

Is Your Patient *Safe to Fly?*

Overview:

The cabin of a commercial aircraft at cruising altitude is not pressurized to sea level. Most are pressurized to 8,000 feet of altitude. This is the equivalent to standing at the top of Mount Olympus. In addition to the stressors of navigating a busy airport terminal, security line, and boarding area, many wish children have specific health concerns affected by air travel. Careful consideration should be given to the effects of low barometric pressure (causing a 33 percent expansion of gas), low oxygen environment (16 percent oxygen in cabin air rather than 21 percent at sea level), low humidity and lack of mobility, and how these conditions will affect the wish child for several hours while in an airplane. The duration of the flight is of significant importance. The longer the flight, the more environmental factors will contribute to the child's health during and up to 48 hours following the flight. Please consider these factors before approving your patient for a travel wish.

CURRENT RECOMMENDATIONS FROM EXPERTS IN AVIATION MEDICINE:

Anticipatory Guidance/Careful Consideration

Precautionary oxygen is recommended for:

- NYHA III
 - Heart failure
 - Pulmonary Hypertension
- Angina/chest pain Class III
- Cyanotic congenital heart disease NYHA I, II & III
- Oxygen dependence at sea level
- Cystic fibrosis with SpO2 falls below 90 percent at sea level
- Long-term oxygen requirements in the past six months
- Muscular dystrophy
- Kyphoscoliosis

Other Conditions at Risk:

- Chronic liver disease
- Hepatopulmonary syndrome
- End stage liver disease
- Chronic hepatitis
- Lymphangiomyomatosis
- Hematology thromboembolic disease (blood clots)
- Neoplasm
- Obesity
- Chronic venous insufficiency
- Chronic heart disease
- Sickle cell disease
- Epilepsy
- Home-skilled nursing services required

Airline Specific Requirements for:

- CPAP
- Ventilator support
- Controlled prescriptions
- Panic disorder
- Sitting upright

Air Travel Postponement

Wait until fully recovered to fly if:

- Admission to hospital for:
 - Acute respiratory illness
 - Acute heart failure
- Uncontrolled hypertension
- Chest pain or change in medications
- Pneumothorax
- Pleural Effusion
- Internal Cardiac Defibrillator (ICD) insertion
- ICD-delivered shock
- Symptomatic anemia
- Major bleeding
- Low sodium or potassium levels
- High calcium level
- Recent
 - Stroke
 - Sickle cell crisis
 - Endoscopy
 - Surgery
 - Cardiac ablation therapy
 - Pacemaker insertion

Discouraged from Air Travel

Individuals with the following conditions are at risk of a medical event in the air or 48 hours after their flight:

- Oxygen requirements 4L/min or greater at sea level
- Vital lung capacity less than 1 L
- FEV1 <50% predicted
- NYHA IV
 - Heart failure
 - Pulmonary hypertension
 - Cyanotic congenital heart disease
- Angina (chest pain) Class IV
- Valvular disease Class IV
- High-grade premature ventricular contractions
- Unstable arrhythmias
- Uncontrolled hypertension
- Portal hypertension
- Portopulmonary hypertension with intrapulmonary shunting
- Esophageal varices or the history of
- Increased intracranial pressure
- Epilepsy with uncontrolled prolonged convulsive seizures lasting greater than five minutes without cessation after abortive seizure medication treatment
- Transient Ischemic Attacks (TIAs) if frequent or crescendo
- Coughing blood
- Infectious tuberculosis
- Infectious diseases of high mortality
- Previous air travel intolerance
- Secondary conditions worsened by low oxygen levels

For more in-depth information, please visit [md.wish.org](https://www.md.wish.org).

Resources: <https://www.asma.org/publications/medical-publications-for-airline-travel/medical-considerations-for-airline-travel>