

The Impact of Toxins on Fertility

Joseph Pizzorno, ND



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Rebekah Kelley: Welcome to the Humanized podcast, all about personalizing your health. I'm your host, Rebekah Kelley, and today our topic will be The Impact of Toxins on Fertility with Dr. Joe Pizzorno. Before I introduce Dr. Pizzorno, I want to remind everyone to subscribe and get all of our variety of casts in audio, video and transcription at HumanizedHealth.com. I'd also like to thank our lead sponsor, Village Green Apothecary, at MyVillageGreen.com.

A little bit about Dr. Pizzorno. He's a world-leading authority on science-based natural medicine. He's a naturopathic physician, educator, researcher, and founding president of Bastyr University, and the current chair of the board of the Institute for Functional Medicine. He's the author of numerous books, including the *Textbook of Natural Medicine*, and most recently, *The Toxin Solution*. Dr. Pizzorno is an expert in toxins and detoxification, and we're absolutely thrilled to have him here today to talk about the consequences of chemically grown food.

Thanks so much for being here with us.

Joseph Pizzorno: Well, thank you so much for the invitation to chat with you again, and boy, this is such an important topic.

Rebekah Kelley: So important. I do have both of my books from you.

Joseph Pizzorno: Oh, thank you. Oh, great!

Rebekah Kelley: Like, right here [holds up both books], and they're actually by my bedside, and I really am excited to talk about what we can do about what's happening right now with so many exposures to toxins. So I just want to jump right into it and say I know more and more couples have a lot of friends that are finding conception difficult. Can you talk to us about why this is happening right now to us?

Joseph Pizzorno: Yes. So about 6 years ago, I was invited by the Integrative Fertility Conference in Vancouver, British Columbia, to give them a lecture on environmental toxins and fertility. So up until that point, I hadn't been paying much attention to it because I was focusing more on cardiovascular disease and diabetes and gout and dementia, all those things where we clearly have documentation of how bad toxins are as people get older. So when they asked me to look at fertility and toxins, I said, well, oh yeah, that should be real interesting, because we do know that fertility is decreasing. Now, why is that happening? It's more than just choice. And as a matter of fact, we now know that the highest number of people ever are going for fertility treatment because there's so much infertility.

So when we look at this, there's kind of two big things I want to cover today that are critical. Number one of course, is toxins. Number two is, we've made ourselves more susceptible to the toxins. So it's not just that we have more toxins, it's that we're also more susceptible to them.

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So when we started looking at these toxins, it's very clear that many of these toxins cause infertility. And I've broken it down into toxins that cause male infertility, toxins that cause female infertility, toxins that cause IVF failure, and toxins that cause damaged fetuses.

Okay. So most people don't realize that even ignoring the whole issue of toxicity, a substantial portion of normal pregnancies are spontaneously aborted by the body. And nature is doing this because there's something wrong with the fetus. So nature says, okay, there's going to be a problem with this fetus, it's better to protect the mother and not waste the resources on this fetus. I mean, and I'm being kind of, you know, harsh about this, but that's the reality. Nature says we want healthy babies, as much as possible. So things spontaneously abort anyway.

When we then start damaging the quality of the sperm, the quality of the eggs, the environment for the development of the fetus, now we start to have a lot more events for when nature to say, well, no, this is not working.

So let's look at some of those, and let's start with the nutrition side. And this is one that I'm paying more and more attention to. There's a big problem with what we've done to our food supply. And a big part of that problem with the food supply is that we've become deficient in folates. And we well know that folate deficiencies result in neural tube defects and increased spontaneous abortions, things of this nature. Well, what's happened is that, as we've lost folates in the diet, and this started happening, we started to replace it with folic acid as the dietary supplement. Now, as you know, I'm a great believer in dietary supplements. But the problem is folic acid is not actually found in nature. I believe dietary supplements should be from food. So it's not from nature, which means that the body has to metabolize it to an enzyme I'm sure the audience has heard about before, MTHFR, or methylenetetrahydrofolate reductase. Well, one quarter, one third of the population doesn't do that very well. So we don't have enough methyl groups because of the lack of folate, methylate folates, in the diet, you have more neural tube damage, and there's, right there, more babies are going to be aborted, just because nature's saying no, there's a problem.

But it's going to get even worse. So we now know that as the body load of various toxins goes up, and let's look at males first, as the body load goes up, the number of sperm goes down first, then the sperm becomes abnormal, and then there's no sperm whatsoever, as the level of toxins go up. And here's an area where we've got to get a lot smarter. I think all your audience is very aware of the problem with the bisphenol A, BPA. We've seen all this advertising for bisphenol A-free this, bisphenol A-free that. Well, what are they replacing the bisphenols with? Other than bisphenol A, with other bisphenols. And one of them is called bisphenol S, and bisphenol S is absolutely destructive to male fertility.

