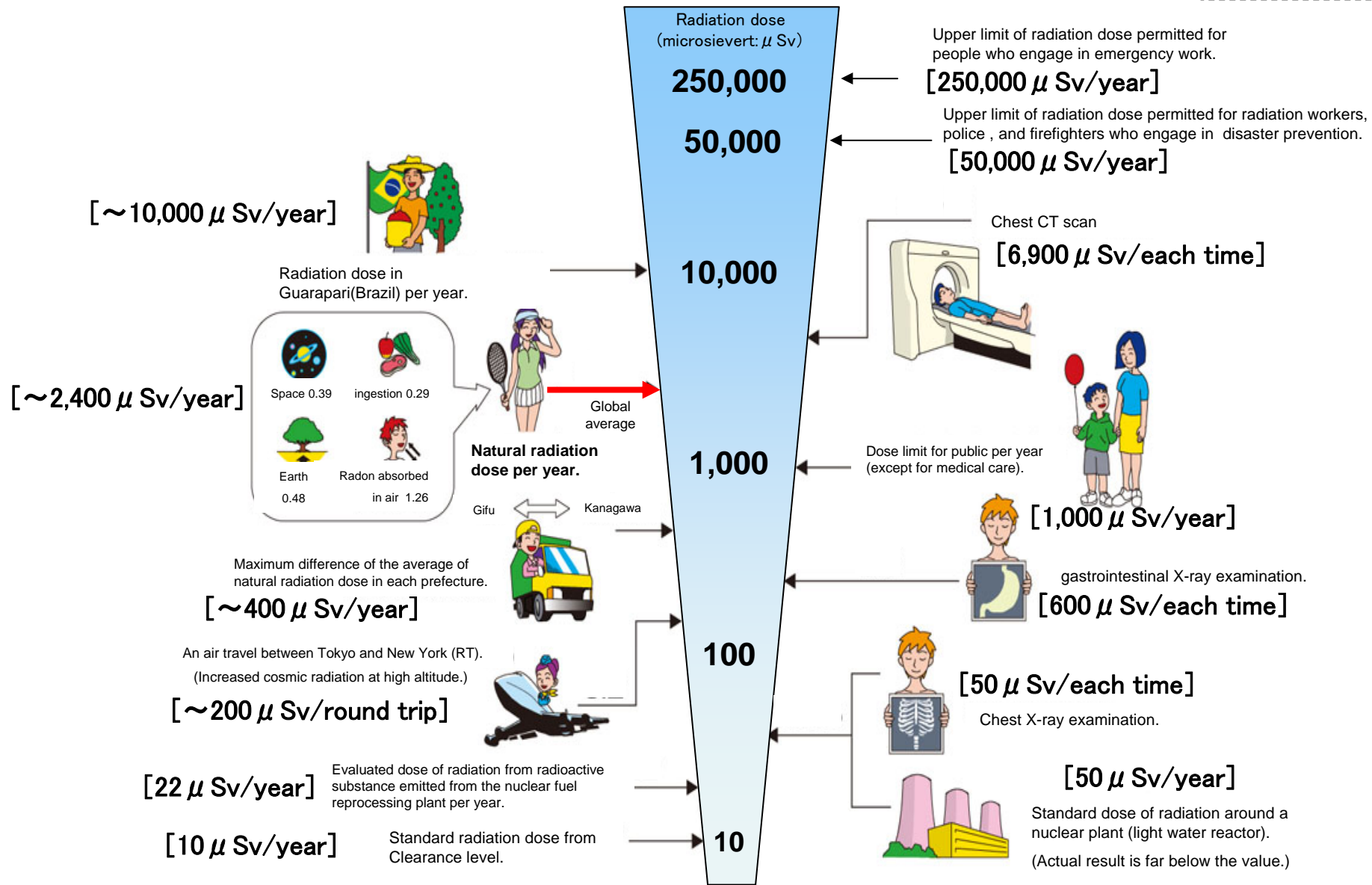


Radiation in Daily-life

※Unit : μSv



(Ref) Average dose rate at the monitoring post of Tokyo (3/16 9:00~3/17 9:00, , March) : $0.054 \mu\text{Sv}/\text{h} = 474 \mu\text{Sv}/\text{y}$

