Welcome everyone, today I’m with Dr. David Brownstein, who is really kind enough to join us from a conference that he’s attending to really spend some time with us to help bring us up to speed on this really important nuclear crisis that’s in Japan and its impact in the United States and for those in the United States and certainly other information for those in the other places. Dr. Brownstein has extensive clinical experience with iodine and it’s particularly useful for this scenario. There’ll be other information on the nuclear crisis that he’ll be willing to share with us. Welcome, Dr. Brownstein.

DB: Thank you for having me, Dr. Mercola.

The Link between Iodine and Thyroid Function

DM: All right. So why don’t you describe to our listeners your experience with iodine that really gives you a valuable perspective in this situation that can help us understand what may be an appropriate response?

DB: I’ve been interested in the use of iodine for approximately the last 20 years. In the first 10 years of my holistic practice, I saw so many patients with thyroid disorders. I was searching for the underlying reason or reasons why so many people were having thyroid problems, and it always came back to iodine at some point. I would try various amounts of iodine in my patients. Although I wasn’t seeing negative effects with it, I just wasn’t seeing the positive effects.

Approximately 10 years ago, I read an article in one of the journals from Dr. Guy Abraham, who developed an iodine loading test. I became friendly with him and began using his test, finding a vast majority of my patients were severely deficient in iodine. When he educated me about the right forms of iodine to use, I began using the right forms of iodine and I began seeing the positive results of my practice.

So far, between myself and my partners, we’ve tested over 5,000 patients with either a spot urinary test for iodine or a 24-hour urinary iodine loading test, and found over 95 percent of patients moderate to severely deficient in iodine. We’ve just seen the good clinical results over the years of using iodine and now iodine’s really become to the forefront of this nuclear crisis in Japan.

DM: Yes, and I think what’s really the key is to understand this process.

The Proper Way to Test Iodine Deficiency
DM: Can you describe a little more in detail the test, that iodine spot that you’re using and the iodine urine test. Many people are doing self-diagnosis where they’re applying some iodine topically and seeing how long it takes to disappear. Is that the spot test you’re using or is there a different variation of it?

DB: Well, the skin test that you’re describing is really a useless test --

DM: That’s what I thought.

DB: --and there are studies that show 80 percent of the iodine sublimes off into a gaseous state and leaves the skin. I don’t find that clinically useful. The test that I’m talking about is either a spot urinary iodine test where you measure the morning urine and see how much iodine is there. It gives you an idea of the dietary iodine intake of somebody. Or the 24-hour iodine loading test where somebody takes a known amount of iodine from 24 hours of urine and you measure how much iodine is excreted and you can tell how much the body retains. From that you can estimate how deficient somebody is in iodine. Both of those two tests I’m using, and I find those two tests clinically helpful in diagnosing as well as treating someone for iodine deficiency.

DM: Isn’t the latter more useful because if someone were to take a large dose of iodine initially the spot test can be falsely accurate or falsely elevated, whereas it would be sufficient to the boost relative to the last one which would be more reflective of the long term status.

DB: I would totally agree with that, although with over 95 percent of patients from moderate to severely iodine deficient, the spot urinary test, as long as they’re not taking iodine, can be an accurate indicator of the body iodine status.

DM: It kind of reminds me of another nutrient, that we’re both, I’m sure, in agreement on this, vitamin D. It is my belief—and certainly not some of the so-called “experts”—that about the same amount of people is vitamin D deficient. But it really depends on what you use as a standard. Because a lot of you are using 20 or 30 nanograms as a standard, you’re going to get a little different than if you use 50 nanograms.

DB: Absolutely.

DM: It’s really interesting. So the biggest clinical condition that you see—and this is really an extraordinary observation—19 people out of 20 will be deficient in this really important nutrient.

The Implications of Thyroid Deficiency

DM: First of all, can you describe the implications of being deficient and what you believe may have led to that deficiency. Because it’s really just that extraordinary that, that many people do not have enough of that nutrient.
DB: Well, Dr. Mercola, I’ve lectured across the country and out of the country, I asked all the practitioners at my lecture what percent of people do they think are walking around with thyroid issues. And invariably the number comes up. You see the minimum at around 50 percent, and then next around 75 to 80 percent. So we have 50 to 80 percent of our population with an undiagnosed, abnormal thyroid function—we’ve got a big problem in our country. And we’ve got a problem that’s being driven, I think, in part from iodine deficiency. The thyroid gland has the largest concentration of iodine. We can't make thyroid hormone without iodine. I think this is one large piece of the puzzle why so many people are having thyroid problems.

