

# Low dose radiation and health

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Researchers in Europe have reviewed cancer rates among people in parts of the world where natural background radiation is higher than average and found that incidence is not as high as one might guess. The findings, published in the International Journal of Low Radiation suggests that science ought to take a second look at studies that correlate low levels of radiation exposure with detrimental health effects.

Ludwik Dobrzyński of the National Centre for Nuclear Research (NCBJ) in Otwock-Świerk, Poland and colleagues in Poland and Germany, explain that natural background ionizing radiation is ubiquitous. We are all constantly exposed to radioactivity literally from the rocks beneath our feet, the air we breathe and the cosmic rays that have many different sources in space and bathe our planet. Moreover, life on earth evolved in this [background radiation](#) and has many mechanisms to repair the damage caused by exposure and protect us from its otherwise harmful effects.

While exposure to high levels of radiation is well documented as causing health problems from lethal radiation sickness to cancer, the low levels of background radiation to which we are constantly exposed have never been shown unequivocally to cause any illness, cancer other otherwise, despite tabloid scaremongering. Indeed, there are numerous studies from around the world that suggest that background radiation has to some degree a protective effect against the other causes of cancer. The team's review of these and other studies in contrast to the received wisdom suggests that [cancer rates](#) are commonly lower in regions where exposure to slightly higher doses of background radiation than to those areas with

average low dose natural exposure.

"The level of natural background radiation on Earth varies considerably by even two orders of magnitude from place to place with the world average annual effective dose being about 2.5 milliSieverts," the team explains. In Ramsar, Iran, it is several hundred milliSieverts per year. The team's review of the available research using Bayesian statistics to analyze the data suggests that, "Risks of [cancer](#) mortality from low-doses and low dose-rates, appear not to exist or to be much lower than the effects normally assumed, when assessed alone by epidemiological methods."

**More information:** Dobrzyski, L., Fornalski, K.W. and Feinendegen, L.E. 'The human cancer in high natural background radiation areas', *Int. J. Low Radiation*, Vol. 10, No. 2, pp.143-154.

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