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## Japan's nuclear emergency

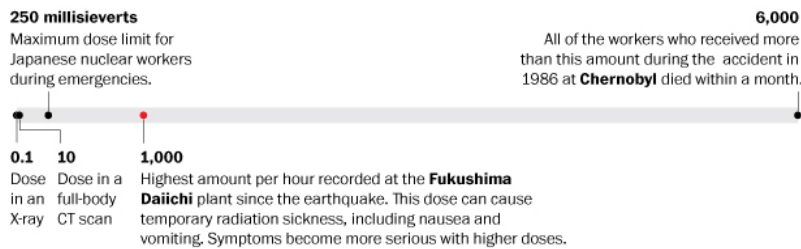
Damage at a nuclear power plant has made leaking radiation the primary threat facing a country grappling with devastation from a 9.0-magnitude earthquake and tsunami.

For a narrated animation of what happened, click here.

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### How dangerous is the radiation?

The highest reported level of radiation released from the Daiichi plant was 1,000 millisieverts per hour on March 27. The spreading contamination represents a critical safety concern for workers at the plant. On March 24, three workers were hospitalized for radiation burns to their legs and feet.



### Effects of radiation

A blast of radiation often causes immediate, obvious symptoms, but damage from low levels of exposure -- generally 100 mSv or less -- may not appear for decades, if ever. Japanese officials have set a dose limit of 250 mSv for nuclear workers during emergencies.

HIGH EXPOSURE LOW EXPOSURE

#### HIGH EXPOSURE

A high dose of radiation over a few minutes or hours can cause acute radiation syndrome, which begins immediately.

Short term:

**Hair:** Falls out within a week

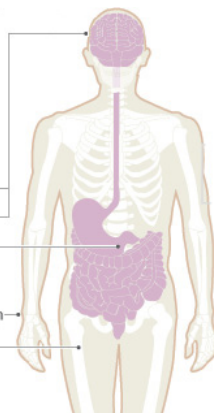
**Brain:** Nervousness, confusion

**Stomach/intestines:** Nausea, vomiting, diarrhea, loss of appetite, lining damage

**Skin:** Burns, which can lead to infection

**Bones:** Marrow cells begin to die.

**All over:** Fatigue, dehydration



Long term:

Cell damage, which makes people susceptible to leukemia and other cancers and can cause sterility and other problems.

**Who's affected:** Likely only in people very close to a source of radiation, such as reactor workers.

Death occurs with an extreme dose (likely 5,000-12,000 mSv).



GRAPHIC: Wilson Andrews, Alberto Cuadra, Bonnie Berkowitz, Patterson Clark, Laris Karklis, Nathaniel Vaughn Kelso, Todd Lindeman, Alicia Parlapiano, Jason Samenow, Laura Stanton, Gene Thorp, Bill Webster, Karen Yourish - The Washington Post. Updated March 25, 2011.



### Video: Inside Japan's nuclear emergency

Watch how the crisis at the Fukushima Daiichi power plant unfolded in this narrated animation.



### Map: A wave of destruction

See how the powerful tsunami barreled across the Pacific.



### Recent quakes in Japan

Japan is one of the most active seismic areas in the world. More than a thousand earthquakes of 4.0 magnitude or greater have struck in and around the country since 2009.

### More Earthquake coverage

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SOURCES FOR "JAPAN'S NUCLEAR EMERGENCY": Tokyo Electric Power Company; Mitch Singer, Biff Bradley, Rod McCullum and Alex Marion, Nuclear Energy Institute; IAEA; The National Academies Press; "Power Plant Engineering;" "Nuclear Reactor Engineering; Reactor Systems Engineering;" Bulletin of the Atomic Scientists; Japan Ministry of Land, Infrastructure and Transport; Nuclear and Industrial Safety Agency of Japan; Nuclear Regulatory Commission; U.S. Food and Drug Administration; Kenneth D. Bergeron, Training Centre for Nuclear Technology; International Nuclear Safety Center; Argonne National Laboratory; U.S. Dept of Energy; Global Seismic Hazard Assessment Program; United Nations Population Division; World Health Organization, World Nuclear Association; NOAA Hysplit Model; U.S. Nuclear Regulatory Commission; Environmental Protection Agency; Japan Nuclear Energy Safety Organization; CDC; Health Physics Society; Physicians for Social Responsibility; Thomas McKone, senior staff scientist at the Lawrence Berkeley National Laboratory; General Electric.