

But what they showed when they started extracting the data is if you have two groups of women, one with a white blood cell count of 4,700 and another group with 6,700, now keep in mind, the reference interval for white blood cells are like 3,5000 to 10,800. So we're talking two sets of women, very, very much normal, the doctor would look at them, say labs are fine, so they follow them for six years and the women at 6,700 died at twice the rate as the women at 4,700. So why wouldn't you tell someone at 6,700 that you have greater risk? Why wait till 10,800? So we built an entire scale on this early mortality. And since every marker we use titrates the exact same end point, early mortality, we amalgamate this and we use 21 markers, it's applicable to Alzheimer's or arthritis or whatever, but it's all inflammatory, immune health markers, clotting markers, things like that, that all, we're all connected. And so we create a risk score we call your chronic disease temperature based on these 21 markers.

So we're able to really tell if someone's getting better by not looking at a plethora of individual labs. We can look at a single score to tell whether someone's heading in the right direction physiologically or not. And then of course, we do dive down into each marker and help them understand what the risk factors for each marker is. And Heather, you're not a, I know you very little right now, we just met, but there's a story behind you. And we say the same thing about your labs. It's not, oh, you're your A1C is this and then your lipids are this. No, what we try to do is we try to build a story around all the labs to help you really understand your health. Now, how infection comes into this is that the difference between someone with a 4,700 and a 6,700, which in the standard of care is no difference, is almost always some type of chronic infectious process.

And how we glean what it is is with another test that comes out of a complete blood count with differential, once again, one of the most expensive inexpensive tests you can order, and it's a neutrophil to lymphocyte ratio. So neutrophil is a type of white blood cell, usually goes up with bacteria, and a lymphocyte is a type of white blood cell. It either goes up or down with viruses. And so when the neutrophil to lymphocyte ratio goes up, we can kind of tell what kind of pathogen may be affecting that individual. And then of course, we test for them and have treatment protocols for specific pathogens. But it's not a whole lot unlike Lyme. You know Kris Kristofferson was diagnosed with Alzheimer's like eight years ago.

And the headline's, "Kris Kristofferson has Alzheimer's". Then like two years later, it came out, "No, no," these are the headlines in popular media, "No, he doesn't have Alzheimer's. He has Lyme disease." What's the difference? The pathology is unmistakably Alzheimer's, but they actually found the cause in this case, borrelia burgdorferi infection or maybe coinfections that go along with Lyme disease.

Dr. Heather Sandison, N.D.
So this is incredible. It sounds like you're saying the eyes are the window to disease. And so if you can find these markers in the eye, very simply relatively affordably, you can also find markers in CBC or complete blood count that's again very affordable, very simple. So if we find these markers for disease, then what? How do we treat?

Dr. Thomas Lewis
When you look at, we believe and we don't believe, everybody lies on a health disease continuum and that's your overall continuum but there are continuums underneath that.

So the eye helps us understand where you stand on the pathology continuum. And that's closest to disease because it's actual tissue changes. Then backing up a little bit to earlier in life, you have a physiological continuum, that's our chronic disease temperature. But at the end of the day, it's all about risk factors. What are those risk factors? Do you have GERD? Do you have a thyroid issue? Do you have energy issues? Do you have poor sleep? This is where you really get into coming up with some basic protocols. But I will tell you when someone has a subacute or chronic infection, then we have to get much more aggressive at treatment. Supplements, lifestyle changes, intermittent fasting helps in repair and recovery, but we even go so far as going into pharmaceutical treatments.

What we generally do with an individual, let's say we have an Alzheimer's sufferer, what we will generally do is do a complete workup, very detailed risk assessment, we've digitized our risk assessment and give a score, very detailed physiological assessment, the eye test to corroborate there's some neurodegeneration process going on. And then we're gonna really dive into, dive into those risk factors and start ameliorating the low-hanging fruit, the simple risk factors. So what we're gonna do is we're gonna do at least six months of pretreatment. That'd be coaching, nutritional guidance, supplementation, things of that nature, working on improving their physiological score. Then, if we've done the testing already or if we decide to do the infectious testing, then it's when we're gonna pull out the guns to do some more aggressive treatments.

