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## **Mold and Lyme Disease**

Guest: Dr. Raj Patel

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**Dr. Davidson:** Hello! This is Dr. Jay Davidson from [DrJayDavidson.com](http://DrJayDavidson.com). I'm excited to welcome you to this very special segment of the Chronic Lyme Disease Summit. According to the CDC, there are more people affected with Lyme disease each year than breast cancer. That's including invasive and non-invasive together. Today, my special guest is Dr. Raj Patel. And we're going to explore mold and Lyme disease along with some other things. But before we do, a little bit about Dr. Patel.

Dr. Raj Patel is trained in various natural therapies, including nutritional medicine, homeopathy, herbs, and mind-body medicine. Integrating these diverse therapies with allopathic Western medicine when appropriate has enabled Dr. Patel to offer a highly-refined approach to healthcare that produces lasting results.

Since 1993, Dr. Patel has specialized in helping patients suffering from chronic fatigue, candidiasis, food sensitivities, thyroid, and other hormonal imbalances, chronic infections, and heavy metals are just some of the many conditions that he frequently looks for the root cause of chronic fatigue.

Over the years, Dr. Patel has specialized in treating patients with autistic spectrum disorders, ASD, as well as Lyme and other tick-borne diseases. He began working with autistic children in 1999, and to date, has helped over 500 children on the road to recovery. Dr. Patel also works with other childhood development conditions, like ADD/ADHD, OCD, and developmental



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delay. He's an active member of the Defeat Autism Now group, DAN. Another area that Dr. Patel specializes in is trying Lyme disease. It is well-documented that patients with chronic Lyme disease also suffer from candida, food sensitivities, accumulation of heavy metals, and hormonal imbalances.

With his background in treating these conditions, Dr. Patel has been able to create a comprehensive program in treating chronic Lyme sufferers. He has found incredible success in treating individuals with chronic Lyme disease by combining antibiotic treatment with heavy metal detoxification, food allergy desensitization, and hormonal support. Dr. Patel is an active member of the International Lyme and Associated Diseases Society, the ILADS, and has also completed advanced training in pediatric Lyme disease.

Dr. Raj Patel received a master's degree in physiology and received his medical degree from Rutgers Medical School in New Jersey. Thereafter, he finished a 3-year residency and became board-certified in family medicine. Dr. Patel subsequently worked a large, multi-specialty medical group in southern California, delivering the full-spectrum healthcare.

In '93, Dr. Raj Patel moved to San Francisco Bay area to become the medical director of Woodside Family Health Center. Here, he began to integrate his knowledge of natural therapies into his medical practice. Dr. Patel also has over 20 years of experience in meditation and dream work. These and other tools of mind-body medicine have become valuable for Dr. Patel in helping people gain a deeper understanding of their health issues. Dr. Patel, I want to welcome you to the Chronic Lyme Disease Summit!

**Dr. Patel:** Hi, Jay. It's wonderful to be here.

**Dr. Davidson:** Well, it is just an honor to be interviewing you, somebody that comes so highly recommended for not only your knowledge and expertise but honestly the results that you've really delivered for people that have been suffering from so many different ailments, obviously one of them including



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Lyme disease. But one of the things that I wanted to talk to you about today was mold. Can you dive into mold illness and explain what that is?

**Dr. Patel:** Sure. Absolutely. This is a fairly new conditions that's come on the horizon. Over the last 10, 15 years, doctors have slowly started becoming more aware of this. Basically, mold illness is an uncontrolled inflammatory response when an individual is residing or spends a significant amount of time in a water-damaged building, whether it's at work or at home.

What happens in certain individuals that are genetically susceptible, they start getting this inflammatory response, which over time starts damaging the hypothalamus in the brain. It results in endocrine and immune compromise and can result in a wide variety of symptoms, ranging from cognitive impairment, severe fatigue, gastrointestinal disturbances with leaky gut syndrome, food sensitivities, joint pains, light sensitivities. It's a huge range of symptoms. And it's really a severe, systemic condition that can result in severe impairment.

