



## Public Health Mōno-Gram

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**Public Health**  
Prevent. Promote. Protect.

Friday, March 18, 2011, 8 AM

### **Nuclear Disaster Update: THERE IS NO PLUME!!**

Our hearts go out to the people of Japan, as the evolving multiple catastrophic disasters of earthquake, tsunami, radiation, and now freezing cold and snow compound their unimaginable human misery. The images and stories told 24/7 through our media barely scrape the surface of human emotion being felt in Japan, but leave us feeling at once sad, helpless, guilty, and afraid. Having said that, allow me (RJ) to speak to you as the Eastern Sierra family, and try to put this into perspective. After all, if this happened here, we would be forced to relate as one big family in order to survive. And I firmly believe we would do just that.

#### What is happening regarding the nuclear disaster and radiation in Japan?

Things are still unclear, fragile, and evolving. Government, private utility, and media reports contain conflicting and confusing information, something that is common to all disasters. We know that efforts to cool one reactor (#3) and exposed spent fuel rods in three locations are desperately being carried out by about 180 dedicated workers, risking their own lives in the process. The most recent reports of progress are encouraging.

We do know that some amounts of radiation have been released as some containment vessels have been compromised. We do know that radioactive iodine has been released several hundred yards into the air, and has settled back to the ground up to 20 yards away from the plants, where it will be absorbed into the soil, aided by the rain and snow. It has a half life of 8 days, which means that 50% of it is no longer active after eight days, and so on. Previous experience with radioactive iodine from the Nevada Test Site over many years and from the Chernobyl event show that only 10% of the radioactive iodine reaches the ground – the rest decays quickly to xenon 131, which is stable and non-radioactive.

We believe that the nuclear workers have received KI tablets, although we have not heard that any of the population surviving the earthquake and tsunami who lived in the original 10 mile evacuation zone have. Since they have been evacuated to shelters outside of the 10 mile exclusion zone, and there is no evidence of harmful levels of radiation in those areas, there is no reason for them to receive KI as this time. As an added precaution, the US government has ordered all military personnel to maintain an exclusion zone with a 50 mile radius. There are no credible reports of acute radiation sickness (ARS).

In summary, Japan is experiencing a huge but localized industrial and environmental disaster, with a human disaster unfolding before our eyes. The full story will not be told for many years to come.

## What is happening (or not) regarding radiation and the nuclear disaster – in California?

First, I want to acknowledge that this topic is scary to many of you, especially since radiation cannot be seen, heard, felt, tasted, and has no smell.

Second, I want to be clear that what we have in California is a psychological disaster, where fear rules rather than fact. Fear causes us to believe everything we hear, such as “a plume is scheduled to hit California Friday night”, or that “we all need to be taking KI (potassium iodide pills)”. Verify-verify-verify. Consider where your “facts” are coming from. If we stay together as community, and share and listen, then consensus and reason will prevail.

There is **no plume** of radiation headed toward California. Computer models utilizing weather data have projected what **might happen if** radiation was spewed into the jet stream at 35,000 feet. Models agree that any radiation would arrive in places like Alaska and Hawaii first, and would be miniscule by the time of arriving at the West Coast 5,000 miles away. There is no evidence that radiation has been released with this kind of force, and nothing has been detected in Alaska or Hawaii.

Let’s say for a moment that sensors pick up small amounts of increased radiation. By the way, air, food (especially milk), and water sampling is done from northern California to the south by both state and federal agencies, has been done for about 60 years, and has been enhanced since 9/11. The equipment is so sensitive that it can pick up minute amounts of radiation, far below any levels that would be harmful to human health. Therefore, in the event that small changes are observed, be assured that you will be notified, but there is a huge gap between the concept of picking up a change and having enough of a change to be harmful.

There is no reason to buy KI pills. Besides, I have not found any in the Eastern Sierra. I do not have any, public health does not have any, and the pharmacies and health food stores are out or never had any. You can try eBay – if you have \$2,500 in spare change lying around! KI has been distributed for many years to those living within 10 miles of the 104 nuclear power plants in the US, including San Onofre and Diablo Canyon. But even if there was a catastrophic event at one of those locations, we would not be candidates for taking KI.