And as I said before, as the bisphenol A levels go up, but even more as the bisphenol S levels, go up, you lose sperm, it becomes abnormal, and then when it's high enough, there's no sperm. There's no sperm. So how can women get pregnant? There's no sperm. Okay. I can just keep talking, but let's go on to our next question.

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Rebekah Kelley: So, you started describing this, basically how environmental toxins impact both men and women, because it's a little bit differently, right? So you started talking about the food, and missing certain nutrients that we need. And then the additional BPA and then BPA S – is that what you called that, right?

Joseph Pizzorno: Yeah. BPS.

Rebekah Kelley: What are other things, what are other environmental toxins, because I'm assuming it affects men and women differently, right?

Joseph Pizzorno: Correct. Correct. So, well, as it turns out, as you look at toxin after toxin, as the level goes up, then, the fertility goes down. And you might say, well, what are the worst ones? [Big sigh] I'm hesitant to say what the worst ones are for a very simple reason. And that is, it's not just one toxin, it's accumulation of toxins. So what's happening is we're getting more and more toxins that are synergistically working together to basically poison the fetuses. So, you want me to tell you what the worst toxins are?

Rebekah Kelley: Yes, please. I'm dying to hear.

Joseph Pizzorno: Okay. So I actually wrote an article about 3 years ago, where I'm recommending that primary care include environmental medicine and everybody be tested for lead in the blood, arsenic in the urine, and bisphenols in the blood. We look at those three, they account for a huge amount of disease. And so I think that if we just controlled those three, we get in much better condition. But when I say those three, okay, well you have to look at these other ones as well, because we know that there's a lot of maternal transfer of toxins into the fetus. So as the mother's levels of mercury goes up – you know, this is scary. Now, this is animal-based research. If you look at the amount of mercury in a woman, in her brain, and then look at the amount of mercury in the brain of her fetus, it's 40% higher. So what's happening is, mother nature is saying, these toxins are bad and we know that the mother's more important, so we're going to get these toxins out of the mother and put them into the fetus because we'd rather lose the fetus than lose the mother.

Rebekah Kelley: Oh my gosh. Wow. Wow.

Joseph Pizzorno: Yeah, that's really, really scary. So there's toxin after toxin after toxin, where we look at the amount of, for example, mercury. I've been looking at a slide right now – and maybe should have done this as a slideshow for you – but I look at the amount of mercury in the fetus and it goes up with the amount of mercury in the mother. This is looking at non-neural tube defects. As the amount of toxic metals in the mother goes up, neural tube defects go up, which means you have both more spontaneous abortions, but you now have more damaged babies with less brain function, which means lower IQ and increased ADHD.

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So I'm looking at something that's looking at toxic metal, that's looking at arsenic and looking at lead, looking at mercury, looking at cadmium – as they go up, all these bad things happen. And anyway, there's study after study, after study. Not only that, but the fetus has lower activity of the enzymes in the liver responsible for detoxification of these poisons. So the fetus is actually even more susceptible to damage than is the mother, because they're less able to protect themselves.

Rebekah Kelley: So you mentioned that you're kind of recommending... and I love this concept of really starting to test, right? So that we understand and have a better sense. So what, I mean, is that just a general test you can go and ask your doctor for? Like, what lab testing can one use to measure one's toxins? Let's say, you know, I and my boyfriend, we've decided that we want to get pregnant. What do we do so that I understand what my situation might be, or our listener would understand what her situation might be?

Joseph Pizzorno: Great. That a question I'm really happy that you are asking. Because if a couple comes to me and says they want to get pregnant, I say to them, give me a year. Now it could be shorter, obviously – you know, the longer, the better – but even if it's only a month, we can make a difference. But the bottom line is, it takes time. So first you have to look at what toxins are elevated in the person, and then you have to get them out.

So how do you test? So you need to test directly by actually measuring in the blood or the urine or another body tissue, the actual level of a toxin. Well, the problem is, we can do that, but it's somewhat limited, as well. In our best-case scenario, we put a needle into a person, take out the cells, see what's in them. Well, nobody wants to do that, particularly in their brain. Nobody wants to put a needle into their brain to see how much mercury is there.