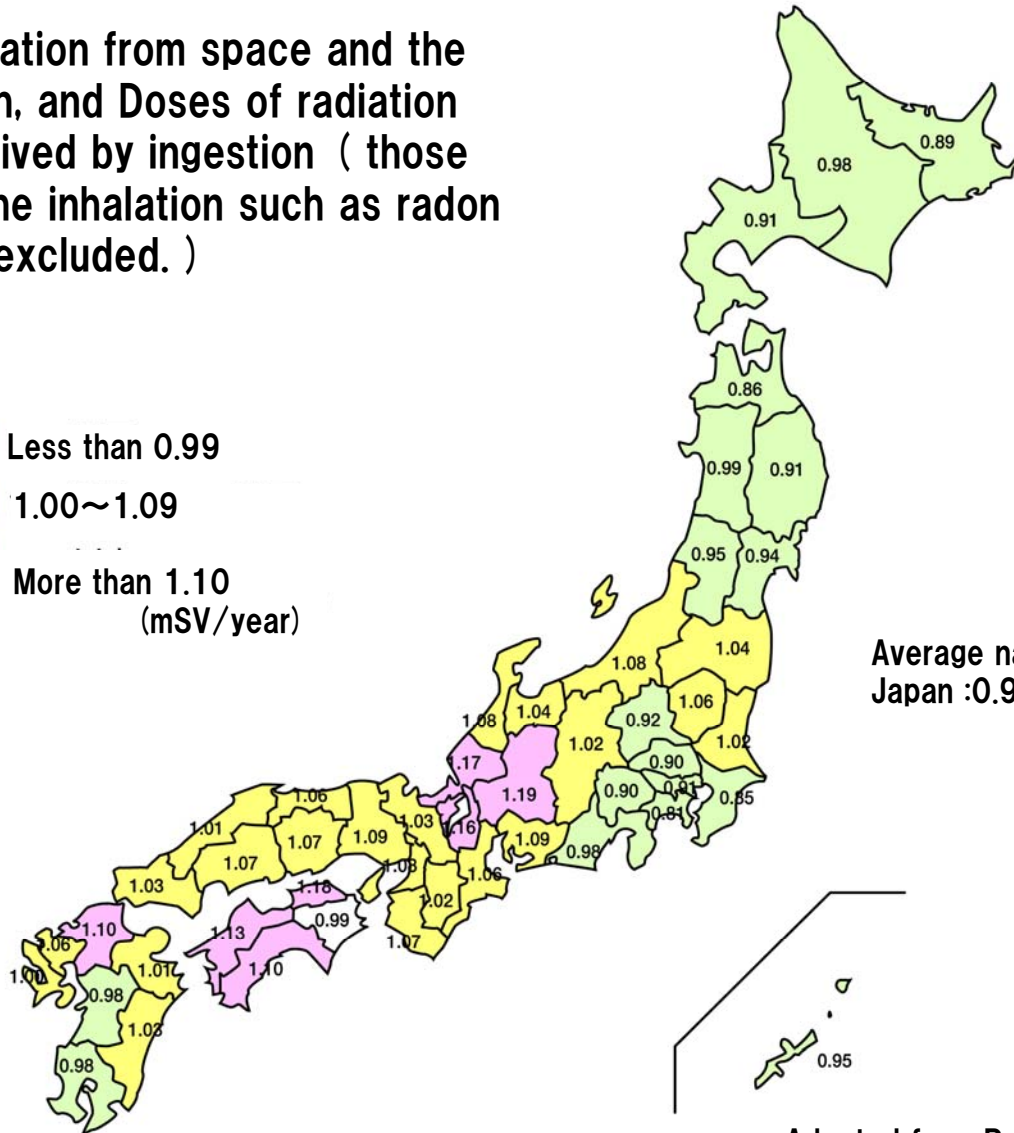
Natural doses of radiation in Japan

Radiation from space and the earth, and Doses of radiation received by ingestion (those by the inhalation such as radon are excluded.)

