

# **The Inflammation Equation**

**Dr. Tom O'Bryan, DC**



## The Inflammation Equation

**David Stouder:** Welcome to the Humanize podcast—it's all about personalizing your health. I'm your fill-in host today, Dave Stouder. Rebekah Kelly should be back next time. Our topic today is “The Inflammation Equation” with Dr. Tom O'Bryan. Now, I want to say right at the beginning here, that's not just the title of this interview; this is going to be an event. It's a free event and it's going to be a life-changing event. And, please stay tuned, because we're going to give you all the information you need to participate. Because if you go into health-food stores, everybody's talking about inflammation. And if you want to really understand it, well, you can listen to our interview, but you need to see “The Inflammation Equation.”

Now, before I introduce Dr. Tom, I do want to remind everybody to subscribe to the Humanized Health Podcast. We've got all kinds of great thought leaders in the world of natural health. You can get the videos, just the audio if that suits you, even transcriptions. There's a whole library out there, and it's free. We certainly want to thank Village Green Apothecary, our lead sponsor. And by the way, to get to all that content, visit [HumanizedHealth.com](http://HumanizedHealth.com).

Now, Dr. Tom O'Bryan is a pretty amazing fellow. I don't mean to embarrass him, but the first interview we had a while back, which you can find there, I learned a whole lot. And it's not that I ever think I can't learn something, but I've been in the business a long time and I learned some really exciting things from him, which is one reason why I'm so looking forward to “The Inflammation Equation”. But he is a recognized world expert on gluten and its impact on health. He's an internationally recognized and sought after speaker and workshop leader, specializing in complications of: non-celiac gluten sensitivity, celiac disease and the development of autoimmune diseases as they occur inside and outside of the intestines.

Now, I want to start by sharing a quote with you that I saved, and, believe it or not, it was from an article about inflammation. It was a cover article, Time or Newsweek, when they used to be magazines. But, the whole quote out of it was, “*Inflammation is the engine that drives all chronic diseases.*” Would you agree with that? Would you say it's a fair statement?

**Tom O'Bryan:** Yeah, it's an accurate statement. The Center for Disease Control tells us that 14 of the top 15 causes of death in the world today are chronic inflammatory diseases. It's always inflammation, always, and it just depends on your genetics and your antecedents, which is a geek word that means *how you live your life*.

You know, if you eat tuna fish two, three times a week, you likely have mercury toxicity because almost all the tuna is high in mercury. So, that's an antecedent. So it's the antecedents and genetics that determine where is the weak link in your chain. You know, you pull at a chain, it always breaks at the weakest link. It's at one end, the middle, the other end. It's your heart, your brain, your liver, your kidneys. It just depends on where your weak link is. But the pull on the chain is always inflammation. Without exception. You can't show me a disease that is not an inflammatory disease. So, what is inflammation?

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It's your immune system fighting really hard— "you know, Mrs. Patient, your immune system is just the armed forces in your body. It's the Army, the Navy, the Air Force, the Marines. We call them IgA, IgG, IgE, IgM, cytokines. They're just the armed forces there to protect you." So when they are excessively being expressed, the question is, what are they trying to protect you from?

So, it's extremely rare that your immune system is going crazy. It's extremely common that your immune system is fighting much harder than it's supposed to. So it's the world that we're living in that's activating our internal defense system, our armed forces, trying to protect us from pesticides, insecticides, particulate matter in the air from diesels, from the freeways, you know, the list goes on and on.

Now we have a new one. That just a few weeks ago, David, you probably heard. Study came out, they developed new technologies, some laser, microlaser technology. And the average is 246,000 particles of nanoplastic in a liter of water. In a liter bottle of plastic water, there's 246,000 nanoparticles. So we've heard of microplastics. This is nanoplastics, much, much smaller. And it's this toxic world we're living in that our immune systems are trying so hard to protect us from.

**David Stouder:** Now, I'm sure, you'll get into this and we'll talk about "The Inflammation Equation," I want you to describe it. But, two things: many people say, well, I don't have inflammation because I'm not sore anywhere. My joints don't hurt..."

