PALLIATIVE CARE NETWORK OF WISCONSIN

FAST FACTS AND CONCEPTS #338
AIR TRAVEL AT THE END OF LIFE
Felicia Hui MD

Background For many dying patients who want to be 'home', visit loved ones, or have a final vacation, commercial air travel may be the most viable way to accomplish this goal. This *Fast Fact* will discuss care considerations when dying patients request to fly.

Alternatives to Commercial Flying Commercial air travel can be physically demanding and complex. Consider alternatives. Could family visit the patient instead? Would another transportation option like a train or car be more accessible and comfortable? Is there a closer destination that could be a surrogate 'home' or meeting place (1)? Commercial airlines may not be the only option for air travel. Numerous charitable pilot organizations provide free flights for patients and families via Air Care Alliance (2).

Coordination with Airlines Airports are often crowded, noisy, and fast-paced. This environment may increase stress and infection risk for frail patients. Good coordination with airlines may reduce distress; some airports even provide therapy animals for passengers (3). Passengers who provide notice of a medical disability that can be accommodated by the airlines should be accommodated per the Air Carrier Access Act (4). Guidelines for wheelchair use, early boarding, seats with extra leg room, and device use are available. Medical clearance forms may be required prior to airport arrival. Of note, the Federal Aviation Administration does not allow for personal oxygen tanks, only portable oxygen concentrators.

Flight Preparation Patients may want to have the following items easily accessible in carryon luggage:

- A doctor's letter summarizing medical conditions, clinical status, and medications.
- All medications, including controlled substances, can be brought onto domestic U.S. flights if they are in their original prescription bottle with a current prescription date and placed in a separate bag for security checks (5). For foreign travel, check with the individual country.
- Advance directive documents.

Hospice eligibility The Medicare Modernization Act of 2003 enables hospice providers to contract with a destination provider if a patient travels longer than 14 days (6). However, it is not a legal requirement that hospice agencies maintain hospice coverage in the destination. Some hospice providers may discharge a patient, others may arrange admission to a different hospice agency where the patient will be staying. Consequently, pre-travel coordination with the hospice providers is essential.

Physiologic Changes in Flight Commercial flights generally maintain a cabin air pressure equivalent to 5000 – 8000 feet above sea level. While healthy individuals usually tolerate the physiologic changes associated with these altitudes, patients near the end of life may not. In case of medical events, emergency medical kits should be available on commercial airplanes > 7500 lbs with the following palliative-based therapies: opioids, diuretics, corticosteroids, and benzodiazepines (7). Other important in-flight physiologic factors include:

- Cardiopulmonary: Lower barometric pressure increases hyperventilation, tidal volume, and pulmonary vasoconstriction while lowering the partial pressure of oxygen. Hypoxia, dyspnea, anxiety, and pulmonary edema may result. Patients with a hemoglobin < 8.5 g/dL, congestive heart failure, or pulmonary disorders may benefit from the prophylactic use of supplemental oxygen during air travel. Those on oxygen should continue it (8-10).
- Gastrointestinal: Gases within body cavities can expand 30% from the lower barometric pressure. Patients who have recently undergone surgery, should confer with their surgeon prior to air travel.
- Vascular: Low humidity and increased immobility can increase the risk of venous thromboembolism and peripheral edema. In-flight compression stockings may reduce this risk (9,10).

- Neurological: Lower barometric pressure and other stressors increase the risk of delirium (11).

Do-Not-Resuscitate (DNR) Status Despite the most careful planning, patients may die in flight. It makes sense to ask the patient, "*Is this trip important enough to die trying*?" Commercial pilots may decide to divert the flight and land at the nearest airport if they are notified of a death in route (7). Travel companions, therefore, may opt against notifying flight attendants of an expected death. While state issued advance directives, DNR bracelets, or Orders for Life Sustaining Treatment (e.g., POLST, POST, MOLST) can be helpful in communicating the patient's wishes on an airplane, airline crewmembers are not mandated by law to follow these directives across state lines. Hence, patients and surrogates should know CPR may be initiated if airline personnel are notified of a patient's death, depending on an airline's policy. Travel companions should advocate for the patient's treatment preferences in real time if they are known (7,11,12).

Contraindications to Air Travel For many acute medical events or procedures, there are suggested waiting periods before flying; a 10-day waiting period after an uncomplicated myocardial infarction is a relatively common example. Few diagnoses strictly prohibit a patient from commercial flying. Some of those conditions are listed below. (8-9,11,13).

- Pneumothorax with persistent air leak
- Baseline oxygen requirement > 4 L/min
- Unstable angina
- Severe symptomatic valvular heart disease
- Gastrointestinal obstruction without a venting gastrostomy tube.

References

1. Perdue C and Noble S. Foreign travel for advanced cancer patients: a guide for healthcare professionals. Postgrad Med J 2007;83:437–444.
2. Air Care Alliance. http://www.aircarealliance.org/. Accessed June 28, 2017.
3. Travel and Leisure. Meet America's Completely Adorable Airport Therapy Dogs. http://www.travelandleisure.com/articles/airport-therapy-dogs. Accessed June 28, 2017.
4. U.S. Department of Transportation. The ABCs of Accessible Travel. http://www.transportation.gov/airconsumer/disability. Accessed February 27, 2017.
5. Transportation Security Administration. Disabilities and Medical Conditions. https://www.tsa.gov/travel/special-procedures. Accessed June 5, 2017.
6. National Hospice and Palliative Care Organization. Discharge from the Medicare Hospice Benefit. https://www.nhpco.org/sites/default/files/public/regulatory/DischargeTS.pdf. Accessed June 18, 2017.
7. Aerospace Medical Association. Medical Emergencies: Managing In-flight Medical Events. https://www.asma.org/asma/media/AsMA/Travel-Publications/Medical%20Guidelines/In-flight-medical-events-guidance-document-revised-July-2016.pdf. Accessed February 26, 2017.
8. Aerospace Medical Guidelines Task Force. Medical guidelines for airline travel, 2nd ed, Aviat Space Environ Med 2003;74(5):A1-A19.
9. Ahmedzai S, Balfour-Lynn IM, Bewick T, et al. Managing passengers with stable respiratory disease planning air travel: British Thoracic Society recommendations. Thorax. 2011;66:i1-30. doi: 10.1136/thoraxjnl-2011-200295.
10. Clarke MJ, Broderick C, Hopewell S, Juszczak E, Eisinga A. Compression stockings for preventing deep vein thrombosis in airline passengers. Cochrane Database of Systematic Reviews 2016, Issue 9. Art. No.: CD004002.

11. Zanartu C. I want to fly home: a terminal cancer patient's right to go home. Support Care Cancer. 2014;22(11):2879-82.

12. Dake AC. The application of out-of-hospital do not resuscitate order legislation to commercial airline travel, 63 J Air L & Com. 1997;63:443-473.

13. International Air Transport Association Medical Manual 9th ed. 2017. Montreal, Quebec, Canada.

Authors' Affiliations: Stanford University School of Medicine, Stanford, CA.
Conflicts of Interest: None
Version History: Originally edited by Sean Marks MD; first electronically published in July 2017