Gluten Made My Mouth Pain WORSE - BMS and Gluten Transcript

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Introduction to Gluten and Pain

talk about today is the effect of diet talk about today is the effect of diet on pain. on pain. Specifically, the effect of wheat and Specifically, the effect of wheat and gluten on pain. This may have bearing gluten on pain.

What Gluten Is and Why It Matters

This may have bearing for burning mouth syndrome and it also for burning mouth syndrome and it also has bearing for a number of other has bearing for a number of other chronic conditions. I'm going to talk to chronic conditions. I'm going to talk to you a little bit about what gluten is you a little bit about what gluten is and why it's important about per and why it's important about per peripheral neuropathy and what the term peripheral neuropathy and what the term neuropathy means.

neuropathy means. uh also about celiac disease which is uh also about celiac disease which is one aspect of a problem with gluten one aspect of a problem with gluten and how gluten might affect burning and how gluten might affect burning mouth syndrome.

Gluten, Celiac Disease, and Neurological Effects

mouth syndrome. So it was interesting uh just as I was So it was interesting uh just as I was putting this talk together last month, a putting this talk together last month, a patient messaged me, you know, we have a patient messaged me, you know, we have a patient portal and our through our patient portal and our through our electronic medical record and uh she was electronic medical record and uh she was a new patient and she said to me on the a new patient and she said to me on the portal message, "I did have a bad mouth portal message, "I did have a bad mouth pain experience after eating gluten by pain experience after eating gluten by accident three days ago." Might tell us accident three days ago." Might tell us something. And indeed it really does something.

How Gluten Affects the Nervous System

And indeed it really does tell us something. And that's something tell us something. And that's something is that gluten can be involved in pain is that gluten can be involved in pain conditions in a whole variety of ways.

conditions in a whole variety of ways. And gluten can be involved with the And gluten can be involved with the nervous system of which pain is a part nervous system of which pain is a part in a whole variety of ways.

in a whole variety of ways. And first of all the question is what is And first of all the question is what is gluten? Gluten is a proteinatious gluten?

Neuropathy Symptoms and Mechanisms

Gluten is a proteinatious material that is what makes dough real material that is what makes dough real stretchy and allows bread to rise. And stretchy and allows bread to rise. And you know how sourdough bread has those you know how sourdough bread has those nice big holes in it that are, you know, nice big holes in it that are, you know, so nice when you toast it up and the so nice when you toast it up and the edges of the holes get nice and crispy edges of the holes get nice and crispy and crunchy? That's gluten in wheat.

and crunchy? That's gluten in wheat. It's a protein in wheat. It's actually It's a protein in wheat. It's actually composed of a couple of different composed of a couple of different proteins. One of them is glyodin, and proteins. One of them is glyodin, and that is what appears on lab testing that is what appears on lab testing looking for sensitivity to gluten. We looking for sensitivity to gluten. We measure glyodin antibodies measure glyodin

antibodies um as well as another protein too.

um as well as another protein too. And so gluten is a part of wheat. And And so gluten is a part of wheat. And not only wheat, many other grains have not only wheat, many other grains have proteins that are similar to gluten. And proteins that are similar to gluten.

Testing for Gluten Sensitivity and Celiac Disease

And so we'll also talk about why it's so we'll also talk about why it's important for some people to eliminate important for some people to eliminate almost all grains when they're trying to almost all grains when they're trying to assess whether gluten is affecting their assess whether gluten is affecting their health.

health. health. And it turns out that gluten can affect And it turns out that gluten can affect really three major symptoms systems in really three major symptoms systems in the body. And for many years and the body.

