Radiation leaks in Japan pose little risk to U.S.

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BY JAN JARVIS
jjarvis@star-telegram.com

The release of nuclear radiation in Japan has some Americans so panicked that they're buying up potassium iodide supplements to prevent thyroid cancer from radiation exposure.

But experts say that's completely unnecessary. U.S. residents are at little risk from any radiation release in Japan, and only people directly exposed to heavy radiation would face serious health issues, they say.

"We know what radiation exposure does and more importantly what it doesn't do," said John White, radiation safety officer and assistant director of environmental health and safety at the University of Texas Southwestern Medical Center in Dallas.

"And it does not do the comic book stuff," he said. "If you're bitten by a radioactive spider, you're not going to climb a wall. It just doesn't happen."

Anxiety over radiation blowing across the Pacific Ocean to the United States is also overblown.

"Even if some radioactive particles make it across thousands of miles, they will be too weakened in their strength and quantity to cause any serious damage," said Ratan Kumar, senior lecturer at the University of Texas at Arlington.

Still, the crisis in Japan has stirred up fears of short- and long-term health problems. In reality, it takes extremely high levels of radiation over a short period of time to cause life-threatening conditions.
The average American is exposed to about 0.62 rem, which is used to measure radiation, each year. For acute effects of radiation sickness to occur, they would have to receive more than 100 rem, Kumar said.

The highest emissions levels reported at the Fukushima plant have been 40 rem per hour, enough to cause symptoms within two or three hours. At the plant gate, the radiation levels reached 1.2 rem. By comparison, workers hospitalized after Chernobyl received between 100 and 600 rems.

If someone was exposed to 100 rem, they would experience nausea a day or so later, Kumar said. Vomiting, diarrhea and fever might follow but the person would recover within days.

Decades could pass before any cancer caused by radiation exposure appears.

That's one reason why older retirees are being recruited to work in the Japanese nuclear power plant, White said. "Older people are more likely to die of old age than to die from radiation exposure," he said. "It takes 20 years for radiation effects to show up."

Thyroid, leukemia, multiple myeloma, skin, lung and breast cancers are most often linked to radiation exposure.

Even then, the risk is still low. Studies of survivors of radiation from the atomic bombs in World War II found those receiving 5 rem or more had about a 5 percent higher risk of cancer than expected, Kumar said.

Generally young children and fetuses are at greater risk for long-term effects from radiation exposure than adults. Six years after the Chernobyl disaster, there was a dramatic increase in thyroid cancer among children living in the area, according to the World Health Organization.

While people who have been exposed to radiation in Japan have been given potassium iodide to reduce the risk of developing thyroid cancer, it is not recommended in the United States. Those who are allergic to shellfish could, for example, have a reaction to it, White said.

The more realistic approach is to remain calm and stop worrying.

"When people are afraid, they get sick so their fear ends up mimicking an exposure to radiation," White said. "They scare themselves sick."

Online: Radiation dose calculator, www.epa.gov/radiation/understand/calculate.html

Jan Jarvis, 817-390-7664

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