

Radiation

The Earth is continuously bombarded from space by radioactive particulates and photons originating from the Sun or other stars. The Earth's atmosphere serves as a highly effective radiation shield, but cosmic radiation exposures can increase with altitude and duration of exposure. This has particular relevance for supersonic flights which operate at higher altitudes (1).

It is unlikely that a passenger would sustain higher cosmic radiation exposures than commercial pilots or aircrew. Studies of commercial pilots and aircrew exposure to cosmic radiation do not indicate excessive radiation doses compared to occupational radiation limits in industry (2). Expectant mothers should not be considered to be at increased risk unless they are flying several times a week during their pregnancy. Radiation exposures are reduced by flying shorter flights at low latitudes.

REFERENCES:

1. Ernsting J, Nicholson AN, Rainford DJ. The Earth's atmosphere. In: Aviation Medicine, 3rd ed. Oxford: Butterworth Heinemann; 1999.
2. U.S. Department of Transportation, Federal Aviation Administration. Radiation exposure of air carrier crewmembers advisory circular. Washington DC; May 1990.