Hidden Sources of Gluten and Elimination Challenges

And for many years and initially celiac disease, which is initially celiac disease, which is gluten that affects the intestines and gluten that affects the intestines and the stomach, it was first discovered the stomach, it was first discovered 2,000 years ago. And nobody knew what 2,000 years ago. And nobody knew what was causing these stomach symptoms.

was causing these stomach symptoms. And it really took until um the early And it really took until um the early 1900s and finally in the 1950s and 1960s 1900s and finally in the 1950s and 1960s to to hone down on specifically what the to to hone down on specifically what the protein was that was creating this kind protein was that was creating this kind of intestinal problem. So this issue has of intestinal problem.

Gluten Elimination Benefits and Personal Experience

So this issue has been around with us well documented for been around with us well documented for 2,000 years and we think it started u 2,000 years and we think it started u relatively late in evolutionary terms relatively late in evolutionary terms around 10,000 years ago when we started around 10,000 years ago when we started eating wheat and when agriculture came eating wheat and when agriculture came about.

So this gluten, this protein material So this gluten, this protein material that's in wheat and other grains can that's in wheat and other grains can affect three major systems in our affect three major systems in our bodies. One, we've talked about our bodies. One, we've talked about our intestinal tract and I'll tell you a intestinal tract and I'll tell you a little bit more about that when we talk little bit more about that when we talk about what celiac disease is. Another is about what celiac disease is. Another is the skin and there is a skin condition the skin and there is a skin condition called dermatitis herpedaphiforis.

called dermatitis herpedaphiforis. And just like the name like herpes, you And just like the name like herpes, you know, when you get herpes outbreaks, know, when you get herpes outbreaks, they're little tiny blisters. Dermatitis they're little tiny blisters.

Questions About Testing and Going Gluten-Free

Dermatitis herpedaphiforis is um confluent little herpedaphiforis is um confluent little blisters that occur at various places on blisters that occur at various places on the body and turn out to be due to wheat the body and turn out to be due to wheat to a large extent.

to a large extent. And then there are neurological And then there are neurological conditions that are due to eating wheat. conditions that are due to eating wheat.

Some of them quite serious. There is Some of them quite serious. There is gluten atexia which is when gluten gluten atexia which is when gluten attacks the balance and movement part of attacks the balance and movement part of the brain and creates a problem where the brain and creates a problem where somebody has problems with balance and somebody has problems with balance and movement and walking and they have a movement and walking and they have a very kind of swaying gate because very kind of swaying gate because they're they're about to lose their they're they're about to lose their balance as they walk.

balance as they walk. So three major systems in the body that So three major systems in the body that are affected the gut the skin and the are affected the gut the skin and the nerves. And a lot this is not recognized nerves. And a lot this is not recognized by the medical profession. And um I gave by the medical profession. And um I gave this talk last month to our burning this talk last month to our burning mouth hope for burning mouth online mouth hope for burning mouth online course membership um members. And in course membership um members. And in fact one of the people who was on that fact one of the people who was on that webinar webinar webinar was diagnosed with celiac disease.

was diagnosed with celiac disease. And celiac disease is an autoimmune And celiac disease is an autoimmune disorder caused by wheat caused by disorder caused by wheat caused by gluten and glyodin. and it causes an gluten and glyodin. and it causes an attack on the lining of the intestinal attack on the lining of the intestinal system. And what happens is those very system. And what happens is those very important cells that line our intestines important cells that line our intestines that have thousands of little fingery that have thousands of little fingery projections that help us absorb food and projections that help us absorb food and um absorb nutrients get destroyed by um absorb nutrients get destroyed by gluten in people who have celiac gluten in people who have celiac disease. So it's an autoimmune disorder disease. So it's an autoimmune disorder that's quite serious. It can result in that's quite serious. It can result in weight loss, ma malnutrition because weight loss, ma malnutrition because there are a number of nutrients that there are a number of nutrients that don't get absorbed because those little don't get absorbed because those little fingery projections on our lining cells fingery projections on our lining cells in the intestine are destroyed.

