

The Lifetime Surveillance of Astronaut Health (LSAH) Project

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From 1989-2010 NASA conducted a research study, the Longitudinal Study of Astronaut Health, to investigate the incidence of acute and chronic morbidity and mortality in astronauts and to determine whether their occupational exposures were associated with increased risk of death or disability. In 2004, the Institute of Medicine recommended that NASA convert the longitudinal study into an occupational health surveillance program and in 2010, NASA initiated the Lifetime Surveillance of Astronaut Health project. The new program collects data on astronaut workplace exposures, especially those occurring in the training and space flight environments, and conducts operational and health care analyses to look for trends in exposure and health outcomes.

Astronaut selection and retention medical standards are rigorous, requiring an extensive clinical testing regimen. As a result, this employee population has contributed to a large set of health data available for analyses. Astronauts represent a special population with occupational exposures not typically experienced by other employee populations. Additionally, astronauts are different from the general population in terms of demographic and physiologic characteristics.

The challenges and benefits of conducting health surveillance for an employee population with unique occupational exposures will be discussed. Several occupational surveillance projects currently underway to examine associations between astronaut workplace exposures and medical outcomes will be described.