But it’s not just the thyroid gland that has iodine. All the glandular tissues do—the breasts, ovaries, uterus, and the prostate. And other tissues—the skin holds 20 percent of the body’s iodine, the fat and muscle cells hold large amounts of iodine. Iodine is concentrated in every cell of the body, and every cell needs and utilizes iodine. White blood cells can’t function without adequate iodine…the list goes on and on. Iodine’s a very important nutrient for the body and when it's deficient, there are wide ramifications in the body that can happen.

**Toxins in the Environment: Possible Causes of Iodine Deficiency**

DM: Do you have any speculations as to why we are so deficient?

DB: I think that this issue’s been going on for a long time, but now this deficiency is being exacerbated by the toxicities we’re exposed to. The fluoride in our water supply will bind to iodine receptors and cause the body to release iodine. Bromide, which I have found in every patient that I’ve tested for bromide, which is been nearly 500, they’ve been high on bromide levels. Bromide is a halogen that combines with iodine receptors and also causes the body to lose iodine. Chlorine derivatives, which are found in pesticides and insecticides, can bind to iodine sites and cause the body to release iodine. I think that our exposure to these items have gone up dramatically in the last 20 to 30 years causing this iodine deficiency problem to markedly worsen. I think that’s the problem we’re seeing today. The consequences of these are one in seven women having breast cancer, one in three men having prostate cancer. This huge chronic illness that we’re seeing is not being addressed by conventional medicine.

DM: I couldn’t agree more. For those of our listeners who aren’t familiar why we would be having high levels of bromine, cause you don’t think you’re normally exposed, but for anyone who’s eating white flour products, usually, bromine is used to bleach the flour. Not only does it produce bromine, but it also produces brominated halogen, other organic chemicals which are probably even worse.

DB: And bromine’s also found in many soft drinks, such as Mountain Dew, some Gatorade products, AMP Energy Drinks. We’re getting bromine from a wide exposure in our food supply and it’s just been a disaster. Bromine will bind to whatever iodine it finds in the body. Thyroid hormones can be brominated instead of iodinated if there’s too much bromine in the body. Unfortunately, our laboratory tests don’t distinguish between the two, so we don’t really know in most people what’s happening. But my testing of
patients is showing generally the sicker they are, the higher the bromide levels are. If they have cancer—one of the endocrine cancers, such as breast, prostate, uterine, or thyroid cancer—they have higher levels than patients without those cancers.

**DM:** It sounds like it’s not just a simple deficiency or inadequate intake of iodine, but the exposure to these toxins that we typically didn’t have, because almost everyone’s drinking or exposed to fluoridated water or bromine that you mentioned, and chlorine of course. So that’s displacing it, giving us a relatively increased requirement for iodine to replace the ones that those toxins were influenced by. So it’s a combination.

**DB:** You hit the nail on the head.

**DM:** Thank you for helping us—me—understand that better.

**Is Japan’s Nuclear Crisis Going to Affect Americans’ Health?**

**DM:** So the primary reason for the call was to have some solid recommendations, to really address the fear. From my perspective, I really don’t believe the nuclear crisis in Japan is going to impact the people in the United States hardly at all, if at all. But it’s good to desensitize this issue because there may be another nuclear reactor in the United States that does present this problem, where it is an issue. From my understanding, it’s probably not wise to take a large dose of potassium iodide to protect yourself from this cloud, unless you have high radiations, because it’s only going to give you protection for one to three days, at most. It’s really not going to solve any long-term problems. If we could have your perspective on that.