Unfortunately, a lot of the functional treatments aren't that effective. And it's very explainable. There's a MD research out of Vanderbilt, Charles Stratton, who's written some papers and patents that explains that these organisms that are stealth and chronic, not like you have staph or the flu, you know, you feel sick, they're insidious, that they can live in three different forms, a couple of which are completely hidden from the immune system and they're quasi-dormant. Like everybody knows chickenpox, you can get shingles later in life. That is not the only organism that can go stealth and come back to play opportunistically. But see the problem is, and what Dr. Ewald, I'll pull up another prop, but anybody who's really interested in this topic can read this book, "Plague Time", it's all about really the modern germ theory is that the biggest problem with subacute or chronic infections is what's called crypticity. And what that means is someone had COVID, you were with them, you get COVID, you know you got COVID.

But with chronic diseases and chronic infections that often cause this, you have no clue as to when you might've been exposed and you might've been exposed pre-birth, it might be a congenital infection, a lot of times that happens. Chickenpox, that's a congenital infection. There are many other congenital infections. Myself, I had afib, I titrated it back to Lyme disease. I was bitten by ticks many, many times. I had a perfect storm of health issues in my 40s, stress and overexercising and then getting sick, I had this perfect storm and Lyme disease came back out to play and it almost always affects the vessels. We say it's arthritis, but it's really the vessels in the joint. We say it's Alzheimer's, but it's really the vessels in the brain. We say it's glaucoma or macular disease, but it's really the micro vessels, the capillaries in that tissue that's causing this disease. And these infectious species are like vampires of your blood.

Dr. Heather Sandison, N.D.
Yeah, this is a great theme, you know, making sure there's enough circulation. For anyone who's listening that's really curious about circulation and making sure you're getting enough oxygen, nutrients, delivery of everything that's necessary for a cell to function, not just optimally, but to function at all, Dr. Mark, or excuse me, Mark Squibb, his conversation with me goes into a lot of detail about that. But I want to come back, Dr. Lewis, to what you mentioned about the white blood cell count. So this is a very common marker and I would imagine many of our listeners are gonna go back to their labs and say, "What was my white blood cell count? Am I gonna die soon?" And from a clinical perspective, what I see a lot of are low white blood cell counts. And those I have come to think of as a marker for a chronic infection. So can you help me kind of square that circle? 'Cause you're telling me that it is a high white blood cell count-

Dr. Thomas Lewis
Oh no, it can be low. For COVID, Mass General, the Chinese, a lot of others have caught onto this, they're looking for lymphocyte apnea, so low lymphocyte counts. And if your neutrophils are normal 'cause you don't have a bacterial thing going on, everything's copacetic there, then when your lymphocytes are lowered by the virus, then your white blood cells total comes down, there's no question about it. And I think the IFM and others are very good with antiviral protocols with quercetin, zinc, vitamin D, NAC, the usual suspects, high dose vitamin C, Dr. Levi, all those things.

And ivermectin is now shown to be extraordinarily antiviral. At first, it was thought to be just an anti-parasitic, but you know frontline critical care doctors are leveraging that information that was published really, I'm not sure how far it goes back, but the papers I was reading when COVID came out on ivermectin like 20 years ago were showing it's broad spectrum antiviral properties. So yeah, if you're below, our range, the standard of care of 3,500 to 10,800 or 900, it may change, they usually get broader not narrower, unless they want to prescribe you a drug, then they'll narrow that range so you can prescribe it more.

