



The American College of
Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

ACOG COMMITTEE OPINION

Number 746

(Replaces Committee Opinion Number 443, October 2009)

Committee on Obstetric Practice

INTERIM UPDATE: This Committee Opinion is updated as highlighted to reflect a limited, focused change regarding the addition of a report on occupational exposure to ionizing radiation.

Air Travel During Pregnancy

ABSTRACT: In the absence of obstetric or medical complications, occasional air travel is safe for pregnant women. Pregnant women can fly safely, observing the same precautions for air travel as the general population. Because severe air turbulence cannot be predicted and the subsequent risk for trauma is significant should this occur, pregnant women should be instructed to use their seat belts continuously while seated. Despite a lack of evidence associating lower extremity edema and venous thrombotic events with air travel during pregnancy, certain preventive measures can be used to minimize these risks, including use of support stockings and periodic movement of the lower extremities, avoidance of restrictive clothing, occasional ambulation, and maintenance of adequate hydration. For most air travelers, the risks to the fetus from exposure to cosmic radiation are negligible. However, aircrew or frequent flyers may exceed these limits. The Federal Aviation Administration and the International Commission on Radiological Protection consider aircrew to be occupationally exposed to ionizing radiation and recommend that they be informed about radiation exposure and health risks.

Occasional air travel during pregnancy is generally safe. Recent cohort studies suggest no increase in adverse pregnancy outcomes for occasional air travelers (1, 2). Most commercial airlines allow pregnant women to fly up to 36 weeks of gestation. Some restrict pregnant women from international flights earlier in gestation and some require documentation of gestational age. For specific airline requirements, women should check with the individual carrier. Civilian and military aircrew members who become pregnant should check with their specific agencies for regulations or restrictions to their flying duties.

Air travel is not recommended at any time during pregnancy for women who have medical or obstetric conditions that may be exacerbated by flight or that could require emergency care. The duration of the flight also should be considered when planning travel. Pregnant women should be informed that the most common obstetric emergencies occur in the first and third trimesters.

In-craft environmental conditions, such as changes in cabin pressure and low humidity, coupled with the physiologic changes of pregnancy, do result in adaptations, including increased heart rate and blood pressure,

and a significant decrease in aerobic capacity (3, 4). The risks associated with long hours of air travel immobilization and low cabin humidity, such as lower extremity edema and venous thrombotic events, recently have been the focus of attention for all air travelers. Despite a lack of evidence associating these events with air travel during pregnancy, certain preventive measures can be used to minimize these risks, including use of support stockings and periodic movement of the lower extremities, avoidance of restrictive clothing, occasional ambulation, and maintenance of adequate hydration.

Because severe air turbulence cannot be predicted and the subsequent risk for trauma is significant should this occur, pregnant women should be instructed to use their seatbelts continuously while seated. The seatbelt should be belted low on the hipbones, between the protuberant abdomen and pelvis. Several precautions may ease discomfort for pregnant air travelers. For example, gas-producing foods or drinks should be avoided before scheduled flights because entrapped gases expand at altitude (5). Preventive antiemetic medication should be considered for women with increased nausea.

Available information suggests that noise, vibration, and cosmic radiation present a negligible risk for the

occasional pregnant air traveler (6, 7). Both the National Council on Radiation Protection and Measurements and the International Commission on Radiological Protection recommend a maximum annual radiation exposure limit of 1 millisievert (mSv) (100 rem) for members of the general public and 1 mSv over the course of a 40-week pregnancy (7). For most air travelers, the risks to the fetus from exposure to cosmic radiation are negligible. Even the longest available intercontinental flights will expose passengers to no more than 15% of this limit (7); therefore, it is unlikely that the occasional traveler will exceed current exposure limits during pregnancy. However, aircrew or frequent flyers may exceed these limits. The Federal Aviation Administration and the International Commission on Radiological Protection consider aircrew to be occupationally exposed to ionizing radiation and recommend that they be informed about radiation exposure and health risks (8, 9). The reader is referred to *What Aircrews Should Know About Their Occupational Exposure to Ionizing Radiation* (10) and *In-flight Radiation Exposure* (11) for additional details.

In the absence of obstetric or medical complications, occasional air travel is safe for pregnant women. Pregnant women can fly safely, observing the same precautions for air travel as the general population. Women should check with specific carriers for airline requirements.

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Published online on July 25, 2018.

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Air travel during pregnancy. ACOG Committee Opinion No. 746. *American College of Obstetricians and Gynecologists. Obstet Gynecol* 2018;132:e64–6.

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