

Radiation for health

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Could exposure to low doses of radiation cure our ills?

For decades, we have been told that exposure to radiation is dangerous. In high doses it is certainly lethal and chronic exposure is linked to the development of cancer. But, what if a short-term controlled exposure to a low dose of radiation were good for our health. Writing in today's issue of the Inderscience publication the *International Journal of Low Radiation*, Don Luckey, makes the startling claim that low dose radiation could be just what the doctor ordered!

Luckey, an emeritus professor of the University of Missouri, was the nutrition consultant for NASA's Apollo 11 to 17 moon missions and has spent the last several years developing the concept of improving health through exposure to low-dose radiation.

"When beliefs are abandoned and evidence from only whole body exposures to mammals is considered, it becomes obvious that increased ionizing radiation would provide abundant health," Luckey explains. He suggests that as with many nutritional elements, such as vitamins and trace metals it is possible to become deficient in radiation. "A radiation deficiency is seen in a variety of species, including rats and mice; the evidence for a radiation deficiency in humans is compelling."

In the first part of the twentieth century at a time when our understanding of radioactivity was only just emerging, health practitioners began to experiment widely with samples of radioactive materials. Then, exposure to radiation, rather than being seen as hazardous, was considered a panacea for a wide variety of ailments from

arthritis to consumption.

The discovery of antibiotics and the rapid advent of the pharmaceutical industry, as well as the fact that it became apparent that exposure to high doses of radiation could be lethal led to the demise of this "alternative" approach to health.

Today, radioactivity is used in targeted therapies for certain forms of cancer, however, the use of radiation sources for treating other diseases is not currently recognized by the medical profession.

Luckey hopes to change that viewpoint and argues that more than 3000 scientific papers in the research literature point to low doses of radiation as being beneficial in human health. He points out that, as with many environmental factors, we have evolved to live successfully in the presence of ionizing radiations. His own research suggests that radiation exposure can minimize infectious disease, reduce the incidence of cancer in the young, and substantially increase average lifespan.

Studies on the growth, average lifespan, and decreased cancer mortality rates of humans exposed to low-dose irradiation show improved health, explains Luckey. This represents good evidence that we live with a partial radiation deficiency and that greater exposure to radiation would improve our health, a notion supported by 130 on the health of people living in parts of the world with higher background levels of ionizing radiation than average.

Luckey suggests that the medical use of small samples of partially shielded radioactive waste would provide a simple solution to radiation deficiency. Of course, there are several questions that will have to be answered before a health program based on this study could be implemented. How much should we have and what is the optimum exposure?

Evidence suggests that low dose exposure increases the number and activity of the immune system's white blood cells, boosts cytokine and enzyme activity, and increases antibody production and so reduces the incidence of infection, assists in wound healing, and protects us from exposure to high doses of radiation.

"It is unfortunate that most literature of radiobiology involves fear and regulations about the minimum possible exposure with no regard for radiation as a beneficial agent," says Luckey, "Those who believe the Linear No Threshold (LNT) dogma have no concept about any benefits from ionizing radiation. Many radiobiologists get paid to protect us from negligible amounts of ionizing radiation. Our major concern is health."

Professor André Maisseu, the journal's Editor-in-Chief, and President of the World Council of Nuclear Workers (WONUC) says: "This is a very bright, interesting and important paper about the real effects of ionizing radiation - radioactivity - on humans, mammals and biotopes." He adds that, the paper, "is part of the movement we - nuclear workers - promoting good science and fighting obscurantism in this scientific field."

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