But really your optimal range for a white blood cell count is 4,000 to 5,800, okay? But then you got to look at the ratios because if lymphocytes go down and neutrophils go up, your total white blood cell count still looks normal, but your lymphocytes are low. Okay, that's why use the neutrophil to lymphocyte ratio. So when a white blood cell count is normal but I know there's something going on because the person tells me this, they have arthritis, they have brain fog, they have whatever, then I look at the neutrophil to lymphocyte ratio and then look at the individual. Like if your neutrophil percent is above 58%, something's going on. If your lymphocytes are below 1,000, something's going on and it's not, and it's usually a low grade.

But the thing is, Heather, I do this for my participants. This is the standard of care. I take this pen and I stab the back of my hand and it's bloody, bruised and it's nasty. That's like my labs went way up, okay? But in chronic disease, all I'm doing is just rubbing gently. So how does this look in two months? It looks healed. If I'm rubbing 24/7 for two months, this is gonna be raw and bloody and I'm probably to the bone. This is what chronic disease is all about. But see, the pressure I put on is sort of a reflection of how high the labs are. They don't have to go very high to keep building. Like I'm not putting more pressure on it at the end of two months. Matter of fact, I'm putting less pressure on, yet it's still a nasty wound.

Dr. Heather Sandison, N.D.
So in kind of bringing this back to dementia, I appreciate that analogy 'cause I think that really well illustrates the difference between chronic versus acute disease and conventional medicine and really our society is set up as a whole to think about acute disease really pretty well, they do a good job. But when it comes to chronic infections, we only have soaring rates of incidents and so many people suffering without a ton of hope.

So I'm excited to have you continue sharing with our listeners what kinds of things they can be looking at? So what states of health and particular pathogens make people most vulnerable to early Alzheimer's?

Dr. Thomas Lewis
Well you know I think Dr. Trempe and I wrote, my mentor, wrote a paper that was published in "Frontiers Neuroscience Aging" called, "It's Never too Early and It's Never too Late to End the Epidemic of Alzheimer's" starting at pre-birth to when you actually have the disease. Depression is an early warning sign for Alzheimer's. People think that Alzheimer's patients get depressed. Actually, that's really not the case, it's that they had depression first and then they migrate into Alzheimer's. Any inflammatory marker is a risk factor for future Alzheimer's. So you've gotta be really, you've got to look at the brain as not being separate from the rest of the body and that any ill health that you have, if it's stays consistent even low grade can eventually manifest in the brain because the brain is so, it's so vascular. So it's breaking down and building up all the time. Let me just go over the three legs of the stool. So the first one is repair and recovery. We talked about that a little bit, nutrients and good absorption. The second one is really the inflammation, which inflammation's a treasure.

If you have inflammation, something's causing it. Okay and that's where we get to look at the chronic infection. And the work of Tanzi saying that these cortical cataracts, which are the Alzheimer's cataracts, that protein that is the cataract is actually an anti-microbial peptide. He published that information in PLOS in 2010. So the amyloid, which has been the target of the pharmaceutical industry in Alzheimer's for 30 years is actually trying to protect you, it's part of your innate immune response. but the brain is a little bit different than other parts of the body in this respect. And I'm a hockey player so I follow hockey players that had concussions. And some of them, they get concussed and they can't get back into the game. So what I like to say is like you slam into the boards with your elbow and your head and about the same force. Well, your elbow is probably okay to go in a couple of weeks or a month, but sometimes your brain's not good to go for a year. And the issue is, there's a brilliant paper by two Australians published in 2017, I'll read the title just for hehaws, but it's called "The Meteorology of cytokine storms and the clinical usefulness of this knowledge.

