Likely effects of ionizing radiation for whole body radiation doses to individuals

0.3-0.6 mSv/yr is a typical range of dose rates from artificial sources of radiation, mostly from medical procedures.

2 mSv/yr (approximately) is the typical minimum amount of background radiation from natural sources. About 0.7 mSv/yr of this amount comes from radon gas in the air. This is close to the minimum dose received by humans anywhere on Earth.

3 mSv/yr (approximately) is the typical background radiation from natural sources in North America. This includes an average of almost 2 mSv/yr from radon gas in the air.

5-8 mSv/yr is the typical dose rate received by uranium miners.

20 mSv/yr (averaged over 5 years) is the recommended limit for exposure from the workplace. This includes employees in the nuclear industry, uranium or mineral sands miners, and hospital workers (who are all closely monitored).

50 mSv is the lowest dose at which there is any concrete evidence of cancer being caused by radiation for adults. It is also the highest dose which is allowed by regulation in any one year of workplace exposure for radiation-workers. There are several parts of the world where the dose rate is greater than 50 mSv/yr from natural background sources, but it does not appear to cause any harm to the local population.

100 mSv Above this level, the probability of cancer increases with dose; when the dose reaches 1000 mSv, the estimated risk of fatal cancer is 5 of every 100 persons (5%).

1,000 mSv (1 Sv) is roughly the threshold for causing immediate radiation sickness in an average person, but it would be unlikely to cause death. A dose of 3,000 mSv gives a 50% chance of death in 30 days if left untreated. Above this, up to 10,000 mSv in a short-term dose would cause severe radiation sickness and would most likely be fatal.

10,000 mSv (10 Sv) as a whole-body dose would cause immediate illness such as nausea, decreased white blood cell count, and probably subsequent death within a few weeks. Aggressive treatment may be able to reduce the severity of the damage.