Podcast: Preventing Allergies with Diet Transcript

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Introduction to Diet and Immune Health

We have lots of choices to make about We have lots of choices to make about our diet and to that doing the right our diet and to that doing the right thing when it comes to treating a thing when it comes to treating a chronic disease, fighting a virus, or chronic disease, fighting a virus, or losing weight and suddenly losing weight and suddenly our nutrition choices can seem almost our nutrition choices can seem almost overwhelming. Well, overwhelming. Well, I'm here to help. Welcome to the I'm here to help. Welcome to the NutritionFacts podcast. I'm your host, NutritionFacts podcast. I'm your host, Dr. Michael Greger.

Dr. Michael Greger.

Beta-Glucans for Trauma and Ragweed Allergies

Diet, maybe one of the most powerful Diet, maybe one of the most powerful tools for calming an overactive immune tools for calming an overactive immune system. In our first story, we look at system. In our first story, we look at the best diet for people who suffer from the best diet for people who suffer from ragweed allergies.

ragweed allergies. A great deal is asked of our immune A great deal is asked of our immune system. On one hand, it has to respond system. On one hand, it has to respond rapidly and violently to invaders, but rapidly and violently to invaders, but at the same time at the same time limits both the response and the limits both the response and the collateral damage to the host.

collateral damage to the host. Anaphylactic shock, like when someone Anaphylactic shock, like when someone with a peanut allergy dropped dead after with a peanut allergy dropped dead after eating a peanut, is an example eating a peanut, is an example of an overactive immune response.

overactive immune response. The flip side is an underactive immune The flip side is an underactive immune response, which can put you at risk for response, which can put you at risk for infection.

infection. infection. If you suffer some severe trauma, for If you suffer some severe trauma, for example, it's not enough to get to a example, it's not enough to get to a level one trauma center. Death related level one trauma center. Death related to sepsis, blood infection, to sepsis, blood infection, still a major problem. And a major still a major problem. And a major factor is the depression of our immune factor is the depression of our immune system caused by the stress of the system caused by the stress of the trauma.

trauma. trauma. So, what these researchers did was to So, what these researchers did was to try to stimulate immune function in try to stimulate immune function in trauma victims by injecting them with trauma victims by injecting them with beta glucan, a type of fiber found in beta glucan, a type of fiber found in yeast. Mostly car crash victims, but yeast. Mostly car crash victims, but also gunshots and stab wounds.

also gunshots and stab wounds.

Beta-Glucans, Inflammation, and Hay Fever

And not only did the beta glucan group And not only did the beta glucan group suffer less sepsis overall, suffer less sepsis overall, they have five times fewer complications they have five times fewer complications and no deaths compared to nearly one in and no deaths compared to nearly one in three dying in the control group.

three dying in the control group. I've talked about the role of oral beta I've talked about the role of oral beta glucans in the form of nutritional yeast glucans in the form of nutritional yeast to boost immune function in adults and to boost immune function in adults and children.

children. children. But, if it's so immunostimulatory, But, if it's so immunostimulatory, then might it increase inflammation, then might it increase inflammation, worsen allergies?

worsen allergies? Actually, dietary yeast may offer the Actually, dietary yeast may offer the best of both worlds, possessing both best of both worlds, possessing both anti-inflammatory as well as anti-inflammatory as well as antimicrobial activities.

antimicrobial activities. On one hand, activating the immune On one hand, activating the immune system to prevent infections, on the system to prevent infections, on the other hand, capable of reducing other hand, capable of reducing inflammatory reactions.

inflammatory reactions. Given their best-of-both-worlds nature, Given their best-of-both-worlds nature, enhancing immune defense while enhancing immune defense while simultaneously downregulating simultaneously downregulating inflammation, beta-glucans are suggested inflammation, beta-glucans are suggested as a replacement for immunosuppressant as a replacement for immunosuppressant drugs to treat inflammatory diseases drugs to treat inflammatory diseases like inflammatory bowel disease.

like inflammatory bowel disease. Turns out that's a bad idea for Crohn's Turns out that's a bad idea for Crohn's disease, since it can make things worse.

disease, since it can make things worse. The same with another disease called the The same with another disease called the hidradenitis suppurativa. But, what hidradenitis suppurativa. But, what about allergies like hay fever?

about allergies like hay fever? They did a nasal provocation test with They did a nasal provocation test with tree pollen, and then siphoned off some tree pollen, and then siphoned off some mucus.

