

## Radiation-related Risks of Non-cancer Outcomes in the Atomic-bomb Survivors

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Risks of non-cancer outcomes after exposure to atomic-bomb radiation have been evaluated among the Life Span Study (LSS) cohort and among its subcohort, the Adult Health Study (AHS). Information regarding non-cancer outcomes in the LSS is obtained only from death certificates. In the AHS, members are clinically examined for their health status biennially, yet the analyses have usually been limited to the participants within a specific time period. The results of these various radiation risk evaluations have depended on the epidemiological advantages and disadvantages inherent in each. Appropriate interpretation of the differences seen in the results of LSS and AHS analyses is therefore necessary. Pathogenesis of non-cancer diseases in Japan has changed over the long follow-up period since the devastated post-war era until the recent highly-developed era. The health status of the atomic-bomb survivors may be associated with impaired socio-economic status after the bombings. Radiation-related cardiovascular disease risk appeared to increase compared to infection and hypertension disorders in the past. Risk of atherosclerotic disorders has recently been described, but these observations may be affected by disease definition. The risk of non-cancer respiratory diseases also appeared to increase in various dose-response shapes during the follow-up period.