※Unit : mSv

1mSv=1000 μ Sv

- Less than 0.99
- 1.00~1.09
- More than 1.10
(mSV/year)

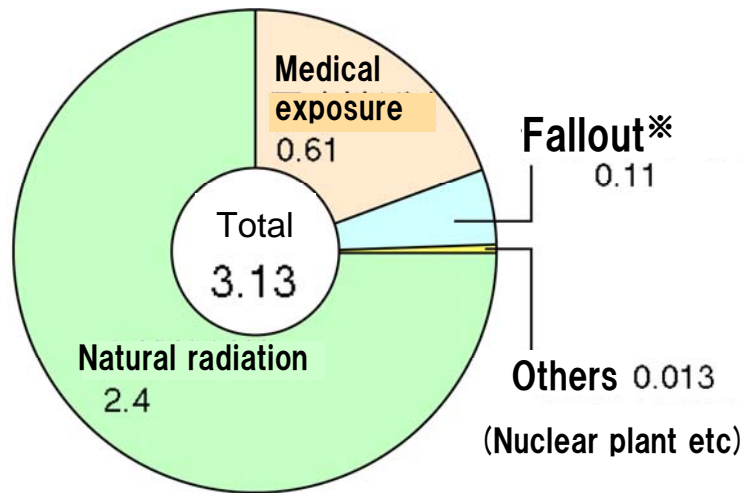


Average natural radiation dose in Japan :0.99 (mSV/year)

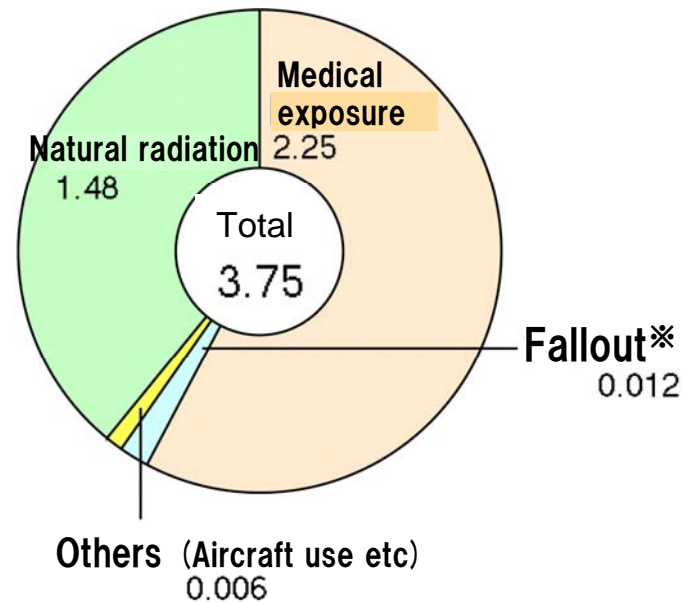
Adapted from Radiological Sciences
Vol.32, No.4, 1989