in the intestine are destroyed. And so mostly the medical profession And so mostly the medical profession thinks of celiac disease as an thinks of celiac disease as an intestinal problem and it's very intestinal problem and it's very difficult to get diagnosed. And the difficult to get diagnosed. And the person who was on our webinar said she person who was on our webinar said she took a really long time to get diagnosed took a really long time to get diagnosed for precisely this reason. She did not for precisely this reason. She did not have gastrointestinal have gastrointestinal symptoms. She had other problems that symptoms. She had other problems that celiac was causing her, but not GI celiac was causing her, but not GI symptoms. And so it took her doctors a symptoms. And so it took her doctors a really long time to think that this really long time to think that this might be it and test her for it and find might be it and test her for it and find out that she had it.

out that she had it. And I want to focus today on what gluten And I want to focus today on what gluten can do to our nervous system. And one of can do to our nervous system. And one of the problems that gluten causes is the problems that gluten causes is called neuropathy. And neuropathy neuro called neuropathy. And neuropathy neuro is nerves and apopathy is something is is nerves and apopathy is something is wrong with those nerves. Pathology wrong with those nerves. Pathology and uh specifically peripheral and uh specifically peripheral neuropathy. And when we talk about our neuropathy. And when we talk about our peripheral nervous system, peripheral nervous system, it's as if we were a computer that, you it's as if we were a computer that, you know, is wired to all work together. So, know, is wired to all work together. So, um, the real, you know, our brains and um, the real, you know, our brains and our spinal cord are are like the, um, our spinal cord are are like the, um, you know, the operating system in our you know, the operating system in our computer. And all of the wires, you computer. And all of the wires, you know, leading to that central processing know, leading to that central processing unit in our computer are like the nerves unit in our computer are like the nerves all around our bodies. And those nerves, all around our bodies. And those nerves, those wires are what are affected in those wires are what are affected in neuropathy. And there are many many neuropathy. And there are many many causes of neuropathy.

causes of neuropathy. Um everything from Um everything from diabetes to a physical injury to hormone diabetes to a physical injury to hormone imbalances, autoimmune diseases, imbalances, autoimmune diseases, infections like

reactivated viral infections like reactivated viral infections, Lyme disease infections, Lyme disease um and even um vascular problems of um and even um vascular problems of which you know diabetes causes problems which you know diabetes causes problems with your blood vessels and ultimately with your blood vessels and ultimately cause problems with nerves.

cause problems with nerves. And neuropathy consists of a few And neuropathy consists of a few different parts. One is that there may different parts. One is that there may be a loss of signals that normally get be a loss of signals that normally get passed through. And in these situations, passed through. And in these situations, people will feel numb. Then there can be people will feel numb. Then there can be inappropriate signaling when there inappropriate signaling when there really isn't any signaling going on, but really isn't any signaling going on, but things are getting transmitted because things are getting transmitted because the nerves aren't functioning properly.

the nerves aren't functioning properly. And the kind of an analogy to that would And the kind of an analogy to that would be like static on a phone line. Nobody's be like static on a phone line. Nobody's saying anything, but noises are coming saying anything, but noises are coming through and they're not normal noises.

through and they're not normal noises. And then the last thing that can happen And then the last thing that can happen when signaling is disrupted in when signaling is disrupted in neuropathy neuropathy neuropathy is an error that distorts the messages.

is an error that distorts the messages. And it would be like watching a wavy And it would be like watching a wavy picture on your television screen. You picture on your television screen. You know that there's a picture there, but know that there's a picture there, but you know it's not looking normal. And we you know it's not looking normal. And we see this with neuropathy where people see this with neuropathy where people just something that should be a light just something that should be a light touch feels very painful or burning.

touch feels very painful or burning. Lying in bed with the sheets on your Lying in bed with the sheets on your feet, you know, you should feel the feet, you know, you should feel the touch of the sheets. Um it shouldn't touch of the sheets. Um it shouldn't feel like pain on your feet and legs.

feel like pain on your feet and legs. And for some people it does. So that's And for some people it does. So that's distortion of the signaling that has distortion of the signaling that has happened because the nerves are damaged.