**DB:** We’re certainly not going to feel the nuclear radiation fallout that the Japanese are going to feel. But if this number four reactor melts down (or if it’s not already melting down, although it’s hard to tell from what the Japanese government is releasing) we are going to get some of that exposure. The problem with even a mile of exposure of radioactive iodine coming over the Northern United States, is not for those people who are iodine sufficient, it’s for those people who are iodine deficient. If that radioactivity comes down in the form of rain, mist or hale or something like that, those patients' bodies that are iodine deficient will bind that up and it will cause some problems. I agree with you, I do not think we’re going to see a wide health crisis we’re seeing in Japan. But this will be just another drop in our toxicity environment. For those who are iodine deficient, there are probably some consequences to that. That’s why I said at the beginning of the call, I hope this is a wake-up call to those who have been e-mailing me and who are concerned about iodine that we should take precaution before events like this happen. Eat a better diet, keep ourselves hydrated. We should take the right kind of salt in our diet. We should make sure our bodies have enough iodine and vitamin C to survive a crisis like this. That’s what our body is looking for, and if you have that in your body, you don’t have to worry about a crisis in Japan.

**DM:** Sure. So the best long-term strategy is to be healthy in general, because you need it for other reasons, to preserve your thyroid function, to protect against prostate and breast cancer, and a variety of other benefits that iodine adequacy has.
The Recommended Dose of Daily Iodine Intake

We’ll discuss what your recommendation is for an adequate course, but just to finish up addressing some of the main concerns with the nuclear crisis, the typical dose that is being recommended by the government is somewhere over 100 milligrams, as a one-time dose when you’re exposed to the radiation, when it’s passing over. The iodine will bind to your receptors and you won’t absorb the radioactive iodide. When the exposure’s over, it’s pretty much a non-issue, and then you’re left to address the problems that we all address with inadequate iodine. Acutely, it’s not much you can do because it’s going to take a while to build up your store, so acutely, it will be wise to have some on hand, would you agree with that, just in case.

**DB:** I’ve been writing blogs about this in my website, and this last blog, I did finally come up with recommendations for patients to take 12 to 13 milligrams of a combination of iodine and iodide per day. And the reason for that is studies show that this dose of iodine, which is what we estimated the average dose of iodine intake from the Japanese, will inhibit about 95 to 96 percent of uptake of radioactive iodide into the thyroid gland. That’s not perfect, but that’s not bad for a small dose of iodine.

**DM:** The dose is literally 10 percent of what the recommendation is, but to take it every day rather than as a one time dose.

**DB:** I think it’s better to take it every day and if I was in the Western side of North America, I think it’s appropriate to start taking it at this point to minimize any exposure from the radioactivity that comes over. But again, iodine should be taken as part of a holistic regimen, with better diet, salt, water, vitamin C and the rest that I write and talk about.

**DM:** So this 12 to 13 milligrams recommendation ideal basis is a short-term one for the nuclear crisis, or is it the one you recommend for long-term, to achieve iodine sufficiency?

**DB:** I think people should have their iodine levels checked, and work with a practitioner who’s knowledgeable about iodine. Since the Japanese average about 12 to 13 milligrams per day, I think that’s a relatively safe dose for the vast majority of people to take.

There can be people who’ll run into problems with iodine, those with autonomously functioning nodules can take up iodine and become hyperthyroid from that. My experience is that very few patients over a number of years of using this dose and higher doses of iodine. Many times you don’t figure out who those patients are until they take it and once they stop the iodine, the situation will calm down. But there are very few people who run into problems like that. The vast majority of people do just fine with those pills, Kids, who are smaller, will need smaller doses of iodine. They don’t the same doses as an adult body will.

**DM:** It would seem that this is indeed a good wake-up call, considering 95 percent of people listening to this probably don’t have enough iodine to begin with. So it will be
wise to take it for general health, independent of any nuclear crisis. But even if this cloud comes over, your supposition and belief is that review of related literature suggests that this relatively small dose is literally 90 percent lower than recommended. Taken on a daily basis, it will be just about as 95 percent effective as a larger dose that the government is recommending.

**DB:** This dose, Dr. Mercola, is still about 100 times above the RDA recommendations for iodine. Many doctors don’t agree with this dose. But again, my experience showed that for the vast majority of people, it’s perfectly safe. That includes people with thyroid problems, such as Hashimoto’s and Graves’ disease. But then again, we use it as part of a holistic treatment regimen, not as a sole therapy. I do think that this reactor number four in Japan, they’re being very coy about this, not telling us what’s going on. If this thing has melted down, I’m not sure if it has or not, but if it does melt down, there will be a big enough cloud to come over to the United States, not to cause acute problems, but to cause problems down the road with people and their thyroid gland, especially if they’re severely iodine deficient.