**Dr. Davidson:** Wow! So when you're looking at mold, mold is a biotoxin, it just means basically a living, produces living toxin, just like Lyme disease, what symptoms would we look for with somebody with mold illness per se versus Lyme or when they have both? I mean, what do you see clinically?

**Dr. Patel:** Well, actually, one of the things that I really feel is being missed out there among many physicians that treat Lyme is that when an individual has concurrent mold illness, because the symptoms are so similar, it's very difficult based on a history to be able to separate the two out, whether the person truly has Lyme or whether they truly have mold illness, or whether they have a combination of both.

What I'd like to maybe explore a little bit further is some of the labs that are available that can be used to help both the patient and their health practitioner try to separate and tease these two conditions apart to figure out



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what's really happening because the symptoms are just so similar.

**Dr. Davidson:** Okay. Yeah, that would be great if you can go into some lab work.

**Dr. Patel:** So basically, what I want to highlight is several things. One of the lab tests that we use pretty routinely is C4a. C4a is a cytokine marker of inflammation involving the innate immune system. And we typically will run the C4a through Qwest Laboratories or one of the other labs that sends their blood samples to National Jewish in Colorado.

Now, a normal C4a is up to about 2,800. And both Lyme and mold will cause elevations in C4a. The difference is that when you see a very high C4a that's significantly above 10,000, you really have to suspect mold. Now, there may be Lyme concurrently going on, but Lyme rarely will take the C4a by itself above that marker. So that could be one tip-off, if someone has a very high C4a.

The other test that we will do when we're not sure is something called serial C4a testing. And what this involves is basically giving an individual first a baseline lab test. And if that comes back less than 10,000, but let's say you're still suspecting mold, what we'll do is we'll give the patient some cholestyramine. This is an old, old medication that's been around for a long time that's historically been used to lower cholesterol.

What it does is that it binds to these mold toxins in the gut and prevents them from getting reabsorbed. So it becomes a way for these individuals to excrete these toxins through their GI tract. And as the cholestyramine binds and removes these from the body, over time, over a matter of a few weeks, the C4a marker starts to come down.

So after about four weeks of high-dose cholestyramine, which is typically about one scoop, four times a day, we'll repeat the C4a again. And usually, in



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individuals that have either a mold component or have primarily mold illness, the C4a will drop dramatically. And then after that, we'll have them stay in their house for five days. And they're allowed to go outdoors. But they are specifically instructed to stay away from other buildings completely. Even a five-minute trip to Costco or in a Wal-Mart or someplace, if it's moldy, will interfere with these results.

So on the fifth day with no cholestyramine, we'll repeat the C4a again. If they're living in a water-damaged home, the C4a will go up because they are going to have this inflammatory response start to kick in again. So that can give you a pretty good idea, not only whether the person's living in a moldy environment, but also whether they're having this inflammatory response to mold.

**Dr. Davidson:** Wow, that's just excellent. So the C4a is a blood test that you can run. Now, I always heard that National Jewish Laboratory was the most accurate, but I didn't believe that Qwest actually uses that laboratory in Colorado.

**Dr. Patel:** Yeah, they exclusively will send all of their C4a's to National Jewish. The other laboratory in our area is BioReference Laboratories. So individuals out there throughout the US can contact some of the local laboratories to find out who is processing their C4a.

**Dr. Davidson:** Okay, so C4a, just for clarification, that's a biotoxin marker. So if somebody has Lyme or mold or both, then you would see that C4a number increase?

**Dr. Patel:** That's correct.

**Dr. Davidson:** And when you were saying greater than 10,000 is very suspecting of mold as being a piece to the puzzle.



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**Dr. Patel:** That's correct. And I should also mention for the sake of completeness, the other condition I find that will cause very high C4a's above 10,000 is if there's chronic viral reactivation because of immune compromise.

**Dr. Davidson:** Wow, that's really great information. And then the cholestyramine, which has classically been known to be a cholesterol-lowering medication, it binds basically the mold biotoxin in the bile to excrete it, to pull it out.

