Protect Yourself from Toxicity
Guest: Joe Pizzorno

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Dr. Mark Menolascino: Welcome back to the Women's Heart Health Summit. I'm your host, Dr. Mark Menolascino, Medical Director at the Meno Clinic in beautiful Jackson Hole. You are fortunate to be able to listen to international experts telling you the secrets of how to optimize women's health and how to prevent heart disease. Today we're joined by one of the world's experts, Dr. Joseph Pizzorno. Thank you for joining us, Joe.

Dr. Joseph Pizzorno: Well thanks for the invitation, Mark. I've long admired your work. And I think what you're doing for the folks of Wyoming is quite remarkable.

Dr. Mark Menolascino: Thank you, sir. And thank you so much, Joe, for joining me today. And one thing I've found is that in our field of functional medicine, integrative medicine, everybody seems to come here for a reason, something for themselves or with a family member or something they've seen in their clinical work that's inspired them to go deeper into this like you have. Is there a story behind that for you?

Dr. Joseph Pizzorno: Well, there is a story. I never thought I'd get involved in medicine. I was enrolled in a doctoral program at Cornell University, and I left it after a year because I actually tried and didn't like the topic I was studying. So I decided to get involved in medical research. So I came to Seattle to be involved in research at the University of Washington School of Medicine, Department of Rheumatology. And I was working with MDs and PhDs trying to

find a cure for arthritis. Our lab was looking at gout and rheumatoid arthritis. And so I was loving doing it. And I was thinking well, I think I'll get a PhD in medical research. And then an event occurred that changed my life and changed the life of a lot of other people as well.

The woman who married my roommate from college went to a place called Harvey Mudd College in California. She had suffered from juvenile rheumatoid arthritis. And one day we were having dinner together, the three of us, and she said, "Well, my arthritis is gone." I said, "Wait a minute, your arthritis is gone? It's an incurable disease." And I know it's incurable because I'm working with these MDs and PhDs not just here, but literally there are labs all over the country trying to find a cure for it.

And I said, "So what happened?" She said, "Well, I went to a naturopathic doctor." And I said, "What's that?" because I didn't know there was anything other than MDs in the health care world. So I went to this naturopathic doctor. I asked him, "So what did you do for my friend?" And he said, "Well, I detoxified her liver and taught her how to eat properly." I said, "Well what does your liver and her diet have to do with her joints being swollen?" That really grabbed my attention.

And anyway, so I was thinking about that back to the laboratory doing research. Then there was another event that occurred that I've only now realized how significant it was in my thinking. And that was, we had a woman who had just completed her residency MD. And she was now doing a postdoc. And she was looking at a new drug for treating arthritis. And everybody was excited about it because they thought it would work.

So she was going to do it on an animal model, and this animal model was ducks, so this group of ducks that were genetically bred to get arthritis in their feet. Of course those nice big billed feet, it's easy to see them, so easy to assess. So she said, "That's what's going on."

So this MD went to the vivarium to check on the ducks, make sure they came in as they were supposed to. All the ducks came in. But being a kind hearted woman and healer, she saw these ducks in these terrible environments, where they're in these cages, and they looked miserable, and their feet were on these metal wire cage things. And you might say, wait a minute. How can the duck look miserable? Well I don't have any ducks, so I don't know how they can look miserable. But I've got cats. And they let you know when they're miserable. It's pretty obvious.

So she got together with her husband. They found an empty room, and they decided to build a duck run with some sand on it. They put a little swing pull in there with water so they could swim. They brought them some fresh food. And the ducks went from miserable to happy. Okay, so anyways, so now it was time for them to get arthritis. They didn't get arthritis.

And so the MDs and the PhDs I was working with, they all consoled her and sorry your postdoc didn't work out. It was a waste. And we thought your drug would help; it's just too bad. I kind of looked at them, and I thought to myself, but wait a minute, didn't you see what happened?

Here you have these ducks genetically bred to get arthritis that looks just like human arthritis, and yet you changed their environment, you put them in an environment they can get some exercise. You stopped traumatizing their feet. You gave them healthy food. You make them happier. You promote health with them. They don't get arthritis. Isn't that what we're trying to do, is get rid of arthritis? They didn't see it. I thought to myself, instead of studying drug medicine, I think I'm going to study natural medicine. And there it went.

Dr. Mark Menolascino: And lifestyle trumps pharmaceuticals most times in our clinics. That's a great story of it, Joe.

Dr. Joseph Pizzorno: And the earlier you apply it, the better the results.

Dr. Mark Menolascino: Well the field of naturopathics is just so expanded. It's due to such great education. And I have so many good friends. And for those of our viewers that don't really know much about naturopathics, it's similar to medical school education. The first two years is all book work. The second two years is all clinical.

And there's just a different perspective, more of the nutritional basis, that the naturopath has. Joe, I got 20 minutes of nutrition in medical school disguised as scurvy and rickets. We're just not teaching nutrition in medical school. And my dream is to be working side by side with a naturopath. I think an MD and an ND, if we could really ally them together, really good medicine will happen.

