A Grain of Truth: The Gluten Summit
Presenter: Dr. Rodney Ford, MD, MB, BS, FRACP

The Surprising Ways Gluten Sensitivity Can Affect a Child's Health

Dr. O'Bryan: Well, hello, everyone! Welcome to another edition of A Grain of Truth: The Gluten eSummit. And, it is my distinct pleasure and honor to welcome today a personal friend and one of my mentors in this field of gluten sensitivity and celiac disease, Dr. Rodney Ford.

Dr. Rodney Ford is a pediatrician, gastroenterologist, and allergist with more than 30 years of clinical experience. He is the director of the Children's Clinic and Allergy Center in Christchurch, New Zealand. Dr. Ford is Associate Professor at the University of Otago, Christchurch School of Medicine. He is a fellow of the Royal Australasian College of Physicians, and an accredited speaker member of the National Speakers Association of New Zealand. He is a pediatric expert on chronic health problems, food allergy, respiratory allergy, gluten sensitivity, celiac disease, and gastrointestinal problems.

Dr. Ford believes there is now evidence to demand massive changes to our diet, our farming practices, and food manufacturing industry, a view he has put forward in his most recent book *Gluten: ZERO Global*. He predicts that within another generation, gluten will be rejected by most reputable food processing companies.

Dr. Ford is a professional speaker and provides nutritional consulting services to organizations. He gives seminars and workshops on the value of excellent nutritional health, food allergy, eczema, and the gluten syndrome.

Dr. Ford, thank you very much for joining us today on the show!

Dr. Ford: My pleasure, Tom! Thank you for the invitation.

Dr. O'Bryan: Yes. Oh, my goodness, it's such an honor to be talking to you. We have shared the stage many times over the years. And, we're such a great team, a one-two team that I'm thrilled that our listeners will have the opportunity to hear your ideas and your thoughts today.

Dr. Ford: Yes.

Dr. O'Bryan: To begin with, can you tell us a little about how you came into recognizing that gluten can be a problem for patients?

Dr. Ford: Yes, thanks, Tom. A lot of people ask me that question, **[2:30]** why on earth I'm so focused on gluten rather than any other food? And, why should I recognize that gluten is an issue? Well, it really started when I started my pediatric career over 30 years ago. And, at that time I was very interested in food allergy because a lot of children were coming into the hospital with severe eczema. And, the parents were telling me that they thought their child was allergic to various foods, especially milk and eggs. And, I did a research study looking at that. And, I showed it to my colleagues and to New Zealand pediatricians that food allergy was an important factor in children's health.

And, as time went by and I began to get more interested in celiac disease, I obviously was organizing endoscopies and biopsies in children who we thought had celiac disease. I got to this group of children who had exactly what I would have called celiac disease. But, their biopsies were normal. And, then, when the gluten tests came in, the antigliadin antibodies came in, I began measuring this in all the children and found that these were high. And, so, I was the first person in the department to start putting children who did not have celiac disease on a gluten-free diet. And, they got better.

Dr. O'Bryan: And, when was that?

Dr. Ford: That was in 1990-something-or-other. It's about 20 years ago. And, really, putting these children gluten-free, my clinic was a great success. The parents and the children were doing a lot better. But, my colleagues were a little bit growly at me because they thought that I was putting these children through an ordeal unnecessarily because I was putting them gluten-free without having celiac disease.

But, in my clinic, if they only would come and have a look at these children, the children were happier on gluten-free because they were better. And, the parents were delighted that their child, after years and years of illness, was better. They were normal. They said that it was remarkable that they got their children back.

Dr. O'Bryan: Yes, yes! And, I forgot to mention in the introduction for all of our listeners two things. One, Dr. Ford is in New Zealand speaking to us today. And, it's the marvels of technology. And, two, this is the pioneer. Dr. Ford is the first physician and gastroenterologist that I know of that was talking about gluten-free, **[5:00]** non-celiac gluten sensitivity, before anyone else, 20 years ago. So, this is a pioneer. Dr. Ford, you are a pioneer. You've been on the front lines. And, you've been getting, to say kindly, a little bit of flack, from your peers for over 20 years now. What is it that has kept you moving forward with this message?

Dr. Ford: Well, what's kept me going, Tom, is two things. Maybe three things. The first thing is that I see results. And, when I'm in a clinic and a child comes in to see me and the parent comes in with distress, of course, because nobody wants to have a sick child, that my job, number one, is to solve that child's problem. So, when they come into my clinic, I say, "I'm Dr. Rodney Ford. I'm a pediatric gastroenterologist and allergist. And, my job is to solve your problem." And, so, that puts them in line.

It doesn't mean that I'm going to do an investigation, and if it's normal, send them home. My job is to solve the problem. And so, to solve the problem, you have to keep your mind open and not give people a disease label like irritable bowel or toddler diarrhea or functional pain or functional migraine or abdominal migraine or just a naughty boy or viral disease. All these sorts of terms, it's so easy to give a label and send them away from the clinic unsolved, but you feel good. You've done your job, I suppose, as somebody who's seen the child, given a diagnosis, and they've gone away. But, the child is still sick, and the parents are still upset. So, my job is to solve the problem. That was the first reason.

The second reason is that I've done food allergy for over 30 years. And, still, today, I hear parents come into my clinic. And, they say, "Dr. Such-and-Such does not believe that food allergy causes eczema or there is any link," or, "He doesn't believe that food allergy causes diarrhea or vomiting or reflux." And, so, for 30 years, I've had the children coming into my clinic with food allergy. And, the local medical practitioners do not believe it. So, I've been used to this.

