

Facts:

from the Colorado Department of Public Health and Environment



Japanese Nuclear Plant Crisis: questions and answers

What is the impact of the event in Japan on people in the United States?

At this time, there is no indication that materials from the incidents in Japan have the potential to have any significant radiological effect on the United States.

What's the risk for Colorado from the current nuclear power emergency in Japan?

At present, the Nuclear Regulatory Commission (NRC) says Japan's nuclear emergency presents no danger to the United States. The NRC is involved in the Japan emergency both at home and in Japan.

What are you doing to assess the risk?

The Colorado Department of Public Health and Environment is monitoring the situation closely in conjunction with many state and federal partners. The department will continue to follow the effects of the damaged nuclear power plants as long as there are potential concerns. The department will share verified information through its website and Facebook pages as it becomes available.

Does Colorado have a plan in place to respond to a radiological emergency?

Yes. The Colorado Department of Public Health and Environment works closely with the Colorado Division of Emergency Management and other state agencies in all emergencies.

Should I be taking potassium iodide (KI) to protect myself?

- No. Potassium iodide (KI) tablets are not recommended at this time, and can present a danger to people with allergies to iodine, shellfish or who have thyroid problems. Dosages can

vary and should only be taken as advised by a medical professional.

- Potassium iodide, or KI, may have side effects. The possible side effects are related to the dose that you take and your health condition. Using potassium iodide when it is unnecessary could cause intestinal upset (vomiting, nausea and diarrhea), rashes, allergic reactions, soreness of teeth and gums, and inflammation of the salivary glands.
- Pregnant women and the developing fetus are particularly sensitive to the health risks of taking potassium iodide because all forms of iodine cross the placenta. For example, newborn infants (less than 1 month old) who receive unnecessary doses of potassium iodide are at particular risk for developing a condition known as hypothyroidism (thyroid hormone levels that are too low). If not treated, hypothyroidism can cause brain damage.
- Adults older than 40 years have a greater chance of having allergic reactions to potassium iodide.
- Colorado has no nuclear power plants. If it ever would become necessary for Coloradans to take potassium iodide, the federal government's Strategic National Stockpile keeps supplies of KI and can deliver emergency equipment and supplies within 12 hours. Potassium iodide may be distributed in other states that have nuclear power plants.

What are the health effects of radiation exposure?

- The risks from radiation always depends on the amount of radiation in the atmosphere, the distance from the radiation source, and whether there is any shielding between the source and a person.

- Radiation can be dangerous if the dose of radiation exceeds a certain level. If a nuclear power plant is damaged, health effects most often are seen among the first responders and nuclear power plant workers. This is because they are working in the accident area and they are more likely to be exposed to the high levels of radiation that must be present to cause immediate effects. Some of the immediate effects show up as skin redness, hair loss and burns.
- In a nuclear power plant accident, the general population is not likely to be exposed to enough radiation to cause these effects. Colorado's distance from Japan reduces our risk of exposure to the radiation that has been released as a result of this accident.

What are the long-term effects from radiation exposure?

- Exposure to high levels radiation could increase the risk of cancer. For instance, among the atomic bomb survivors after World War II, the risk of leukemia increased a few years after radiation exposure. The risks of other cancers increased after more than 10 years following the exposure to high amounts of radiation.
- Radiation can be released into the air during nuclear emergencies. Until the radiation is analyzed by experts, there is not enough information to predict the potential impacts of the radiation upon people and the environment.

Is it true that all of us are exposed to radiation daily?

- Yes. It is important to understand that people are exposed to natural radiation on a daily basis. The radiation comes

from the sun; from natural materials found in the ground, water and air; from our televisions, cell phones and computers; and from every structure around us. Levels of exposure to natural radiation also depend on the local geology and elevation.

- People can also be exposed to radiation from chemotherapy or medical equipment such as X-ray machines.

How does radiation become a health hazard during a nuclear power plant accident?

- It is important to remember that there are no nuclear power plants in Colorado.
- If radiation is released from a nuclear power plant during an accident, the radioactive particles might become airborne.
- Those particles that drift in the atmosphere could settle on water and land. If the particles come in contact with people, there is a possibility of radiation contamination both internal (breathing and eating) and external.
- If radiation from Japan reached levels of concern, you may be advised to stay indoors for a period of time.
- If there has been external contamination, such as radioactive particles falling on the skin, you may be advised to shower and put your clothing in a plastic bag for cleaning or disposal.

Who is at highest risk of exposure in the Japanese nuclear power plant accident?

Nuclear power plant workers may be exposed to higher radiation doses due to their professional activities and direct exposure to radioactive materials inside the power plant.

What will public health be doing in an emergency involving radiation?

- In the case of a nuclear power accident, protective actions may be implemented within an area around the site. Those could include staying indoors, and in more extreme cases, evacuation.
- The public health impacts depend on the amount of radioactivity released in the atmosphere and the prevailing weather conditions such as wind and rain. It may be helpful to evacuate people within a certain distance of the nuclear power plant; to provide shelter to reduce exposure; and to provide potassium iodide pills, commonly called KI, for people to take to reduce the risk of certain cancers. These steps are determined by medical authorities after consultation with radiation experts.
- If warranted, steps such as restricting food use of vegetables and dairy products produced in the area of the power plant can help reduce exposure.

How can I protect myself?

- It is important to remember that according to the Nuclear Regulatory Commission, there is no risk to anyone in the United States at this time. The

Environmental Protection Agency's permanent radiation monitoring stations throughout the country help EPA experts to watch for changes and update health officials.

- Keep yourself and your family informed by obtaining accurate information from the Centers for Disease Control and Prevention, the Environmental Protection Agency or the Nuclear Regulatory Commission, rather than relying on unverified websites, where invalid information may spread quickly.
- Follow the instructions of your local government's authorities after any emergency. The Colorado Department of Public Health and Environment communicates with local media, such as radio and TV stations, regularly. The department also shares information on its website and Facebook.



Reliable sources of information

Colorado HELP hotline (CO HELP)

1-877-462-2911 (toll-free)
M-F 7 a.m. – 11 p.m.; S-S 9 a.m. – 5 p.m.

Colorado Department of Public Health and Environment

www.cdphe.state.co.us
303-692-2700
1-800-866-7689 (toll-free)

Centers for Disease Control and Prevention (CDC)

http://emergency.cdc.gov/radiation
1-800-311-3435 (toll-free)

U.S. Environmental Protection Agency

www.epa.gov/japan2011
radiation.questions@epa.gov



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