**Tom O'Bryan:** I will give you \$500 if you do the right tests and you have no inflammation. Everyone, because we all have this chronic inflammatory state, that while we feel fine, it's like one day you hear your neighbor didn't wake up or your 44-year-old neighbor dropped of a heart attack. Or your 52-year-old friend, who's really healthy and takes care of herself, just got diagnosed with stage 4 cancer. Really? You think it just happened a week before they were diagnosed? It's been going on for years, this chronic inflammation.

That's what the inflammation equation is about, is that we have this inflammation that we don't know is in our body. But it's this excessive inflammatory state that's going on under the surface that causes collateral damage around the inflammation. And that collateral damage is damaging tissue, and it continues to damage tissue while you feel fine, until the tissue is so damaged, the tissue can't function correctly anymore. Whether it is a joint being lubricated properly, or a hormone that's not being produced, or a neurotransmitter—a brain hormone that's out of balance now and here comes depression, or here comes arthritis, or here comes psoriasis. But this damage is going on under the surface, causing dysfunction, which eventually causes dis-ease, which eventually causes disease. And then, we get diagnosed with the disease, and then we think, we just developed this disease, what do I take for the symptoms of the disease? And we have to reframe how we think about this to understand.

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You know, the example I gave— I was on stage in India last weekend and the example I gave of the center that the event was held is a beautiful center, this lovely long driveway to enter that had beautiful palm trees on both sides. You know, the landscaping was spectacular as you're being welcomed to come into the place. And what if the groundskeeper was taking one tablespoon of gasoline and putting it around the base of the palm trees? Doesn't make a difference, you know, and he goes down to every palm tree. One tablespoon of gasoline, one tablespoon, just once a week, a tablespoon of gasoline. What happens in a year of a tablespoon-a-week?

So that's 52 tablespoons of gasoline around there. Well, you start to alter the soil quite a bit. And then what about in the next year? And then what about in the next year? So what about 246,000 nanoparticles of plastic that we're drinking into our body when we drink bottled water? What about that? You think that's inert? It doesn't have an accumulative effect? No, no, no.

Let me give you an example of this because it's just so startling. Chicago. 2016. 346 pregnant women in the eighth month of pregnancy, and they did urine tests on them to measure how many phthalates did they have in their urine. (Phthalates are chemicals used to mold plastic.) And they looked at five, there are many phthalates, they just looked at five, and one of them being BPA, the one most of us have heard about. And they took the results and they categorized the women into fourths, the lowest amount, the next, the third and the highest. Then, they followed the offspring of those pregnancies and when the children turned seven-years-old, they did Wechsler IQ tests on all these kids. Wechsler is the official IQ test. Now, there's not much in medicine that's all or every. This was every! Every child whose mother was in the highest category of phthalates in urine in pregnancy, compared to the children whose mothers were in the lowest quartile, every child in the highest quartile, their IQ was seven points lower than the kids in the lowest quartile of plastics in urine in pregnancy. Seven points. And that doesn't mean anything to anyone. Until you know that a one point difference in IQ is noticeable, a seven point difference in IQ is a difference between a child working really hard, getting straight A's in school, and a child working really hard, really working it, getting straight C's.

That this child doesn't have a chance in hell of ever excelling. Then you just go to Google and type in phthalates and neurogenesis, new nerve cell growth. Here come the studies, the higher the phthalate level, the more inhibition in brain cells and nerve cells in growing. So mom, who was high in pregnancy with phthalates, baby was swimming in a toxic soup in the amniotic fluid. And mom was fine, there was no complications of pregnancy. Everything looked good, right? And it was a healthy birth and baby looks okay. But you see these subtle changes that are noticeable when you do the right kinds of measurements. And that's a great example of our lifestyles today and the environments that unfortunately we live in today.

We think, and you know this, indoor air pollution is much worse than outdoor air pollution in most places. Say, "Well, my air is fine in my house. There's nothing in my air." Really? Really?