And, the third thing is that the evidence is **[7:30]** so compelling to me with the gliadin tests, which I know aren't the best tests in the world, but it's the only tests that we've got in New Zealand to do the test. I find that anybody who's got a very high antigliadin antibody and has symptoms feels remarkably better on a gluten-free diet. So, I've got a great belief in myself that I am on the right path. And, my mission now is to tell people that what's happening in my clinic can happen in their clinic. And, the parents, if they go to my clinic, can get better, they should be able to go to other people's clinics and get better.

Dr. O'Bryan: Yes. So very well said. So, for all of our thousands of clinicians who are listening to this interview, when you see the results...And, if I can elaborate on what you just said, Dr. Ford, that if the immune system is saying, "There's a problem here," if there are elevated levels of antibodies to this peptide of gluten, then it's of value to just check it out. Give it a try. And see, do the children, do the patients, respond? So, is the immune system trying to give us a message here?

I refer to it as the hot light on the dashboard. And, are you going to see that there is a hot light on the dashboard? And, then, just pay some attention to it. I think that's a foundational component of how our clinicians need to look at these blood tests that are available to them anywhere in the world, whichever tests they have.

Dr. Ford: Yes. And, unfortunately, Tom, as you know, it's much more complicated than this because we don't have all the simple tests to work out all of the different ways that people react to gluten. And, I'm saying gluten. But, I probably mean the grains, the gluten grain protein. And, it may not be just gluten. There are other proteins and other chemicals in these wheats that we eat that can be detrimental. So, looking at the gluten side of things may only be looking at a small part of it. That's one of the problems.

And, the other thing that has interested me is that when I find people **[10:00]** who are quite critical of me putting children on a gluten-free diet, there are a couple of things. First of all, my experience is that the children and the families seldom find it a burden. They seldom find it difficult going gluten-free. In fact, they learn a huge amount about food. They read labels for the first time. They begin to understand what's in their food. They begin to eat more nutritious food. And, although it might be a bit more expensive, I say that good food is more expensive than bad food.

So, the whole business of going gluten-free is not such a biggie. And, often the gastroenterologists see it as the most difficult thing that they can ever ask someone to do. But, the parents adapt to it incredibly easily. And, that's important to me.

I also think that most children are never offered a gluten-free diet. That's the second thing because in my presentations to medical fraternity, the question I ask at the end is, "Could I have a show of hands for anybody who has ever put somebody on a gluten-free diet who has not got biopsy-proven celiac disease?" And, no hands go up.

And, I tell them, "How can you be critical of what I'm saying if you have never tried to put anybody on a gluten-free diet? You will never see the effect because people just don't drift into a gluten-free diet, because gluten is eaten every day by most people." So, what I'm asking these clinicians to do is to open their eyes and see whether or not a trial of gluten-free may be the thing that is missing from their armamentarium of clinical diagnoses because the blood tests themselves, although very helpful and give us the confidence to offer gluten-free, the actual real way to know if you're gluten intolerant or not is to go gluten-zero for at least three months.

Dr. O'Bryan: Yes! And, in my seminars to practitioners, our colleagues, I will often say to them, "Give this a try yourself. If you will do this, if you will commit to completely gluten-free for a minimum"--in this case, **[12:30]** I will say three weeks--"if you'll just give it three weeks, notice how you feel. Notice how you think. Notice the quality of your

sleep. Notice your vitality, your energy level. And, then, go out and have a pizza, which you may eat on occasion prior to this trial period, and, notice how you feel. If you notice a difference, would that not be convincing evidence that for some people, it may make the difference between health and disease?"

So, if we can get them to try it themselves...If they can try it themselves...And, then, the other part of what I will suggest, when you try it yourself and you have this experience, you may choose to go gluten-free or not. But, you now will have the experience that no one can argue with you, your body functions differently so that when you speak to your patients, they look in your eye and they see that you're speaking from a point of knowledge, that you've experience this for yourself.

Dr. Ford: Yes.

Dr. O'Bryan: Dr. Ford, can you give us some examples of the types of cases that you see in your practice every day where you may consider gluten sensitivity as being a contributing factor?

Dr. Ford: Yes, thanks, Tom. I'm always skeptical of my own diagnoses. I'm a skeptical person. In fact, I belong to the New Zealand Skeptics Society. And, I believe that we need to be data-driven. I'm an Associate Professor of Pediatrics, or was when I was with the Christchurch Hospital in the Department of Pediatrics, Associate Professor of Pediatrics. I've done a lot of work in a lot of different fields and a lot of statistical work. So, I'm data-driven.

Now, when people come into my clinic, I want to make sure that I give them data that I can rely on and they can see. And, I have a folder in front of me here which outlines some of the studies that I have done in children. And, I've got a paper here, "Symptoms of 644 Children with Gluten Sensitivity." And, this paper came from a sequential...children who come to my clinic, they are sick, tired, and grumpy. They've got sore tummies, acid reflux, migraine, other headaches, maybe vomiting, diarrhea, constipation, eczema, **[15:00]** rashes, urticaria, those sort of things. I'm a pediatric gastroenterologist and allergist, so people come in particularly with sore tummies.

And, we do their labs to make sure that they haven't got any underlying inflammation. And, if they need x-rays or imaging, that is done. And, we look to see if any of these people have got celiac disease. And, if they do with the elevated tissue markers of tTG, DGP, or EMA, if they've got those, obviously, we go down the celiac route. But, many, many of these children, of course, the majority don't have celiac disease. The majority have all their other tests normal. And, they do their gliadin tests. And, if they have high gliadin antibody tests, then we now offer them routinely a trial gluten-free.