Dr. Joseph Pizzorno: There are more and more clinics that are teaming up in exactly that way. And they also often bring in a chiropractor, for example, to make sure the physical medicine side is done properly.

Dr. Mark Menolascino: … do it over, if you could combine all that, be it a chiropractor, osteopath and a naturopath and an MD, by putting them

together, the team approach is so powerful, isn't it?

Dr. Joseph Pizzorno: It is. It is.

Dr. Mark Menolascino: Where do see a health coach fit into that, Joe? If we were to have a dream clinic and have the chiropractor and naturopath and MD, how do health coaches and, essentially, health nutritionists, how do they fit the gap and support the client on their journey?

Dr. Joseph Pizzorno: That's an extremely good question. And actually I've been doing a lot of thinking about what does an ideal health care system look like. And so to me, kind of three foundational parts were public health, but public health which is much more aggressive, not just controlling contagion but decreasing toxins in the environment, improving the nutritional quality of our foods, a much broader perspective for public health.

Then you have primary care, which is what you just described, kind of an amalgamation of today's naturopathic doctor and medical doctor bringing in their best skills, and other more broad health care professionals. And the third part would be more severe life threatening situation, where the MDs are so good at it. Not throw the baby out with the bath water. They're not very good at promoting health, but they're great at keeping you from dying, okay. Well good, we need that.

But as I was thinking more and more about that, I realized there's another component. I'm trying to figure out what the name should be. And I'd love to hear your thoughts. Right now my kind of placeholder is… I'm calling them the healers. So what I mean about this is the health coaches. You might say basic chiropractors, the basic acupuncturists, the basic nutritionists, the massage therapists, all these people who are doing all these things to promote health. We don't call them doctors. At best they're called adjunct health care professionals. Well that kind of sounds dismissive.

But I was thinking they're healers in many ways. They're not involved in diagnosis and treatment of disease. So I mean I'm trying to figure out what the proper term is for that category. I'd love your thoughts.

Dr. Mark Menolascino: I'm a team person. I grew up in team sports. What I say in my lectures to practitioners is it doesn't really matter if you're an MD doctor, an ND doctor, a DC, a DO, a nutritionist, exercise physiologist if we're all working towards the same goal; we all respect each other at the same level. And there's no ego in taking care of patients. And I think that those barriers

are really coming down. And I see my health coach as integral to the care as much as my knowledge base.

Dr. Joseph Pizzorno: Absolutely. It's just critical.

Dr. Mark Menolascino: And it's really the relationship we get, Joe. Are you seeing that change with the teachings that you've done and how you've laid out the school, that it's really the relationship of the practitioner to the client that really makes the difference?

Dr. Joseph Pizzorno: Well said. So when I have my very first lecture to students at Bastyr - I've now taught every naturopathic student at Bastyr. I only have one course now a year, or one course a year. Now I start by saying, "So when I created Bastyr University, what was I trying to create? And I was trying to create a facility that would follow the leadership and the visionary guidance from Dr. Bastyr as a healing physician. You have to be a healer, and you have to be a physician."

And what I mean by that is to be a physician means high level skills in diagnosis and treatment. And that can be conventional medicine; it can be natural medicine. It doesn't matter. You have to have the skills. Let's not pretend anything else. You've got to have the skills. It's going to take you years to get them. But those are important skills. But the other side is the healing side, and that is the ability to facilitate within each patient their belief in their ability to get better, to get healthy.

And that's where the relationship comes in. That's why I tell my students, always touch your patient. Always let them know you care. Now you still have to make sure you make the right diagnosis and treatment, but a huge part of the healing process is the patient's belief. You only gauge that by having a relationship with them.

But anyway, so that's one of the big advantages of the health coaches and such, is that they have more time to develop relationships with their patients. Because let's be frank about it. They don't spend as much money on their education. Therefore the amount of money they get paid is not going to be as high. That's okay because they have a really high quality of life. And that is, you get to help heal people.

Dr. Mark Menolascino: Well when I was in residency, we saw a patient every seven minutes. That was how we were trained as internal medicine physicians. And at that time it was 11 seconds that the patient spoke before

they were interrupted by the doctor. We've made huge gains. I'm told last year it was now documented at 17 seconds. The idea of actually listening, I think, is a lost art by a lot of physicians. And it's taught to the health coaches, to the naturopaths. That's part of the whole training, is connecting with people, hearing their story.

We're talking about women's heart health and this concept of inflammation. And you're the world's expert in toxicity. And if someone was just to come to you very first without knowing anything, you're so good at telling the story and the metaphor and the analogies, how do you set the stage for toxicity, inflammation in something like heart for a woman? Is there an easy way that you can describe that for our viewers?

Dr. Joseph Pizzorno: That's a great question because as you know, we spent a lot of years learning a lot about chemistry and such. And so we have a depth of knowledge that the average person does not have. And I'll be even a little bit more pejorative. And that is, the average person has pretty much been trained not to take responsibility for their health and has been trained to engage in unhealthy behaviors with huge amounts of advertising.