**Are There Iodine Side Effects?**

**DM:** This is the question I wanted to ask you and it’s an important one: Because you’ve got a significant clinical experience of 5,000 patients for over 20 years. That’s certainly cannot be discounted, and really valuable insights that you’ve generated from this, cause not many people have done that. I wonder if you’ve seen any toxicities or reactions from the iodide. Of course there’s local side effect, but I wonder if there’s any toxicities that you’ve seen or read, or concerned about. Because anytime you take doses in excess of what one might typically find or recommend that’s a concern. But in light of the fact that Japanese are taking this dose in their diet, it’s probably not an issue.

**DB:** You know, Dr. Mercola, when I lecture to physicians, I get asked this question all the time, and the first question I ask them is “have you ever seen a reaction with someone taking too much magnesium?” and invariably, they’ll answer “yes, we’ve seen that, people will get diarrhea from that.” So you can see reactions with anything that you ask somebody to take, and yes, I’ve seen reactions with iodine, but the reactions are few and far in between. Again, as part of a holistic treatment regimen, the reactions have just been not very common and the vast majority of patients have done very well with it. I’m including patients with autoimmune thyroid disorders in this category. I believe autoimmune thyroid disorders begin from an iodine deficiency state. If they don’t have an autonomously functioning nodule, again, the side effects are rare. They do occur. Usually they’re easily managed by stopping iodine or lowering the dose, and doing what’s appropriate for them.

**Increasing Your Intake of Other Minerals and Nutrients**

**DM:** The other concern too, is we’re focusing on iodine because it seems to have gotten the most attention. Perhaps, the single, most important nutrient or mineral to supplement. But it would seem to me that there are a lot of other minerals in our body,
and that radioactive iodine is not the only radioactive mineral that’s being released in this nuclear crisis, there’s a variety of others. It would seem wise to take a comprehensive mineral supplement to make sure your entire mineral stores are replaced, and you don’t absorb any other radioactive isotope minerals. I wonder what your views are on that.

**DB:** I couldn’t have called that statement any better. Absolutely, there’s radioactive cesium, plutonium, and uranium. All these things will come over in the cloud. Keeping our mineral levels up, ensuring adequate hydration, adequate salt intake of the right kind of salt, and, I think most importantly, ensuring adequate vitamin C levels. Vitamin C can keep your antioxidant defense mechanism strong. If you do get exposed to toxicity, vitamin C is one of your best anti-toxicity nutrients you can take. In this case, it’s wise not only to be taking vitamin C going into the situation, but if you know a radioactive cloud is coming, to increase your intake of vitamin C, to give your body a little cushion against this toxic load that’s going to come over to it. So I couldn’t agree more, this should be part of a holistic treatment for the best results.

**DM:** I’d like to recommend Co Q10, or Ubiquinol, if you’re over 40, if you’re going to use it with vitamin C. Vitamin C only works when it’s reduced, once it donates an electron, it’s oxidized and it really can’t work. So you need something to recharge it and Ubiquinol tends to do that. So it’s a powerful, synergistic combination.

**DB:** I agree.

**DM:** But how about food sources of these other minerals? Are you familiar with whey or some salts as being a useful way to increase your supply these minerals?

**DB:** There’s no question that eating whole, food sources of minerals (which also contain vitamins as well) is the best way to get nutrients in our body. There’s a whole host of things, and you’ve been writing about these for years, and I’ve been learning about them from you for years, and we use them in our practice. Again, that’s part of a holistic treatment regimen. You need to eat appropriately, take supplements, exercise, drink enough water, and get the right kind of salt, and it all makes a difference. And when something like this happens, you don’t have to panic because you’ve already done the right things for a situation like this. That’s where the wake-up call usually come in.