And, I've been doing this for now over 10 years. And, I did a study looking at 644 children. They were sequential children who had high gliadin antibodies. And, they were all offered a gluten-free diet. And, most of them accepted that. And, most of them got better. And, I've got the list of their issues here. And, in gut symptoms, they have predominantly abdominal pain, gastroesophegeal reflux, diarrhea, and constipation.

Their behavior concerns, they were predominantly irritable children, tired, lethargic, lacking energy, and had poor sleep. Some were hyperactive and diagnosed already by attention deficit disorder or ADHD. Most of them have growth concerns, in their height, particularly. They don't get that thin. They often have a distended pot tummy. But, their linear growth, their height growth, is usually attenuated. And, they don't grow quite as fast. They might move about a centimeter a year in growth.

And, then, they have eczema, associated food allergies. And, many of them catch everything. They're run down. And, they just don't seem to immunologically respond properly to the bugs and viruses going around. They're always sick and missing school. So, that's the profile of those children.

Dr. O'Bryan: Well, that is the profile of any pediatrician's office. And, actually, any general practitioner's office, when children are brought in, those are the types of symptoms we see every day.

In your practice, **[17:30]** you have a pediatric practice, a pediatric gastroenterology practice, can you estimate for us what percentage of all of the people, all of the children that present to your office, clinically, what do you see in your practice as the percentage that may have a sensitivity to gluten in one form or another?

Dr. Ford: How many people come to my clinic with gluten sensitivity is a difficult question to ask because I'm now known throughout New Zealand and Australasia as The Gluten Doctor. [Laughs] So, lots of people came to me because they were already thought to be gluten-affected. But, the symptoms are so general: they're sick, tired, and grumpy. And, I estimate that a third of all people with chronic illnesses are gluten-affected. And, in my clinic, probably half or more of the children are affected.

I did a study looking at 2,000 children coming to my clinic who have had blood tests for antigliadin antibodies. And, 50% had elevated levels. And, we know that the test underestimates the gliadin reactions or the gluten reactions. And, what happens often in my clinic, because they come to me expecting me to diagnose them with a gluten-related disorder, I do their bloods. And, the blood tests here are done in batches. It may take a week or ten days before we get all the results back. And, so, I tell them, "You stay on your gluten diet until I contact you and tell you what your blood test results are like."

And, more than half the time when I ring up or talk to them later, they say, “But, Dr. Ford, I couldn’t wait. We’ve gone gluten-free. And, I feel amazingly much better,” or, “My child’s got better,” or, “The diarrhea has stopped.” And, many of the people who report that they have got better have negative blood tests for gliadin antibodies.

Dr. O’Bryan: Yes, that’s my next question to you is what percentage of those tests come back negative but the patients find out that they feel better on a gluten-free diet?

Dr. Ford: Well, I don’t have the actual numbers. And, the difficulty is this: because I’m data-driven, and everybody likes to test, anybody who’s got positive antigliadin **[20:00]** antibodies, I will suggest go gluten-free. Those who have negative tests, I now tell them, “The gliadin antibody test is not a particularly sensitive test. And, if it is negative, and you’ve got symptoms, and there’s no other explanation, I recommend that you go on a trial of gluten-free for the next three months.”

I tell them for three months because I want them to really understand it. I say, “You don’t have to do it overnight. You have to learn about. It’s going to take you a few weeks to understand where the gluten is. And, then, I’m going to see you in three months' time and see how you are.”

So, I now offer the idea of a gluten-zero diet to all patients who we don’t know what’s wrong with them. But, if they do have a test showing high gliadin antibodies, then, at least, they’ve got something on paper that they can believe in, just like when we see people with celiac disease. And, I’m seeing children with celiac disease every week or two. When they come in and they’ve got the high blood tests, we usually still do a confirmatory endoscopy biopsy test, so that they do have a piece of paper saying that they’ve got villous atrophy. People like to have the test results.

And, so, when you’re dealing with people on a trial, then it’s more tricky to get them to be compliant because they don’t have a test result confirming that they have a disease. So, that is why I like to do the tests because you could argue, well, people coming into the clinic, “Go gluten-free. See how you feel.” But, I don’t think it’s as simple as that. There are other diseases. Not every disease is gluten, by all means. And, we do need to be sure that we are diagnosing significant illness if these children have it.

Dr. O’Bryan: Well, that’s a position of approaching patients that comes with a great deal of wisdom: rational and a sequential order of how to guide patients forward. It’s very good advice for all of our clinicians to consider an approach like that.

And, for our listeners, we’ve heard Dr. Fasano from Massachusetts General Hospital at Harvard--who is the Chair of Pediatric Gastroenterology--tell us that no human can digest gluten, and that it will cause transient intestinal **[22:30]** permeability in everyone.

But, the intestines will heal within 3 to 5 hours. Yet, at some point, they cross over when the level of damage overtakes the body's ability to heal from that damage. And, they develop permanent intestinal permeability.

So, we know that there are occasions when blood tests will come back negative, even the more sophisticated blood tests that we have available in the United States that look at multiple peptides of gluten. The gliadin antibody test has been around for many years and is a very useful test. I personally am not familiar with any papers that suggest there is a large degree of false positives with the gliadin tests. There are false negatives, meaning it'll come back and say there's no problem. And, our listeners have already heard from a few of our guests on the show that it's because it's other peptides of gluten that the immune system is reacting to, and not that particular peptide.

