

Japan Study Finds Rise in Cancer—Officials Deny Link to Fukushima

By Joseph Mangano

It is now seven years since the catastrophic reactor meltdowns at Fukushima, Japan, of March 2011. Enormous amounts of radioactive chemicals, including cesium, strontium, plutonium, and iodine were emitted into the air, and releases of the same toxins into the Pacific have actually never stopped, as workers struggle to contain over 100 cancer-causing chemicals.

When tiny metal particles of the chemical element iodine enter the body through breathing, food, or water, they attack the thyroid gland, which is critical to physical and mental development. The dangers of radioactive iodine are nothing new. A 1999 National Cancer Institute study estimated that iodine in atom bomb explosions in Nevada from 1951 to 1962 caused thyroid cancer in up to 212,000 US children born in the 1950s and 1960s.

Only one official study on Fukushima's harm to the Japanese civilian population exists, a screening for thyroid cancer in 380,000 local children under the age of 18. In January, the journal *Thyroid* reported 187 cases after five years. A typical population of 380,000 children would produce 12 cases in five years.

Japanese officials deny the notion that the Fukushima disaster caused this high number. "It is difficult to think that the cases are related to radiation exposure," said a committee in the Fukushima area. Skeptics claim that doctors are examining thyroid glands in the screening far more carefully than usual, which inflates the numbers. Others take exception to this claim and believe the findings are the result of exposure to Fukushima fallout.

One way to understand whether Fukushima is the cause of this huge increase is to look at child thyroid cancer data in other areas affected by the meltdown[s], where no special screening program was conducted. The United States is such a place. Fukushima fallout, driven by prevailing west-to-east winds, entered US air space across the nation days after the meltdown[s] began. Although Environmental Protection Agency data show radiation levels well above normal during that period, officials have dismissed the notion that [the public] might have been harmed, based on the belief that radiation exposures were too low.

Cancer cases from all US states are on the Centers for Disease Control website up to 2014. The four-year intervals 2007 to 2010 and 2011 to 2014, which represent periods before and after Fukushima, can be compared.

Results show that thyroid cancer rates rose:

- 33 percent for children ages 0-14;
- 13 percent for young adults;
- 11 percent for middle-aged adults;
- 7 percent for the elderly.

The number of US child thyroid cancer cases diagnosed jumped from 645 during the four years prior to Fukushima, to 854 during the four years following Fukushima. Again, no change has been made in the method of diagnosing thyroid cancer. The two ways, which have long been in use, include (1) doctor's detection of a lump in a routine physical; and (2) the child reporting symptoms and consulting a physician. This is a real and significant increase.

A key additional finding is that the US thyroid cancer rate rose for all age groups after Fukushima. But the 33 percent increase among children far exceeds rises in young adults, middle-aged adults, and the elderly—exactly what would be expected if Fukushima were a factor, as, although radiation is harmful to people of all ages, it is most damaging to the fetus, infant, and child.

Denial of scientific fact is not new in the nuclear world, which has operated in a political fishbowl since the atomic era began in the 1940s. For years, as atom bombs were tested above ground, both [US] and Soviet officials denied any health threat to people from these explosions. The leaders knew the truth, as a 1963 treaty signed by President John F. Kennedy and Premier Nikita Khrushchev banned above-ground tests. But not until decades later, when the Cold War had ended, did the National Cancer Institute study peg the number of thyroid cancer cases in children caused by bomb fallout at up to 212,000.

For years after the Chernobyl meltdown in 1986, health officials denied any local humans had been harmed, other than the 31 rescue workers who died

after being heavily exposed while putting out the raging chemical fire in the reactor. Even today, the World Health Organization attributed only 5,000 thyroid cancer cases among children and 9,000 additional deaths from all cancers to Chernobyl. In all likelihood, these figures are hugely under-estimated. Other estimates—reflected in the book *Chernobyl* by Alexey Yablokov published by the New York Academy of Sciences in 2009, which used 5,000 references written in the Slavic language—suggest about one million excess deaths, and that the percentage of local children who are healthy slipped from 80 percent to 20 percent after the meltdown.

The effort to cover up damage to humans from Fukushima—led by industry and its willing partners in government, including scientific researchers—has seven years under its belt. This cover-up follows the usual post-meltdown recipe, including:

—Official announcements immediately after the meltdown that nobody was harmed;

—An official study focused on children with thyroid cancer, a very rare disease, to minimize the estimated damage;

—An unexpectedly large number of cases reported in the study, but repeated denials that Fukushima was a cause;

—Failure to conduct other studies or to provide any assessment of the broader potential harm to young people, including infant mortality, low-weight births, premature births, birth defects, and non-thyroid child cancers—or to screen for diseases affecting adults.

