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**“A Report from the 2013 International Symposium: The Evaluation of the Effects of Low-Dose Radiation Exposure in the Life Span Study of Atomic Bomb Survivors and Other Similar Studies”**

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## Introduction

In December 2013, an International Symposium was held at Hiroshima RERF to discuss the effects of low-dose radiation exposure among the atomic bomb survivors and others exposed to low-dose radiation such as Chernobyl residents, Fukushima prefecture residents, and radiation workers.

## Explanation

Top radiation scientists from Japan and the USA met at RERF for a two-day symposium to discuss the low-dose effects of radiation. Risk of cancer occurrence after radiation exposure is usually expressed as a percentage increase above the “background” risk among persons without radiation exposure. The risk generally rises in linear fashion as the radiation dose increases. There is a range of radiation doses for which such effects are clearly evident. However, with smaller radiation doses, the increase in risks above the background rates of cancer incidence becomes less pronounced and thus more difficult to identify.

The symposium was an opportunity to discuss this issue and create strategies to try and quantify the risks of low-dose radiation exposure, a theme that RERF is working to explore in more detail. Topics discussed included the current status of low-dose risk detection, strategies for low-dose epidemiological and statistical research, the value of fostering communication between epidemiologists and biologists, and the current status of radiological studies and tools.

RERF’s Life Span Study (LSS) data will continue to provide additional information as the cohort’s follow-up is continued over time. However, despite the comprehensiveness of this LSS data, the members of the symposium agreed that more data were needed and that research organizations will need to pool their data to gain a fuller understanding of the health effects of low-dose radiation, as no single study can likely resolve this complex issue on its own.

**The Radiation Effects Research Foundation** has studied A-bomb survivors and their offspring in Hiroshima and Nagasaki for more than 60 years. RERF’s research achievements are considered the principal scientific basis for radiation risk assessment by the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) and for recommendations regarding radiation protection standards by the International Commission on Radiological Protection (ICRP). RERF expresses its profound gratitude to the A-bomb survivors and survivors’ offspring for their cooperation in our studies.

<sup>§</sup>*Health Physics*, the monthly journal of the Health Physics Society, publishes peer-reviewed original and review articles addressing radiation effects and related issues in the fields of physics, chemistry, biology, and medicine. (Impact factor in 2013: 0.774)