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Have you ever seen the sun rays, sunlight coming through the window at that right angle and you see the dust in the air? That's what you're breathing. And that dust is full of phthalates and formaldehydes from the ceiling tiles or flame retardant chemicals from the sofa or from the bedsheets on your bed. And those flame retardant chemicals outgas tiny little amounts of these chemicals that you can't see them, you can't smell them, you can't taste them, but they accumulate in your body over the years as what happened for these moms who had high levels of phthalates in their bodies.

You know, you put nail polish on and the phthalates in the nail polish is what makes the polish hardened. The phthalates are in your bloodstream in four to five minutes. Now, there's no evidence that the amount of phthalates that leach into your bloodstream is toxic to humans. Absolutely no evidence from nail polish. Minute amounts, hard to measure. But these things are accumulative in the body. So, give me a five year old girl that paints her ten little fingers and ten little toes once a week for twenty-five years. Now she's thirty years old, wants to get pregnant, gets pregnant, hopefully has a healthy pregnancy and a healthy delivery, everything's great. But then, seven-years-old baby's brain is not working that great and they measure it because mom was high in phthalates in her body. It's this accumulative effect that we have to address.

**David Stouder:** I want everyone to realize that our guest, Dr. Tom O'Bryan, just talked pretty stunning results on just one environmental toxin, and there's thousands. Now, the interesting thing, I'm making an assumption by seeing that the trailer— and I want to start talking about “The Inflammation Equation” — that a lot of what you do, a lot of people think, “Oh, inflammation. Okay, I should take some fish oil. I'll take some turmeric...” And that's fine. But, I think you're focusing on understanding our lifestyle, the food we eat, whether it's processed or not, how it's done. So now “The Inflammation Equation” is a series of informative, in a sense, movies we can watch online. Tell us about it and when we can see it.

**Tom O'Bryan:** Yeah, you bet. I just like to tweak a little of what you just said about taking some fish oils or turmeric and it's fine. The problem is it's not getting the job done. People still have all of this inflammation, but our doctors have not done tests to look at this low-grade chronic inflammation that's under the surface.

David Furman is at the Buck Institute of Aging. And you may remember Dr. Roy Walford, who did the Biosphere experiments?

**David Stouder:** Oh yeah, yeah, yeah.

**Tom O'Bryan:** Yes, right. David Furman was a senior graduate student on the outside monitoring all of that for two years. So his entire career has been about aging and anti-aging. He published a paper— imagine three gears. One gear, the teeth of one gear are interconnecting with the second gear, and then there's a third gear, and the teeth are connecting to the second



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gear. So, the three are connected. On the left side of this drawing, is the factors in our lifestyle from chronic infections, doesn't matter if they're bacterial or viral, just chronic infections, physical inactivity, obesity, dysbiosis, which means too many bad guys and not enough good guys in your gut, the food selections we make, accumulative stress hormones in our body, not really good rejuvenative sleep, and the accumulation of xenobiotics chemicals in our body.

So each of the gears is one of those lifestyle habits. And so imagine that gear on the left, it turns, that gear in the middle, that also starts turning, is your immune system response to these things. And that's systemic chronic inflammation. That your immune system— Mrs. Patient, your immune system is just the armed forces in your body. It's the Army, the Navy, the Air Force, the Marines. We call them IgA, IgG, IgE, IgM, cytokines. They're just different branches of the armed forces designed to protect you. So when you have chronic infections, if that's turning your wheel on the left, then the immune system responds, which the wheel in the middle turns, making a response to try to calm down the infection. And that turns the wheel on the right. And the wheel on the right is non-alcoholic fatty liver disease, type 2 diabetes, cardiovascular disease, cancer, depression, anxiety, autoimmune diseases, sarcopenia, osteoporosis, neurodegenerative disease— it doesn't matter. This is the mechanism in the development of every chronic disease.

And this comes from David Furman who has a contract with NASA to figure out why are the astronauts aging so quickly in space. Because it's impossible for a human to go to Mars. They'll die on the way, you know, it's about a two year trip, but they'll die on the way of old-age. And Furman's group has figured out what it is – it's accelerated inflammation. And so they're moving from that perspective. How can we help minimize the inflammation?

