

Radioactive Contamination

What You Really Need To Know

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March 27, 2011
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With all the panic and fear surrounding radioactive contamination and all the dangerously wrong information circulating, it seemed important to publish this article as soon as possible.

I have been getting a flood of e-mails and calls asking about the dangers from the nuclear disasters in Japan. People are worried and understandably so. But it does no good, and may do real harm to act without accurate information.

First, let me say that my heart goes out to the people of Japan. I hope and pray for their safety. I hope that all that can be done to lessen the suffering is being done. My compassion and condolences to those who are suffering and to the families of those who have lost their lives. There are a number of charities that are helping in the relief effort. If you are able please consider helping. But be sure you pick one where your money goes where it actually should.

The Tzu-Chi Foundation is one charity you can trust. They put nearly 100% of their funds to work on the ground, using volunteers who organize rescue efforts right there on the streets where it's needed most. Here is a link to their site:

<http://www.us.tzuchi.org/usa/home.nsf/other/donateCharity>

Secondly, I want to say that there is a lot of fear mongering going on. And many people are understandably frightened. I do not want to add to that. In fact, I want to defuse the fear as much as possible. The best way I know to do that is by sharing real information.

This article is devoted to clearing up as much of the dangerous mythology surrounding radiation and protective measures as possible. It is too soon and events in Japan are still unfolding. So we cannot yet know how much of this information will be needed in various parts of the world. However, since it looks like nuclear power plants are a fact of life for the present, all of this is good information to have.

Most "official authorities" assure us that any radiological contaminants from Japan that reach the Western Hemisphere will be so minimal that they pose no threat to health. But unfortunately, all radiation is dangerous to health. To be sure, it is generally safer to be farther away from the site of any nuclear accident or contaminant-releasing event, but that does not mean there is no threat. Some of the released radioactive

contamination already has reached the Western Hemisphere. Unfortunately, it is certain that there will be more. We just don't yet know how much.

Just in case it sounds like I am fear mongering I urge you to check out another source. I am far from the only health writer and researcher urging people not to take the "official information" at face value. Here is a link that is worth reviewing:

http://myhealthoptimizer.com/wp-content/uploads/Radiation_Nothing_To_See_Here_From_Truth-Out_03-24-2011.pdf

The mainstream media and many of the supposed authorities have focused almost exclusively on the dangers of radioactive iodine-131. So let's start with that.

The Truth About Potassium Iodide:

A lot of people have heard that taking potassium iodide protects against the radioactive iodine that is released in most nuclear accidents.

That is true, but there is critical information you need in order to use potassium iodide safely. Please **DO NOT** begin taking large amounts of potassium iodide. That is absolutely **NOT SAFE**. This is one of those supplements that is safe in appropriate amounts but not in larger amounts. It becomes toxic quite quickly. Please be sure to heed this warning.

Background:

Where there is an accident or other disaster at a nuclear power plant one of the radioactive elements that is almost always released is iodine. This is generally airborne and can travel very long distances, depending on the vagaries of wind and other weather conditions.

Your thyroid gland must have iodine to create thyroid hormone. Normally it would get safe, non-radioactive iodine in the trace amounts that it needs from salt and the food that you eat.

In nature, iodine occurs in two isotopes, iodine-127 and iodine-129. Iodine-127 is stable, that is, not radioactive. Iodine-129 is radioactive, but naturally occurs in small quantities so it is not normally present in high enough concentrations to pose a significant health risk.

There are a total of 37 known isotopes of iodine, only one of which, iodine-127, is stable or not radioactive. However, most of these isotopes are rare, or have very short half-lives, and so decay very quickly. The isotopes that decay quickly pose little risk at any distance from a nuclear event. They will not last long enough to be dangerous once they have traveled any appreciable distance from the event site.

Iodine-131 is the isotope to focus on. It does not occur in nature and is present in high concentrations and amounts in nuclear power plants.

Iodine-131 does pose a serious health risk. It can easily become airborne in various nuclear accident scenarios. It has a longer half-life than some of the other radioisotopes of iodine. So it remains radioactive even after traveling significant distances from the event site.

There are two typical ways that iodine-131 can make its way into the human body:

1. It can land on fields and contaminate livestock and produce and subsequently be ingested as food.
2. It can be inhaled while still airborne.

In either case, there is risk that it will be collected and concentrated in the thyroid gland, which requires iodine to produce its thyroid hormones.