So it is a big problem. So the approach I take - I'm not going to say it's optimal, but it's the approach I take - and that is, I say to people, "Our bodies are these huge enzyme machines, okay. These enzymes make everything work in our bodies. If the enzyme's not working, you don't have health, and you get disease."

So what are enzymes made of? They're made of two parts. They're made of a protein that's determined by genetics. But before that protein can become an enzyme requires a cofactor. The cofactors are typically vitamins and minerals. So if you don't have the vitamins and minerals, your enzymes don't work. But if you have the vitamins and minerals, if you're being exposed to environmental toxins that compete with those vitamins and minerals for the enzymes, then those enzymes don't work.

I'm now seeing the research I'm looking at that we have now many situations where we're getting more of the toxins that poison the enzyme than of the trace mineral needed for the enzyme to work properly. So when you look at all this disease burden we're getting, it's pretty obvious why it's happening. We don't get the nutrients we need for the enzymes. And we poison the enzymes with all these chemicals and metals. Why are we surprised people are sick and getting worse?

Dr. Mark Menolascino: Well I think that the more I'm listening and learning and reading, the more I'm seeing these toxicity messengers causing all kinds of miscommunication. And the hormone disruption for women is one of the things that most concerns me, particularly for the younger women, the children. How much worry should we have about this, Joe?

Dr. Joseph Pizzorno: Oh, it's huge, okay. So a study just came out of Norway where they've shown for each of the last two generations, the IQ of the children has dropped seven points.

Dr. Mark Menolascino: What?

Dr. Joseph Pizzorno: In two generations we've lost 14 points of IQ. If you think the world is going crazy around us and people are doing stupid things, boy, it's not surprising. We're basically poisoning ourselves.

So you look at why are we getting all these drops in IQ. Well how about if a woman is eating conventional grown foods. And conventional grown foods are being sprayed with organophosphate pesticides. Half the pesticides in the U.S. are organophosphate pesticides.

Then you look at the levels of those pesticides in the women, in pregnant women, and then look at the IQ of the children that are born from these women and compare the children being born to women in the top ten percent of organophosphate pesticide body load versus the bottom ten percent. They have a seven point drop in IQ. Just one set of toxins, organophosphate pesticides, drops the IQ of children by seven points.

Dr. Mark Menolascino: And that's only one of the toxins.

Dr. Joseph Pizzorno: That's only one of them. Then you look at lead. Well the good news is, through public health, we've dramatically decreased the amount of lead in the environment. There's still enough to damage children's IQ. You put fluoride in the water, decreased children's IQ. If you want to be really paranoid, I can go through, now, ten toxins that are high enough levels in the environment to drop children's IQ between three and seven points per toxin.

So it's like if you want to be paranoid about the future of the human race, I sometimes wonder if Mother Nature is saying this may have been a failed experiment. Are we becoming dumber? But we're also now looking at fertility. So I just gave a lecture on toxins and infertility a few months ago. I started

looking at the research on it. And I think Mother Nature's saying time for this experiment to stop because our fertility is dropping dramatically.

Dr. Mark Menolascino: Well it's interesting because we have women come to see us for fertility that have done all of these hormone therapies and everything. But no one's really looked at their toxic load or the toxic load of their partner. It's all about taking more medications and more hormones.

You mentioned not trying to scare everybody on the top ten, but can you pick some of them that you're most concerned about and also just a pearl of what people could do that will reduce or avoid them?

Dr. Joseph Pizzorno: Let's talk about women, okay. Let's start right there.

Dr. Mark Menolascino: I'd love to.

Dr. Joseph Pizzorno: So everybody knows that women who breastfeed have less breast cancer. And they always thought, well, there are all kinds of reasons why that's the case. I'm going to give you one that looks like the strongest reason. I and my team have been looking at trying to answer the question, what percent of each chronic disease is due to environmental toxins.

So you have to look at a lot of research into this formula that public health uses. And so we've been just been kind of methodically working our way through all the toxins and all the diseases. And one of the ones that we looked at was breast cancer. What we found was the strongest predictor of breast cancer in women is their PCB levels, polychlorinated biphenyls, okay. These things basically are at high levels in farmed fish, okay, primary source.

So they look at breast cancer, and you find that the primary causes are PCBs. And what's the best way to get PCBs out of a woman's body? By breastfeeding. So women who breastfeed for a year, okay, will drop her PCB levels by about a third, okay. And it's the most effective intervention available.

Dr. Mark Menolascino: And giving them all to her child.

Dr. Joseph Pizzorno: And they give them all to the child, okay. How about rheumatoid arthritis, big problem with women? How many doctors check the PCB levels in the women with rheumatoid arthritis? Because as near as I can tell about 20 percent of rheumatoid arthritis in women is due to PCBs. How about cadmium? Look at cardiovascular disease. The primary reason women have heart attacks these days, it looks like it's cadmium. Not cholesterol, it's

cadmium, because cadmium, to follow up what you said earlier, induces oxidative stress and inflammation and causes all kinds of damage in the body. Want me to keep going?

Dr. Mark Menolascino: Give us a couple more. No, these are great. Thank you.