mucus. mucus. And those that had been taking And those that had been taking beta-glucans had lower levels of some beta-glucans had lower levels of some inflammatory compounds. Or should I say inflammatory compounds. Or should I say inflammatory compounds?

inflammatory compounds? >> [clears throat] >> [clears throat] >> [clears throat] >> And based on just that, they suggested >> And based on just that, they suggested it might help people with hay fever.

it might help people with hay fever. But, you don't know [clears throat] But, you don't know [clears throat] until you put it to the test. A until you put it to the test. A randomized, placebo-controlled, randomized, placebo-controlled, double-blind study compared the effects double-blind study compared the effects of daily supplementation for a month of daily supplementation for a month with about a teaspoon of nutritional with about a teaspoon of nutritional yeast worth of beta-glucans versus yeast worth of beta-glucans versus placebo on the physical and placebo on the physical and psychological health of self-described psychological health of self-described moderate to ragweed allergy sufferers.

moderate to ragweed allergy sufferers. The ragweed family's one of the leading The ragweed family's one of the leading causes of hay fever. causes of hay fever.

And give people a placebo, and nothing And give people a placebo, and nothing much happens. But, in the beta-glucan much happens. But, in the beta-glucan group, a significant drop in symptoms group, a significant drop in symptoms and symptom severity. Fewer runny noses, and symptom severity. Fewer runny noses, fewer itchy eyes, and fewer sleep fewer itchy eyes, and fewer sleep problems. So, no wonder less tension, problems. So, no wonder less tension, depression, anger, fatigue, and depression, anger, fatigue, and confusion, and more vigor. So, improved confusion, and more vigor. So, improved allergy symptoms, overall physical allergy symptoms, overall physical health, and emotional well-being with health, and emotional well-being with the beta glucans found in a single the beta glucans found in a single teaspoon of nutritional yeast, which teaspoon of nutritional yeast, which would cost about 5 cents [music] a day.

would cost about 5 cents [music] a day.

Tick-Bite Meat Allergies and Hidden Triggers

>> In our next story, we look at the rising >> In our next story, we look at the rising incidence of tick bite incidence of tick bite >> [music] >> [music] >> [music] >> induced meat allergies.

>> induced meat allergies. >> Tick bite induced meat allergies are >> Tick bite induced meat allergies are really unlike any other food allergy we really unlike any other food allergy we know.

know. know. The most interesting feature of the The most interesting feature of the reaction may be the first symptom can reaction may be the first symptom can occur hours after eating meat. Normally, occur hours after eating meat. Normally, you have an allergic reaction to a bee you have an allergic reaction to a bee sting or something, it happens within sting or something, it happens within minutes. But with this, you could eat a minutes. But with this, you could eat a piece of bacon for breakfast and your piece of bacon for breakfast and your throat doesn't start closing off until throat doesn't start closing off until the afternoon, and so you blame lunch, the afternoon, and so you blame lunch, or doctors just call it spontaneous or or doctors just call it spontaneous or idiopathic anaphylaxis.

idiopathic anaphylaxis. Idiopathic is just doctor speak for we Idiopathic is just doctor speak for we have no idea what the cause is. have no idea what the cause is.

The delay is because the alpha gal is The delay is because the alpha gal is thought to be absorbed along with the thought to be absorbed along with the fat in the meat. Given that the allergic fat in the meat. Given that the allergic reaction occurs 4 to 5 hours after meat reaction occurs 4 to 5 hours after meat ingestion, corresponding to the peak ingestion, corresponding to the peak absorption time of the fat from the absorption time of the fat from the digestive tract.

digestive tract. What makes it even more difficult to What makes it even more difficult to diagnose is that the majority of victims diagnose is that the majority of victims experience only occasional overt experience only occasional overt reactions despite regular meat reactions despite regular meat consumption.

consumption. consumption. Fattier meats like pork rinds may Fattier meats like pork rinds may provoke episodes more consistently and provoke episodes more consistently and severely, but still it's not like it severely, but still it's not like it happens every time.

happens every time. And it's on the rise. Uh 10 years ago, And it's on the rise. Uh 10 years ago, we didn't even know the thing existed, we didn't even know the thing existed, but now in tick-ridden states, as many but now in tick-ridden states, as many as 20% of the population have these as 20% of the population have these anti-meat allergic antibodies, and more anti-meat allergic antibodies, and more and more people are coming in affected.

and more people are coming in affected. They're probably no more than 10% who They're probably no more than 10% who test positive go on to experience hives test positive go on to experience hives or serious allergic reactions to meat.