But, many places in the world do not have the more sophisticated test available, such as in New Zealand and Australia and England and Europe. They have the gliadin test available, but not the more extensive tests. So, if that test comes back positive, Dr. Ford, have you ever seen--this is a point-blank question--that if the gliadin test comes back positive, have you ever found that to be a false positive, and that the person does not actually have a sensitivity to gluten?

Dr. Ford: That's an incredibly interesting question, Tom. Does a high gliadin antibody mean anything if somebody is well or maybe even if someone is ill? One of the things I tell my patients and parents is that disease is progressive, that you don't suddenly get gluten sensitivity. You don't suddenly get a cancer. You don't suddenly get heart disease. These things take decades to occur sometimes.

And, when we're born, we're born with an immune system that can react to any food or anything in the environment, any foreign protein. That's what it's designed for. And, when children are first given **[25:00]** gluten, then that is the first time that the immune system has seen that molecule. And, the immune system may or may not react to it.

But, we know that as time goes by, our immune system makes small amounts of antibodies to just about every food we have. Some people make very high levels of antibodies to these foods. And, usually, if you remove these foods from their diet, their symptoms, if they have any, will get better.

But, it's more complicated than that because you can have high antibodies to gliadin for a long time without apparently feeling unwell. Just like with your cholesterol levels, you may have high cholesterol levels in your blood for 10, 20, 30, 40 years and not feel unwell with it. But, as the decades go by, your blood vessels in your heart, your coronary arteries, are getting more and more clogged with plaque, atheromatous plaque. And eventually, 40 years later, you're going to have a massive chest pain and

maybe die because of heart disease. But, you've been saying that you haven't had any symptoms. But, you have been unaware of the stealth of disease going through your heart. And, you suddenly get unwell.

Well, the same thing with gliadin and gluten, I think, is that the immunological toll on your body is huge when gluten slowly causes immune complex disease, it carries a crossover of antibodies onto the neurological tree, onto the brain. And, eventually, if you keep on eating this gluten stuff, you're going to get widespread neurological problems. You're going to get the trigger of lots of autoimmune disease. And, you're likely to get gut damage, if not the celiac gut damage, the permeability gut damage, that is going to take you out for other food intolerance.

So, as people get older, they become sicker and sicker with more and more foods. And, I believe that if you take gluten out of your diet very early on, then you can mitigate against many of these degenerative diseases, autoimmune diseases, and chronic aliments that are so prevalent in our society today.

Dr. O'Bryan: That is a brilliant, **[27:30]** well laid out, sequential thought process as to why it may be of benefit to take gluten out of the diet when your immune system is saying, "We've got a problem here." And, yet, the brain is not saying, "I'm hurting." And, I agree with you 150%.

What is the tissue in the body that may be most manifesting a gluten sensitivity?

Dr. Ford: What tissue is the most likely to manifest a gluten sensitivity? I believe it is the neurological tree--

Dr. O'Bryan: Exactly!

Dr. Ford: --the brain and nerves, and especially the autonomic nervous system, the sympathetic and parasympathetic branches. And, I had a eureka experience with a brain scientist. And, he and I were wondering why my gluten sensitivity patients had so many different symptoms. And, it occurred to us that the only explanation that it could be would be if gluten was interfering with the brain, because every single cell in your body is connected to the neural tree in some form or other. And, therefore, if the brain and neural tree gets damaged by gluten, then it would explain any symptom, in anybody, at any time.

We began to do some work on this and found that quite a lot of other people were beginning to think that the brain and nervous system was gluten sensitive. And, I wrote a paper up on this speculating it. And, my belief is now--and there is evidence for this--is

that the brain and the associated nerves are the number one site for gluten-related disorders.

Dr. O'Bryan: And, I fully agree. At the beginning of most of my lectures to healthcare professionals, I will ask the question, "How many of you know or suspect you have a sensitivity to gluten? Please raise your hand." And, consistently, it's somewhere between 60% and 80% of the room. And, I'll say, "Look around. This is your practice. This is what's coming into your practice every day because this is not a talk to celiac patients. This is a talk to healthcare practitioners. **[30:00]** And, yet, 6 to 8 out of 10 of you are raising your hand. You suspect you have a sensitivity to gluten. That's your practice. Now, how many of you know or suspect that if you have an inadvertent exposure to gluten, it seems to affect your brain?"

And, somewhere around 80% of those people that have their hand up keep their hand up, that it affects your brain, that it is the most common system affected in the body. And, there are some papers that also reference that. So, now, back to my question because we are in full agreement on the system most affected. Now, my question.

A paper was recently published from Sweden where they have socialized medicine. And, they've got records on people for the last 40 or more years. And, at birth, they had been taking a drop of fetal blood. And, they put it on a card. And, they'd dry it and store it. And, they had records on millions of people with these little cards and a drop of their blood.

They went and they looked for IgG antibodies to gliadin. So, IgG antibodies are passed on from the mother--this is for the listening audience--passed on from the mother to the baby in the last month of pregnancy. And, it's starting to prime and protect the baby to say, "Okay. Get ready. You're about to come out into the world now. Now, here's a few antibodies to our cat. We have a cat at home. It's a nice cat. Don't worry about it. Just relax. Here's a few antibodies," so that the baby comes out prepared for the environment they're coming into. That is one of the functions of the IgG antibodies that the mother can give to the baby.