And then the key part of this paper that really helps understand it is how persistent cytokine storms were just inflammatory markers, elevated white blood cells, elevated neutrophil to lymphocyte ratio, elevated uric acid, suppressed white blood cell counts to your point as well, C-reactive protein, homocysteine, fibrinogen, usual suspects. But persistent cytokine storms in the ill brain. So there's something special, like someone gets traumatic brain injury and they're a vegetable, but if they bang their hip, their hip's gonna recover. There's something unique about it. And I was just on a call with an MD one hour ago, we were just musing over this 'cause she's worried about her mother and all this good stuff and I think that we're just set up, we're more vulnerable today for brain

inflammation because we are eating an inflammatory diet, most of our population, the omega-6, the bad fats, too many carbs. We're afraid of fish because of mercury. But I'm convinced that it's the omega-3s in fish and other anti-inflammatory foods that you have to have present all the time so when an event like a traumatic brain event occurs or something like Alzheimer's, you're there to quell the inflammatory storm in your brain. And then the other paper, I'm just looking off to my other screen, but it's really important, Dr. Trempe and I wrote this in our Alzheimer's book. The title of the paper by two Stanford researchers, three of 'em, pardon me, "Inflammatory Blockade Restores Adult Hippocampal Neurogenesis." So what I did in the paper and the book really is broke that paper down and put it into layperson's language. And I'll just break the title down. "Inflammatory Blockade", in other words, you're stopping inflammation.

That could be stopping the infection, anti-inflammatory diet, you know, things of that nature, "Restores Adult Hippocampal", brain, "Neuro", neuron genesis, "Genesis", the genesis of new neurons. Your brain is like humans. We don't send babies to war. Babies are stem cells. Your brain doesn't activate stem cell activity when your brain is under an inflammatory assault. So the only pathway you have is degeneration. So good nutrition, identifying and stopping the source, the infection, for example, but then you've got to downregulate inflammation. You know, it's just like in COVID. They say the cytokine storm kills you. It's a combination. It's a chicken and the egg. But let's say the infection's gone, if the cytokines are up at a certain level, you've gone over the hump and there's no going back. And in the brain, it's the same thing but it's not so dramatic as it is in say something like COVID-19.

Dr. Heather Sandison, N.D.
Right. So this is a very hopeful message because there's a greater understanding and also it's very consistent with what we heard from Dr. Bredesen, that it's a multifactorial, multifocal landscape of, I'm starting to think of it as the dementia verse, right this universe of dementia. And there's a problem scape or there's a landscape by which someone can come to dementia, come to have dementia. And how we unravel that is not going to be a one size fits all here's a drug, whether it's a 90 year pill or what have you, it's going to look like that. It's going to look like assessing in a much more holistic view what all is going on and then plugging the holes or, there's lots of different analogies that are used for this, but basically making sure that all of the things that are influencing poor health are addressed, even if we've come to think of them as being pretty removed from dementia, things like dental work or like you've mentioned, eye health, joint health, all of these things are clues that there might be something out of balance that's contributing to that dementia. So I'm curious from your perspective what the treatments look like for Alzheimer's, I think I'm sort of alluding to what I'm hoping you'll say, and then why so many have failed?

Dr. Thomas Lewis
You know why they've failed, if you look at pharma 'cause they've gone after the wrong target. And the next big thing five to eight years ago was the hypophosphorylization of tau. But we wrote in our book in 2011 those are gonna fail and they did because Alzheimer's is really a hypoxic state, lack of oxygen state, as you alluded to Heather, in tissue, and in this case, in the brain. And it's interesting that animals that hibernate hyperphosphorolate their tau and then when they come out of hibernation, they dehyperphosphorylate it. So hyperphosphorylated tau is obviously some sort of a hypoxic protective mechanism. That's why those have failed. The amyloid anti-microbial peptide as elucidated by Harvard. So there's an infectious process going on. That's why those fail.

Now I don't claim to say that treating an Alzheimer's sufferer is an easy task when they're already in the state of cognitive impairment because if you go to Mass General and get an MRI with mild cognitive impairment, you already have 17% brain shrinkage. So the process is already ongoing. So what we do is, Dr. Bredesen's wife is a functional doctor, really his book is all about functional medicine, extraordinarily important, start with the mouth, I think it's overlooked, oral DNA test, we do that.