or serious allergic reactions to meat. We're also seeing it more and more in We're also seeing it more and more in kids. kids. kids. Researchers in Virginia are finding it Researchers in Virginia are finding it not uncommonly, though identification of not uncommonly, though identification of these cases may not be straightforward.

these cases may not be straightforward. Unlike in adults, who frequently present Unlike in adults, who frequently present with systemic reactions, with systemic reactions, the majority of children with this the majority of children with this syndrome present with just skin syndrome present with just skin manifestations such as hives.

manifestations such as hives. Doesn't mean it's not serious. In fact, Doesn't mean it's not serious. In fact, nearly half the kids end up in the ER nearly half the kids end up in the ER and about 1 in 12 need to be and about 1 in 12 need to be hospitalized.

hospitalized. hospitalized. Up to a quarter of the population breaks Up to a quarter of the population breaks out in hives at some point point in out in hives at some point point in their lives, but some children can be their lives, but some children can be affected for weeks or months. And it can affected for weeks or months. And it can be triggered by infections, foods, be triggered by infections, foods, drugs, parasites, autoimmune, but in a drugs, parasites, autoimmune, but in a large subset of cases, we don't know large subset of cases, we don't know what the trigger is. And so we call it what the trigger is. And so we call it chronic idiopathic urticaria.

chronic idiopathic urticaria. It's a common thing pediatricians see, It's a common thing pediatricians see, and the only cure is avoiding and and the only cure is avoiding and eliminating whatever is triggering it.

eliminating whatever is triggering it. But in three quarters of the cases, we But in three quarters of the cases, we have no clue. have no clue. But now we know that many children But now we know that many children who've been diagnosed with mysterious who've been diagnosed with mysterious hives or allergic reactions and may have hives or allergic reactions and may have been specifically told that the been specifically told that the reactions were not a result of food reactions were not a result of food allergy, may have actually been allergy, may have actually been suffering from anti-gal meat allergies.

suffering from anti-gal meat allergies. Given the serious nature of the Given the serious nature of the reactions and the rising frequency of reactions and the rising frequency of allergic swelling and hives across all allergic swelling and hives across all age groups, this underscores the age groups, this underscores the importance of identifying what's going importance of identifying what's going on and clearly physicians should keep on and clearly physicians should keep this new diagnosis in mind.

this new diagnosis in mind. Allergies to meat might be more common Allergies to meat might be more common than previously thought. 2% would mean than previously thought. 2% would mean millions of people, but just to put it millions of people, but just to put it in context, Americans are much more in context, Americans are much more likely to suffer an anaphylactic likely to suffer an anaphylactic reaction due to seafood. Tick bite or reaction due to seafood. Tick bite or not, no matter where they live.

not, no matter where they live. A national survey of emergency rooms A national survey of emergency rooms found shellfish was by far the most found shellfish was by far the most frequently implicated food, and unlike frequently implicated food, and unlike many other allergies, kids don't tend to many other allergies, kids don't tend to outgrow fish and shellfish allergies.

outgrow fish and shellfish allergies. And many fish allergens allergies are And many fish allergens allergies are actually allergies not to the fish, but actually allergies not to the fish, but to worms within the fish like Anisakis.

to worms within the fish like Anisakis. Exposure to these parasites living or Exposure to these parasites living or dead in fish is a widespread problem. In dead in fish is a widespread problem. In fact, you can even have an allergic fact, you can even have an allergic reaction to the parasitic fish worm reaction to the parasitic fish worm eating chickens that were fed on fish eating chickens that were fed on fish meal.

meal. meal. This is one of the ways someone who's This is one of the ways someone who's allergic to fish could get triggered by allergic to fish could get triggered by just eating chicken.

just eating chicken. Reminds me of pork cat syndrome. Reminds me of pork cat syndrome. Where your mouth can get all itchy Where your mouth can get all itchy eating bacon in people with cat eating bacon in people with cat allergies. Because of an allergic allergies. Because of an allergic cross-reaction between cat skin and pig cross-reaction between cat skin and pig blood proteins.

blood proteins. Anisakis worms are found particularly in Anisakis worms are found particularly in cod, anchovies, and squid and cod, anchovies, and squid and also cause chronic hives and intractable also cause chronic hives and intractable chronic itching.

chronic itching. Because of these worms, researchers Because of these worms, researchers recommend people

stop eating all seafood recommend people stop eating all seafood sushi altogether. Because besides sushi altogether.