Normally the thyroid gland collects and concentrates iodine-127, which is stable and not radioactive. But the thyroid gland cannot distinguish between the safe iodine-127 and the dangerous iodine-131. It just collects and concentrates whatever form of iodine is available in the body. If a significant amount of radioactive iodine-131 is available the thyroid gland grabs it. As a result, the thyroid gland gets exposed to strong radiation, which damages it and can lead to thyroid cancer.

This is one of the most significant health risks that nuclear accidents and plant disasters can pose to people even at a long distance from the event. Of course, the material must rise high enough to get into global wind streams to spread the risk more than a few hundred miles. But in nuclear accidents where there is sufficient heat and material release, a significant amount of radioactive iodine-131 usually does spread quite far.

Aside from the acute severe injuries suffered by those unfortunate enough to have been in the plant or close to it, almost all of the health problems resulting from the 1986 Chernobyl Disaster were thyroid cancers caused by radioactive iodine-131. Further, those exposed who did not quickly develop cancers will be at elevated risk of thyroid cancers for the rest of their lives.

One way to keep the thyroid gland from collecting and concentrating radioactive iodine-131 from a nuclear event is to make sure it has a temporary overabundance of non-radioactive iodine-127 available in the body. A practical way to do this is take a relatively high dose of the stable, non-radioactive iodine for a very short period of time.

Potassium iodide is the preferred form for this type of this protective iodine. This seems to be effective and safe as long as the higher dose is taken for a very short period of time. The FDA generally recommends not longer than 2 or 3 days. (I have a link to their guidelines, which I think are pretty good, at the end of this article.)

It is useful to note that the thyroid cancer rates have been very high in the Chernobyl area and in some surrounding areas since the accident. However, in nearby Poland, where potassium iodide was quickly distributed, the thyroid cancer rates have not risen significantly, even though the area was badly contaminated.

Practical Measures:

I don't think anyone knows at this point if we will see significant iodine-131 contamination anywhere in North America. However, in case we do, there are a few things we can do to mitigate the risk of thyroid cancer:

1. We can stockpile some potassium iodide. A small amount will do.

2. Make sure we know how to safely use it. (See FDA guidelines in linked PDF below.)
3. Take a very small amount of potassium iodide now. (See 2nd link below.)
4. If contamination does occur, then avoid those foods that are most likely to contain iodine-131, such as milk and field-grown produce.
5. Don't stress out! Properly used, potassium iodide really does protect against thyroid cancer.

One of the easiest sources for potassium iodide in high enough doses to be effective in the event of a contamination is a product called "iosat". This is available from Amazon and a number of other on-line sources. You might want to order some to have around for "just in case". It is not expensive and it has a very long shelf-life.

But **Please do NOT take it now for "just in case"** – wait until there is real evidence of contamination. See the precautions published in the FDA article. They are valid and should be followed!! I cannot stress this enough. There are real side-effects that show up in some people. Do not exceed the FDA-recommended dose. Do not take it for longer than the recommended time period.

Here is that link to the FDA guidelines for using potassium iodide to protect against radioactive iodine exposure:

<http://www.fda.gov/downloads/Drugs/GuidanceComplianceRegulatoryInformation/Guidances/UCM080542.pdf>

Also, if you would like a smaller, safe amount of potassium iodide that can be added to your "everyday health measures" for general thyroid health, it is available from Pure Encapsulations. Again, do not exceed the recommended amount that is on the product label. Here is the link:

Pure Encapsulations Potassium Iodide 225 mcg:

http://www.purecapspro.com/myhealth/products/product_details.asp?ProductsID=1204

One More Crucial Point:

Potassium Iodide and other forms of iodine will ONLY protect against radiation damage to the thyroid gland from radioactive iodine. And although that is the radioactive contaminant most likely to travel far from the site, there are other possible contaminants worth learning about. These are covered later in the article.

What If I Can't Get Any Potassium Iodide?

Given the level of panic and the fact that many people have run out and bought up all the potassium iodide they could find, this is a real possibility. The entire San Francisco Bay Area was sold out within a day after the disaster in Japan began.

But don't panic! There are other ways to provide the non-radioactive iodine that your thyroid gland needs. Some people recommend seaweed and/or kelp. Actually, that will

not do it. It is almost impossible to get enough iodine from seaweed or kelp to block the thyroid's uptake of radioactive iodine. Furthermore, since the dose needs to be just below the toxic level to be effective, it will be almost impossible to safely regulate the amount from seaweed or kelp.