Cone beam, looking for cavitations where you've had wisdom teeth, looking for pockets, root canals have got to go. I know it's an emotional and instructional issue but the oral DNA test or other tests for oral pathogens are extremely important. And there's things you can do in the oral cavity. We blog on this all the time, we're fanatical about something as simple as do you clean your toothbrush after you've pulled pathogens onto your toothbrush before you brush the next time and you reintroduce them? It gets that basic.

Dr. Heather Sandison, N.D.
Yeah so what do you recommend? Do you like put it in hydrogen peroxide or what do you do?

Dr. Thomas Lewis
Anything. I'm a lazy chemist. And so I just have a glass of salt water and there's salt at the bottom. That means the solution above is completely saturated. It's like the Great Salt Lake or the Dead Sea, nothing lives in it. And I actually had one of my participants is a ventilation engineer and he tested this and he found no pathogens. So I just throw my toothbrush back into the salt water every night. And it softens the toothbrush so I'm not brushing aggressively. But I think water flossing is more important. Now you hear Tom Levy talk about hydrogen peroxide. You have an oral microbiome, so what I do with the, I actually use povidone iodine. I'll do an iodine water floss just once a week, just once a week to keep things down. But God, so many people don't appreciate the gut continuum. They say, "Oh a little constipation once in awhile." On the continuum, where do symptoms emerge? Like in diabetes, we have a little bit better understanding of continuum. At A1-C, it's 6.1, then at 6.5, you're diabetic.

Well, you're way up the continuum already before conventional medicine diagnosis you with a condition. I would argue that in gut, if you are not completely regular, you are in the middle of that continuum and you have work to do. We blogged a husband and wife team out of Stanford, showed very clearly that over generations, we've lost at least 50% of the diversity of our microbiome. And that's what's doing all the work in our immune system breaking down foods. Minerals are the hardest to absorb.

You've got to have strong acids. If you're ever on a Tums or even have a, even if you eat, "Well I only have reflux when I have Mexican food.", no, you're up on the reflux continuum, you are not optimal, we need to move you back down if you're talking about something as serious as a brain disease, thyroid, things of that nature, sleep hygiene, these are the basic things.

But at the end of the day, I truly heart-to-heart and my research shows it that these subacute infections have taken hold. So now we have to get aggressive with really strong supplementation, you know the oregano oils, the Biocidins, the herbals, the medicinals. When I did a study in a corporation, I had 100 people that I had carte blanched to do any testing that I want. And I showed that when they had, they had every kind of condition, they were every age, from polychondritis to Parkinson's. And when they had a chronic bacterial infection, they had comorbid virals. So everybody should be on a viral protocol, everybody.

Dr. Heather Sandison, N.D.
And what does a viral protocol look like to you?

Dr. Thomas Lewis
So a viral protocol is periodically doing the Tom Levy high dose vitamin C recommendations and other people's recommendations, doing quercetin and zinc, if you don't do it every day all the time, then you do a a month long type protocol, vitamin D, you need to be up at 55, 80 nanograms per milliliter, you need to get that up as well. I recommend prophylactic. I had a talk with Mark Hyman's old partner back at Canyon Ranch, Mark Liponis, we had a round table and we all agreed that we would do an anti-parasitic cleanse every five years or so. And the herbals work, but Ivermectin is superior and now we know it's anti-viral. So prophylactically, do some Ivermectin. And what I recommend is not the antiparasitic, you know, two doses, we do five or six doses and then every other week for a year.

You check your white blood cell counts though and see if they're coming up to the right level. So that's really what we're doing, medicinal mushrooms, Dr. Austin on my team is an expert, he goes out foraging for mushrooms, fungi every weekend.