Dr. Joseph Pizzorno: So the list continues with women. How about cardiovascular disease and cadmium in women? How about lead in women? So here's something. I'm looking on the screen right here that looks at ischemic heart disease, loss of blood supply to the heart. And you find that once a woman has at least five micrograms per decaliter of lead in her blood - by the way, ten is considered safe - so half the so called safe level, 20 percent of women have more than that five micrograms per decaliter. And that increases the risk of ischemic heart disease by a factor of 6.3, so 600 percent more likely to get a heart attack because of the lead. That's 20 percent of women, again, just one toxin.

Dr. Mark Menolascino: And Joe, you talk about lead. And for our older women listening, viewing, their bones, since they were around when we had leaded gas, their bones accumulated some of that. And if they have osteopenia or osteoporosis, the bone loss disease, are they dumping more lead then, too, or making it more of a toxin through their body?

Dr. Joseph Pizzorno: That is a very good and important observation. They're dumping lead, and they're dumping mercury, because the primary places those things are stored in the body is in the bone, okay. So as people get older and start losing bone, they're now starting to show all these high levels of lead and mercury, other toxins as well. I've been really surprised by this. I've been looking at people, and they're perimenopausal or andropausal ages, just starting to develop disease. And I look at the metal levels and see all these high metal levels. They're not being currently exposed. It's coming out of the bones.

And going back to the bones, for example, how many women are aware that 20 percent of osteoporosis in women is due to cadmium? Big study done here in Seattle, they were looking at women with osteoporosis. They found all this cadmium being clearly associative and causative. And they thought, well where was the cadmium coming from? It's coming from eating tofu made from soybeans that are grown with synthetic fertilizers, high phosphate fertilizers because high phosphate fertilizers are often contaminated with cadmium.

And for some reason the bean family of foods, when there's not enough zinc in the soil, will very efficiently absorb cadmium. And of course modern agricultural procedures result in much less zinc in the soil because of all the synthetics and lack of putting real nutrients back in the soil.

Dr. Mark Menolascino: And so even if you're eating organic, non-GMO food, you still can get that excess cadmium?

Dr. Joseph Pizzorno: Well remember, I said it was conventionally grown. So if you have organically grown soybeans, they won't have those cadmium levels.

Dr. Mark Menolascino: Because the soils are healthy.

Dr. Joseph Pizzorno: Yes. So you asked, what you can do about it. Everybody who's watching this or listening to this interview, you must eat organically grown foods. I'm sorry. You say well, they're more expensive. Yes, they are more expensive. So you want to spend the money for doctors instead? Do you want to have your body break down? I mean we accept this idea that as people get older they have more chronic disease. That's normal. It may be normal, but it's not necessarily.

And I have just a wonderful personal experience of having known my great grandfather. My great grandfather died at age 95 with no disease. He never saw a doctor in his life. I mean I would play strategy card games with this guy, this old guy - doesn't seem so old anymore - but anyway, this old guy. And he'd beat me all the time because his brain was working just fine.

I have a picture of him when I was a little kid, my great grandfather and my grandfather and my dad and me as a little kid. And there's my great grandfather standing tall - he wasn't real tall; he was about five foot seven - standing tall, not bent over, no cane, no swollen joints. It's quite remarkable what we've done to ourselves as a society.

Dr. Mark Menolascino: Well it really is. And I have a lot of my clients that we talk about normal. Well what's normal America right now? It's diabetic and obese. Two of the three kids born today will probably be diabetic if we don't change our ways. And you don't want to be average. You don't want to be normal. You want to shoot for what your optimal is.

Well in the organic foods, are there ones that you worry more about than others? Or is it where you live in the country? How do you hedge your bets a

little bit if you're not going to go totally? I agree with you. Eat organic only. Well how can you hedge your bets a little bit if you're just getting started?

Dr. Joseph Pizzorno: Yeah, so clearly eating organically is more expensive. And there are some things that just aren't available organically yet. But hopefully we'll get there. So the Environmental Working Group has put a nice website out, ewg.org, where they rate which foods have the most toxins in them and which foods have the least toxins in them. So if you look at that list, anything on the high toxin list, eat only organically, or don't eat it. I'll be blunt about it. Don't eat it, okay, because once these toxins get into your body, they're almost impossible to get rid of.

I was talking about cadmium. The half life of cadmium in the body is 16 years. So once it gets into your body, it's almost impossible to get rid of. When I say half life, I mean how long does it take to get half of it out. So look at PCBs. The half life of PCBs ranges from two years, which is bad, to 25 years. So once it's in the body, it's almost impossible to get rid of. And you're continuing to be exposed to them.

So if you look at the research on humans, as you get older, the body load of toxins increases. And that's why they get so much toxicity. So if it's a food that's on that high toxin list, don't eat it unless it's organically grown. Now if it's on the low toxin list, okay, you can eat those conventionally grown. You probably will be okay.

Dr. Mark Menolascino: Well the ewg.org, that's a great starting point for people just to get awareness and to make some good choices. I have a lot of people that come in and say, "Oh my gosh, if I have it, how do I get rid of it? Do I do chelation? Do I eat cilantro, chlorella? Do I go natural? Do I do chelation?" What are some of the easy things our viewers could get started to do? Then, where do you see that pathway of what the other options are that might be worth investigating for people?

