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United Nations Scientific Committee
on the Effects of Atomic Radiation

Health Implications of the FDNPS Accident

Roy Shore

**Implications of Information Published Since the UNSCEAR 2013 Report
9 March 2021 (Online launch)**



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Main Findings

Health Effects of Radiation Exposure on the General Population of Fukushima Prefecture

- Generally consistent with the 2013 findings. More information now available supportive of conclusions.
- Evaluated likelihood of future excess cancer in sensitive subgroups – children and young people

Health Effects of Radiation Exposure on FDNPS Emergency Workers

- Little information on health outcomes available to date.
- Future discernible increases in cancer rates considered unlikely.



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Thyroid Cancer Risk in the Fukushima Prefecture Population

- Focused on sensitive subgroups by sex and age at radiation exposure: ages prenatal to 5 years, 6 to 19 years, 20 to 35 years
- Statistical evaluation: Will radiation exposure likely cause a discernible excess of thyroid cancer in the future?
- Findings: Discernible excesses of thyroid cancer caused by the radiation exposure are unlikely, up to ages 30 or 40 years, or over the entire lifespan.



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Thyroid Cancer Examination Program of the Fukushima Health Management Survey (FHMS)

- Included children up to 18 years of age in Fukushima Prefecture at the time of the FDNPS accident.
- FHMS provided a highly sensitive ultrasound examination for thyroid cancer every 2-3 years (4 exams to date). About 300,000 initially examined.
- Detected 233 suspected or confirmed thyroid cancers in FHMS.
- The large number of diagnosed thyroid cancers judged to be due to ultra-sensitive thyroid screening and not attributable to radiation exposure



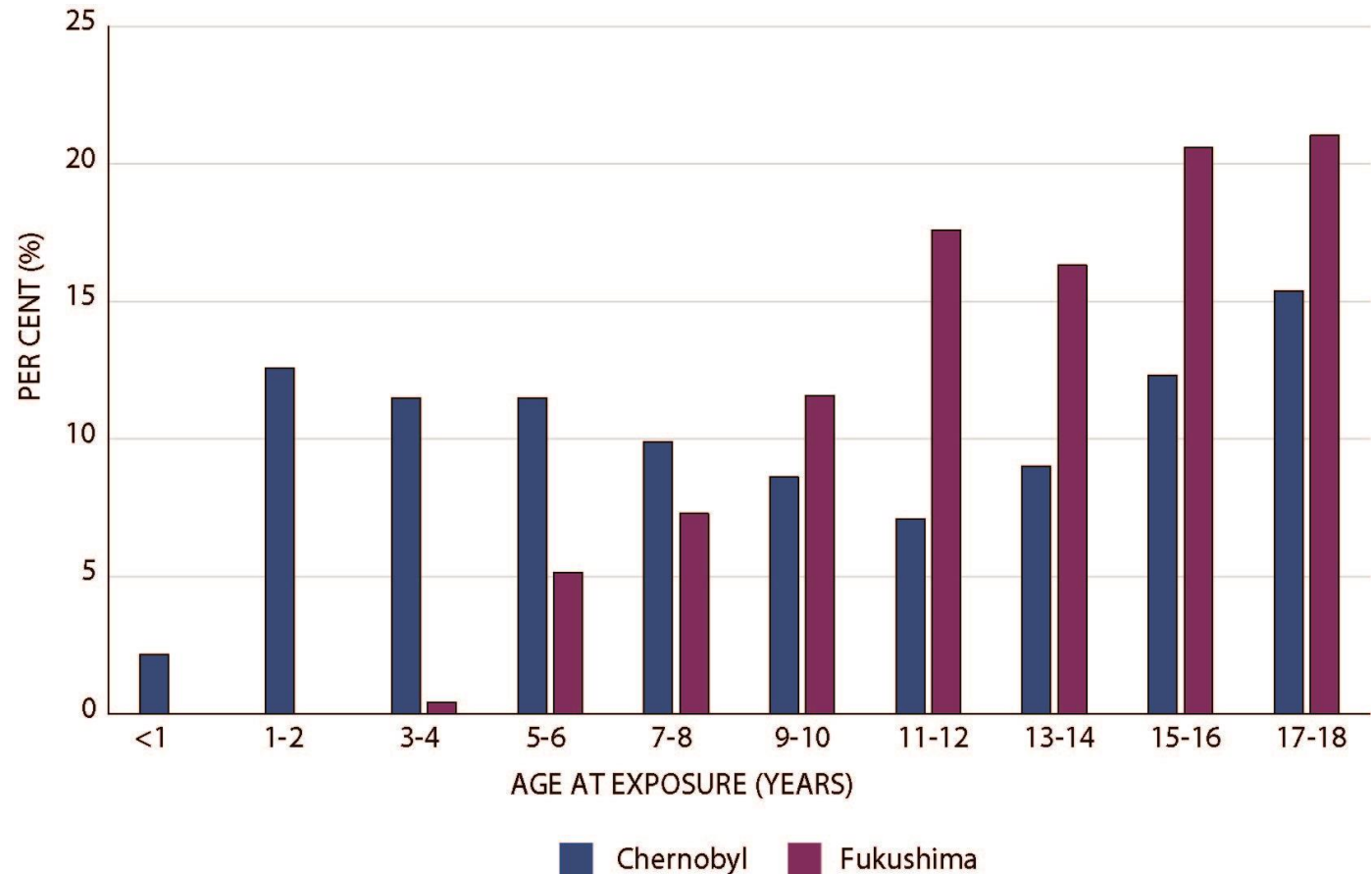
Other Evidence Thyroid Cancer Not Due to Radiation

Risk after exposure in early childhood:

- Chernobyl – High
- Fukushima – None

Time from exposure to first elevated thyroid cancer rates:

- Chernobyl – 4-5 years
- Fukushima – 1-3 years





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Risk of Other Cancers in the Fukushima Prefecture Population

- Leukaemia, female breast cancer, and other solid cancers – cancer types sensitive to radiation risk. No studies reported to date.
- Statistical evaluation: future discernible cancer excesses unlikely in the sensitive groups exposed in childhood, given the generally low doses.
- After prenatal radiation exposures, no excess of childhood leukaemia or other cancers will be discernible.



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Risk of Other Adverse Outcomes in the Fukushima Prefecture Population

- Adverse reproductive outcomes? Studies showed no discernible excess of birth defects, stillbirths, preterm births, low birthweight
- Elevated prevalence of cardiovascular and metabolic conditions *among evacuees, but not non-evacuees.*
Likely from lifestyle changes and psychosocial stresses, not from radiation exposure.



Health Outcomes among FDNPS Emergency Workers

- Found no “deterministic” effects (non-cancer adverse health conditions from high radiation doses). Future ones generally not expected.
- 174 workers identified with effective doses of over 100 mSv: Future discernible excess of leukaemia or other cancers unlikely.
- Among 1,757 workers with thyroid doses over 100 mGy: Future discernible excess of thyroid cancer unlikely.
- Ultrasound evaluation of 627 workers with thyroid doses over 100 mGy and 1,437 with lower doses. Similar prevalence of thyroid disease in both groups.



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Future Information about Health Status

- Fukushima Health Management Survey (FHMS): health surveillance and support activities for the Fukushima Prefecture population are continuing.
- Fukushima Nuclear Emergency Workers: detailed medical follow-up of FDNPS emergency workers is ongoing.



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Thank you



Unscear@un.org