happened because the nerves are damaged. It's thought that as many as 20 million It's thought that as many as 20 million people in the United States have some people in the United States have some and we think that burning mouth syndrome and we think that burning mouth syndrome is a neuropathic or neuropathy problem.

is a neuropathic or neuropathy problem. How do we figure this out and what do we How do we figure this out and what do we First, there is blood testing and blood First, there is blood testing and blood testing can tell a couple of things.

testing can tell a couple of things. whether you have whether you have um antibodies to components of gluten um antibodies to components of gluten glyodin antibodies.

glyodin antibodies. There is an enzyme trans glutaminase There is an enzyme trans glutaminase that has antibodies created to it if that has antibodies created to it if your uh nervous system is affected, if your uh nervous system is affected, if your skin is affected and if your GI your skin is affected and if your GI tract is affected. And then there is the tract is affected. And then there is the genetics of gluten sensitivity. And genetics of gluten sensitivity. And people with celiac disease have people with celiac disease have particular genetics that predispose them particular genetics that predispose them to having celiac disease. They may not to having celiac disease. They may not have the symptoms, but genetics are a have the symptoms, but genetics are a tip off that this could be an issue for tip off that this could be an issue for somebody.

somebody. somebody. In fact, probably um as far as In fact, probably um as far as neuropathy goes, neuropathy is

um or neuropathy goes, neuropathy is um or rather celiac disease goes. It's rather celiac disease goes. It's estimated that about 3 million people in estimated that about 3 million people in the United States have celiac disease, the United States have celiac disease, but another 18 million have non-seliac but another 18 million have non-seliac gluten sensitivity. And this is actually gluten sensitivity. And this is actually a medical term and it's abbreviated NG a medical term and it's abbreviated NG um CS non-gluten um CS non-gluten non-seliac gluten sensitivity NCGS.

non-seliac gluten sensitivity NCGS. And so the tests for celiac don't show And so the tests for celiac don't show anything, but gluten ends up still being anything, but gluten ends up still being an issue. And probably the best way to an issue. And probably the best way to test for it is to do a gluten test for it is to do a gluten elimination.

elimination. elimination. And a gluten elimination is not an easy And a gluten elimination is not an easy thing to do. There is gluten in so many thing to do. There is gluten in so many different foods. There are, like I said, different foods. There are, like I said, many different grains that have gluten many different grains that have gluten in them. So, not only eliminating wheat, in them. So, not only eliminating wheat, but also eliminating barley, rye, but also eliminating barley, rye, sorghum, millet, te. Te is a grain. I sorghum, millet, te. Te is a grain. I don't know if you've ever been to an don't know if you've ever been to an Ethiopian restaurant. They have a huge Ethiopian restaurant. They have a huge tray they serve you and it has a tray they serve you and it has a flatbread on it and then they put flatbread on it and then they put different types of vegetable and other different types of vegetable and other stews on it. you break the flatbread off stews on it. you break the flatbread off and eat with your fingers. That's te.

and eat with your fingers. That's te. And so even te um eorn, which is an And so even te um eorn, which is an ancient wheat, ancient wheat, and sometimes even um if you're really and sometimes even um if you're really going on a gluten elimination.

going on a gluten elimination. Seriously, you want to eliminate things Seriously, you want to eliminate things that aren't even grains like buckwheat that aren't even grains like buckwheat um amaranth and quinoa which really are um amaranth and quinoa which really are um technically grasses, not grains, but um technically grasses, not grains, but can contain again some of the similar can contain again some of the similar proteins to gluten.

proteins to gluten. The other problem with a gluten The other problem with a gluten elimination is there is hidden gluten in elimination is there is hidden gluten in so many things like who would think why so many things like who would think why would they put have soy sauce have would they put have soy sauce have gluten in it and who would think about gluten in it and who would think about it? So, you would want to get a it? So, you would want to get a gluten-free soy sauce. Um things like gluten-free soy sauce. Um things like modified um textured vegetable protein modified um textured vegetable protein in fat can be a gluten protein.

in fat can be a gluten protein. Hydrayzeed vegetable proteins. These Hydrayzeed vegetable proteins. These things are gluten under different names. things are gluten under different names.