**Sea Vegetables: Good Sources of Iodine?**

**DM:** I typically like the whole foods approach. Personally, I do take an aorta oral supplement for a number of years, essentially. But the sea vegetables, which I haven’t really integrated into my diet, not because I don’t believe in them, I just haven’t done it. It seems to be the optimal way to do this because that’s where iodine is naturally. Assuming you can harvest it from a relatively clean source, not contaminated with other heavy metals or pesticides that creep their way into the waterway. Do you have any viewpoints on using sea vegetables or kelp as a source of iodine as an alternative to these supplements?
DB: Sea vegetables and kelp can be a wonderful source of iodine as well as other nutrients for the body. The problem is sea vegetables are harvested from. They have the same iodine concentrate importer as humans have, the sodium iodine importer. These importers becomes disabled or damaged when it becomes exposed to toxic halides, such as bromide and fluoride, bromide in particular. If the sea water’s contaminated with bromide, it will pick up bromide in place of iodine, similar to our bodies. I’ve had some samples of kelp examined for their levels of iodine and levels of bromide. I’ve found that about 50 percent of them have very high levels of bromide. So at this point I’m not so sure if these foods are the best way to get iodine.

DM: Wow. Well, thank you for doing that research. That’s very forward thinking, and really making the time, effort and investment to do that because it’s an amazing piece of information. It’s not surprising when you hear it but you know, intuitively, because you know the waters are contaminated. This is one of the reasons why I don’t recommend fish to people, because of the similar issues. This contamination just screws up the normal processes, so it’s a totally different food than it was 50 or 100 years ago. Does your analysis allow you to identify any specific brands that are free of this contamination or places where they were grown that were more likely to be a useful source? Or is it just too difficult to break it down?

DB: I haven’t tested everything out there, and I’ve tested only a few brands of this, but the problem was when I started seeing 50 percent of them had high toxic states—not only did they have high bromide levels, they had high mercury levels in them—I just stopped testing at that point. If I’m going to focus on iodine, I would focus on iodine and just a pure iodine source, and that’s why I left it at that.

The other problem is the kelp and the sea vegetables, the longer these vegetables have been out of their source, out of the ocean, the more iodine sublimes to a gaseous state and leaves the product. So each of these products can have different amounts of iodine, depending on how long they’ve been out of the ocean. I like to be a little more precise when I want someone to take something, to at least know what they’re taking. But if you can find a pure source of sea vegetables, I think that’s a reasonable way to get iodine into your body.

Safely Detoxifying with Chlorella and Spirulina

DM: Thank you for that insight, that’s really an unexpected surprise benefit because I wasn’t aware of that. For the most part, we’ve been talking about mineral supplementation, so that your body has enough. But that isn’t going to directly help your body detoxify from these toxic exposures. There are other nutrients that can do that, and even in the sea vegetable category, we have algae, such as spirulina and chlorella, which actually don’t have potentially the same contamination because they’re cultured products. They’re harvested in these pools, so there’s much finer control over the toxic elements that are introduced into the water. But still, if a radioactive cloud comes over, it’s going to integrate that iodine into it, there’s no question. So you have to be careful of that.
I’m thinking of recommending—because we do sell chlorella and will be selling spirulina—to have that certified as being radioactive-free. You just have to do this due diligence. That’s a new step that we have introduced now because of the contamination worldwide. I’m wondering if you have comments on detoxifying vegetables and maybe other nutrients that one can use to address these concerns.

**DB:** Doc, I use the same products you use. We use chlorella, we use spirulina in our practice as well. My concern is as well as yours, because where we get our products from is from the Northwest. That’s where the radioactivity is going to come from. I agree, I think we’re going to have to demand from the manufacturers to do appropriate testing. I’m sure that these products aren’t contaminated.

**DM:** I don’t know if it’s going to the manufacturers, because they have obviously a conflict of interest. It really needs to be a third-party, independent test to do them. It’s a relatively inexpensive test, just put it in a counter. I don’t think most of the farms in the Northwest are really grown in China, India, or Japan. So really, much closer to where this radiation is, is coming from this current crisis. I think it’s a really big issue. There are a lot of farms out in Japan, a lot of chlorella farms. Anything harvested prior to since last week is going to be an issue, so I think it’s really going to be a major concern. If you purchase these products you really want to have that due diligence done.

