Threat of Low-Level Radiation Often Exaggerated, Finds Science Group

By ACSH Staff — August 15, 2006

New York, New York -- August 15, 2006. Low-level radiation -- from natural or man-made sources -- is unlikely to pose a threat to human health, according to scientists associated with the American Council on Science and Health (ACSH). In a new publication, "What's the Story? The Health Effects of Low-Level Radiation [1]," ACSH explains the various types of exposure to low-level radiation and the ways in which experts assess their effects on health. (The publication condenses an earlier ACSH report, The Health Effects of Low-Level Radiation [2].)

About 80% of human exposure to radiation comes from naturally-occurring sources such as radioactive materials in rocks and soil and cosmic radiation -- including sunlight. Medical procedures such as x-rays and CT scans are the main sources of radiation from man-made sources. In light of the recent energy crisis, the use of clean nuclear power as an alternative to fossil fuels has been much debated. Many are still opposed to the use of nuclear power because of fear of low-level exposure to radiation. Yet human exposure to radiation from nuclear power generation is quite small -- only 0.1% of the total.

Scientists understand how exposure to high doses of radiation -- for example, those experienced by survivors of the Hiroshima and Nagasaki atomic bombs -- increase the risk of illness and cancer. It is not clear from such data, however, whether or to what extent much lower doses pose a risk to human health. Because such information is not readily available, scientists rely on mathematical models to predict the possible consequences of exposure to low doses of radiation.

"What's the Story? The Health Effects of Low-Level Radiation [1]" explains the difficulties inherent in the use of such models: while the most widely used and most conservative model (the Linear No Threshold or LNT model) assumes that there is some health risk associated with even the lowest of radiation doses, other models do not. Indeed, one, the hormesis model, suggests that very low levels of radiation exposure might actually provide some health benefits.

According to ACSH medical director Dr. Gilbert L. Ross, "This publication provides an easily understood description of the ways in which people are exposed to low-level radiation." Dr. Ross continues, "The scientific evidence clearly shows that typical exposure to low-level radiation should not be a cause for concerns about health."

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The American Council on Science and Health (ACSH.org, HealthFactsAndFears.com) is a non-profit consumer education group advised by over three hundred science and medical experts.