So if you're doing a serial C4a testing where you give them cholestyramine and then you monitor the tests, and you see that go down on the subsequent C4a, that means that they did have mold exposure, but they're not necessarily living in mold?

**Dr. Patel:** You can comment on this. Since you are using the cholestyramine, it will bring it down.

**Dr. Davidson:** Yeah. So if somebody has mold toxicity and their C4a is high, you take cholestyramine, it'll drop that C4a. But you were saying that if somebody's actually living in a moldy environment and you start taking cholestyramine, binding the mold, that it can actually increase that C4a?

**Dr. Patel:** Well, what'll happen is that you do a baseline C4a. Then for the next four weeks, you have them take the high-dose cholestyramine. And then on the end of the fourth week, you repeat the C4a. And technically, that should come down.

And then five days later, just staying in their house, if the third C4a on day five off cholestyramine goes shooting back up, then that gives you the evidence that they have mold in their home. And the second C4a dropping after the first one with the high-dose cholestyramine basically tells you that there's a mold illness component.



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**Dr. Davidson:** Okay. So if somebody is suffering from a mold illness, let's say they run the C4a and they figure out, "Okay, I have mold illness." What can people or patients do for the mold illness component?

**Dr. Patel:** Well, I would strongly recommend that if they have identified that there is a mold illness component that they find a health practitioner or doctor that has a certain amount of experience.

Now, I've learned a lot about mold illness through Dr. Shoemaker, who's a physician out on the east coast who's done a tremendous amount of research in this field over the last 15-plus years. So if you go on his website, [SurvivingMold.com](http://SurvivingMold.com), there is actually a list of physicians who have been certified and have spent enough time learning about this condition that they will be able to offer the patients the right approach that seems to work. Yes.

**Dr. Davidson:** Dr. Shoemaker, he really led the whole mold education and knowledge base. And I believe even on their website, they have the visual contrast sensitivity test online, as well, too.

**Dr. Patel:** That's correct. And you know what? You could also use a VCS test also in conjunction with the C4a because you'll see that same type of change with the eye exam. It'll be abnormal initially. It'll improve with the high-dose cholestyramine. Then it'll get worse again after five days of exposure.

**Dr. Davidson:** Okay. So the VCS, the visual contrast sensitivity, you can do that either online, or you can actually do the physical one. Do you do the physical one in your office?

**Dr. Patel:** Yes, I do.

**Dr. Davidson:** Okay. And I think as a clinician, I think that physical one's a little bit more accurate because the computer one, you can cheat and get closer to the screen. So I do like that physical one. If a doctor does have that, I



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really love that. But basically, my understanding of the VCS test is that it tests the contrast basically of grays, essentially and that mold exposure to the optic nerve cause inflammation. Then, you have a hard time basically seeing that contrast difference. Is that the basic understanding of it?

**Dr. Patel:** Yes. Exactly. And just note that both Lyme and mold illness, both of them, will cause an abnormal VCS. So what you're looking at with this little challenge is actually changes in the VCS, watching it improve with the cholestyramine and then get worse again.

**Dr. Davidson:** Do you have any recommendations if somebody's dealing with mold or suspecting mold, especially in their house? Because I see so many people that live in a house that is very musty, mildew, definitely suspecting mold. But it seems hard for people to just up and leave. So they always want to try to clean it up. Do you have any recommendations about if somebody actually has mold in their house?

**Dr. Patel:** That's one of the hardest conversations that I have with my patients is that once we've made the diagnosis of mold illness, once we've proven that they are reacting to their home, it's a difficult conversation because it can potentially get very expensive. The patient may not have a place to go.

But if you look at the 11-step protocol that has been designed by Dr. Shoemaker, the very first step, which is the hardest step, is removing exposure. And I know a number of people have tried different things from essential oils to air filters to you name it.

And it really depends on how bad the situation is. If there's a significant amount of moisture damage in the home and they've had multiple leaks, it's really hard because remember these patients have become hyperreactive. The more they have been exposed to mold over time, their immune system starts reacting faster. And the reactions are more severe to smaller and smaller exposures.



