



Health action in crises

FAQs: Japan nuclear concerns

25 March 2011

Drinking water safety

Can I drink the tap water in Japan?

- Yes, drinking tap water in Japan poses no immediate health risk.
- The standards adopted by the Japanese authorities for the emergency are precautionary. Currently, radioactive iodine is the most common detected contaminant. The standard for adults is 300 becquerels per litre of drinking water. In the very unlikely scenario that drinking water was contaminated and consumed for an entire year at this level, the additional radiation exposure from this water would be equivalent to natural background radiation during one year.
- Japanese authorities are closely monitoring the situation and are issuing advice if needed against consumption of tap water, including specific recommendations for infants. Essential hydration of infants should not be compromised in an attempt to reduce exposure to radionuclide contamination.

Can radioactive contamination be removed from water?

- Standard water treatment procedures may remove significant amounts of radioactive contaminants. Other options to reduce concentrations of radiation contaminants include controlled dilution of contaminated water with non-contaminated water.
- Boiling water will not remove radioactive iodine.

Why do the guidance levels for radioactive iodine-131 in drinking water vary?

The guidance levels found in different sets of recommendations vary because some apply to routine situations and others to emergency situations. The table below summarizes the guidance on radioactive iodine-131 in drinking water and provides an indication of the equivalent exposure from routine activities.

Guideline name	Radioactive activity in water (Bq/L)	Approximate equivalent annual dose (mSv/year)	Notes on health risks if consuming water at this level for a year
WHO Guidelines for Drinking-water Quality (1)	10	0.1	Equivalent to New York - London flight
Japan provisional (emergency) standard for adults (2)	300	2.5	Roughly equivalent to one year's exposure to natural background radiation, or 10 to 15 chest X-rays

1. Current risk
2. Drinking water
3. Health advice for contaminated water
4. Travel advice
5. Radiation
6. Radioactive iodine
7. Personal protective measures
8. Food safety
9. Radioactive contamination
10. Fukushima

Related links

Japan earthquake and tsunami

[WHO guidance on drinking water safety during a nuclear emergency](#)

[WHO guidance on drinking water safety during a nuclear emergency](#)

Guideline name	Radioactive activity in water (Bq/L)	Approximate equivalent annual dose (mSv/year)	Notes on health risks if consuming water at this level for a year
Japanese provisional (emergency) standard for infants (3)	100	1	
IAEA Operational Intervention level for nuclear emergencies (4)	3000	10	Equivalent to an abdominal CT scan

(1) WHO Guidelines for Drinking water Quality should not be taken as the reference point for nuclear emergencies because the levels set are extremely conservative and designed to apply to routine lifetime intake

(2) Provisional regulation values relating to limits on food and drink ingestion, established by the Japanese Food Sanitation Act, as indicated by the Nuclear Safety Commission of Japan. These standards are precautionary and have taken into consideration international guidance, including IAEA and the International Commission on Radiological Protection recommendations

(3) As in (2) above, but applicable to drinking-water used to prepare baby food. This level is equivalent to the international guideline set by Codex Alimentarius for infant food

(4) IAEA Safety Guide GSG-2 established Operational intervention levels (OILs) which would be the default international guidance levels for the early stage of an emergency



Health action in crises

Update 5: Information on drinking water safety released

26 March 2010 | GENEVA – Media reports about a cloud of radioactive particles originating from the damaged nuclear power plant in Fukushima and an fire moving around the globe have increased public apprehension about the unfolding event and its potential health effects worldwide. WHO understands this concern, but dispersal of radiation was expected over time and there is no risk to human health outside the affected area at this time, based on scientific information now available.

In other news, residents living 20 to 30 kilometres from the power facility who had earlier been asked to shelter indoors to avoid radiation exposure as a precautionary measure, are now being advised to voluntarily evacuate the area. The Japanese government cited the difficult living conditions in the zone and adverse weather forecasts for the area as the reasons for their guidance.

In response to concerns about the safety of drinking water in Japan, WHO says that drinking tap water poses no immediate health risk, but local conditions will differ and may fluctuate. Essential hydration of infants should not be compromised in an attempt to reduce radiation exposure.

WHO urges people in the area to heed the advice of local authorities, as they will have access to the latest measurements of radionuclides in water to compare against the standards for adults and children. These standards are precautionary and the presence of some degree of radioactivity in tap water does not mean that it is unfit for human intake. Short-term consumption does not pose a significant threat to health because it would take long-term exposure to these levels of radiation to generate adverse health effects.

WHO has prepared general advice about drinking water quality and comparative public health risks associated with a nuclear emergency. The event is continuing to evolve and WHO will continue to assess its advice based on the changing situation.

[More news](#)

[FAQs: Japan nuclear concerns](#)

[WHO on Fukushima](#)

[Fukushima: WHO on radiation exposure](#)