What they found in that drop of fetal blood was that those mothers that were in the top 10% of numbers of IgG antibodies to gliadin, there was over a 70% likelihood that their offspring was going to develop schizophrenia as an adult. If the mother was in the top 5% of IgG antibodies to gliadin, then there was the likelihood that their offspring would develop schizophrenia as an adult was 274%. **[32:30]**

It appears, and nothing like this has ever been published before as far as I know, so it must be that when mom has a sensitivity to gluten and is producing these IgG

antigliadin antibodies, that it's affecting the development of the nervous system, the brain, the nervous system, and the neural tree.

Would that make sense to you as a conclusion from this study?

Dr. Ford: Yes, it would, Tom. It would make sense to me. And, I see lots of babies who are crying, distressed with colic, and they are breastfed. And, they are having sustenance through the breast milk through mother. And, the mother is eating a normal diet including gluten. And, the babies are likely to have high gliadin antibodies already in their blood from the mother.

And, I've often been wondering, and I would say to the parents, "It may be that your baby is reacting to gluten in your breast milk,"--which has been shown to be there--"And, they're reacting because of your antibodies in your blood, because they haven't had time to make their own yet. And, these mothers come off gluten while breast feeding. And, frequently, the babies settle down and are a lot better.

This is speculation. They haven't done the research on this. But, this is one of the mechanisms that I am very suspicious of. And, it's very worrying to me to hear this data, which I haven't seen before, about the blood spots and the high gliadin antibodies in the baby's blood spots indicating that the mother was gluten sensitive.

So, this has huge ramifications for mental health of the whole nation. And, if this can be cheated home, then we can no longer play what I call gluten roulette. We can't just take the chance that gluten is going to harm us. It's like, there aren't just one bullet in the chamber with Russian roulette. There are five, and only one blank. And, the chance of getting gluten illness is huge.

Dr. O'Bryan: Yes. Well, I am going to send you that study. **[35:00]** And, for our listening audience, the link to that study will be in the PowerPoints so that everyone can have access to it. It is huge, the implications are huge. And, no one knows what this means or how to explain this, why, as an adult, 30, 40 years later, the offspring have a much higher risk of this brain dysfunction disease, schizophrenia. No one knows why that is. But, I fully agree with the concept of playing gluten roulette, and why would we do that?

So, I've had three presentations in the last two weeks that I've given to professional groups. And, I talked about this study in each of those presentations. And, I said to the doctors, "So, what's the takeaway here?" The takeaway is that every pregnant woman should be checked to see if she has antibodies to gliadin. And, if so, go on a gluten-free diet for the rest of the pregnancy just to play safe because the risk factor appears to be so much higher.

With that concept in mind, Dr. Ford, have you found that there is any dangers to going on a gluten-free diet?

Dr. Ford: Are there any dangers to a gluten-free diet? Well, I would say no. About 20 years ago, when I was first putting people gluten-free, I was asked this question quite a lot of times. “Surely, gluten or the wheat is beneficial to us. Surely, I must have wheat because we’ve been eating wheat all of our generations.” And, I began to think about this a lot. And, of course, my answer is, “No. You don’t have to have anything to do with wheat. In fact, you don’t have to have anything to do with grains if you don’t need it.”

The trick is to substitute all of the things you’re missing out on the grains with something else, which is not that complicated. The important thing to realize is that a gluten-free diet, a gluten-zero diet, is not a subtraction diet. You don’t remove all the wheat and gluten grains from your diet and not replace them with something. You replace them with something even more nutritious. So, there’s no harm whatsoever in a gluten-free diet.

I’d like to make another point, though, is that if you go gluten-zero or gluten-free, it takes sometimes a very long time to get better. It takes quite a long time for the antibodies to gliadin **[37:30]** to diminish. And, it might take 10 years for some people. And, the thought now is that removing gluten from your diet, that you can do almost instantaneously over a few days, that’s one thing. But, you can’t reduce the damage from gluten over a few days. It may take several months or several years. People with the condition dermatitis herpetiformis, it has been shown to take up to 10 years before the immune complex disease in their skin from gluten disappears. So, it’s a very long time.

And, probably people with brain damage from gluten, they will never recover because once we’ve got enough damage in the brain and nerves, it’s not likely that they’re going to heal properly. And, someone who’s got schizophrenia and got manic depressive psychosis and got other serious psychological and psychiatric diseases, once they’ve got to that stage of disease, the likelihood of getting better is diminished.

So, that is why it’s so important to see gluten as a toxin, like smoking. People who smoke now do really understand that they’re going to have a multitude of illness after several decades or a lifetime of smoking. And, the same, I believe, is the risk of the gluten. There are some people who smoke all their lives, and probably get away with it being not that unwell. The same with gluten. But, we want to live vibrant lives. We want to live totally 100% healthy lives. We want to extend our lives in a healthy way. We don’t want to be sick for half of our lives, not with the energy we want, not being able to do things we want, and spend a lot of money on healthcare when we didn’t have to.

So, the last thing is this, coming back to the beginning of the question, Tom, is that a gluten-free diet, although it might seem more expensive because you're buying better food, in the long run you're spending less on health insurance. You're spending less on being unwell. You're spending less on prescription medicine. And, you'll have another decade or so of healthy life where you can work for longer if you want to and make more money.

So, I **[40:00]** think that it's a fallacy to say that a gluten-free diet is expensive. It may be in the first few days when you begin to see the pennies going through your fingers more quickly. But, gluten-free is not an expensive diet. And, it is of great health benefit.