Annual doses per person received from nature and man-made source of radiation

Average doses in the World



Average doses in Japan



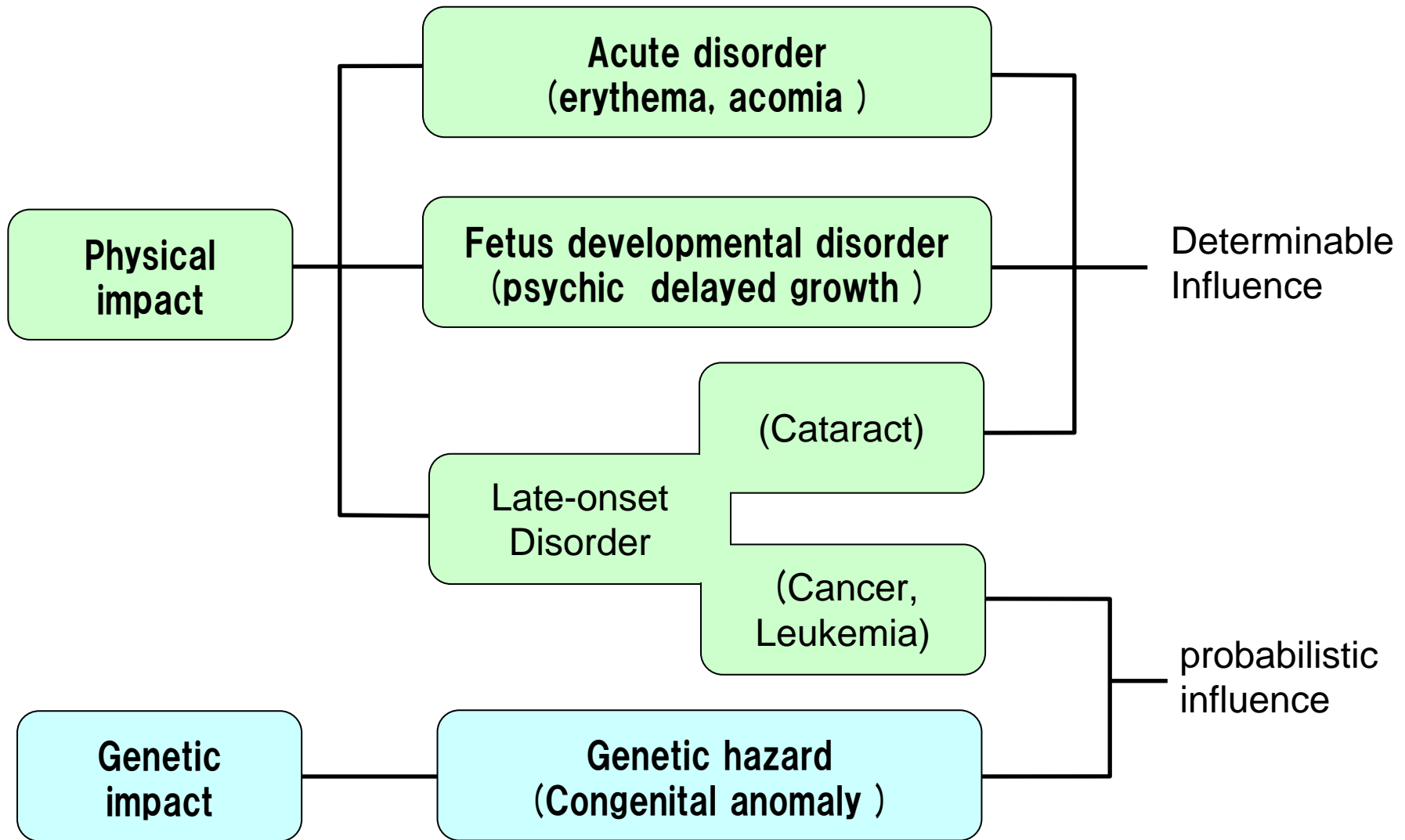
※Unit : mSv

1mSv=1000 μ Sv

※Fallout : the residual radiation hazard from a nuclear experiment

Adapted from 「UNSCEAR Report 1992」, and 「Life environmental radiation」 Former Science and Technology Agency (Japan)