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In someone that is in, what I would say fully activated, with this mold or inflammatory response, they have to be in an absolutely impeccably clean environment in order for them to get well. It's going to be very hard.

**Dr. Davidson:** Is a big piece of them having to be in a very clean, impeccable environment, mold-free, just to allow that hyper response that their body's in from constant exposure where you said it keeps getting worse, to just start letting it calm down?

**Dr. Patel:** Absolutely. Because without controlling that inflammation, you're not going to make any progress. If you're trying to treat Lyme and you've got this massive inflammatory response occurring, I don't care what you use, you're going to be spinning your wheels.

And I can't tell you how many patients I've seen who have gone through 5, 10 different doctors and been treated aggressively with antibiotics, both oral and IV. And they're either worse off when they started, or they may have mild improvements. But for the amount of work that they have done, they're just not going to get fully, completely recovered until that mold piece has been addressed.

**Dr. Davidson:** I have to ask you a question. My mind keeps thinking, "How many people are living in mold or are going into buildings, whether they work in buildings or maybe shopping, retail stores that they visit frequently that have mold damage, what would you say the percent of people are really exposed to mold at unhealthy levels?" And then, I also have to ask a second question is of that percentage, how many people actually exhibit symptoms and others that'll just be asymptomatic for such a long time?

**Dr. Patel:** Those are very good questions. So first and foremost, I want to make it very clear that people get sick from mold exposure and develop mold illness, really it's a small percentage of the population, typically about one in four in the general population are genetically susceptible. So that's the part of



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the population that's going to be at risk. Now, you've got to take it one step further. Just because you have the genetic susceptibility doesn't mean that you're going to get sick. It really requires another independent hit to the immune system, whether it's Lyme or something else.

So most people, even if they're genetically susceptible, if they're healthy, can go into moldy environments and have no problems. And as far as the other question you mentioned, most buildings, and I would say easily over half of the offices and stores and public buildings, have some degree of moisture damage, but it doesn't affect the majority of the people. It's only those that have gotten their inflammatory pathways primed that are going to start to feel sick when they go into these places.

**Dr. Davidson:** Okay. And the genetic susceptibility, you said one in four, so that would be basically 25% of individuals, which seems to be a huge number to have a genetic, is that the HLA-DR gene? Or, is that a different-

**Dr. Patel:** That's right. Yeah, it's HLA-DRB1, DRB3, 4, 5, and DQ. So these are three separate genes. I think they're located on chromosome six, if I remember right, and certain combinations of those three genes is what has been associated with having this increased likelihood.

**Dr. Davidson:** I'm thinking of so many questions just based on what you've said so far, Dr. Patel. What would get classified when you mentioned "hits," where it's like priming that inflammation pathway to start going where you're more susceptible to having like a mold over-the-bucket-flowing type thing? What would be classified in hits? You said Lyme disease would be one of them?

**Dr. Patel:** Lyme would be one of them. If someone has major surgery, if someone's going through an extremely stressful period of a long period of time, anything that would potentially affect the integrity of the immune system and cause some degree of immune compromise.



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**Dr. Davidson:** Okay. That makes total sense, too, Dr. Patel. I'll speak from my wife's own circumstance. There was a couple times where the Lyme re-emerged before she's really completely recovered. One was mold exposure in my apartment and then emotional trauma at the same time. That seemed to set her in a tail-spin, which mold being a part of that. And then, the second time was after the birth of our child. And obviously, there's a lot of physical trauma. So all those-

**Dr. Patel:** That's right.

**Dr. Davidson:** All those could basically be hits, too-

**Dr. Patel:** That makes total sense.

**Dr. Davidson:** That would make sense, too, why, yeah, just some of the clients that I work with, the situation that they went through, and then all of a sudden, boom, they've really hit that.

So I have to ask a question, too, about looking at mold in a house, is there an ideal method or a method you prefer to try to identify is there mold in a house? Because, I'll say personally, we bought our house about four or five years ago. And what we did, we hired a "mold-tester." And they basically had a Petri dish that was attached to a suction device. They suctioned the air outside the house and then a few different areas in the house. And then they sent it into a lab to be analyzed for mold to look at the difference between indoor versus outdoor spores. What's your feeling on that test, or just looking at mold in a house?

