

US flight crew have higher cancer rates than general population

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Flight crew have higher rates of specific cancers than the general population, according to a study in the open access journal *Environmental Health* involving 5,366 US flight attendants. Some of this increased cancer incidence may be related to the number of years flight attendants spend in their jobs (job tenure).

Dr. Irina Mordukhovich, corresponding author of the study said: "Our study is among the largest and most comprehensive studies of cancer among cabin crew to date and we profiled a wide range of cancers. Consistent with previous studies, we report a higher lifetime prevalence of breast, melanoma and non-melanoma skin cancers among flight crew relative to the general population. This is striking given the low rates of overweight and smoking in this occupational group."

Researchers at Harvard T. H. Chan School of Public Health, US found that out of the 5,366 flight attendants who participated in this study, slightly over 15% reported ever having been diagnosed with cancer. Accounting for age, the authors found

a higher prevalence in flight crew of every cancer outcome examined in this study compared to the general population, including breast (3.4% of flight crew compared to 2.3% in the general population), uterine (0.15 % compared to 0.13%), cervical (1.0% compared to 0.70%), gastrointestinal (0.47% compared to 0.27%), and thyroid (0.67% compared to 0.56%) cancers.

The authors found an association between each five-year increase in time spent working as a [flight attendant](#) and non-melanoma skin cancer among women. Job tenure did not appear to be associated with [breast cancer](#), thyroid cancer, or melanoma in all women, but it was associated with higher risk of breast cancer in women who never had children (nulliparous women) and women who had three or more children.

Dr. Mordukhovich said: "Nulliparity is a known risk factor for breast cancer but we were surprised to replicate a recent finding that exposure to work as a flight attendant was related to breast cancer exclusively among women with three or more children. This may due to combined sources of circadian rhythm disruption—that is sleep deprivation and irregular schedules—both at home and work."

Male flight attendants were found to have higher rates of melanoma and non-melanoma skin cancer (1.2% and 3.2% in flight crew compared to 0.69% and 2.9% in the [general population](#), respectively), especially if they were exposed to high levels of occupational secondhand smoke before the introduction of smoking bans in 1998.

Dr. Mordukhovich said: "Our study informs future research priorities regarding the [health](#) of this understudied group of workers, who have a wide range of job-related exposures to known and probable carcinogens including cosmic ionizing radiation, circadian rhythm disruption, and possible chemical contaminants in the aircraft cabin. Our

findings raise the question of what can be done to minimize the adverse exposures and cancers common among cabin crew."

The authors used data from a survey conducted from 2013 to 2014 as part of the Flight Attendant Health Study, an ongoing study of flight crew health which they established in 2007. The authors compared the self-reported [cancer](#) diagnoses of flight crew with data on a matching cohort of 2,729 men and [women](#) with similar economic status collected as part of the National Health and Nutrition Examination survey during the same years. Over 80% of the flight crew whose data were analyzed in the study were female; they were 51.5 years old on average and had been in the profession for just over 20 years.

The cross-sectional, observational nature of the study does not allow for conclusions about cause and effect. The authors also caution that health outcomes were based on self-reported data that could not be validated through medical records due to the associated scope and cost. The authors point out that US [flight](#) crew are subject to fewer protections than most workers in this industry, which may limit the generalizability of the results.

More information: Eileen McNeely et al, Cancer prevalence among flight attendants compared to the general population, *Environmental Health* (2018). [DOI: 10.1186/s12940-018-0396-8](https://doi.org/10.1186/s12940-018-0396-8)

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