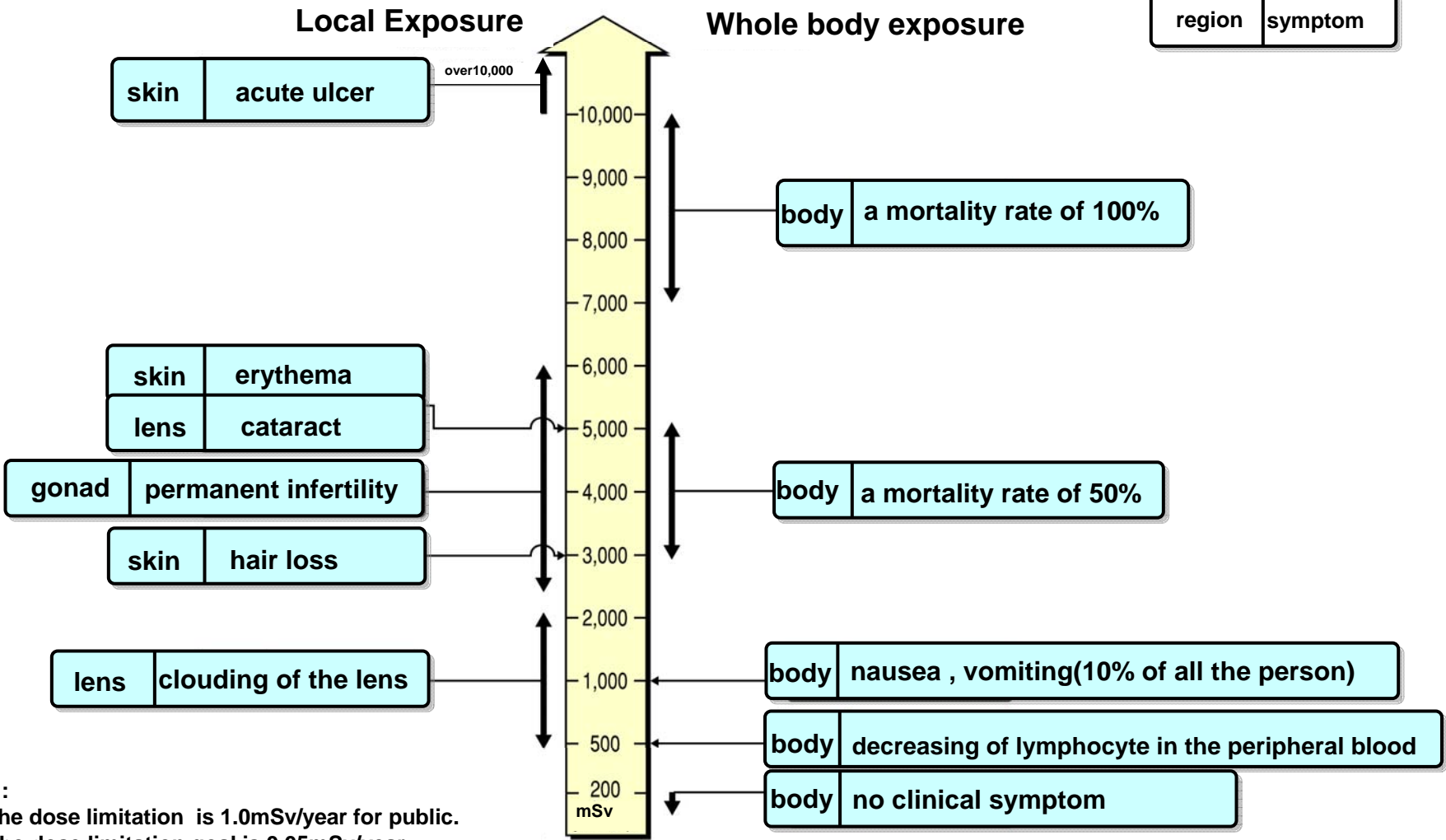
Effects of radioactivity to the human body



Adapted from 「Book to understand effects of atomic radiation」
(RADIATION EFFECTS ASSOCIATION)

Acute Radiation Impact

※Unit : mSv
1mSv=1000 μ Sv



Note :
 a) The dose limitation is 1.0mSv/year for public.
 b) The dose limitation goal is 0.05mSv/year around an atomic power plant

Reference : ICRP Pub.60, etc.

A Guideline on Control Measures Concerning Nuclear Disaster Prevention

Indices for Evacuations

Projected Dose (Unit: mSv)		Safety measures
Effective dose under external exposures	<ul style="list-style-type: none"> • Thyroid equivalent dose by radioactive iodine • Equivalent dose of bone surface or lung by uranium • Equivalent dose of bone surface or lung by plutonium 	
10~50	100~500	Run into a building or house, stay there, shut the windows and keep air tightness. If the nuclear facility emits neutron ray or gamma ray directly, take shelter in a concrete building under instructions of the disaster countermeasures office.
50 or more	500 or more	Take shelter in a concrete building according to instructions of the disaster countermeasures office

- 1) The disaster countermeasures office figures out the projected dose, and instructs residents near the nuclear facility the safety measures, based on the dose.
- 2) "Projected dose" is what someone will receive out of doors while radioactive matter or ray is emitted.
- 3) Shall take steps of safeguards for the higher level of effective dose under external exposures, if the Thyroid equivalent dose by radioactive iodine, the Equivalent dose of bone surface or lung by uranium, and the Equivalent dose of bone surface or lung by plutonium are not in same level.

Reference: Nuclear Safety Commission of Japan,
The disaster prevention countermeasure of Nuclear Institutes (in Japanese), June 2001

Radioactivity and Radiation