Dr. Joseph Pizzorno: Good. So I think people have to decide how engaged and how aggressive they want to be. You can start with some fairly simple things that will work. It'll take time, but they do work. And you can get progressively more and more aggressive. So first off, of course, stop all your toxic exposure as much as possible. Food, air, water, health and beauty aids, household cleaning products, the chemicals used in your yard, just get rid of all the poisons. Use only natural things, okay. You've got to stop the exposure. Then the next part is to say well, now how does our body normally get rid of these things? Now one reason why so many of them are so problematic is

because they are new to nature molecules for which we do not have very good detoxification methods. But we still can detoxify.

So it turns out that our liver does a pretty good job of getting these things out of the liver and into the gut. Now unfortunately, because people's diets are so low in fiber, rather than the toxins binding to the fiber and go out through the stools, they're reabsorbed through something called intrahepatic circulation. So one great example would be mercury.

So every day we actually dump one percent of our body load of mercury into the gut, which actually sounds pretty good. But the problem is, we reabsorb 99.5% of that mercury because there's not enough fiber there to absorb the toxins. So as we've evolved as a species we consume between 100 and 150 grams of fiber a day. Now we consume about one tenth of that, between 15 and 20 grams of fiber a day, depending upon the person, so much less. So the most simple thing people can do is increase your fiber.

But don't do it right away because if you're not used to having enough fiber in your diet, you're going to get a lot of gas, things like that. Work your way up. But fiber's critical. I do not recommend wheat fiber because too many people react to wheat. So I like things like psyllium seeds and things of this nature which are relatively healthy and don't hurt people. Oat fiber's another good one, rice bran fiber. There are a number of fibers. So just increase your fiber.

The next thing you can do is to increase the amount of a very important molecule in your body called glutathione. So glutathione is one of the most important antioxidants in the body. It protects the mitochondria from damage when you're producing energy. It binds to mercury to neutralize it. And it plays a huge role in the liver for getting toxins out of the body and protecting the liver from the toxins.

So the way to increase your glutathione levels is by consuming whey powder or by taking a nutritional supplement called NAC, or N-acetyl cysteine for short. So I recommend my patients try to take 15 grams of whey powder twice a day or 500 milligrams of NAC twice a day, okay. So those are the most simple things you can do, almost no chance of side effects. And they will clear the toxins out of your body. But it takes time.

Now when you know what the toxin is, there are strategies that are available for each specific toxin. So, for example, one of the things I do if a person has high levels of mercury and lead is I prescribe a relatively safe drug called DMSA. Now DMSA binds to the lead and to the mercury and gets it out

through the urine and also through the stools. So that's the way of getting those metals out. Now if you have high levels of PCB, for example, you might also consider a drug - so I'm going kind of a more extreme route now – [inaudible] one of the sequestrants. So [cholestimine] and cholestyramine actually are very good at getting rid of the really hard to get rid of chemical toxins because it binds them in the gut so it won't let them into the body.

And then when the body's trying to get rid of them through the liver, then it's right there to get rid of it. So that's another one you can do. Then of course if you have really high levels of metals, you can do IV chelation therapy. I've seen a lot of IV chelation therapy. I've seen it do a lot of good. But unfortunately I've seen it do some harm as well. It's not a good intervention for everybody, which is why I've tried the oral chelation route. It's much slower, but you don't get the side effects. But if somebody's already having significant side effects, you may want to become more aggressive in that situation.

Dr. Mark Menolascino: So I love how balanced you are. I feel the same way about chelation. In my residency I saw people get chelation for heart disease and calcium that couldn't walk down the hall. And after 30 treatments they still couldn't walk down the hall. And I saw people get 30 treatments and then were jogging. And the NHI did a trial that showed a moderate benefit in chelation. So I'm open to it. But I love just the lifestyle, the basic things that you can start with.

You mentioned wheat. And the Internal Medicine Society came out and talked about checking people with osteoporosis for gluten sensitivity. A lot of our lecturers that we've had on our summit have talked about gluten and autoimmune, gluten and inflammation. Is there a synergy between people who are gluten sensitive and get exposed to wheat and things like the heavy metal exposure? Is it a one plus one equals ten as far as the inflammatory damage?

Dr. Joseph Pizzorno: So I haven't actually thought of it that way before, but I would fully agree. So as you know, the problem with the wheat is it induces inflammation in the majority of the population. And once you start inducing inflammation, it ranges from things like inflammation in the gut, causing the gut to lose its permeability control.

So we lose control of what comes into our body and what doesn't. It's called leaky gut syndrome. But what it is is loss of permeability control. Once you lose permeability control you now have a lot of molecules coming in to this body that increase inflammation everywhere. So the mechanism by which these toxins work is also by increasing inflammation.

So you definitely have a synergistic effect. So it's not one plus one equals two. It's one plus one equals three. And one plus one plus one does not equal three. It equals ten, okay. And it just gets worse and worse. So now when people ask me for help with their chronic disease, I've now started a new strategy, which is interesting.

