## **Health risks of radiation exposure**

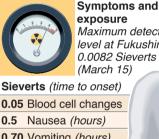
Exposure to radiation carries two types of health risks: those typically associated with low level, long-term exposure, such as cancer and DNA mutation, and those from short-term, high levels – acute exposure – including burns and radiation sickness



## **RADIATION SICKNESS**

Biological risk of absorbed dose measured in Sieverts typically 0.0022 per year

Prevention: Minimise dose or exposure time, e.g. by use of mask, protective suit Treatment: Quick removal of radioactive material to prevent prolonged exposure



Maximum detected level at Fukushima – 0.0082 Sieverts

0.70 Vomiting (hours)

0.75 Hair loss (2 weeks)

0.90 Diarrhoea (hours)

Haemorrhage 1.0

(weeks)

4.0 Possible death (2 months)

10.0 Destruction of intestinal lining. internal bleeding. death (1-2 weeks)

20.0 Cognitive impairment, convulsions. death (hours)

Thyroid gland: Absorbs radioactive lodine-131, with half-life of 8 days. High cancer risk, especially in children. Taking stable iodine can protect thyroid

Lungs: Inflammation (pneumonitis) and scarring (fibrosis)

Red blood cells: Low platelet count, spontaneous

bleeding Stomach:

Internal bleeding

Small intestine: Bleedina

Bone marrow: Depletion of

white blood cells - up to 50% within 48 hours - leading to high risk of infection

Sources: EPA, Centres for Disease Control

Picture: Associated Press

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