**DB:** I agree.

**Be Careful When Choosing Supplements**

**DM:** So any other nutrients, like Ashwagandha, that may be useful?

**DB:** I’m not so sure. I tested some of these products and found that some of them are contaminated. I think you need to be careful about what you’re using. What we do in our office is when we start using a new product we will test it for an analysis to make sure it’s heavy metal free or whatever we’re looking for in toxicity free. We’re amazed at how many products are contaminated out there.

A lot of these detoxification products you’re mentioning, I’m not so sure they’re still clean. I can’t guarantee that everyone is or isn’t. But really with what’s going on in Japan, I agree with you, we all need to do due diligence and to all think about it and question, and question these manufacturers. The ones who are concerned about and who will take the right ethical approach have not at sending it to an independent analysis and sending me the results. The ones who don’t answer my phone calls, we’ve stopped using their products and I won’t order from them.

**DM:** I think that’s a very wise process, it’s actually one we’ve adopted for many years in the supplement that we sell. If you’re purchasing raw materials from a vendor they of course will give you what’s called a COA or Certificate of Analysis, but that’s their certificate. It’s kind of like the drug company is giving the FDA their own studies. So you really need an independent third party to objectively do it in a lab that’s reliable and trustworthy. That’s what we do with all our products, so we know that it’s not contaminated and it is what it says it is. It’s really the due diligence and responsibility of
the manufacturer to do that. There are just a lot of corrupt individuals in the world who cut corners and sacrifice quality to increase their income. That’s unfortunate but that’s the reality, that’s why these measures have to be implemented.

Get Enough Iodine to Help Ensure Your Optimal Health

DM: So, that covers both the issues I wanted to and I’m really very grateful that you’re able to cut yourself away from the conference that you’re attending. Are there any other take home points or wisdoms that you’d like to share to our listeners and viewers?

DB: I would tell our listeners that I don’t think there’s really a need to panic right now. I think we’re enough far away. I agree with you Dr. Mercola. I don’t think there’s going to be any acute health care crisis from this. But I also don’t think we can wait on our government to properly advise us and I think we need to follow the news and the information to make the best decision possible. I also think, again, this is a wake up call. This is why I’m writing my book, this is why I wrote my iodine book, this is why you write your book, why you have your website we all go to. Why people need to take their healthcare into their own hands and make the right decisions for them. And the right decisions are eating a better diet, exercise, and taking the right supplements. I think iodine can be a part of most people’s regimens and really make a difference on how good you’re feeling and how they achieve their optimal health.

DM: The unfortunate challenge of an iodine supplementation recommendation at this point is probably—I don’t know, I haven’t looked—but I would imagine is that most of the suppliers are going to be running dry and hard, or maybe some unscrupulous spenders or suppliers would be raising the price quite dramatically. So most likely it’s not going to be an acute issue for you, you don’t have to worry about radiation concern.

However, as you mentioned, this is a wake up call and you definitely need it. There could be a reactor in your backyard or 30 miles away from you that might blow up tomorrow and it becomes a real issue. Each and every one of us—I mean, there’s only 1 in 20 of you listening to this that have enough iodine. That’s not a lot! There’s a higher likelihood that you have enough vitamin D. You and your family need to have enough iodine and for other reasons, other than this radioactive cloud that may or may not come to the United States.

So I really think it’s great, and I thank you for all the work that you’ve done, and helping enlighten us, and me and really advancing the science because you’ve totally done some really significant work in this analysis. You know, I’ve practiced for 25 years, and to compile a data set of 5,000 patients on any one test is beyond most studies published. Even though you didn’t publish your results, it doesn’t devalue that and the truth of that information is a very powerful aspect we can all benefit from, and I really appreciate that.

DB: I’d just to like point out that in my lecture across the country. When I ask for 31:30, they’re seeing the same results as I’m seeing. And it’s not just me out there, it’s people
from the north, the south, the east and the west. We’re all seeing the same thing and I think it’s a direct relation to the toxic environment we live in.

**DM:** Okay. I didn’t really understood the reason for that but it makes perfect sense when you have the exposure of these other toxic halides that really increases your need because of its [31:55]. It really isn’t obvious initially, but once you understand it, it makes perfect sense.

**DB:** well, thank you for having me, Dr. Mercola.

**DM:** Thank you. I really appreciate it.