Dr. O'Bryan: Yes! At the International Celiac Symposium in Chicago in September, there were two papers presented on stage, and two more in the poster board sessions referring specifically to the gluten-free diet in celiacs. And, it is not more expensive. You replace the fiber lost in eliminating this grain with the fiber from vegetables, as some of our nutritionists interviewed for this series have already talked about. And, that not only do you get the higher-quality fiber with more benefits from vegetables than from grains, but you also get the other phytonutrients and the vitamins and the minerals from the vegetables. So, it's a more nutrient-dense food to eat to get much more benefit.

And, we have some doctors or some dietitians or some nutritionists who are saying a gluten-free diet can be dangerous for you. And, there are two mechanisms that I'm aware of. And, Dr. Ford, you may have more. The two that I'm aware of where it may be dangerous for you...

The first thing I respond to the patients when they ask is that, "A gluten-free diet is not bad for you. A bad gluten-free diet is bad for you." And, what I mean by that is that let's say a person stops at a coffee shop on the way to work every morning. And, every once in a while, they'll get a blueberry muffin. Well, now, they're gluten-free, so they can't have their blueberry muffin anymore. Well, they happen to stop at a different coffee shop or the coffee shop they normally stop at now begins to carry gluten-free blueberry muffins. So, they walk in and they see that and they say, "Oh! I can have that muffin! It's healthy for me! As a matter of fact, I can have two. It's healthy for me."

No, it's not! It's just not bad for you. But, having pastries on a regular basis is not good for you. **[42:30]** It's okay to have a gluten-free pastry once in while if your body does not have an immune reaction to it. Of course it's okay. But, some people rationalize. They have felt deprived by eliminating their gluten-containing foods. And, they'll go out and they'll have higher volumes of gluten-free prepared foods. That's the first way that a gluten-free diet may be bad for you.

The second way is that if people have borderline deficiencies in vitamins and minerals, and their bodies are dependent on the small amount of nutrients that are added to enriched flours, well, those enriched wheat flours, when you take those out of the diet, you're losing that small amount of nutrient that they had put into the flour. And, if you're replacing it with gluten-free bread or gluten-free muffins, those flours are not enriched.

And, so, you're losing those small amounts of vitamins and minerals that were put in the enriched flours. That strongly suggests to our clinicians that those people are borderline deficient. And, they require a little nutritional therapy along with the dietary therapy. So, those are the two mechanisms I'm aware of by which a gluten-free diet may not be good for you.

Dr. Ford, do you have any other mechanisms that our listeners should be aware of and be cautious as they're transitioning over?

Dr. Ford: No, Tom. That does it. The main criticism from the dietitians here is that the breads made from gluten, the normal flours, the normal wheat flours, are enriched with vitamins--especially folate and thiamine--and that if people are eating gluten-free breads, they're not getting these. To me, this is complete nonsense because a proper diet should include fruit and vegetables. People who predominantly eat white food, and I see this quite a lot, I immediately give them nutritional therapy. They need a vitamin/mineral supplement.

And, of course, if your gastrointestinal tract has not been functioning properly because of neurological damage to the autonomic nervous system and the gut damage from the direct toxic effects of gluten **[45:00]** and the other substances in weight, then you need a nutritional supplement as well, because you need to top up the things that you've not been digesting properly for years and years. So, the approach of a gluten-zero diet should be a wholesome one and look at the whole range of foods. And, saying that a gluten-free diet is unhealthy or dangerous is just a stupid thing to say. It is an unthinking thing to say.

Dr. O'Bryan: I could not agree with you more, sir. And, I would high-five you if we were sitting together at this moment! Absolutely! I agree 100%.

Dr. Ford: I've got something which I would like to say that happens in my clinic every day, which is an important thing for everyone to understand. A lot of the people come into my clinic having already had blood tests. And, they say they can't be gluten sensitive because they've had a blood test, and that it's normal. And, I say, "What blood test is that?" And, they say, "I don't know. But, I think it's the celiac test."

And, the reflex test that is done or the automatic thing that is done by doctors here if gluten is mentioned is that they do a tTG--tissue transglutaminase test--which is the test for the end-stage of celiac disease. It is when you've got enough gut damage going on that the antibodies to tissue transglutaminase go up. Universally, the parents are told that their child does not have celiac disease, and, therefore, cannot have a gluten problem.

And, there are two problems with this particular statement. The first thing is that celiac disease, if we're looking for that, is a progressive condition. And, if you have a normal tTG or the other test--the EMA, endomysial antibodies, or deamidated gliadin peptides, DGP--if these tests are normal, if these antibodies are not elevated, it says that at the moment of the blood test, that person did not have sufficient gut damage to show positive for celiac tests. But, it doesn't say that that person doesn't have celiac disease. And, it doesn't tell you that gluten is okay for these people.

And, I've got lots of patients where I have seen them again a year or two later and done their **[47:30]** tissue antibodies for celiac disease, and they have turned positive. These children and adults have developed celiac disease while they've been on my watch because these people have not wanted to go gluten-free.

So, there are hundreds of thousands, probably millions and millions, of people being told every year that they don't have a gluten problem because they don't have a positive celiac test. And, I don't know how to change that way of thinking, because it's absolute nonsense. And, it is, again, an unthinking response of clinicians who are unaware of this whole problem of gluten-related disorders.

Dr. O'Bryan: Well, Dr. Ford, you're absolutely right. And, for our clinicians who are listening to this, we will post a few of the articles with this interview that show that the sensitivity and specificity of tissue transglutaminase and endomysium antibodies is completely dependent on whether that patient has total villous atrophy or not. If they have partial villous atrophy, the sensitivity of the test can be as low, depending on the paper you read, as 27% to 32%, meaning that it comes back negative--a false negative--7 out of 10 times.