Dextrin, moltos. So you need to really Dextrin, moltos. So you need to really look at the labels on everything and look at the labels on everything and probably best not to get anything that probably best not to get anything that Um, some artificial colors and like Um, some artificial colors and like caramel flavoring and color can actually caramel flavoring and color can actually have gluten in it.

have gluten in it. Honey baked hams can have wheat starch Honey baked hams can have wheat starch in the coating on the ham. So, it comes in the coating on the ham. So, it comes in so many different ways. And then, um, in so many different ways. And then, um, there alcoholic beverages that contain there alcoholic beverages that contain gluten. beer is fermented grain. Um, and gluten. beer is fermented grain. Um, and any malts, malt liquor is fermented any malts, malt liquor is fermented grain. So, grain. So, um, you you need you're limited in what um, you you need you're limited in what you can have as far as alcohol goes. And you can have as far as alcohol goes. And for people who are very sensitive, even for people who are very sensitive, even skin products, some skin products, skin products, some skin products, health and beauty aids contain gluten, health and beauty aids contain gluten, shampoos contain gluten, play-doh has shampoos contain gluten, play-doh has gluten in it if you play with it with gluten in it if you play with it with your children. So, these are all your children. So, these are all potential sources of

gluten. And potential sources of gluten. And to really give yourself a good trial to to really give yourself a good trial to see, is this playing a role in your see, is this playing a role in your pain, you will want to do a really pain, you will want to do a really extensive gluten elimination.

extensive gluten elimination. We've seen for a number of our burning We've seen for a number of our burning mouth patients where gluten makes a mouth patients where gluten makes a difference where somebody went on a difference where somebody went on a gluten elimination and just with that gluten elimination and just with that said, "Wow, my pain is reduced by 50%." said, "Wow, my pain is reduced by 50%." So admittedly burning mouth syndrome is So admittedly burning mouth syndrome is a very focused area in terms of a very focused area in terms of neuropathic pain. There are many other neuropathic pain. There are many other examples of neuropathic pain like the examples of neuropathic pain like the glutinate taxia I was telling you about.

glutinate taxia I was telling you about. Um and uh you know really doctors need Um and uh you know really doctors need to start thinking about neurological to start thinking about neurological problems and that they may be due to problems and that they may be due to gluten uh much more frequently than they gluten uh much more frequently than they do.

There have been studies done on people There have been studies done on people with celiac. There is a clinic in with celiac. There is a clinic in England where they study celiac patients England where they study celiac patients and found that um not all of them have and found that um not all of them have gastrointestinal issues, not all of them gastrointestinal issues, not all of them have neurological issues, but in general have neurological issues, but in general the people that were on a gluten-free the people that were on a gluten-free way of eating in general had less pain.

way of eating in general had less pain. And so, um that's kind of sums up what I And so, um that's kind of sums up what I have to say about gluten and its have to say about gluten and its association with pain. I think it's association with pain. I think it's underrated. And so that is something underrated. And so that is something being on a gluten-free diet is something being on a gluten-free diet is something you can do yourself. And there are a lot you can do yourself. And there are a lot of materials online that are helpful in of materials online that are helpful in terms of what contains gluten and how to terms of what contains gluten and how to eliminate it. And I'm not saying it's an eliminate it. And I'm not saying it's an easy thing to do. Um I've done it easy thing to do. Um I've done it myself. I was thought to have ulcerative myself. I was thought to have ulcerative colitis oh must have been 30 years ago colitis oh must have been 30 years ago and it it was really affecting my health and it it was really affecting my health very severely. the medications they gave very severely. the medications they gave me weren't really working.

