Managing Passengers with Respiratory Disease Planning Air Travel
British Thoracic Society Recommendations 2004
Summary for Primary Care

Background: Over one billion people undertake air travel each year. For the vast majority commercial flights are safe, but a rising number are at risk of respiratory complications triggered by hypoxaemia, immobility and dehydration. The risk of hypoxaemia is partially limited by cabin pressurisation to 2438 m (8000 ft), but is still equivalent to breathing 15.1% oxygen at sea level. The following notes are intended to provide information for general practitioners, and accompany the revised 2004 BTS recommendations on air travel for those with respiratory disease. It is not expected that general practitioners will perform specialist pre-flight assessments.

Patients with severe airways disease, fibrosing alveolitis, cystic fibrosis, neuromuscular disease and kyphoscoliosis, those recently hospitalised for acute respiratory illness (< 6 weeks); previous air travel intolerance with respiratory symptoms (dyspnoea, chest pain, confusion or syncope); or a co-morbid condition worsened by hypoxaemia (cerebrovascular disease, coronary artery disease, heart failure) require assessment before flying. It is anticipated that these patients will have already seen a respiratory specialist for their condition. Hypoxic challenge testing, if requested by their specialist, will be performed in the hospital lung function laboratory.

Recommended assessment

1. Cardio-respiratory history, examination and record of previous flying experience
2. Spirometry (in non-tuberculous patients only)
3. Oximetry. If SpO_2 < 95% recommend further evaluation. This may include:

- *Ability to walk 50 metres without distress (a traditional but not complete guarantee)*
- *Hypoxic challenge test simulates cabin conditions using 15% oxygen*

Notes

- Preventative and relieving inhalers should be carried in the hand luggage
- Nebulisers may be used at the airline's discretion, but spacers are as effective
- Many airports can provide wheelchairs for transport to and from the aircraft
- Individuals should remain mobile if possible, or exercise, during the flight
- The most compromised should use oxygen at all times including in airports

Additional notes for the following groups of patients:

COPD

- patients requiring in-flight oxygen should also receive it at high altitude destinations

Cystic fibrosis

- assessment by the CF physician is recommended
- a full supply of medication should be carried in the hand luggage
- in-flight nebulised antibiotics and DNase should not be required
- check with pharmacist whether medicines affected by temperatures in the hold

Infections

The following should not fly on commercial flights:

- infectious TB patients until rendered non-infectious
- those from an area with recent transmission of severe acute respiratory syndrome (SARS) and symptoms compatible with SARS
- contacts of probable or confirmed SARS within the preceding ten days

Oxygen and ventilator-dependent and obstructive sleep apnoea syndrome patients

Oxygen-dependent patients

- the need for oxygen should be disclosed when booking with the airline
- a MEDIF form or similar medical form will require completion by the patient and GP or hospital specialist
- some airlines permit passengers to use their own oxygen on board and to carry small, full oxygen cylinders as hand luggage. Prior permission must be obtained and the airline may charge a fee for this service

Ventilator-dependent patients

- the airline must be consulted before reservation and will require a doctor's letter outlining the diagnosis, equipment and settings, blood gases, and stating that equipment must travel as hand luggage
- dual 110 / 240 volt function is required so that equipment is compatible with voltage at destination
- a dry cell battery pack is required for back-up and on long-haul flights (wet-cell batteries are prohibited)
- a medical escort able to change the tube, operate suction, and ambubag the patient is required

Obstructive sleep apnoea syndrome

- patients should avoid alcohol immediately before and during the flight
- patients with mild snoring /hypersomnolence are unlikely to need CPAP during flight
- those with significant desaturation intending to sleep during the flight should consider using CPAP and it should also be used during sleep at high altitude destinations

Previous pneumothorax

- patients should be able to fly one week after a CXR confirming resolution, or after two weeks in the case of a traumatic pneumothorax
- although recurrence is unlikely during flight, the consequences may be serious and passengers may wish to consider alternative transport within one year of a pneumothorax

Venous thromboembolic disease (VTE)

Risk status	Risk factors	Advice
All passengers	Low	• Avoid excess alcohol and caffeine-containing drinks • Remain mobile / exercise legs
Slightly increased	Aged over 40 Extensive varicose veins Polycythaemia Within 72 hours of minor surgery	• Above plus consider: • Take short periods of sleep • Consider support hosiery
Moderately increased	Family history of VTE Recent MI Pregnancy or early post-natal Oestrogen therapy Limb trauma or paralysis	• Above plus consider: • Pre-flight aspirin • Graduating compression stockings
High risk	Previous VTE Thrombophilia Within six weeks of major surgery Previous stroke Current malignancy	• Avoid flying or recommend low molecular weight heparin or formal anticoagulation (including return journey)

Infants and children

In normal term infants the BTS recommend waiting one week after birth to ensure the infant is healthy.

- Owing to the risk of apnoeic episodes, ex-premature infants who have had complications should probably not fly under the age of six months post-expected date of delivery.
- Infants with a history of neonatal respiratory illness, and children with chronic lung disease and FEV_1 < 50% predicted, should undergo pre-flight assessment including hypoxic challenge testing.

This leaflet is an update of the original document prepared by Professor David Price for the British Thoracic Society Air Travel Working Party

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