**Dr. Patel:** Air sampling is a useful tool. But unfortunately, a lot of "mold experts" simply rely on that. And it's just not enough. And there's a number of reasons why. Certain species of mold like aspergillus and penicillium tend to become airborne very easily. So those mold toxins will show up on an air sample quite easily. Other types of toxic mold that can be found in water-



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damaged buildings tend to be more sticky.

When you look at toxins from a stachybotrys, it doesn't become airborne as easily. So there's some variations there. And then when you're looking at a Petri dish and trying to grow mold, some species of mold will grow more easily, so you have this competitive inhibition, which will then prevent some of the other species that don't grow as fast from showing up.

So if you're going to have a mold expert to come in, you really want to make sure that they know their stuff well. And they're going to be doing not just air samples, but they should be doing ERMI testing where they collect a sample of dust and have it analyzed for the presence of fungal DNA. They should also be doing an exhaustive inspection of the house, looking at the attic, looking under the house, in the crawl-space, anywhere that they can find any potential signs of moisture damage that might be visible.

Other things that they can do is they can use a moisture meter and look for the presence of moisture behind a wall. So there's a number of different tests that these individuals can do. And if you find the right person, you're going to see that they're going to be doing an exhaustive evaluation of the house. And in those situations, most of the times, they can find it. But I tell you, this is a real art. I've seen some of the best people out there miss mold.

**Dr. Davidson:** Wow! It reminds me almost of clinically diagnosing Lyme, that you have to take into account so many different clinical pieces, not only lab tests but examination history.

**Dr. Patel:** Yep, yeah.

**Dr. Davidson:** Like what they're doing with the house.

**Dr. Patel:** My recommendation for most people if they're looking to rent or buy a house is to do an ERMI test. If you do it right, it's not perfect, and it does



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miss certain things. But I think if you were to look at any single test, the ERMI's the easiest and the most cost-effective.

**Dr. Davidson:** Great. What a good recommendation. So I'm in Milwaukee, Wisconsin, is where I reside, the Midwestern. But I have some colleagues in Charlotte, North Carolina. And there are some mold experts that actually utilize mold dogs to sniff. I have yet to locate anyone in my area. But have you ever heard of that or have any experience in that category?

**Dr. Patel:** I've heard about it. But it's a fascinating idea. And I haven't had any personal experience. I do have a number of patients who've become hyper-reactive who do a pretty good job when they walk into a building. They know right away, within seconds, if it's moldy or not.

**Dr. Davidson:** I would agree. I have a friend that, he lived in a house in Iowa. And all of a sudden, he got sick. His wife got sick. His daughter got sick. Come to find out the previous owner was known as the crazy guy on the block. He would mow his lawn at two or three a.m. in the morning. People just thought he was nuts. They discovered black mold behind the cinder block of their house. So that was what's making him sick.

And he was correlating that to the previous owner, which he found out after he had bought the house. But after that exposure, any time I'm at a seminar with him, he'll walk in a room, sniff, and he'll know instantly, mold or not-mold, just from...I think people develop such an amazing ability that have been exposed to it.

**Dr. Patel:** Yeah, they're basically experiencing this inflammatory response, which kicks in very rapidly when they're in a water-damaged environment. And they can feel it. Their whole body starts to react.

**Dr. Davidson:** That just makes so much sense. So getting into treatment. You talked about cholestyramine. What are some things that you like to



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recommend to your patients in-house? What are some at-home recommendations, I guess, that you would have for mold and Lyme?

**Dr. Patel:** Jay, before we jump to that, there's one other piece of information I'd like to share with the people out there. And this is a fairly new test that can help in making the diagnosis of mold illness. And that's basically running an MRI of the brain without contrast with a NeuroQuant analysis.