Onions, Antioxidants, and Bone Health

Because besides inducing allergenic reactions, the worms inducing allergenic reactions, the worms may cause a leaky gut syndrome, which may cause a leaky gut syndrome, which often is unrecognized and can predispose often is unrecognized and can predispose to other more important pathologies than to other more important pathologies than [music] just being itchy all over.

[music] just being itchy all over. Finally, today we discover the Finally, today we discover the anti-allergy properties of onions. anti-allergy properties of onions.

Onions are potentially a good source Onions are potentially a good source [music] of antioxidants. Though [music] of antioxidants. Though interestingly, the antioxidants are interestingly, the antioxidants are concentrated in the outer layers concentrated in the outer layers immediately under the papery peel.

immediately under the papery peel. Unfortunately, most consumers discard Unfortunately, most consumers discard these most nutrient-rich outermost these most nutrient-rich outermost layers, thus losing a valuable part.

layers, thus losing a valuable part. Here's some numbers. More than 10 times Here's some numbers. More than 10 times more antioxidants in the outer layer of more antioxidants in the outer layer of white onions compared to the core.

white onions compared to the core. Yellow onions in general have more Yellow onions in general have more antioxidants than white and antioxidants than white and red onions beat them both based on three red onions beat them both based on three different antioxidant testing methods.

different antioxidant testing methods. And that's why I always try to buy red. And that's why I always try to buy red. And the red onions are indeed slightly And the red onions are indeed slightly better. Yellow or white onions are no better. Yellow or white onions are no slouches, containing considerable levels slouches, containing considerable levels of antioxidant activity.

of antioxidant activity. So, nutritious, sure. But are there any So, nutritious, sure. But are there any particular clinical benefits to onion particular clinical benefits to onion consumption? There are grammatically consumption? There are grammatically challenged titles in the medical challenged titles in the medical literature purporting all sorts of literature purporting all sorts of miraculous benefits. But what do they miraculous benefits. But what do they base these claims on?

base these claims on? For example, here's a review purporting For example, here's a review purporting to have evidence that testosterone in to have evidence that testosterone in males are enhanced by onion. But the males are enhanced by onion. But the researchers were talking about studies researchers were talking about studies like this on the effects of onion juice like this on the effects of onion juice on testicular torsion in rats. Who cares on testicular torsion in rats. Who cares what happens after a rat testicle is what happens after a rat testicle is rotated 720° counterclockwise except, of rotated 720° counterclockwise except, of course, the rat?

course, the rat? You don't know what happens in people You don't know what happens in people until you put human testes to the test. until you put human testes to the test.

And onion extracts don't appear to work. And onion extracts don't appear to work. Okay, what about bone health? Evidently, Okay, what about bone health? Evidently, older white women who consumed onions at older white women who consumed onions at least once a day had overall bone least once a day had overall bone density that was 5% greater than density that was 5% greater than individuals who consumed onions no more individuals who consumed onions no more than once a month.

than once a month. A 5% might not sound like a lot, but A 5% might not sound like a lot, but that improvement in bone density could that improvement in bone density could potentially translate into decreasing potentially translate into decreasing the risk of hip fracture by more than the risk of hip fracture by more than 20% if 20% if indeed it was cause and effect. Daily indeed it was cause and effect. Daily administration of onion did cause a big administration of onion did cause a big bump in bone density. This opens the bump in bone density.

Onions for Blood Sugar During Chemotherapy

This opens the possibility for a low-cost, safe, and possibility for a low-cost, safe, and effective nutritional approach to effective nutritional approach to osteoporosis.

osteoporosis. osteoporosis. You guessed it. In the rat. Another You guessed it. In the rat. Another rodent study. Rats. rodent study. Rats. But finally, here we go. Tremendous But finally, here we go. Tremendous strides have been made in treating strides have been made in treating osteoporosis with drugs, but they have osteoporosis with drugs, but they have the potential for serious adverse side the potential for serious adverse side effects. So, scientists have drawn their effects. So, scientists have drawn their attention to natural remedies. So, let's attention to natural remedies. So, let's randomize people to drink randomize people to drink onion juice or placebo onion juice. I onion juice or placebo onion juice. I don't know what sounds worse. Sugary don't know what sounds worse. Sugary onion juice or fake sugary onion juice?

onion juice or fake sugary onion juice? And as if drinking onion juice wasn't And as if drinking onion juice wasn't bad enough, it was all for nothing. It bad enough, it was all for nothing. It didn't even work.