People who hear me say this ask why the radiation damage from the bombings of Nagasaki and Hiroshima did not cause the level of radiation illness that was predicted and expected. They jump to the conclusion that this was because of the high amounts of seaweed and kelp in the typical Japanese diet. That is true, but not because of the iodine. It was noted that the incidence of cancers were well below predictions for the overall exposure. But this was for all cancers that are typically caused by all types of radioactive exposures, not just thyroid cancers.

Here is a more probable explanation: Both seaweed and kelp are excellent agents for detoxifying the body. So a higher percentage of the radioactive elements and isotopes that got into people's bodies were eliminated due to the detox effects of the seaweed and kelp. That means the tissues were exposed to less radiation and for a shorter period of time than would be predicted by the general environmental conditions. Hence, lower cancer rates than were expected.

Further, there is some evidence that seaweed and kelp protect the body from radiation damage in other ways, as well. Why or how is not well understood, but the evidence for this protective effect compelling.

Seaweed and kelp are terrific for detoxing the body and for general health. I encourage you to include them in your regular diet. Also, anytime you are exposed to more than usual amounts of toxins, increase the amount of seaweed and kelp in your diet. This makes sense even if the contaminants are not radioactive. But please do not depend on seaweed or kelp to protect your thyroid against radioactive iodine.

Alternative Iodine Source:

Here is a very practical and simple way to get the proper amount of stable iodine into your body if there is exposure to iodine-131:

Get some simple, good ole Betadine from the drug store. (Either generic or actual Betadine will do.) This is the same stuff that is used topically to disinfect skin around wounds, prior to surgery, etc. It is still available at most drug stores. **DO NOT DRINK IT!!** It is not safe for anything other than topical application. It is poisonous to drink!!

However, when painted onto the skin, a significant amount of the iodine in it is absorbed right through the skin. So painting the appropriate amount onto the skin will provide the body and hence the thyroid with a high enough level of stable iodine so that it will not collect significant radioactive iodine from your body or the environment.

Here is the common recommendation for this method: First, determine the strength of your iodine solution. The older Betadine was formulated to provide 2% available iodine. If you are able to find this older Betadine, or a generic equivalent, then an adult

in the 130 pound to 200 pound weight range would use 8 milliliters of the liquid Betadine.

Most of the Betadine sold these days, and most of the generic versions have only 1% available iodine. So for the same weight person you would use twice as much of the Betadine per dose, or 16 milliliters.

One measuring teaspoon such as those used for measuring when cooking, is approximately 5 milliliters, or 5 ml. You do not need to get the amount exactly right. Just get it as close as you can. There is some variation in skin absorption rates, anyway.

If you are using 2% Betadine or equivalent, then measure out just over 1 ½ teaspoons. If you are using the more common 1% Betadine, then measure out slightly more than 3 teaspoons.

One thing to look out for with the labeling: Most of the Betadine available these days, whether actual brand name or generic, will have “10% Povidine”, or something like that on the main label in large print. Ignore that. Instead, look at the small label or small print to see what the actual **available iodine** is in that product. It will be either 1% or 2%.

Measure out the appropriate amount of the Betadine. Paint the entire amount onto the abdomen and allow it to dry. The amount of iodine that will be absorbed through the skin will be just about right. Repeat this for up to 3 doses, separated by 24 hours. In all other respects pertaining to timing and amount, follow the FDA guidelines.

For children and/or very small adults, reduce the amount of Betadine used. The cutoff point for the 8 ml amount of 1% iodine solution is 130 pounds. For people weighing less than 130 pounds, reduce the amount of Betadine proportionally.

What About Other Radioactive Elements?

Depending on the type of event, the design of the plant, and the status of the spent fuel rods when the event occurs, other radioactive elements are likely to be released in various quantities.

These can include plutonium, usually at fairly close range to the plant, as well as radioactive cesium, radioactive strontium and several others. Radioactive cesium-137 and strontium-90 will be the most plentiful radioactive isotopes released that can travel significant distances, besides the radioactive iodine-131 already discussed. Smaller amounts of cesium-134 also are likely to be released.

Potassium iodide will not offer any protection from these other radioactive elements at all!

Am I Already Being Exposed?