me weren't really working. And I found, believe it or not, a little And I found, believe it or not, a little article in my local Long Beach newspaper article in my local Long Beach newspaper that talked about people with stomach that talked about people with stomach problems should maybe try eliminating problems should maybe try eliminating gluten. And I did. And all of my signs gluten. And I did. And all of my signs of ulcerative colitis went away. And I of ulcerative colitis went away. And I had, you know, with getting had, you know, with getting colonoscopies done periodically because colonoscopies done periodically because people with ulcerative colitis have people with ulcerative colitis have increased risk of colon cancer. So they increased risk of colon cancer. So they were, you know, I was under observation were, you know, I was under observation and the medical profession doesn't catch and the medical profession doesn't catch on to these things very quickly. And uh on to these things very quickly. And uh my doctor, you know, who's a friend of my doctor, you know, who's a friend of mine, because I'm a physician, you know, mine, because I'm a physician, you know, she's one of my colleagues and friends, she's one of my colleagues and friends, um said, "Wow, you know, everything's um said, "Wow, you know, everything's looking good. Like, what are you doing?" looking good. Like, what are you doing?" And I said, "Well, I'm on this And I said, "Well, I'm on this gluten-free diet. It's really working gluten-free diet. It's really working for me." And she literally patted me on for me." And she literally patted me on the shoulder and said, "That's good.

the shoulder and said, "That's good. Keep it up." having I knew she had no Keep it up." having I knew she had no idea what I was talking about. So you idea what I was talking about. So you you know even if you can't get your you know even if you can't get your doctor to willing to prescribe lab tests doctor to willing to prescribe lab tests for

you, this is something you can do for you, this is something you can do yourself and look at what the benefits yourself and look at what the benefits are on your health. Um, for a lot of are on your health. Um, for a lot of people sometimes unexpected things people sometimes unexpected things happen like they do a gluten elimination happen like they do a gluten elimination to see if it makes pain better and they to see if it makes pain better and they discover their skin condition improves discover their skin condition improves and these are even people without and these are even people without dermatitis or pedophasis just having dermatitis or pedophasis just having various kind of scaly rashes that they various kind of scaly rashes that they can't figure out. So, um, or their joint can't figure out. So, um, or their joint pain may get better, which is an pain may get better, which is an unexpected unexpected unexpected benefit because really gluten, whether benefit because really gluten, whether you are celiac or officially diagnosed you are celiac or officially diagnosed as non-seliac gluten sensitivity, gluten as non-seliac gluten sensitivity, gluten is inflammatory and gluten destroys the is inflammatory and gluten destroys the tight junctions between the cells that tight junctions between the cells that are lining your intestine. And this has are lining your intestine. And this has been shown even in people who feel been shown even in people who feel perfectly healthy and don't have any perfectly healthy and don't have any symptoms, it is destroying those tight symptoms, it is destroying those tight junctions. So even though you may feel junctions. So even though you may feel fine and think gluten doesn't apply to fine and think gluten doesn't apply to you, it is working under the surface you, it is working under the surface inside your intestinal lining um to inside your intestinal lining um to damage it.

damage it. So I hope that convinces you to at least So I hope that convinces you to at least consider a gluten elimination. And um consider a gluten elimination. And um let's see, I know we had one question let's see, I know we had one question from somebody which I'm happy to answer.

from somebody which I'm happy to answer. Let's see. Is there a test for gluten Let's see. Is there a test for gluten sensitivity or allergies? So, it's a sensitivity or allergies? So, it's a really good question. Um testing for really good question. Um testing for real allergies is a particular real allergies is a particular immunologic um pathway called the immunologic um pathway called the immunoglobulin E and it is responsible immunoglobulin E and it is responsible for what we call immediate for what we call immediate hypersensitivity reactions. Somebody is hypersensitivity reactions. Somebody is allergic to peanuts. They eat peanuts.