didn't even work. What about the anti-allergy activities What about the anti-allergy activities of shallots and any therapeutic effects of shallots and any therapeutic effects on helping allergic runny noses? 16 such on helping allergic runny noses? 16 such patients were randomized equally into an patients were randomized equally into an antihistamine group or a group that got antihistamine group or a group that got antihistamines [clears throat] plus some antihistamines [clears throat] plus some capsules containing dried shallot capsules containing dried shallot powder.

powder. powder. And it looked like the shallot group did And it looked like the shallot group did better, but there was actually no better, but there was actually no statistically significant difference in statistically significant difference in total symptoms between the two groups.

total symptoms between the two groups. So, another #onionfail. So, another #onionfail. There has to be something onions can do. There has to be something onions can do.

What about testing the effects of fresh What about testing the effects of fresh yellow onion consumption on breast yellow onion consumption on breast cancer patients to try to decrease the cancer patients to try to decrease the toxic effects of a chemotherapy drug toxic effects of a chemotherapy drug called doxorubicin. Unfortunately, no called doxorubicin. Unfortunately, no significant benefit found on decreasing significant benefit found on decreasing damage to the liver or heart, but here damage to the liver or heart, but here we go. Finally, a clinical benefit to we go. Finally, a clinical benefit to onions. The consumption of fresh yellow onions. The consumption of fresh yellow onion ameliorates the high blood sugars onion ameliorates the high blood sugars and insulin resistance in breast cancer and insulin resistance in breast cancer patients during doxorubicin-based patients during doxorubicin-based chemotherapy.

chemotherapy. chemotherapy. Uh Uh Uh doxorubicin isn't just toxic to the doxorubicin isn't just toxic to the liver and heart, may also contribute to liver and heart, may also contribute to insulin resistance. So, let's do a insulin resistance. So, let's do a randomized triple-blind controlled randomized triple-blind controlled clinical trial randomizing patients to clinical trial randomizing patients to like a whole onion a day or a third of like a whole onion a day or a third of an onion a day. What happened? The an onion a day. What happened? The high-onion group experienced a high-onion group experienced a significant decrease in blood sugars and significant decrease in blood sugars and insulin resistance compared to the insulin resistance compared to the low-onion group. They went up in the low-onion group. They went up in the low-onion group, but down in the low-onion group, but down in

the high-onion group. So, make onions your high-onion group. So, make onions your friend. What's the worst that can friend. What's the worst that can happen? A little onion breath and BO?

happen? A little onion breath and BO? Probably the least of your worries if Probably the least of your worries if you have [music] cancer on chemotherapy.

you have [music] cancer on chemotherapy. >> Visit nutritionfacts.org/audio >> Visit nutritionfacts.

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org/audio to see all the podcast episodes with to see all the podcast episodes with descriptions that include links to descriptions that include links to [music] their associated videos, sources [music] their associated videos, sources cited, and other details are available cited, and other details are available on each video's page. Information about on each video's page. Information about my books, How Not to Die, How Not to my books, How Not to Die, How Not to Die, and How Not to Age is all at Die, and How Not to Age is all at nutritionfacts.org/books, nutritionfacts.org/books, nutritionfacts.org/books, [music] [music] [music] including some of the newer titles, including some of the newer titles, including lowering LDL [music] including lowering LDL [music] cholesterol naturally with food.

cholesterol naturally with food. All proceeds from all book sales All proceeds from all book sales that I get go to charity. that I get go to charity.

And I've got a new book in the And I've got a new book in the publication pipeline, How Not to Hurt. publication pipeline, How Not to Hurt. It's going to be available at December It's going to be available at December 15th of this year, 2026.

15th of this year, 2026. And don't forget to sign up for our free And don't forget to sign up for our free newsletter, nutritionfacts.org/subscribe newsletter, nutritionfacts.org/subscribe to stay updated on the latest bite-size to stay updated on the latest bite-size videos and articles.

videos and articles. >> [music] >> [music] >> [music] >> Nutritionfacts.org is a science-based >> Nutritionfacts.org is a science-based nonprofit, and everything on the website nonprofit, and everything on the website is free. There are no ads, no corporate is free. There are no ads, no corporate [music] sponsorship, no kickbacks, [music] sponsorship, no kickbacks, strictly non-commercial, not selling strictly non-commercial, not selling anything.

anything. anything. Just put it up as a public service, as a Just put it up as a public service, as a labor of love, as a tribute to my labor of love, as a tribute to my grandmother, whose own life was saved grandmother, whose own life was saved with evidence-based [music] with evidence-based [music]