And so he has a variety of medicinal concoctions of the mushroom ilk. And IFM included that in their list of antiviral protocols. But I tell you the single thing that I'm bullish on, and Dr. Carter and I created a very lengthy video on this, is cod liver oil. And I was on Mercola, Mercola and I debated this a little bit, but I'm not gonna, I hail to Joe, so it's like I let that slide. But I'll give you an example, in 1848 in British hospitals, there was an epidemic of consumption, which is tuberculosis so bad they're coughing up blood, they're on death's door and giving high dose cod liver oil with a vitamin A, the vitamin D and other fat-soluble nutrients that fish oil doesn't have and krill oil doesn't have reduced mortality by 50%. And it's well-published and we have it on our YouTube channel at Healthy Revival Partners.

So it's very profound what cod liver oil can do. And if you worry about cod liver oil, what I do is I do a simple thing, the same thing I do with probiotics. I rotate them. Weston A Price Foundation, I think the brand is Rosita. Then there's Green Pastures, then there's Carlson's, then there's Nordic Naturals, then there's Garden of Life. So all I do is I have one of each and I just rotate through 'em. And my secret number based on Thomas Postal's work in, famous physician from Britain in the 1800s is 15 grams a day, that's 15 capsules. And nobody wants to take 15 pills. So I take half a shot glass of cod liver oil and just shoot it every evening. Me, I

eat a lot of fish, so I may be lying if I say I do it every evening, but I'll eat fish twice today. So I feel like my brain anti-inflammatory terrain is well established and consistently refurbished. And I think that's the thing. Chronic disease, I say it's all about knowledge and consistency. And my biggest problem is denial. When someone says, "Ah, I just have a little of this." No, it's not a little, it's real. In the traditional medical world, it's just a little bit, they'll write it off, say you're paranoid or it's nothing. Within the functional world, we need to express to people that the mildest of symptoms, if it wasn't a one-off, even if it's monthly, you are not optimal. In today's toxic world, you only have one choice to stave off chronic disease and live to 100 and fall off the cliff rather than sliding down that slippery slope.

And that is you need to bring everything into optimal. Now I will tell you that Dr. Trempe's protocol for glaucoma and Alzheimer's, which we use now, and Dr. Carter on my team is reticent to do this, so he'll do a more fully functional approach, but we use antibiotics. And I mentioned earlier that a lot of functional treatments don't work.

Why? Even Ken Stahl, I think he's a brilliant doctor, he has the highest pressure hyperbaric oxygen chamber in the country, but these organisms in their stealth phase are refractory to that. So you have to treat these organisms long-term because yeah they may be 10% active, the other 90% are hiding and they're waiting to come out when they see an opportunistic moment.

So if you keep a pharmacologically relevant dosage of whatever your anti-infective is, that's what you must do. So if you get on the Bredesen protocol or our protocol or a functional protocol and after four months, you're saying, "I'm not seeing results", you've got to stick with it. It's the only way to overcome these chronic things. Acute things come on quickly and if you don't die from 'em, they go away quickly. Chronic things come on slowly and they hang in there. I try to explain like in nature, everything follows an asymptote. What I mean by that is we're hardwired to say, if I do one thing, I get results. If I do this thing, I get another result. But in fact, everything follows a bell curve. Going into disease, oh, I feel pretty good, I feel pretty good. And then all of a sudden, you hit this inflection, the bell curve, and then you feel crappy. But it matriculated for 10 years, 20 years. Getting out of it's the same thing. Oh, I don't see any results, doc, I don't see any results. We find that the, it's at least five months to a true health inflection. And I see so many people, it's like oh that functional doctor didn't work for me, now I'm trying this functional doctor. No, you got to give chronic protocols a chance to take hold.

Dr. Heather Sandison, N.D.
So what are the big pathogens that you think, you mentioned Chlamydia pneumoniae and periodontal pathogens like P. gingivalis, are there others that really stand out?

Dr. Thomas Lewis
Yeah well I think Lyme disease and all the coinfections, Bartonella, alychia, things of that nature, labisia. We look at the so-called, there's so many comorbidities. So we look at what I call the usual suspects of Chlamydia pneumoniae, mycoplasm pneumonia, We look at H. pylori in the blood, not in the stool, because it will disrupt the gut, which then affects the brain, the enteric nervous system. We'll look at Rickettsial disease, Rickettsial typhi, Rickettsial rickettsia, Rickettsial conorii, Rocky mountain spotted fever.