allergic to peanuts. They eat peanuts. um it could be life-threatening. Uh they um it could be life-threatening. Uh they may break out in hives, their lips get may break out in hives, their lips get swollen, they start to have wheezing and swollen, they start to have wheezing and difficulty breathing that and it happens difficulty breathing that and it happens very quickly within a half hour. That's very quickly within a half hour. That's an immediate hyper sensitivity reaction.

an immediate hyper sensitivity reaction. Most people do not have those reactions Most people do not have those reactions to foods and usually if they do, they to foods and usually if they do, they know it because they've had these severe know it because they've had these severe reactions right after eating the food.

reactions right after eating the food. So, it's very easy to pinpoint what's So, it's very easy to pinpoint what's giving you that reaction. giving you that reaction.

There is testing for wheat allergies. There is testing for wheat allergies. Um, allergy doctors do skin prick Um, allergy doctors do skin prick testing where they will make a little testing where they will make a little scratch in your skin and put a drop of scratch in your skin and put a drop of the allergen on it, whether it's wheat the allergen on it, whether it's wheat or birch trees or, you know, grasses and or birch trees or, you know, grasses and things like that and look and see if things like that and look and see if your skin turns red, which is an your skin turns red, which is an immediate hypersensitivity reaction. So immediate hypersensitivity reaction. So that's one way to get tested for wheat.

that's one way to get tested for wheat. There also is a lot of blood testing There also is a lot of blood testing that we do. So there's a wheat IG that we do. So there's a wheat IG imunoglobulin E blood test.

imunoglobulin E blood test. There is a celiac panel which has uh There is a celiac panel which has uh anti- or what are called daminated anti- or what are called daminated glyodin antibodies which is the best way glyodin antibodies

which is the best way to tell if you have celiac.

to tell if you have celiac. There is tissue translutaminase which is There is tissue translutaminase which is the enzyme I mentioned and seeing if you the enzyme I mentioned and seeing if you have antibodies to tissue have antibodies to tissue translutaminase that can help tell if translutaminase that can help tell if you are having um uh you are having um uh GI problems due to GI problems due to gluten.

gluten. gluten. And then there is the genetic testing And then there is the genetic testing for celiac. So a number of different for celiac. So a number of different ways to test for it. And then the ways to test for it. And then the question is I heard you have to be question is I heard you have to be gluten-free for three months for it to gluten-free for three months for it to be completely out of your body. Um it be completely out of your body. Um it may be quite a while until may be quite a while until the white blood cells that are are like the white blood cells that are are like fighting soldiers that create these fighting soldiers that create these antibodies really shrink back and don't antibodies really shrink back and don't produce this gluten reaction. So it produce this gluten reaction. So it could be that long. And one of the could be that long. And one of the question that comes up is if somebody question that comes up is if somebody has been eating gluten-free, they may in has been eating gluten-free, they may in fact not show up with gluten sensitivity fact not show up with gluten sensitivity or um on blood testing. And so this is or um on blood testing. And so this is often a dilemma for us with somebody who often a dilemma for us with somebody who has been eating gluten-free and wants to has been eating gluten-free and wants to know officially, you know, are they know officially, you know, are they celiac or gluten intolerance. And we can celiac or gluten intolerance. And we can certainly do the genetic testing on certainly do the genetic testing on them. But I always hesitate if somebody them. But I always hesitate if somebody has been successful eating gluten-free has been successful eating gluten-free and feels better that way, telling them and feels better that way, telling them they need to start eating gluten again they need to start eating gluten again and feel bad for a few weeks before we and feel bad for a few weeks before we do their testing.

do their testing. So, that's one of the dilemmas in um So, that's one of the dilemmas in um going gluten-free before you get tested. going gluten-free before you get tested.

So, if you're able to get your doctor to So, if you're able to get your doctor to test you, that probably is optimal. And test you, that probably is optimal. And then go gluten-free and see how you then go gluten-free and see how you feel.