A number of people have called or e-mailed over the past few days to tell me where they are and ask if they were already being exposed? We are all being continuously exposed to a certain level of naturally occurring “background radiation.” This comes

from cosmic rays from outer space, radioactive radon gas which can be found mixed in with various minerals in the ground that we live on, in some construction materials such as many granite counter tops, and more.

Although it is thought that these sources of radiation may cause some level of long-term risk and perhaps harm, there is really not much to be done about them. To be sure there are some areas that are worse than others, and there are construction materials to be avoided, but that topic is outside the scope of this article.

Many “authorities” from government and other institutions, are telling us that in the Western Hemisphere there is no risk. I don’t want to spread panic. However, I don’t think anyone knows at this point what the realistic risk is. There are simply too many variables to make accurate predictions. We don’t know how extensive the damage to the nuclear plants will ultimately be. No one knows how much radioactive material will be released. And we certainly do not know what the winds and other weather elements will do.

To know if there is significant contamination in your area, and to keep track as the disaster in Japan unfolds, it makes sense to be able to check for yourself. Here is a free site that will enable you to keep track:

<http://www.radiationnetwork.com>

It is free, and it is updated every 60 seconds. Furthermore, new monitoring stations are being added very quickly. So it will only become more accurate as time goes on. I recommend that you check the levels in your area and write them down. Then you can check back every few days or so for as long as the Japanese disaster unfolds to see if the levels in your area have significantly increased. I trust these numbers more than those released by mainstream media and/or the “authorities”.

If the exposure numbers rise significantly in the area where you and your family live, you will want to take protective measures.

Obviously the most effective approach is to take reasonable measures to avoid contamination in the first place. Secondly, use the same body detoxification methods that are recommended for best health even when no radioactive contamination is involved. The same steps that will help get mercury and lead out of the body will work for the likely radioactive contaminants.

What Are The Practical Steps? (To be taken only if there is significant contamination)

1. If there is real airborne contamination in the area where you live and work, limit your outdoors time.
2. If you must go outdoors, wear raingear that can be easily washed. Do not bring the raingear indoors with you.
3. Do your best to drink safe drinking water. There are some very good portable filters that do a good enough job to make most drinking water safe. The best of the back-

packer's filters will work well for this. However, none of the portable filters will get all of the metallic contaminants out. The best strategy is to have a good store of clean, safe drinking water beforehand. We live in California, which is subject to earthquakes. So we maintain a good emergency supply of safe drinking water that is carefully stored.

Some whole house water filters, such as the "MetalMaster" units sold by Vitasalus are effective at removing almost all metallic contaminants. Many other filters are not as effective. You may need to do a bit of research on your filter if you have one. Vitasalus has good consultants on staff to help you choose an appropriate filter for your area. Here is a link:

www.vitasalus.com

4. It makes sense to have an emergency food supply that is sufficient for survival for at least a couple of months. At a bare minimum, keeping a hundred pounds or so of dried beans of various kinds and a like amount of brown rice is a good start.

Detox – These Next Steps Are All About Detoxifying The Body:

5. Organic sulfur is one of the most crucial elements to support the body's natural detoxification mechanisms. Your liver absolutely needs this sulfur in order to get rid of heavy metals and other toxins that are constantly accumulating in the body.

There used to be sufficient organic sulfur in our food supply. But since the advent of industrial agriculture and synthetic fertilizers our food supply has been badly deficient in this crucial element. Supplementing with high quality MSM makes sense. In fact, this is a great health measure for most people even when there are not extraordinary conditions such as radiological events.

Most adults will benefit from taking a teaspoon of MSM in the morning and another in the late afternoon. In the event of radiological contamination I would double or even triple the amount. I would do this by increasing the frequency of the servings, not the amount per serving.

The source of your MSM is crucial. I have tried and tested over 40 different forms of MSM, and have only found 2 that are really effective. Of these, the MSM from "The Cellular Matrix Study" is by far the best. I have access to this form of organic sulfur. It is not expensive. To order please use this link:

<http://myhealthoptimizer.com/?p=2145>

6. Vitamin C maintained at an optimal level is another highly effective measure to both help the body detox and to help protect you from those contaminants that may not be eliminated immediately. If you do not already have it, I recommend that you get a copy of my article on optimal vitamin C use. To obtain your copy, click this link:

http://myhealthoptimizer.com/wp-content/uploads/How_I_Use_Vitamin_C.pdf

7. Periodic body cleansing with an effective detox agent is a great general health measure. I generally do not recommend harsh and/or potentially dangerous detox agents, such as EDTA and related chelating chemicals. These can be effective, but really should be used under the close supervision of a qualified health care professional. However, in addition to some herbs and plants that I list below, there are some more natural detoxification agents that are safe and effective.