I say to people, "Okay, I'm happy to help you. But first I want you to stop eating wheat for a month," okay, because over half the people with chronic disease stop eating wheat for a month, and their chronic disease gets way better. So this is a way of kind of simply going through the foundational things but also tells me whether they're serious or not. If a person says, "No, I can't stop eating wheat. I just love it too much," I say, "Well, I don't know how serious you are about your health."

One of the seducive parts of the drugs like the anti-inflammatories and analgesics and such is you get quick relief. But that's why they're so popular. But they rarely actually deal with actual cause why people are sick. And so instead of dealing with the cause of why you're sick, you instead take drugs to turn off the alarm systems, why would you expect anything other than more disease?

Dr. Mark Menolascino: That makes total sense. And we can hedge our bets, can't we? You mentioned the beauty and cosmetic products. I think the number's 122 of chemicals the average woman puts on her body before she leaves the house in the morning. And I think a lot of women don't realize it, that they're not looking at those inactive ingredients, those other ingredients in their beauty products, in their cosmetics, in their vitamin supplement, in their medication. So it's in sneaky places.

Dr. Joseph Pizzorno: Great example. And by the way, guys, you consume about one quarter as many as women, so don't pretend you don't get any. So the cosmetics all smell nice. And they smell nice because they have a chemical in them called phthalates. And those phthalates are used to stabilize fragrances.

Well, those phthalates bind to insulin receptor sites so that the insulin can't work. So our wonderful bodies adapt to that by overproducing insulin to get sugar into the cells because if you don't get sugar into your cells…So my dear wife Laurie just brought me my cup of totally 100% organic coffee with a little bit of organic chocolate in it, okay.

Dr. Mark Menolascino: Well, coffee's the one that I think most people miss

because it's such a heavily pesticided food. They save a couple of bucks not getting the organic coffee. That's probably one of the biggest mistakes people make, Joe.

Dr. Joseph Pizzorno: Yup, a good example. Every choice. Every choice. Is it safe, or is it contaminated? If it's contaminated, don't do it, folks. Find something else.

Anyway, going back to my diabetes example. So here you have these phthalates in these health and beauty aids. And by the way, if you have a shower, you put hot water in the shower, and you smell the plastic, you're putting those things into your body. So they bind to the insulin receptor sites so that when insulin comes to the cell surface, it can't activate absorb sugar. So we have to now put more insulin there to really push on the receptor sites to get the sugar in.

Well, that's fine, but now you're overworking the pancreas so after 20 or 30 years it burns out, and now you've got diabetes. Well you could've prevented the diabetes by not using the health and beauty aids. There's just example after example of things we're doing that are either blocking the insulin receptor sites or directly poisoning the pancreas that's causing this diabetes epidemic.

Dr. Mark Menolascino: So really you've taught me how when I see patients with type 2 diabetes, which is the adult onset, usually lifestyle driven; they're usually overweight - that it's really looking at toxicity first that's causing this communication breakdown rather than looking at their behavior being bad. They're kind of tied together, but we want to blame people for eating the wrong thing, not exercising, when it could be what they're exposed to that's sabotaging them all along.

Dr. Joseph Pizzorno: Mark, the data is so clear that researchers are now calling these chemicals obesogens and diabetogens because they increase obesity, and they induce diabetes. But the good news is you can do something about it. You can reverse all this stuff. I've seen this with thousands of patients, foundational naturopathic principles. And actually, even though it's a foundational naturopathic principle, I'm actually going to quote an MD friend of mine, Dr. Sid Baker. So I'm sure you've heard Sid's lectures at IFM, one of the most brilliant conventionals I know.

Dr. Mark Menolascino: I agree.

Dr. Joseph Pizzorno: I call him the Dr. Bastyr of conventional medicine. That's how I think of him, okay. Anyway, he said all of medicine's really quite simple. Get into each person what they uniquely need, and get out of each person what they uniquely do not need.

Dr. Mark Menolascino: It's that easy. It's that simple.

Dr. Joseph Pizzorno: Yeah, we have this powerful belief in the body's ability to heal. But you have to give the body the tools it needs to heal. And you have to stop sabotaging it. And if the nutrients aren't there, and the toxins are coming in, you've destroyed the body's healing processes.

Dr. Mark Menolascino: Well you talk about the obesogens and diabetogens, and I have a lot of people that come and see me and say, "Well, my mom was overweight and diabetic. My dad was too. So I have those genes." And we've learned that you're not your parents, that you can turn on and turn off good genes and turn on and turn off bad genes, this whole idea of epigenetics. But it's the information that they see. So really what you're sharing with me is don't let them see bad information. Don't give them those chemicals that turn things on and turn them off. It's the same concept, Joe, of toxins affecting insulin signaling that affects female hormone signaling too, correct?

Dr. Joseph Pizzorno: Huge, just huge. I could cook up some areas. Let me just do thyroid because that's where the data is the best. And I'm going to come back to PCBs again, okay. So these PCBs - and by the way, the PCBs were banned 43 years ago in the United States. So you might say why do we have such high PCB levels? Well your mom had high PCB levels when she bore you.