And, for our listening audience, here is the problem. Our doctors have been shown the research papers that say that tissue transglutaminase and endomysium are very, very accurate, very, very sensitive to identify celiac disease: 97%, 99% accurate and sensitive. It's in the textbooks. It's in the pediatric gastroenterology textbooks! These are the tests you do in order to identify celiac disease. So, our doctors believe it because they've read it many times over the years. It's common knowledge in their world of understanding.

The problem, what happened was those researchers who are looking at the effectiveness of the test, they buy celiac patient blood. There are blood banks that have blood of people with diabetes, blood of people with rheumatoid, blood of people with celiac. So, they get the blood of people who have been diagnosed with celiac disease. **[50:00]** But, in order to receive a diagnosis of celiac disease, one must have total villous atrophy. If they have partial villous atrophy, or if they just have inflammation without the beginnings of villous atrophy yet, they are told they do not have celiac disease. That has been the way it's been for diagnosis for the last 20 years.

So, the patients that have been diagnosed with celiac disease, that is the blood that the researchers looking at the effectiveness of these blood tests, that's the blood they tested on! And, they find that 97%, 99% of these people have elevated antibodies to transglutaminase or to endomysium. But, it's cherry picking the patients! Not intentionally. But, they only looked at those with the diagnosis of celiac disease.

And, as Dr. Ford is saying, it's a spectrum. And, it begins with inflammation and progresses to the swelling--hypertrophy--and the blunting of the villi, and then into partial villous atrophy, and then into total villous atrophy. But, those blood tests are only highly sensitive and specific if you are at the end stage of total villous atrophy. And, we will put a few of these articles up on the site with the links with this interview so that our clinicians and the general public can read a little more about this and take these studies to your practitioner so they understand when that blood test is of great value to do, and when that blood test may give you false negatives.

Dr. Ford: That's exactly right, Tom. The problem then becomes how early can you diagnose celiac disease? And you might say, how early can you diagnose a cardiac disaster, ischemic heart disease? How early can you diagnose an infarct, that is, when you've got a heart attack. But, you can diagnose it at the time when you've got crushing chest pain and it's very easy to diagnose. But, you probably could diagnose it 20 years before or 30 years before when you look at their diets, when you look at their blood pressure, when you look at their weight, when you look at their high cholesterol, when you look at their exercise regime. You can pretty **[52:30]** much predict that in 30 years time, that person is going to be dead from a massive heart attack.

And, the same thing when we're talking about gluten. If you have early indications that gluten is affecting you, if you've got early symptoms, if you've got a strong family history of celiac disease, if you've got the genetic code for celiac disease, all these things, if you look at these things very early on and you can pretty much predict who's going to become unwell, then why not take evasive action now rather than in end-stage disease? Because when you wait for end-stage celiac disease, most of these people do not recover. Most of the gut does not recover properly. Most of the other disease that has been triggered by this whole immunological disaster will not recover. And, you will not

regain your full health. So, to do something about this early on, you have to make the decision to go gluten-zero before you've got all of the confirmation blood test results and endoscopy results of celiac disease. So, that is, as a pediatrician, why I'm so keen that these children who are almost certainly going to get bad harm from gluten if they keep on ingesting it to go gluten-free.

And, then they will have a healthy life. And, their symptoms, after coming to see me, will get better. People don't come to me in my clinic, they don't just drift in off the street because they want to have chat. They come in because they've had years and years of ill health and no one else can understand what's going on with them. But, those are the patients I see. And, these people are desperate for good health. And, they are very compliant. So, if I give them this information about the preventative aspect of going gluten-free which, as well as fixing their problem now, is going to prevent them from getting serious disease in the future, these parents are very happy to adopt gluten-zero for their children.

Dr. O'Bryan: Well, Dr. Ford, that was brilliant. Just brilliant. Thank you for that.

Can you tell our audience what you're referring to when you refer to "gluten-zero?"

Dr. Ford: "Gluten-Zero" is a term I conjured up last year because in my clinic, **[55:00]** talking about gluten-free for the last 20 years, people didn't really quite get it that you have to be no gluten whatsoever. And, there are two reasons that I've come to the zero idea. The first thing is that there is now in my clinic--and, I'm sure, in neurological clinics--a focus on getting the gluten antibodies, the gliadin antibodies, down. It seems that these gliadin antibodies cross-react with neural tissue and cause ongoing harm. So, we want to get these antibodies down.

The problem with the immune system is it's so clever that if you keep on feeding people small amounts of gluten, say, most days or every week or intermittently, you're going to actually stimulate more antigliadin antibody production. And, your antibodies are not going to go down. The only way you can get them down is by going zero, no gluten whatsoever.

And, when I say to people, "Well, go gluten-free," and they come back and they're still eating some bread or having a biscuit or something, they say, "Well, I'm 90% gluten-free." And, they think that's good enough. And, by telling them, "gluten-zero," they begin to understand that how much can you have? Zero. And, I found that changing the language to "gluten-zero" has had a huge impact on the compliance of my patients. So, that's the first thing.

The second thing is this 20 parts per million of the FDA and around the world, there's this weasel idea that you can have 20 parts per million or less in food and that's going to be okay, and that can be considered gluten-free. Well, it's not gluten-free! If you eat a lot of food that has 20 parts per million, you end up having quite a few milligrams of gluten. And, that's all that the immune system needs to create these antibodies.