One of the easiest to use of these is Zeotrex from Global Healing Center. I recommend keeping a supply on hand. Use it as per the directions that come with it. I do this several times each year as a general detox. In the event of significant radiological contamination I would follow the Zeotrex detox measures every few weeks until at least several months after the exposure is no longer significant. Here is a link:

<http://myhealthoptimizer.com/?p=2096>

8. In any situation where contamination might be an issue it is crucial to keep the intestinal tract moving. Avoid constipation. Since your colon is one of the most important detox pathways that your body has to use, it is important to keep it clear. If you follow the vitamin C protocol referenced above this will not be a problem.

9. Eating seaweed and/or kelp can be very helpful. As has been noted earlier in this article, studies of the aftereffects of the nuclear bombing of Hiroshima found that many people fared much better than expected in terms of long-term health. It has been postulated that the typical Japanese diet, with an emphasis on eating seaweed and kelp, was responsible for significantly mitigating the long-term harm from the radiological exposure. Besides apparently being effective detox agents, seaweed and kelp seem to protect the body against radiation damage in other ways, as well.

We keep a supply of dried seaweed and kelp in the house. Properly stored, (kept at room temperature and away from moisture), it lasts for years. We sometimes crumble it over salads, use it in soups, and sometimes just eat it plain.

10. Cilantro is also a terrific detox herb. We eat it plain in large quantities on a regular basis. We throw it in salads, throw it in soups, eat it plain and whatever else we can think of. Cilantro is one of the better natural herbs for getting heavy metals and many other toxins out of the body.

Of course, in the event of a serious radiological event, it is likely that much of the available produce will be contaminated. So fresh cilantro, grown outside in a field as opposed to a protected greenhouse, will also be contaminated. If you have a greenhouse or access to one, grow your own cilantro. Otherwise, consider getting a good food drier. You can google food driers for lots of options.

11. Chlorella is also a terrific detox agent, in addition to being a very nutritious food. There are lots of sources for chlorella. Look for one that is prepared in a way that breaks the cell walls. These are more effective than those that leave the chlorella cell walls intact.

12. Here is one more crucial aspect of detoxing – the emotional aspect. This whole subject and the events that have brought it into the spotlight are apt to raise anxiety and fear levels. That is certainly understandable. However, living with high levels of fear and anxiety for prolonged periods of time is very unhealthy. So consider employing meditation, yoga, self-hypnosis or some practice that will help you to relax and to sleep well. These measures also help to prevent fear and anxiety from becoming trapped in your body for prolonged periods of time.

We use EFT, or “Emotional Freedom Technique” to release our fears and anxieties. It works great and is easy to learn. We recommend that you learn and practice your preferred method before you need it. If it is habit and you are comfortable using it, it will be easier to use and more effective when it is most urgently needed.

Here is a link that you can use to help you get started with EFT:

<http://myhealthoptimizer.com/?p=2108>

In Conclusion:

Hopefully the situation in Japan will improve soon and these measures will not be needed, at least not in the Western Hemisphere. However, given the number of nuclear power plants scattered throughout the U.S. and many other Western Hemisphere countries, the unfortunate truth is that the above information almost certainly will be all too relevant at some point in the future.

That is unless we wise up as a species and begin shutting down these dangerous examples of human arrogance, greed and hubris while there is still time. We certainly do not have ANY business building new ones!

If you feel like telling our political leaders not to fund, license or otherwise allow more nuclear power plants to be built, please follow your feelings about this issue. They are likely ancient survival instincts!

Please post your questions, suggestions or comments about this article or the subject in general on the web site:

www.MyHealthOptimizer.com and select **Health Blog**.

There you will find a number of recent posts about this whole subject. Please enter your questions or comments so we can get some useful dialog going that others can benefit from.

To your health!

Jeff Bell

Here is the link to best FDA page on potassium iodine: (pretty interesting)

<http://www.fda.gov/Drugs/EmergencyPreparedness/BioterrorismandDrugPreparedness/UCM072265>

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