What Dr. Shoemaker has found is that there are very specific changes that happen in these individuals that have had this chronic inflammatory response from mold. Certain parts of the brain will enlarge, and other parts tend to shrink and atrophy. And when you run this NeuroQuant analysis on an MRI, if you see those changes, it's like a unique fingerprint that will tell you that the individual is suffering from mold.

**Dr. Davidson:** Wow! What cutting-edge testing. How long has that been available or known for the mold pattern?

**Dr. Patel:** It's been around for, I'm guessing, a couple of years. And I started using it about eight to nine months ago. And I have found it to be an absolute invaluable tool because so many times when patients have both mold and Lyme, and especially when a patient is faced with making some potentially very life-disruptive and potentially expensive changes in their life by moving or selling their house, you want to provide, as a physician, I feel obligated that I need to provide them with as much proof as I can.

And while the serial C4a testing is very useful, certainly having an MRI with the documented changes in the brain can help individuals understand the potential seriousness of this illness and its effects.

**Dr. Davidson:** Just fantastic. Yeah, I would agree. You have to show them testing results that would reflect or things that would reflect that in order to really change the mind of that patient to know they have to... Like you said



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one of the toughest things is just removing the exposure sometimes or dealing with the house mold.

**Dr. Patel:** That's correct.

**Dr. Davidson:** So getting into treatment, what have you found to be effective with mold and Lyme disease patients?

**Dr. Patel:** So what I do with these individuals is follow a little four-step program. And I find that if I don't do it in the right sequence, things just don't work. So the first step, as I've mentioned, is eliminating exposure. So once you've helped your patient find a safe sanctuary where they're not being exposed to mold, the next step, obviously with the cholestyramine, is to reduce inflammation.

And once inflammation comes down, many individuals, not everyone, but many, will see subjective improvements in their symptoms immediately. The third step is to look for the presence of MARCONS. And this is multiple antibiotic-resistant coagulase-negative staph. Okay, it's a mouthful. But basically, it colonizes in the nasal passages.

But what happens is that in these individuals, the staph happens to be resistant to two or more antibiotics. This staph will then start producing certain compounds called hemolysins, which degrade circulating melanocyte-stimulating hormone. And then, that then further aggravates this whole mold illness with all the symptoms and everything because it's basically compromising the hypothalamic function.

So we'll basically do a swab for the nose, look for it. And if it's there, we will go after it with a nasal antibiotic solution. Once the MARCONS has been eradicated, then, and only then, do I start to go after the Lyme and the associated co-infections. And I find that when I do it in that order, the Lyme treatment is so much easier and so much faster.



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**Dr. Davidson:** Wow! So your four-step approach is basically eliminate exposure. So if somebody's in a moldy environment, remove themselves from that and stay in a very clean, non-moldy environment. The second step you said was reducing inflammation, which the cholestyramine would fit into that category. The third one was running tests for the staph of the nasal passages, MARCONS. And that's just a swab that you would swab in your nose, send into the lab, and they would tell you?

**Dr. Patel:** That's correct. You have to make sure, though, that you go fairly deep.

**Dr. Davidson:** Okay. So putting the swab way up the nasal passage.

**Dr. Patel:** That's correct.

**Dr. Davidson:** Okay. And then the fourth, if they test positive for that, then you would go after that, like you said, before you even touch the Lyme, which is in the fourth step.

**Dr. Patel:** That's correct.

**Dr. Davidson:** Wow! So what's interesting, it seems like the human mind is, if you find out you have Lyme, you want to go after that. But that's the fourth step in your four steps. Like, there's three things before that to deal with even before you get to Lyme.

**Dr. Patel:** Yeah. These patients, Jay, are so, so compromised. Their adrenal function is down. Their melatonin production has been depleted. So they're not sleeping well. They've got massive gut inflammation, which aggravates... That everything that they eat, they react to.

Their bodies are seriously compromised and going in there with heavy-duty antibiotics or even herbs... Some of the herbal blends that we now have for



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Lyme and co-infections are very potent. And if you don't prepare the body and address inflammation first, these patients many times will get worse.

