



University Hospitals Birmingham
NHS Foundation Trust



Hypoxic Challenge Test and travelling with oxygen

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www.uhb.nhs.uk/patient-information-leaflets.htm

Hypoxic challenge tests (HCT) or Fit to Fly tests are performed to determine if patients require oxygen during air travel. The air on an aeroplane contains less oxygen than the air we breathe at ground level, approximately 15% in-flight compared to 21% on the ground. People with no lung conditions can tolerate lower oxygen levels with no ill effects; for people with lung conditions who may already have low oxygen levels or whose lungs cannot effectively maintain blood oxygen level at a safe level it can mean that their oxygen falls too low during the flight and they may feel unwell during or afterwards.

A hypoxic challenge test establishes whether it is safe to fly without oxygen or, if it is not, it can assess what level of supplementary oxygen is required to make it safe to fly.

Test Procedure

During the hypoxic challenge test a sample of blood will be taken from your earlobe to confirm what your oxygen level is like at rest. Depending on the oxygen result and your clinical condition, the test may or may not be required; the physiologist will discuss this with you. If the test is indicated a pulse oximeter will be placed on your wrist and finger or a sensor will be worn on your forehead to monitor your oxygen level and heart rate during the test. For the duration of the test you will be required to wear a nose clip and breath normally from a mouthpiece assembly which is connected to a cylinder containing a 15% oxygen gas mixture. You must try and breathe as normally as you can, as varying your breathing pattern may invalidate the test. Your oxygen level and heart rate are monitored at minute intervals for up to 20 minutes, following which a further blood sample is taken from your earlobe. A blood sample may be taken earlier than 20 minutes if indicated. These samples will be reviewed and the physiologist will determine whether or not to add extra oxygen into the system or terminate the test. If oxygen is added, the test can last for a further 10 to 20 minutes.

If you are prescribed long-term oxygen therapy (LTOT) or have had a previous test indicating a requirement for in-flight oxygen, the test will start with oxygen added in.

The results of the hypoxic challenge test are usually valid for one year unless there is a change in your condition in which case it may need to be repeated sooner.

In-Flight Oxygen

Oxygen can either be given using nasal prongs or a mask from either a cylinder or a portable oxygen concentrator (POC).

Airlines have various policies regarding the supply and use of oxygen on flights, so it is therefore always best to confirm the policy with the airline you are travelling with. Most major airlines have their policy displayed on their website or alternatively you could check the European Lung Foundation website, which details the oxygen policies and contact details of each major airline. Some airlines no longer supply oxygen, in which case you will need to provide your own cylinders/POC. These will need to be hired privately in addition to your normal NHS supply (if used) as NHS suppliers do not permit their equipment to be used for this purpose.

The airline will most likely require a medical certificate or Medical Information Form (MEDIF) which confirms you are fit enough to fly. You will need to complete part of it and then your doctor will need to complete another part.

Oxygen at your destination

If oxygen is required at your destination you will need to arrange this before you travel. Your normal oxygen supplier may be able to recommend a supplier in the country to which you are travelling. Possession of a European Health Insurance Card (EHIC) may permit you to arrange oxygen for a temporary stay in any of the EU countries, Iceland, Liechtenstein, Norway and Switzerland, at the same cost (or no cost) as the people insured in that country. Check with the oxygen supplier for that country if they have an agreement with the scheme.

Additional Information

British Lung Foundation

Telephone: 03000 030 555

Website: www.blf.org.uk/support-for-you/going-on-holiday

European Lung Foundation

Website: www.europeanlung.org/en/lung-disease-and-information/air-travel

European Health Insurance Card

Website: www.gov.uk/european-health-insurance-card

Lung function and sleep
Queen Elizabeth Hospital Birmingham
Mindelsohn Way, Edgbaston
Birmingham, B15 2GW
Telephone: 0121 627 2000