They're much more common than people think. I was doing testing up at a company in Indiana, I live in Tennessee. And the Tennessee Department of Health called me up because someone in Indiana was positive for Rocky mountain spotted fever. But I tried to explain to the health department, it's like the reason why you're not seeing a lot of Rocky mountain spotted fever is who's testing for it? I mean have you had a Rocky mountain spotted fever test?

Dr. Heather Sandison, N.D.
No, I've never been tested for that. Most people have not.

Dr. Thomas Lewis
Exactly, exactly. And then the other thing is everybody will tell you, you do a food sensitivity test, it's IgG. Then when an IgG test for Chlamydia pneumoniae comes back elevated, every doctor in the world will tell you that's a historic infection. No, it's a stealth infection. It's a reticulate body infection. It's inside the cell in a biofilm infection. And Ewald talks about this, in these Koch's postulates for testing for pathogenicity. But the chronic infections do not comply with Koch. I mean he was back in the 1800s. Brilliant guy, he was trendsetting in terms of this, but you can't culture Chlamydia pneumoniae. So right away, Koch's postulates are thrown off. But when we treat and just test IgG and the IgG is up, first of all, why is it considered elevated even by LabCorp? Then when we treat, it goes down.
If it was historic, why would treatment knock down the IgG titer?

Dr. Heather Sandison, N.D.
So let's talk a little bit about this because there is an alternative explanation, right? That it is a resolved infection and that this isn't a representation of your immune memory. This is like what might happen after a vaccination, that your IgG would be elevated, IgM would be normal. So what you're suggesting is that there's a different explanation.

Dr. Thomas Lewis
Never, that is not true. I will stand on that like we better say 98% 'cause I'm sure there are circumstances, but if Chlamydia pneumoniae, we'll just pick on that organism, was positive IgM at one point, we probably won't catch that just because of the crypticity, the timing, when were you exposed, all that stuff.

Stratton's work is beyond reproach. These, just like the Herpes zoster can reactivate, they live intracellularly, they are like hobos holding up where they can undiscovered waiting for an opportunity. And there's no question, I would like to ask any doctor that has posited this that has a patient with an elevated IgG and treats them and the IgM is negative and they have symptoms and the symptoms get better and the IgG come down to explain that to me.

Dr. Heather Sandison, N.D.
Right.

Dr. Thomas Lewis
There's only so many explanations. I'll give you an example. So Dr. Trempe years and years ago told me this and I corroborated the research. So ophthalmologists and optometrists can see a Toxoplasma, Toxoplasma gondii, I forgot to mention that, very important intracellular parasite. Kitty litter, worry about pregnant women being exposed to it because Toxoplasma gondii in the placenta can affect fetal brain development. Well, it can also affect brain development in an immunocompromised individual, much like Alzheimer's. But getting into the IgG, IgM discussion, so a toxo scar can show up in the eye, very characteristic, doesn't always so it's not truly diagnostic for Toxoplasma gondii infection in the eye, but it is a signature. So you run the labs, IgG positive, IgM negative. You can extract, surgically extract that scar and put it into culture and guess what it grows?

Dr. Heather Sandison, N.D.
Toxoplasmosis.

Dr. Thomas Lewis
Mmhmm.

Dr. Heather Sandison, N.D.
Wow.

Dr. Thomas Lewis
So you know I think-

Dr. Heather Sandison, N.D.
Sneaky, sneaky.

Dr. Thomas Lewis
I run this health ministry and I always start off every session with where did you learn that? And so some things become urban legend or just become part of our culture and we're not questioning and titrating back. So in this paper that I really need to publish but I haven't figured out how because it's like 25,000 words and the reason why it's 25,000 words, usually they'd only accept the 5,000, 10,000 max, maybe even 4,000, is because I need to explain IgG IgM before I can go into this. So I have reference after reference after reference explaining that an IgG titer is real. And Dr. Trempe in 2000 said, "I don't run IgM anymore. It's a waste of my patient's money 'cause a lot of times I can't justify insurance for these tests in glaucoma or macular disease." So that's where I stand on it.