**Dr. Davidson:** Yes, I would absolutely, absolutely agree. So when you analyze a patient, you take them through your four-step approach, what do you find in their recovery? Like, what's the timeframe? What do you see as a clinician?

**Dr. Patel:** Once they've done the first three steps okay—they've eliminated the exposure, we've reduced inflammation, and the MARCONS, and now we're ready to start treating the Lyme and the co-infections—typically, I tell my patients you're looking at roughly about two years.

And the main reason for this is that the average Lyme patient will have about seven different infections. It could include parasites. It could include obviously Lyme and other tick-borne infections. It can include viruses that have become more active because of immune compromise. So to address all of these different conditions in the face of immune compromise, two years is a reasonable timeframe.

But one of the things I always tell my patients is that you should be able to look back every couple of months and say, "I'm feeling better now than I did two or three months ago." And as long as you can keep saying that, you know that you're on an upward trajectory in terms of your treatment and that you're continuing to improve.

**Dr. Davidson:** So the two years was basically for step four. Once you get through the first three steps, you get to the Lyme step, then you're saying typically about two years based on the average person having about seven infections?

**Dr. Patel:** Yeah. Now, one of the keys that I always use is their genetic testing. And remember the lab test that we talked about with the HLA?

**Dr. Davidson:** Yes.



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**Dr. Patel:** Okay. So there are certain combinations with those three HLA genes that make people most susceptible, but then there's other combinations that make people Lyme-susceptible. And then, there's still other combinations that make people what we call "multi-susceptible," which makes them susceptible to both mold and Lyme.

What is fascinating, and I've seen this consistently over and over again, is that if someone is purely mold-susceptible, okay, so they only have mold-susceptible genes or non-susceptible genes, they do not have any Lyme-susceptible genes, they do not have any multi-susceptible genes, in these individuals, okay, once you've done step one, two, and three, and you're ready to treat the Lyme and the co-infections, these people recover very fast. And typically, in about six to eight months, they're done. Whereas, the patients that are Lyme-susceptible or multi-susceptible, they typically take about two years on the average.

**Dr. Davidson:** That makes sense. Is there a laboratory that you favor for looking at the HLA genes and the genome that relates to that?

**Dr. Patel:** Most of the laboratories will run those. We typically use LabCorp in our office.

**Dr. Davidson:** Okay. Great. And before we did this interview, you had mentioned VIP to me. Can you explain what is VIP?

**Dr. Patel:** VIP is the final, fifth step. And this is for very important patients. Okay. It's really what it stands for is vasoactive intestinal peptide. And this is absolutely amazing because what I find consistently, whether a patient has severe chronic Lyme disease or whether they have severe chronic mold illness or they have both, once you've eradicated the Lyme or you've removed them from the moldy environment and they've done the cholestyramine, these patients do not get completely well. Even after you've gotten rid of all of the bugs, they have maybe recovered about 70%. That 30% is still elusive. It's missing.



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And the reason is because there is this massive amount of damage that's been left behind by the inflammation from both mold and Lyme. And in order to repair that damage, that's where the VIP comes in. And what it is, the VIP is produced by the hypothalamus. It's a neuroregulatory hormone in the sense that when your body actually will start producing more VIP to help stimulate repair. But its ability to produce more VIP gets compromised over time in the presence of uncontrolled inflammation from mold and Lyme.

So once all of these steps have been done and the person's been properly prepared, we'll put them on VIP. And what VIP does is it will start to reverse this hypothalamic damage. So melanocyte-stimulating hormone, which is one of the key hormones produced by the hypothalamus, starts being raised by the VIP.

And as MSH levels start climbing, the body starts producing more melatonin, so the individual starts sleeping the way they're supposed to, normally. VIP also has a number of other effects. It helps to down-regulate aromatase, which then helps in normalizing the levels of testosterone. It helps in correcting T regulator cells, which is one of the key switches causing inflammation in the body.

So as you start correcting the levels of T reg cells, inflammation starts getting properly managed. A lot of the inflammation in the gut that's been resulting in food sensitivity starts healing. The gut lining actually starts healing. It's absolutely remarkable.