So we have to do indirect measures, like what's in the blood, what's in the urine. So right now the vast majority of tests that are commercially available at a reasonable price are in the urine. So one of the labs I use is called Doctor's Data, and they will test for heavy metals in the urine. And I've independently tested them and I think they're very accurate. So basically, I say go to Doctor's Data, do a firstborn urine [test] and see in what's there.

And the second thing to do is to test for chemicals in the urine. Now, Great Plains Laboratory – and I have to say, a disclaimer, I actually have a commercial relationship with them now – and anyway, so they test for, they have a number of tests but, about 250 chemicals in the urine. And so anyways, you can test directly to see what the person's getting rid of. And that's the problem. And getting rid of them, okay, so it means, yeah, it tells us if they're being exposed. It doesn't tell how much is being stuck in the tissues, but you can assume, if there's more in the urine, there's going to be more in the tissues, as well.

Now there's another test I really like doing, and I recommend people get a blood test called GGTP. Now GGTP is a liver enzyme, and it's typically measured to see if a person has hepatitis,

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because when the liver is damaged, it starts leaking the enzymes from the cells and goes into the blood. But we say, okay, so why are those enzymes in the liver? They're in the liver to detoxify. And particularly GGT is an enzyme that, as our toxic load goes up, GGT goes up proportionate to toxic load. Because what it is, is our smart bodies are saying, oh, you have more toxic exposure, well, we need to get more glutathione. So GGT recycles glutathione more quickly to get rid of the toxins.

So that's what I run. I run all three of those. Then when we find the toxin, we go after it, or if we find the person has high GGT but we haven't been able to figure out what the toxin is, well then we have to do a more general detoxification program because we don't know what the toxin is, but we've got to get it out of the body.

Rebekah Kelley: Right. So when you said you say, give me a year, right? So obviously it's not just testing, right? There's other things that couples need to be looking at. So what would be some of the tips that you would give them in terms of reducing the toxin exposure and promoting detoxification?

Joseph Pizzorno: So when we think about toxins, although people think metals versus chemicals, a better way to think about them is persistent versus non-persistent. So non-persistent means that this particular toxin, whatever it is, it's similar enough to toxins we were exposed to in the past that we're good at getting rid of it. Arsenic is a great example. I mean, arsenic's poisonous, but the half-life of arsenic is only about 2 to 4 days in the average person. So we're good to get rid of arsenic. Problem is, we're constantly exposed to it.

So the short-term toxins typically have half-lives measured in days to as much as weeks, and typically it takes about four half-lives to get rid of a toxin. So within one month, you can get rid of all your non-persistent toxins, if you're real careful about it. So, bisphenol A, phthalates, arsenic, a number of the pesticides... be real clean for a month and they're gone.

But we have the other class of toxins, which are the persistent toxins, and they're typically either heavy metals – lead, mercury, cadmium – or there were chemicals, new-to-nature chemicals designed to be difficult to break down. Okay. So these things, they're typically called halogenated organic compounds – that means they have chlorine or fluorine, or bromine added to an organic compound – and it turns out that when you do that to an organic compound, it's hard to break down by biological systems. So these type of things have half-lives ranging from years to decades. So that means that if we're really aggressive about it, at total avoidance, it'll take several years to get rid of it. But if we engage in some smart methods to facilitate the body's ability to get rid of these things, we can drop them pretty dramatically in a year. Okay. So if you give me a year, I can get all those non-persistent toxins out and we can drop your persistent toxins at least by half, maybe by 75%. We've got to really work at it to do that.

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Rebekah Kelley: Wow. Wow. Now these, you know, tips that you're giving us, right? About the process. Is that in your book? Or is it someplace...

Joseph Pizzorno: So, now I have two books. So, *The Toxin Solution* for consumers – lots of information on that. If every pregnant couple religiously followed my guidance, they get rid of all these toxins in a year. You'd get a pretty significant impact on the quality of the child they're going to produce. Now for doctors, I have another book called *Clinical Environmental Medicine*, that green book right there [pointing behind him], and that that's for doctors, which now gets into way more detail about how to do this. So you have a patient who really wants to do the best they can to get as healthy a baby as they can, go to one of these environmental doctors – hopefully they're using my book – to now get into a very aggressive program to get the toxins out.

Rebekah Kelley: Wow. Thank you so much, Dr. Pizzorno, these are really valuable insights. Dr. Pizzorno can be found at www.IFM.org. Let me remind you to subscribe and get access to all Humanized videos, podcasts and transcriptions from all of our thought leaders on personalized health at HumanizedHealth.com. Thank you so much for being with us, Dr. Pizzorno. It's always enlightening.

Joseph Pizzorno: Oh, thank you so much. What you do is so critically important for people's health. Thank you.