Dr. Heather Sandison, N.D.
It's a whole new way of thinking about it. Or maybe I guess I like to think that the well-meaning instructors that I had who are pointing to this interpretation, that there's probably some places where they're right, right where there are times when IgG represents what we've been trained and IgM represents a current infection. But certainly this alternative explanation for it opens up a window where people who aren't getting the help they need can be treated right? And it's using readily available, relatively inexpensive tools to test. And I think that's one of the themes of your talk here is that there are readily available, relatively inexpensive tools and if we interpret them in a way that's helpful, and we use that to make decisions and to start treatment, then we can get really amazing outcomes.

Dr. Thomas Lewis
You can. And I have videos posted that I kind of hold close to the vest 'cause a lot of people do not want their Alzheimer's videos, but we had an 84 gentlemen year old gentleman that was nothing short of the vegetable that we reversed. So these are not common things, but once again, a lot of people don't have the staying power, particularly older folks. But let me give you one other food for thought in terms of this whole IgG, IgM thing, when you die, you are no longer exposed to the environment, so you no longer have exposure, yet you start decomposing from within.

And what Ewald says very clearly in his book is they're already there. He was making a different reference. He's talking about plagues and we've been exposed to everything. So that's why he says, he didn't really say this, but you can infer from what he said that this SARS-CoV-2 is novel, very novel, 'cause we've been exposed to everything, the world is global. But his point's well taken. They're already within. And so the difference between you decomposing when you die and you not now is that when you die, your immune system is zero so everything lying in wait now has nothing holding them back. You know, it's no different than the gut. When you start losing stomach acid, all the pathogenic organisms start proliferating and the beneficial organisms are flagging because they've adapted to strong acid.

Dr. Heather Sandison, N.D.
Right acid is certainly a line of defense, a very necessary one. Dr. Lewis, it has been so insightful, so wonderful to have you. I know you have so much more to share, but I do have to wrap up and I want to make sure that everyone who is listening and watching knows how to find out more from you because you just have a wealth of information to share. And again, these alternative kind of interpretations that they may not seen elsewhere that I think is something that will prevent suffering for many people. So I'm really excited to get this information out and want to make sure that I stop babbling in time for you to tell everyone where they can learn more.

Dr. Thomas Lewis
Well so we run two websites, but I really want people just to come to one. We run two so people don't get confused. It's like, oh, I have Alzheimer's, why am I going to a chronic disease site? But our real site is Health Revival Partners with an S, Health Revival Partners. And that's where you want to work with us, and what I'd suggest is if you've been through treatment with Alzheimer's and you haven't got the results you want, I think we can add some intel into that. And the other thing is, most importantly, I want people to get pretreated before they have symptoms. And that's where eye testing might be just the right thing to convince them that there's a neurodegenerative process going on. So once again, this all happens on healthrevivalpartners.com.

Dr. Heather Sandison, N.D.
Thank you so much, super important, especially, not even maybe pre-symptomatic, but early symptoms, right?

Dr. Thomas Lewis
Oh yeah, the earlier, the better.

Dr. Heather Sandison, N.D.
Yeah, the earlier the better. So if there is a family history, if there's any reason to think that you might be predisposed towards dementia, get this information sooner rather than later, so we can start acting now. It is so much easier to prevent than to treat and certainly so much easier to treat when it's early than when it is late stage. So get the help that you need, your loved one needs, visit Dr. Lewis's website and look at the show notes, you'll be linked there and thank you so much for joining us.

Dr. Thomas Lewis
Thank you very much, Heather. Pleasure.

Dr. Heather Sandison, N.D.
Be well.