A number of other markers...Now, VEGF levels start to climb, which allows more oxygen to the muscles, so people can start working out normally like they used to. There's just so many beneficial effects. When I've looked at VIP, it actually helps stimulate and kicks in hundreds and hundreds of gene systems that are involved in repair and restoration.

So over a period of about four to six months as people are treated with VIP,



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they are able to start regaining that 30%. And many times, patients are, by the time they're done with VIP, they feel better than they've felt in years and years.

And the other critical piece that VIP will do is that it will start reversing this hyper-reactivity that our mold patients have. So that way someone that couldn't step into a water-damaged building in the past because they would start reacting within minutes, can now go in and maybe go to a restaurant that might happen to have a little bit of mold, and they can have a meal and have no problems, or go to a movie theater and watch a movie for two or three hours and have no problems. So this has really, really been remarkable.

**Dr. Davidson:** Wow! So just to clarify. I'm trying to process the VIP, the vasoactive intestinal peptide, is that something that is basically produced and then that leads to inflammation that's really left behind from the mold and Lyme, or VIP is more of a treatment step?

**Dr. Patel:** VIP is more of a treatment step. And what happens is the hypothalamus makes VIP and MSH.

**Dr. Davidson:** Okay.

**Dr. Patel:** And its ability to synthesize these hormones is compromised from the inflammation.

**Dr. Davidson:** Got you. So in other words, treatment focusing on the HPA axis or the hypothalamus can benefit the MSH hormone along with the VIP hormone.

**Dr. Patel:** That's correct.

**Dr. Davidson:** Ah, okay. And that would make sense, too, because so many people that I find with Lyme or mold or both have hormonal issues, so this



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would be the component to help with hormones, as well, too?

**Dr. Patel:** That's correct. Absolutely.

**Dr. Davidson:** It's all making sense. So it's not really a four-step approach, you've got a five-step secret approach.

**Dr. Patel:** We kept that secret fifth step.

**Dr. Davidson:** That is just fantastic.

**Dr. Patel:** I joke around with my patients because I tell them, I go, "By the time you're done with VIP, you're going to be knocking off about 15 years if not more from your life. And you're going to see how you used to feel. You're going to be able to regain that level of vitality."

**Dr. Davidson:** That would be fitting, then, too for the "very important patient" category.

**Dr. Patel:** That's right.

**Dr. Davidson:** They're getting that fifth step. As we're closing up this interview, Dr. Patel, do you have any things about Lyme or mold, maybe some things at home or some misconceptions that you just want to touch on to make sure that our listeners know about? Your five-step approach is just absolutely phenomenal.

**Dr. Patel:** Yeah, I think that the biggest message I want to put out there to both health practitioners and patients alike is that look for this inflammation, address the inflammation, get the C4a done. You need to get it down to around maybe 5,000-6,000, maybe 7,000 max. And if you're hovering significantly above that, there is inflammation that needs to be addressed first and foremost.



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**Dr. Davidson:** Excellent advice, Dr. Patel. I want to thank you so much for taking time out of your very full schedule that I know you have for allowing me to interview you for the Chronic Lyme Disease Summit.

**Dr. Patel:** Thank you, Jay. I've enjoyed being here.

**Dr. Davidson:** Well, as you've heard from Dr. Raj Patel, mold and Lyme seem to coexist. And there's many pieces to it. So definitely get educated, definitely find somebody that knows their stuff that can really help. And it's important with Lyme disease and other mysterious illnesses that we look at the body as a whole, holistically. And Lyme is more than just a tick bite.

So definitely take this life-saving, life-transforming information home with you by clicking on the banner beside or below and definitely share this with your friends and loved ones. If you're seeing a practitioner, definitely let them know that mold might be a possibility, as well, too, or have them look into it for you as Dr. Raj Patel went through.

And don't forget to visit his website. Dr. Raj Patel's website is [DrRajPatel.net](http://DrRajPatel.net). You will not be disappointed. Maximum blessings. This is Dr. Jay Davidson.



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