KI is most effective when taken within 4 hours of an exposure to large doses of radiation, and is meant to prevent thyroid cancer. Most vulnerable are pregnant females and infants. Those over 40 years of age are at much less risk. There are significant side effects and allergic reactions, and when taken, should be only under carefully followed guidelines. (See the CDC fact sheet at <http://www.bt.cdc.gov/radiation/pdf/ki.pdf>)

Locally, our health department is constantly monitoring the situation, and is in touch with the appropriate state and federal agencies. We have effective communication systems in place to communicate with you in the event of a disaster, as we did during the bird flu, West Nile, and 2009 H1N1 scares and events. We have equipment and plans in place to deal with an influx of self-evacuees if a radiological event happens in southern California. The safety of our food and water is continually monitored, along with our air, all in the name of possible terrorism, especially since the 9/11 attacks.

In summary, the nuclear disaster in Japan is not a threat to the public’s health in California. Even a worst case scenario, unlikely to happen, would not change this statement. But it sure has taken a hold of our fears and anxieties in a big way!

OK – so I get what I should not be doing – what should I be doing?

This should be a call to action.

- If you have that \$2,500 lying around (or some part of it!), don't go to eBay to buy KI from someone taking advantage of you. Instead, spend some of it upgrading your emergency supply of food and water, and give some to the organization of your choice reaching out to the untold thousands of survivors in Japan. As always, beware of relief scams – make sure the organization is reputable.
- Do you have a communication plan to make contact with your family and friends following an earthquake? Do you have a central point of contact out of state? Do you know how to send text messages, as cell phone service will be overwhelmed? Is your plan up-to-date, and have you tested it recently?
- Have you checked your garage or shed, and made an inventory of all the camping gear, etc., that you may have lying around? As you watch TV, pay attention to the things that the Japanese victims are missing – water, food, shelter, heat, light, fuel, did I say toilet paper, let alone toilets?
- Think about how and where you are going to get local news – where is there a shelter, how will you get food and water and diapers when the stores are closed? Note: I have not heard any reports of looting in Japan. Be wary of scams. Text messages in the Philippines were telling people that high levels of radiation had arrived, and schools and businesses closed, only to be looted.

Long after the nuclear fears have subsided, hundreds of thousands of Japanese survivors will still be in shelters. The history of disasters tells us that their misery has only just begun, as disease will inevitably follow soon. In addition, the world will move on – have you heard anything this week about New Zealand, Haiti, Libya, etc., etc..

I hope you take advantage of the human stories being told in the media. Yes, we will feel sad, helpless, guilty, and afraid. Some of the suggestions above will help. But I hope most of all we will feel thankful and grateful for all that we have. I'll bet there were choices you had to make of what to drink and eat and wear today. You are probably warm enough, and have enough light after the sun goes down to read or work on your computer. You don't have to think about where you will take a shower or use the bathroom.

Keep your tank full – not just with gasoline, but your emotional and spiritual tank also, so that you – and we as a community – will be better prepared for the next and inevitable crisis to affect one, some, or all of us.

For more information:

All federal agencies have combined their materials into one Web site: [www.usa.gov](http://www.usa.gov)

California Department of Public Health (CDPH) and the Emergency Medical Services Authority (EMSA) Web site, includes this event and helpful tools on preparedness: [www.bepreparedcalifornia.ca.gov](http://www.bepreparedcalifornia.ca.gov)

California Emergency Management Agency Web site on Radiological Preparedness:  
[http://cms.calema.ca.gov/prep\\_radiological\\_prep.aspx](http://cms.calema.ca.gov/prep_radiological_prep.aspx)

CDPH Information Line: (916) 341-3947, M-F, 8-5 PDT

As always, we welcome your calls and questions, and will be available to speak to any group.