And so all your fat stores are full of PCBs. But because the PCBs are what are called persistent organic pollutants, it means they're hard to break down in the environment. So once again the environment, they're very, very difficult to break down because they're designed to be difficult to break down. And when you get the biological systems, they basically accumulate in biological systems. And since we're at the top of the food chain we're concentrating those PCBs in our bodies.

So anyway, they started looking at the PCBs and things like thyroid. So PCBs decrease production of T4. They decrease the conversion of T4 to T3. As you know, T3 is three times as active as T4. And then they impair T3's ability to activate the mitochondria to produce more energy to increase the activity of

our enzymes. So every stage in the process, you see PCBs poison the process, poison the thyroid's ability to function. Keep going.

Look at, oh, how about estrogen?. Everybody's concerned about estrogen. Weirdly, many of these environmental toxins have estrogen type effects in the body. And women are afraid of getting breast cancer and [inaudible] to estrogen, estrogen positive receptor sites, things like that. We've always had those genes. We've always had those receptor sites and such. Why was it that the BRCA genes weren't particularly predictive of breast cancer until the late 1960s? Because it wasn't until the late 1960s that the toxin level was built up so much that they're causing breast cancer.

Now why are they causing breast cancer? The BRCA genes, they're not genes for breast cancer. They're the genes for detoxifying environmental toxins. So if you have these genes that don't let you detoxify the environmental toxins as well, you get more breast cancer. But it's not just breast cancer. It's everything else those toxins damage in the body. So go and get your breast removed because you have BRCA genes. I'm not going to argue about whether it's a good idea or not. But you're not dealing with the problem. The problem is the toxins not the breasts.

Dr. Mark Menolascino: Well, Joe, you've just kind of demystified two things. First you were talking about the thyroid, how a woman who has a thyroid problem can take thyroid medication, and all of her numbers look perfect, but she doesn't feel like it's working. I see that all the time in my clinic. And then this whole BRCA idea about your genetic risk, it's not really that you genetically have to get cancer because you have the gene.

It's genetically that you can't get rid of the bad stuff in our environment. And so you should just expose yourself to less of it. That's your number one thing. And support those pathways, like you mentioned, with N-acetyl cysteine, using clean food, really helping the body be efficient. But don't let it get poisoned in the first place.

Dr. Joseph Pizzorno: So the BRCA genes repair DNA damage, okay. And the DNA damage is one of the key mechanisms by which the toxins cause damage. So I didn't say it quite right. Let me clarify that.

Dr. Mark Menolascino: So Joe, we're tearing down DNA all the time and rebuilding it all the time. And really it's the toxins that get in the way that effect the quality of the rebuilding?

Dr. Joseph Pizzorno: They impair our ability to repair, but they also cause more damage.

Dr. Mark Menolascino: Yes, so it's a double edged sword, isn't it? Well what are we going to do about this, these toxins? And I love that term the persistent organic pollutants. You call them the POPs. These are the things in our environment that are there for years and years that don't break down that are just everywhere. How are we going to address this without living in a bubble? You talk about clean food, some supplements you can do. What is some of the other advice that we should share with our viewers? How can they protect themselves?

Dr. Joseph Pizzorno: Yeah, another excellent question. So we want to, first off, prevent them from getting into our body. Second, we want to support the body's normal healing processes, where we need to [inaudible]. But there are also some other things we can do that are quite traditional, been used for centuries, and work quite well. And they're things like saunas.

Dr. Mark Menolascino: So the infrared saunas?

Dr. Joseph Pizzorno: So right now I don't think it matters the kind of sauna. What matters is that you're sweating for a long period of time. So we're in a sauna long enough to know, first off, make sure you get plenty of fluids. Make sure your doctor's cleared you for doing it. When you're sweating heavily, and particularly you start getting that oily sweat, it is full of toxins. Have you ever heard Dr. Steven Genuis lecture?

Dr. Mark Menolascino: Yes.

Dr. Joseph Pizzorno: You know he's just brilliant. So what he did was he took ten normal volunteers, put them in a sauna, got them sweating, collected the sweat to see what was in it, and found all these metals, chemicals, PCBs, lead, mercury, cadmium, all this stuff. So I recommend people do, at least once a week - they can do it for an hour but at least 30 minutes - sauna, where they sweat profusely. That helps get the toxins out, helps support the body's innate processes to get rid of this stuff.

Dr. Mark Menolascino: And there's some data suggesting for cognitive decline that it helps to slow that by doing the saunas and doing the cool pool. Do you agree with that, doing the cool dunk after?

Dr. Joseph Pizzorno: So the data I've seen has been on the toxins in the sweat. I don't know if the cool dunk helps more or not. It may. I just haven't looked at that research. But let's go back to toxins and the brain.

So there's no question that there's very, very strong correlations between the body load of toxins and neurodegeneration. And mechanisms have been determined. So there's kind of three things going on. First off you get the direct damage from the toxins. And we say, well, wait, the blood brain barrier keeps the toxins out. It doesn't. And whether it's because the blood brain barrier's so damaged or because these things are so fat soluble, I don't know.