And, the 20 parts per million has only been settled at because on that level of ingestion of food, it seems that the gut damage of celiac disease either heals or it **[57:30]** doesn't deteriorate. But, here we're not talking about the gut tissue and the viability of the enterocytes in the bowel. Here we're talking about antigiladin antibodies upsetting the brain and nerves. And, if we let the industry get away with 20 parts per million, we are doing a huge amount of harm to our patients in the community who think they're eating gluten-free, who aren't.

So, I think that manufacturers who adopt the gluten-zero idea--no cross contamination, not accepting 20 parts per million, but only accepting zero--I believe that the zero call is going to be the only way where we can eradicate a lot of gluten harm.

Dr. O'Bryan: Well, Dr. Ford, as you explain that, I am in full agreement with you that 20 parts per million may not be enough to stimulate the shags--the microvilli, the shag carpeting in the intestines, the microvilli--from wearing down. But, it certainly may be enough to activate the memory B cells to start producing the antibodies once again.

And, we've had two immunologists on our show who have told us that once the antibodies are activated, that a patient will have antibodies circulating in their blood stream from a single minute exposure for a minimum of 3 and up to 6 months. So, 6 months of elevated antibodies from a single minute exposure. So, that means gluten-zero is the way we want to live.

And, with that concept in mind, we have some practitioners or some researchers that tell us it's impossible to not be exposed to minute amounts of gluten. Just by being in the air, there may be some measurable parts per million--1, 2, 5 parts per million--that we're exposed to. So, our scientists are telling us that gluten-zero may not be possible at the scientific level. But, our clinicians--Dr. Ford is pioneering this concept, which I endorse completely from a clinical point of view to our patients--gluten-zero is the way you want to live your life. That means you do not want to accept any exposures. And, you do whatever you can to keep all exposures out. **[1:00:00]**

So, the more that we move in this direction, the more our manufacturers will adhere because we know from one of our guests on the show was Jeffrey Smith from the Institute of Environmental Technology, talking about the battle with GMO foods. And, what Jeffrey Smith tells us, it takes 6%--just 6%--of the population to cause a shift in the

complete thinking process that the majority process of the direction we're going in, which means if 6% of the people who go into the supermarkets are requesting organic food, that the manager of the store will get the message and will begin carrying organic food and eventually get rid of the other. Six percent!

So, as we continue to talk about "we want a gluten-zero world", we will continue to move the clock in that direction so that all of our patients, all of our doctors, all of our manufacturers embrace this concept. Let's just get rid of any possible exposures whatsoever because the immune system does not sleep. Once we have these antibodies in our blood stream, we have the memory B cell, the general that's vigilant, just like we do for measles when we get a measles vaccination. It's there for the rest of our lives. And, so, we do not want to turn on General Gluten to begin making antibodies once again with any exposure whatsoever.

Dr. Ford: That's exactly correct.

Dr. O'Bryan: Dr. Ford, this has been tremendously valuable, tremendously valuable for all of our listeners and our clinicians. Are there any last words that you would like to share with us?

Dr. Ford: Yes, I would. I run a Facebook page. And, the reason behind that is I'm very interested in people's comments and ideas. And, just this week, there's been another person who's cranky about the idea that gluten-free is a fad and annoyed that people are going gluten-free just to lose weight or because they think gluten-free foods are healthy. And, my position on this is that there is a wide spectrum **[1:02:30]** of knowledge and a wide spectrum of people. And, the first thing to do about gluten is to actually hear about it. Twenty years ago, no one ever knew what gluten was. It was in textbooks and it was associated with celiac disease. That was all that was known.

But, nowadays, I saw something last week that a third of Americans are looking at gluten-free, maybe buying gluten-free items, maybe thinking about it. And, those third, of course, are not gluten-free yet. But, they are beginning to listen. They're beginning to get knowledge. I don't think we can be cranky and cross at people trying gluten-free. That's what I'm encouraging people to do. But, they won't get the benefits until they go gluten-zero or substantially gluten-free. You have to talk about the language.

But, I would ask everybody to be patient with people who are going gluten-free for the first time, experimenting, not doing it right, eating the croutons on the soup, but having no bread on the side. People have their journey to take, just like people who are obese are learning that they need to change their food and get their cholesterol down and get their blood pressure sorted. They make an attempt. And, we're very pleased when we see people lose weight, even if they've not gotten to their ideal weight. We have to be

very pleased that people are going gluten-free. And, even if they're not gluten-zero, they're going on their journey.

And, when they learn more, they will be gluten-zero. They will understand. And, they will impart that knowledge to their friends and family and children and grandchildren and grandparents. So, my call is to increase what I call gluten awareness or gluten consciousness. And, if we can become a gluten-conscious nation so that the restaurants know about gluten, the servers know about gluten, the shopkeepers and the people serving you in the supermarkets, that they are all gluten aware, then we're going to make a huge, huge difference to this world.

So, be patient. Go on your own gluten journey. And, eventually, I expect that, I think, a third of the population in another decade will be gluten-zero. And, another third will substantially be reducing gluten. And, then, a third will continue to eat gluten because **[1:05:00]** it's cheap food. And, for some reason, they won't be persuaded that they need to change their diet. So, that's my prediction. In another decade, a third of the population in America will be gluten-free.

Dr. O'Bryan: Dr. Rodney Ford, pediatric gastroenterologist, godfather of the gluten-zero movement, thank you very much for being with us today!

Dr. Ford: Thank you, Tom!

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