So he's been doing so much of the research on the impact of inflammation. So he did this basic diagram, and when you look at it, it's like, "Oh, that makes sense." That just makes sense that when there's too much of the wrong kind of thing coming into my body, whether it's stress hormones or too much of the wrong kinds of foods, that activates my immune system trying to protect me, trying to protect me from something, which then, when it gets excessive amounts of inflammation, you get collateral damage. The collateral damage causes dysfunction, that causes dis-ease, that causes disease. It's a step-by-step process that's all mapped out in the science. It's really clear. But, and all of our doctors, if they listen to this, they go, "Yeah, yeah, that's true. Alright, so I'll give the patient something for the inflammation."

No! You have to address the gasoline that's being thrown on the fire. You know, of course, you want to take something to reduce the symptoms. You have high blood pressure, of course you take the medication, but you also address "why do I have high blood pressure?" Right?

**David Stouder:** Thank you. Thank you. Well, and that's what I mean, I think, but I got— that you've laid out and I think anyone who thinks, and I'm not against taking fish or turmeric, et cetera, but anyone who thinks that all this is going to go away, just because you take good amount of fish oil, it's not a bad strategy to assist, but I think when we watch "The

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Inflammation Equation," I'm assuming we're going to really get an understanding of all of those things you mentioned in our environment. The toxins, the stress hormones, all the things we do that spin that gear that, that caused the process— And now when is this going to start? And again, is this free?

**Tom O'Bryan:** It's all free, it's all free. It starts March the 20th and it'll be evergreen, which means it'll be able to be viewed forever after that. Let me give you an example. My friend, good friend of many, many years, we're on faculty together at the Institute for Functional Medicine, Dr. Patrick Hanaway. Patrick, he helped found the Cleveland Clinic Center for Functional Medicine, which there's so much we could say about that, but for now— Patrick was diagnosed about, I think it was six years ago now, with stage four throat cancer. And so in my interview with Patrick for the "Inflammation Equation," I said, "Patrick, you have been a pioneer and a leader in the world of functional medicine longer than me, you know? I mean, we've been at this for a while, but you've been at it longer, on stage doing this than I was. What did you miss?"

And he looked at me. "How did you develop stage four cancer? What did you miss?" And he just looked and he smiled and said, "Well, no one's ever asked me that, but that's a really good question." Because Patrick eats organic. Patrick does the right kind of things, and he shares his story about how he thought that he could just push and push and push and push. And he said something really interesting. He said, "You know, if they had told me I had stage one, or maybe even stage two, I pretty much would have ignored it. You know, I would have done a number of things, of course, but I wouldn't stop in my tracks. But, stage four, there's no arguing, I would be dead in a year if I didn't reevaluate my entire life and my entire lifestyle. And I was pushing way too hard, and the stress hormones were the fuel on the fire that manifested for me as throat cancer."

I mean, it's that kind of profound information that you get. You know I'll tell you another one. Fran Drescher...

**David Stouder:** The Nanny.

**Tom O'Bryan:** Yeah. Fran, and I interviewed— and I said to Fran, "What is it that you're not saying to us?" And she looked at me, you know— because Fran founded Cancer Schmancer, and it's a great, great organization. Isn't that great?

**David Stouder:** Yes, that's Fran. I don't know her, but that sounds like Fran.

**Tom O'Bryan:** Right, right. It's a great organization, and I speak at her event every year. But I said, what is it you're not saying, Fran? And she said, "Someone broke into my house and raped me. I didn't tell anybody, and I went to work the next day. Within a year and a half, I developed

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a hormone related cancer." You must deal with your emotions. You must deal with the very crap in your life that eats away at you, or it will eat you away.

That's the kind of stuff that you're going to get! It's like, what? What? And then we're going to talk about, what do you do about this stuff? How do you find out if that information relates to me every day? It'll be one hour a day for eight or nine days. We're not sure yet on the last day.

**David Stouder:** And then, but again, people can register and it's free?

**Tom O'Bryan:** It's free. It's all free. Yeah. And then there'll be a 15-minute discussion at the end of each day, myself and my partner, Tom Malterre. And we said, "Can you believe when Dr. Jeff Bland said this, and then Fran Drescher said that, wow, well, that meant that, well, well, so what do we do about that? Well, let's talk about how do you clean the air in your home."