But it doesn't protect them. Anyways, you get direct damage. The second thing they do is they deplete glutathione. So the body's using glutathione to protect itself. Well if the glutathione's not there to protect from oxidative damage from the mitochondria, then your mitochondria's going to produce more damage in the brain. The mitochondrial leakage will do more damage to the brain. The third factor is we have something called BDNF, brain derived neurotrophic factor.

Now why that's important is that it controls the brain's regeneration. Most people don't realize that every year we regenerate one percent of our brain, so our whole lifetime. If you've lived to 100 years old, you've actually turned your brain over one time. That's the slowest turnover part of our whole body. But still, the body's always trying to regenerate, trying to say well, where's there some damage? Remove the damage; bring in good tissue, okay. It's doing this all the time. And so that's the core controlled by BDNF.

So what do these persistent organic pollutant neurotoxins do? They decrease the production of BDNF. So even if your person has not been exposed to specifically neurotoxic chemicals, the body's own innate process for repair have now been blocked.

Dr. Mark Menolascino: So what I'd like to finish up with today, Joe - I so much appreciate our time today; you've just give us so much pearls of wisdom - for all of our female viewers, how about for their daughters? What's some advice that you would give moms for their daughters and their sons? How do we protect this next generation coming up, Joe?

Dr. Joseph Pizzorno: Very good question because in the past you'd say to them well, first off, don't get killed by doing something stupid, eat reasonably well, get exercise, and things like that. Now you have to realize we must actually take overt action to decrease their toxic exposure and show them how

to live healthily. It's up to us now. You're not going to get it from the media. You'll not get it from the schools. It's up to each mother to say to their children, here's how you live a life, and here's how you live a full life. And it starts by being physically healthy. And physically healthy means get in the nutrients you need; keep the toxins out. I can't say it more directly than that nor more simply. That's what it is, every choice.

Dr. Mark Menolascino: I love doctors that walk the walk and talk the talk, like the organic coffee you're doing. You've inspired me to do that with myself, to really clean up what I have in my office that I share with clients, the soaps we use, the quality supplements we do, what I have at my house, the food that we're doing, going to the farmers markets. I always did that, but you really raised my consciousness that I need to do it at the next level.

What's exciting is my 17 year old daughter gets this too. Her and all her friends understand this. They know why we go to the farmer's market. They know why they shouldn't eat dyed and preservative laden foods. And they think about this toxic exposure, not that they're afraid of it, but that they're empowered to avoid it, because now that they know, they can make choices. They're not always 100 percent perfect - none of us are - but it's neat to see this next generation embracing that.

Dr. Joseph Pizzorno: That's very encouraging to hear. That's very good, yes. You can't make good choices if you don't know what those choices are. And if all you do is watch TV and believe what you got taught in school, you're not being given good choice guidance.

Dr. Mark Menolascino: Well I think we can do a better job for our kids. And it starts with people like you and summits like this. So, Dr. Joseph Pizzorno, thank you so much for being with us today. I'm greatly appreciated and inspired by your words.

Dr. Joseph Pizzorno: Oh, you're very kind. Thank you, Mark. You are the future.

Dr. Mark Menolascino: So tell us, if people want to connect with you or read some of your books or find you on the net or on Facebook, how do people connect with you? And share with them more reading they could do with you.

Dr. Joseph Pizzorno: Okay, so I am on Twitter, Dr. Pizzorno. And I've got a website, drpizzorno.com. And then I've written, now, seven consumer books and five textbooks for doctors.

Dr. Mark Menolascino: Fantastic.

Dr. Joseph Pizzorno: If you're a healthcare professional, I would suggest my newest textbook I wrote with one of my colleagues, Dr. Walter Crinnion called *Clinical Environmental Medicine*, just came out in July. I'm very excited about it. And then I wrote a book for consumers that came out last year called *The Toxin Solution*, where I kind of go through and talk about where the toxins come from and how you avoid them and how you get them out of your body. I go through a pretty extensive process. I give people basically an eight week program for how you do this.

And let me just comment more on that. And that is, I say to people, if you're toxic, don't start a detox program until your body is ready. [45:01 inaudible] first six weeks saying, how do you clean up your gut? How do you get your liver functioning properly? How do you get your kidneys functioning properly? Then you do detox. But if you do detox before your body's ready to get rid of these toxins, you could stir things up and actually make yourself worse. So you want to get the toxins out.

Dr. Mark Menolascino: Well that might be the biggest pearl of our talk today, Joe, is get everything ready before you do an aggressive detox so you don't actually sabotage yourself.

Your book *The Toxic Solution* is one of my favorites. You were kind enough to give me a signed copy. I've read it. I've asked everyone in my staff to read it. It's a great manifesto of how to do it right. And I think it's important that it is done right.

Dr. Joseph Pizzorno: I appreciate that.

Dr. Mark Menolascino: So again, thank you very much for being here and look forward to speaking with you next time.

Dr. Joseph Pizzorno: Fantastic.