But all of the bureaucratic and corporate obfuscation, which will undoubtedly continue in the future, will not calm public fears. After a meltdown, people can tell that cancer rates are high. They know that more children are sick. More of their pets or farm animals are sick or die. They may not be health research experts, but their understanding of the truth always trumps the deceitful practices of an industry that has harmed so many. The "peaceful atom" concept first propagated in the 1950s to calm a world frightened by the prospect of a nuclear war between the United States and the USSR, has never been compelling enough to offset the dramatic and recurring cost to human health caused by nuclear power.

Nor are the Japanese people buying it. Of the 54 reactors operating in Japan in 2011, all were closed. Only five have been restarted, but these will most likely be shut permanently in the face of Japanese public anger. It is time for public health researchers to serve the public, despite persistent attempts to discredit them. They must conduct the needed studies and ensure that the truth about the consequences of [reactor] meltdowns—as well as lesser and more commonplace events such as chronic radioactive emissions—is understood not as "acceptable risks" but as some of the foremost threats to public health.

—Joseph Mangano is Director of the Radiation and Public Health Project and author of *Mad Science, and Low-Level Radiation and Immune System Damage*. He wrote this article for *The Washington Spectator*.



Tepco Admits Water Treatment System Not Working

Kyodo News reported Aug. 19 that the Tokyo Electric Power Company's (Tepco's) water decontamination system is not removing all of the radioactive contaminants as the company previously claimed. Huge waste water tanks crowding the compound of the destroyed Fukushima No. 1 nuclear power station have been found to contain dangerous, long-lived radioactive substances, defying Tepco's special treatment system, Kyodo News said.

Tepco admitted that previously undisclosed radioactive isotopes in the treated water include iodine-129, ruthenium-106, and technetium-99. According to Tepco, a maximum of 62.2 becquerels-per-liter of iodine-129—seven times the 9 becquerels/L legal limit—was found in the water filtered by Tepco's Advanced Liquid Processing System (ALPS). The ruthenium and technetium have radioactive half-lives of 373 days, and 213,000 years respectively.

Hokkaido Earthquake Causes Reactor Site Blackout, Recalls Fukushima Nightmares

An earthquake of magnitude 6.6 struck Japan's northern island of Hokkaido Sept. 6, causing widespread power outages, landslides and blocked roads, leaving at least 20 dead, hundreds injured, and 20 missing. The quake also caused a blackout at the closed, 3-reactor Tomari nuclear power station, halting circulation of cooling water. Even in shutdown reactors, the uranium fuel remains ferociously hot. Operators had to switch to emergency diesel backup generators to keep cooling water circulating over the fuel rods. Conflicting reports about the recent quake said that Tomari's reactors had been shut down before the power outage (ever since the 2011 Fukushima-Daiichi earthquake). However, the BBC reported Sept. 6, 2018 that "the reactor shutdown automatically." *Yomiuri Shimbun* reported in August 2011 that Japan's government had approved the restart of Tomari's reactor No. 3, but that on May 5, 2012 reactor 3 was again shut down. —Reuters, *Japan Times*, AP, *Asahi Shimbun*, and BBC, Sept. 6 and 7, 2018

Water samples taken from some of the large tanks showed exceedingly high levels of iodine-129 which has a radioactive half-life of 16 million years. Tepco has been trying to get permission to dump the contaminated waste water—920,000 tons—into the Pacific Ocean, claiming falsely it is contaminated only with tritium and trace amounts of other isotopes. Tepco's property has 880 of the large, hastily built tanks and is running out of room for more.

The company's admission of faulty water filtration has raised questions about what more is in the waste water that Tepco is so eager to dump. A government panel debating how to deal with the waste water has focused on the tritium. The ethics of dumping radioactive materials into an international body of water are often completely ignored.

A complete list of the radioactive isotopes in the treated waste water has not been disclosed by Tepco, and the company said it hasn't checked the concentration of radioactive materials in each tank. ALPS has regularly been described by the company and media as being capable of removing everything but tritium.

Regional fishing groups have fought the dumping plan claiming it will ruin seafood sales and wreck their livelihoods.

The Fukushima-Daiichi reactor complex was devastated when the March 2011 earthquake and tsunami caused a station blackout, shattered reactor foundations, wrecked backup generators used for cooling, and caused three reactors to suffer explosions and complete fuel meltdowns. Since then, tons of water are constantly poured into the reactor buildings to cover and cool three large masses of melted fuel, and it becomes extremely toxic and radioactive in the process. The water is filtered by the novel ALPS system, but removing the radioactive contaminants has so far proven to be unworkable. —*The Mainichi*, Aug. 30; Kyodo, and *Japan Times*, Aug. 19, 2018