

## Health concerns for

# Flight Attendants

The National Institute for Occupational Safety and Health (NIOSH) assessed causes of death among flight attendants. NIOSH is a government research agency that works to improve the safety and health of America's workers. We are part of the Centers for Disease Control and Prevention (CDC).

You are being sent this information because you were among the flight attendants included in our study. This study summary contains information that may be related to your health. The study was done using only records. We are completing a second study that uses survey data we collected years ago from the women in this study. This summary only includes information about our finished records-based study. We will send out another letter when our survey-based study is complete.

### Study overview:

Flight attendants often work at night, travel across time zones, and experience jet lag. While flying, they are also exposed to radiation from space. These conditions have raised concerns that flight attendants may have a higher risk of certain cancers. To find out, we assessed causes of death among a group of flight attendants.

### Why night work, time zone travel, and jet lag are health concerns:

According to the International Agency for Research on Cancer, shift work may cause cancer. Shift work, or working at night, and traveling across time zones disrupt normal sleep patterns. This can cause jet lag, which results in fatigue and difficulty sleeping. Disrupting sleep habits can change hormone levels.

### Why radiation from space is a concern:

We know that ionizing radiation can cause cancer, but we are not sure of the health risks caused by cosmic radiation. Cosmic radiation is a form of ionizing radiation that comes from outer space. Very low levels of cosmic radiation reach the earth. At flight altitudes, the passengers and crew are exposed to higher levels of cosmic radiation than people on the ground. You cannot see or feel cosmic radiation, so you may not know when you were being exposed.

### Who was in our study:

Our study included 11,311 men and women who worked for at least one year as a flight attendant for National Airlines or Pan American World Airways at any location before December 1991. All were U.S. citizens. This was a records-based study. This means the data for our study came from death certificates and employment records. We looked at causes of death through 2007.

## What we found:

- We found the flight attendants in our study generally had fewer deaths compared to the US general population. Out of the 11,311 people included in our study, 1,022 were deceased. Based on estimates from the general population, we anticipated 1,344 would be deceased.
- We found the flight attendants in our study had fewer cancer deaths compared to the US general population. Out of the 11,311 people included in our study, 331 died of cancer. Based on estimates from the general population, we anticipated 447.
- Though some studies have found higher levels of breast cancer and melanoma among flight attendants, we did not see this in our study.
- On average, the level of job-related cosmic radiation exposure among those in our study was low.

Besides cancer deaths, we also looked at other causes of death and found some increases (see Graph).

- We found deaths from illnesses caused by human immunodeficiency virus (HIV) were 16 times higher among the male flight attendants in our study compared to men from the general population. A total of 112 male flight attendants died of HIV-related illnesses. We anticipated 7 based on estimates from the general population. Other studies have also noted higher risk of dying of HIV-related illnesses among male flight attendants.
- We found deaths from suicide were 1.5 times higher among those in our study compared to the general population. A total of 50 flight attendants died from suicide. We anticipated 34 based on estimates from the general population. An increase in suicide has been found in other studies of flight attendants.
- We found alcoholism deaths were 2.5 times higher among those in our study compared to the general population. A total of 17 flight attendants died from alcoholism. We anticipated 7 based on estimates from the general population. The increase in alcoholism may be linked to working at night. It could be from using alcohol as a sleep aid. One other study has found alcohol-related deaths to be higher than expected, though only among male flight attendants.
- We found deaths from rail, water, and aircraft accidents were 3.5 times higher among those in our study compared to the general population. A total of 9 flight attendants died from rail, water, or air craft accidents in the United States. We anticipated less than 3 based on estimates from the general population. This finding was not surprising, given the amount of time flight attendants fly compared to the general population.

## What you should do:

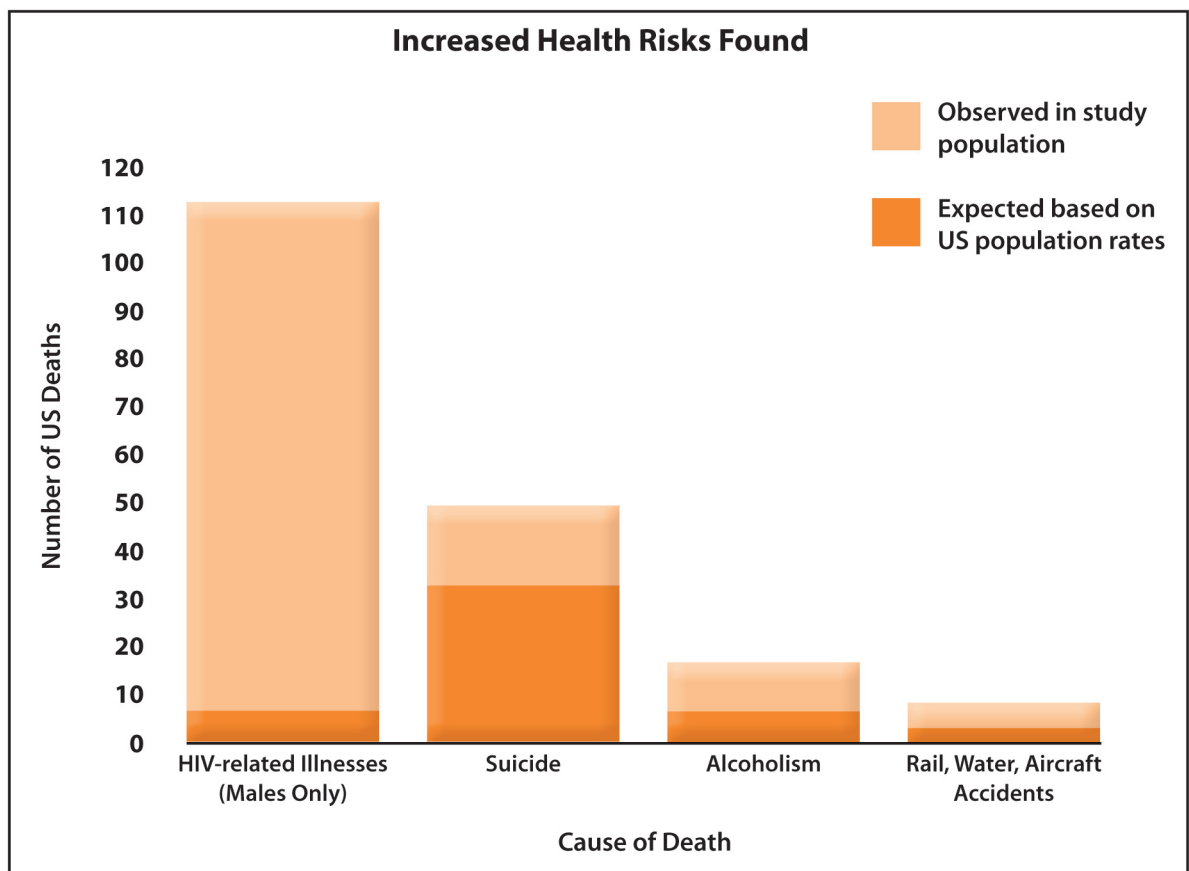
If you are concerned about your health, share this information with your doctor at your next visit.

