

# Health Effects of Radiation from Japanese Reactor Leaks

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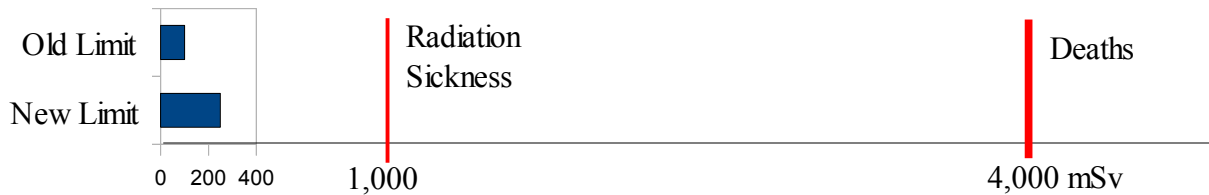
There are two types of health effects of radiation -- short term and long term.

The **short term** effects include **radiation sickness** and **death**.

The **long term** effects include **cancer**.

The Japanese emergency workers are the only people who receive significant amounts of radiation. For this emergency, the exposure limit has been raised from 100 mSv 250 mSv which still prevents them from the danger of short term radiation effects. See Figure 1.

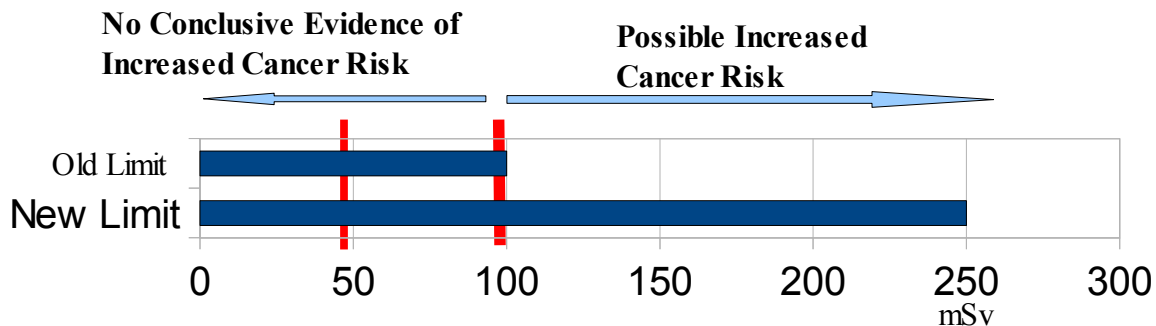
**Thus, there should be no short term radiation health effects in Japan.**



**Figure 1. Emergency Worker Limits and Short Term Effects**

Some claim that all radiation increases the risk of getting cancer. This is not in agreement with good radiological science. The General Accounting Office states it this way.

*"According to a consensus of scientists, there is a lack of conclusive evidence of low level radiation effects below total exposures of about 5,000 to 10,000 millirem." [50 to 100 mSv]*



**Figure 2. Emergency Worker Limits and Long Term Radiation Effects.**

The emergency workers are likely to be at an increased risk of dying from cancer. See Figure 2. The Linear No Threshold (LNT) model may be used to calculate an upper limit of the expected risk. This calculation for a worker exposed to 250 mSv gives a 0.5% increase risk of dying from cancer. Since cancer deaths normally account for about 25% of all deaths and vary each year, an additional 0.5% would probably not be observable.

At the current levels of radiation, it is unlikely for persons outside the exclusion area to receive 50 mSv even if the levels persist for a year. This includes external radiation and internal radiation from ingestion or inhalation of radioisotopes. Japanese officials are monitoring these levels. About April 12, they expanded the evacuation zone to include areas where there is a risk of more than 20 mSv annual dosage.

**Thus, no significant increase in cancer risk among the public is expected.**

**The danger of low dose radiation is very much exaggerated.**

*If the Japanese should not worry, why should we?*