DHMC Experts: No Threat to U.S.

By John P. Gregg
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LEBANON — There’s been a run on potassium iodide at the Upper Valley Food Co-op, but radiation experts at Dartmouth-Hitchcock Medical Center yesterday said Upper Valley residents should harbor no fear about their own health and safety, despite the nuclear disaster now occurring half a world away in Japan.

And Dr. Harold Swartz, the director of the Dartmouth Physically Based Biodosimetry Center for Medical Countermeasures Against Radiation, also said he believes residents of Tokyo can avoid any major problems, especially if they stay inside should a nuclear plume drift their way.

“I don’t think there is an imminent short-term health problem,” Swartz, a 76-year...

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old pioneer in the field of testing people for exposure to radiation, said yesterday. "It is unlikely that that (Fukushima) release will result in very significant health effects. The Japanese continue to do a very good job monitoring the situation, and moving people out of the way."

Swartz is offering to transport an instrument under development, known as a dosimeter, to Japan to ease public concerns about the effects of nuclear fallout.

"The probability of large amounts of radiation getting into areas with large population centers is very small, and the probability, if there is drift of large amounts of radiation, of people being exposed to it is very small," he said.

While radiation levels have at times spiked near the damaged reactors at Fukushima, Swartz said the rates of exposure, for the most part, are "still way down from what would cause acute effects and radiation sickness," even for most of the workers at the site. That's because they have likely taken steps to avoid the most extreme exposure. Swartz said, though he said the nuclear plant workers may now face an increased long-term possibility of cancer.

Japanese authorities do need to take some precautions, such as碘治疗 for residents exposed to fallout, and filtering water in reservoirs, but he said it is highly unlikely that Tokyo would need to be evacuated even if a plume moved its way, though residents might have to "shelter in place" until a passing plume disperses. He also said they should wear masks if they go outside for a few days following such an event.

And while increases in radiation levels eventually may become measurable outside of Japan, Swartz answered with an "unequivocal no" when asked if there should be any fear about health risks in the United States from the budding nuclear meltdown in Japan.

"There is no plausible way that this could really have an impact on the United States," Swartz said.

Neal Boucher, the DHMC radiation and laser safety officer who has worked in nuclear medicine for 30 years, and in emergency planning during the startup of the Seabrook nuclear plant, also said Upper Valley residents need not worry about health effects from radiation exposure, even if radiation levels in the atmosphere eventually do increase.

"Certainly what we get here will be so diluted it won't have any impact, but our instruments are so good, we'll be able to detect it," Boucher said.

Swartz and Boucher expressed some concern about the storage pools holding spent fuel rods at Fukushima that may be at risk of a meltdown, because they are stored in a way that makes it more likely to become aerosolized, and also contain plutonium, which is more dangerous if ingested.

Boucher said exposure risks are all based on the time spent in a radioactive cloud, and the dose of radiation in it, and that what may happen in Japan "remains to be seen."

"The weather is such a huge wild-card," he said. "You hope the prevailing westerlies keep it carrying over the ocean."

Although both experts said there is no risk to Twin State residents, as many to 20 people a day are calling the Upper Valley Food Coop in White River Junction to see if it has any potassium iodide, which is sold over the counter and can help reduce the risk of thyroid cancer in individuals exposed to higher-than-normal levels of radiation.

It works by counteracting the effects of radioactive iodine on the thyroid, but other types of cancer can also occur from exposure to high levels of nuclear radiation.

The store has sold out of the product, which according to the Food and Drug Administration works best if taken within three to four hours of exposure.

"Right at the moment, we don't have any potassium iodide on the shelf. Anything that we did have has been sold, and we are expecting to have product availability, I would say, in the next week to week-and-a-half," said Coop health and body care manager Beth Williams.

Boucher said there is no reason for anyone here to be taking potassium iodide, noting that the dose should be appropriate for the age of the ingester, and that it can have side effects.

"I think they should wait," said Boucher.

Williams concurred: "It is very clear that potassium iodide is a tool to be used for a specific purpose in a crisis, and it is not something that will fix all issues for exposure to radiation," she said. "It's hard to get that across to people."

Meanwhile, Swartz has written authorities in Japan, offering to help them use a portable dosimeter the Dartmouth center is developing to measure exposure to radiation through what is known as electron paramagnetic resonance, or EPR.

The Dartmouth center, recently founded with help from a $16.6 million grant last year from the National Institutes of Health, uses EPR to measure radiation levels in human teeth and nails.

Swartz a few years ago, through a Dartmouth laboratory and a small company he and his wife run, sent a clone of the instrument to Shiba, in greater Tokyo, where it was being used by researchers continuing to monitor radiation levels in survivors of the atomic bombings of Hiroshima and Nagasaki.

Swartz has offered to bring another portable prototype from Dartmouth to Japan if authorities want to use it on a broader scale. Swartz thinks the likelihood of large-scale "clinically significant" exposures to radiation is unlikely, but he said the Dartmouth dosimeters could help with public confidence.

"While the public authorities should be able to provide very reliable information that indicates that people have not had such exposures, past history of such events suggests that there also will be a need for direct measurements, if only for reassurance," he wrote to public health authorities.

Swartz said he has generally "been a strong advocate for nuclear power," and said the incidents in Japan indicates authorities "have overestimated the robustness of the safety of the reactors," and that design changes that make them more failure may be warranted.

But he noted that a coal-fired power plant emits more radiation by burning coal that contains naturally radioactive elements, particularly radon, than does a properly run nuclear power plant.

"We live in a world that we keep wanting no risks, and there ain't nothing that's no risk," Swartz said. "I'd feel safe living next to a nuclear power plant."

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