Our study only looked at causes of death listed on the death certificates. It does not address all of the job hazards or health concerns of flight crews. To learn more about this study or other studies we have completed that relate to the health and safety of flight crew members, call 1-800-CDC-INFO (1-800-232-4636) or visit [www.cdc.gov/niosh/topics/flightcrew/](http://www.cdc.gov/niosh/topics/flightcrew/).

## Our next study:

We know that some studies have found higher rates of breast cancer and melanoma among flight attendants. Because of this, it may be better to assess these illnesses by looking at cancer diagnosis among flight attendants. This would include those living with these cancers and those who have recovered.

Several years ago, we surveyed the female flight attendants in our study. From the data we collected, we will be able to more thoroughly study breast cancer and possibly melanoma. Once the study is complete, we will send a summary of the results to the study participants.



Graph: In looking at causes of death compared to the US general population, we found more deaths from suicide, alcoholism and aircraft accidents among those in our study. We also noted an increase in HIV-related illnesses among the male flight attendants.

## Learn more:

### *If you still work as a flight attendant or work at night, improve your sleep:*

- Try to keep to the same sleep and wake schedule, even on weekends. Use ear plugs and eye masks to reduce noise and light when you sleep.
- Avoid alcohol and caffeine close to bedtime. These can cause sleep disturbance or make it worse.
- If sleep is a problem, think about making changes to your bid (selected) lines of flights. Select flights that reduce the number of time zones you cross or allow you to work during the day.

To learn more, visit the National Sleep Foundation website at [www.sleepfoundation.org](http://www.sleepfoundation.org).

### *Your radiation exposure as a flight attendant:*

Flight crews cannot completely avoid cosmic radiation, and we don't know what level is "safe." If you are working as a flight attendant, there are ways to reduce your exposure.

- Short-haul flights are often flown at lower altitudes than long-haul flights. Generally, short-haul flights have less radiation exposure than long-haul flights.
- The other factors that influence cosmic radiation exposure levels vary with each flight and include latitude, altitude, and solar activity.

If you are or may be pregnant, the levels of cosmic radiation that are considered safe for you and your developing baby are lower. To estimate the cosmic radiation dose for a specific flight, visit the NIOSH Flight Crew topic page at [www.cdc.gov/niosh/topics/flightcrew/](http://www.cdc.gov/niosh/topics/flightcrew/).

## Human Immunodeficiency Virus (HIV)

HIV is the virus that causes AIDS (Acquired Immune Deficiency Syndrome). People with HIV may appear and feel healthy for many years before they show signs of illness. HIV can be prevented by practicing protected sex and not sharing syringes or needles. Though there is no cure for AIDS, there are medications that can slow the progress of the disease. To learn more, visit CDC's website at [www.cdc.gov/hiv/](http://www.cdc.gov/hiv/).

## Alcoholism

Alcoholism is a disease. Family history and lifestyle influence the development of alcoholism. Many people with alcohol problems do not recognize when their drinking has gotten out of control. Some signs of alcoholism include

- drinking alone or hiding alcohol use.
- becoming violent when drinking or when asked about drinking.
- missing work or appointments because of drinking.
- needing alcohol to get through the day.
- shaking in the morning or after periods of not having a drink.

Alcoholism can be prevented and treated by seeking help. To learn more, visit

- Flight Attendant Drug and Alcohol Program (FADAP) [fadap.org/](http://fadap.org/)
- Alcoholics Anonymous at [www.aa.org/](http://www.aa.org/) or call 212-870-3400.
- CDC Alcohol and Public Health at [www.cdc.gov/alcohol/faqs.htm](http://www.cdc.gov/alcohol/faqs.htm).

## Suicide

Many people have thoughts of death. However, if you think about death often, it may be a concern. Some warning signs that you or someone you know may be at risk of suicide include

- always talking or thinking about death.
- feeling hopeless, helpless, or worthless.
- withdrawing from friends and family.
- taking risks that could lead to death, such as driving fast.
- losing interest in things that used to be important.
- feeling deep sadness or depression.

If you or someone you know is showing any of these signs, seek help. Talk to a friend, family member, doctor, or counselor. You can also contact the National Suicide Prevention Lifeline by calling 1-800-273-8255 or visiting [www.suicidepreventionlifeline.org/](http://www.suicidepreventionlifeline.org/).

