

Seivert: a dose equivalent of radiation

The dose is based on type of radiation and organs effected.

μSv <u>microSeivert</u>	mSv <u>milliSeivert</u>	Sv <u>Sievert</u>	<u>REMs</u>	<u>Event</u>
20	0.020	0.00002	0.0020	Dental x-ray
36	0.036	0.00004	0.0036	one banana per day per year
100	0.100	0.00010	0.0100	Diagnostic chest x-ray
650	0.650	0.00065	0.0650	Pelvic x-ray
1,000	1.000	0.00100	0.1000	NRC and EPA allowable annual limit
1,500	1.500	0.00150	0.1500	Barium for colonoscopy
2,400	2.400	0.00240	0.2400	Average annual background
3,000	3.000	0.00300	0.3000	Mammogram
4,400	4.400	0.00440	0.4400	Bone scan
20,000	20.000	0.02000	2.0000	CT scan of whole body (low end)
100,000	100.000	0.10000	10.0000	CT scan of whole body (high end)
100,000	100.000	0.10000	10.0000	NRC and EPA allowable annual limit for nuclear workers
1,000,000	1,000	1	100	Illness
2,000,000	2,000	2	200	Nausea, vomiting, 10% fatal in 30 days
3,000,000	3,000	3	300	Vomiting, 35% fatal in 30 days
4,000,000	4,000	4	400	Vomiting, diarrhea, 50% fatal in 30 days
5,000,000	5,000	5	500	Hair loss, fever, hemorrhaging in 3 weeks
6,000,000	6,000	6	600	Internal bleeding, 60% die in 30 days
10,000,000	10,000	10	1000	Intestinal damage, 100% fatal in 14 days
50,000,000	50,000	50	5000	Delirium, coma, 100% fatal in 7 days
80,000,000	80,000	80	8000	Coma in seconds; death in one hour
100,000,000	100,000	100	10000	Instant death

Values for an acute dose over a one-hour period.

Example: exposure to 400 mSv for 10 hours
would be equivalent to a dose of 4,000 mSv.
This dose will induce vomiting, diarrhea, and
50% fatality rate in 30 days.

Conversions:

1 Seivert = 1 Sv = 1 J/kg
1,000,000 microSeiverts = 1,000,000 μSv = 1 Seivert
1,000 milliSeiverts = 1,000 mSv = 1 Seivert
1 Seivert = 100 REMs