Well, NASA did the studies that show house plants absorb 74 percent of the toxins in the air. And then here's the handout for how houseplants, which houseplants do that. And so it's going to be an implementable experience for people. We're not crying wolf. We are crying wolf – it's like, wake up world, wake up. But then we're talking about. How do you put the wolf at bay?

**David Stouder:** And that's what I want people to get. We probably, as we wrap this up, we probably got enough information to sort of get us like, "Oh, my God, you know, what should I do?" And that's the point. If you want to know what to do about this, because we touched on 2 or 3 specific things, but there are many teeth on those gears that get this inflammation equation turning. And if you'll participate in this event, again, you're going to learn practical things you can do. And it's not about supplements, not that they can't help, but you need to understand that it's the lifestyle. It's the things around you. It's the air you breathe, the water you drink, the foods you eat or don't eat. And I'm really excited about this. And I hope everybody will tune in.

We will give you, as we close up, some written information on here, so you can—I'm not going to give out the websites and have everybody forget it—but we're going to give you all the information you need to go on. You should watch the trailer like I did, register, and make some plans to be in front of your computer so that you can watch this. And, and Dr. Tom, first of all, thank you for, you know, participating in this. I'm sure there are a lot of other people that did hard work, but you have got your finger on like the big trigger of what's going on with our health and why we are aging so poorly. You know, we may live longer because of crisis and things. But, this is doing God's work.

**Tom O'Bryan:** Thank you, David. Thank you so much. May I give you one more point?

**David Stouder:** Absolutely.



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**Tom O'Bryan:** Thank you. And thank you for your kind words. That's really nice. Thank you.

There was an article in the New England Journal of Medicine in 2007 that rocked the world because it made us realize something that we don't think about, and that is the topic of network medicine.

You know, there's something called the FTO gene, Frank-Thomas-Oscar, FTO gene. And it's a gene of obesity. It's a common gene of obesity, and we get one from our mother, one from our father. And if you have one FTO gene, you have a 30 percent increased risk of developing obesity in your life. Okay, we know that. If you have two FTO genes, one from your mother, one from your father, you have a 67 percent increased risk of developing obesity in your life. Now that's really important to know because one sixth of the population of European descent has two FTO genes. So that means we're vulnerable to developing obesity. It doesn't mean you're going to get it, it means it's a weak link in your chain. But here's the kicker: If one friend became obese during a given time interval of being friends with another person, the other friend's chances of following suit and developing obesity was 171%. That's like, what?

Once again, if you have two genes, it was 61 percent increased risk of developing obesity. But if you're the friend of someone who develops obesity while you're friends, you have 171% increased risk of developing obesity. That's network medicine, that we're all intertwined together. So, when you register for this event, invite a friend who you feel close to or that you want to develop this exercise with, that you could talk to about what you heard that day.

Or maybe David, your group will want to have discussions every day or something, you know, where people can get together and talk. "Wow. You know, for me, that made a whole lot of sense because dot, dot, dot." "Oh, yeah, I felt that way too." You know, that when you have a friend and you're not trying to do something alone in terms of altering how you do everyday life. You're much more likely to be successful.

**David Stouder:** Just the fact that you're not even just identifying the problem, which of course is step one, but presenting solutions. Now, I do want to thank Dr. Tom for being on today. Now, his website is [www.thedr.com](http://www.thedr.com) – T-H-E-D-R. Let's make it simple.

Now go ahead and what is the website where people can register for "The Inflammation Equation"?

**Tom O'Bryan:** Right. It's [www.TheInflammationEquation.com](http://www.TheInflammationEquation.com).

**David Stouder:** Well, that's not hard, folks. I don't need to spell it out for you. But, I'll remind you again, go to [HumanizedHealth.Com](http://HumanizedHealth.Com) and get all of our content. And we appreciate you listening. This interview is a little longer, but it's important. And I think just from the little taste

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you got here from Dr. O'Bryan, you're going to want to watch "The Inflammation Equation." Dr. O'Bryan, thanks so much for being with us today.