

Lung Function Laboratory

Hypoxic challenge test

Information for patients, relatives and carers

Introduction

This leaflet has been designed to give you information about **hypoxic challenge test** and answers some of the questions that you or those who care for you may have. It is not meant to replace the discussion between you and your medical team but aims to help you understand more about what is discussed. If you have any questions about the information below, please contact us.

The hypoxic challenge test

The aim of a hypoxic challenge test is to determine whether you need supplemental oxygen while flying in an aeroplane.

At sea level, the oxygen in the atmosphere is about 21%. When flying at altitude the oxygen level within the aeroplane cabin drops to about 15%. In some lung diseases patients can be more sensitive to this drop in inspired oxygen than others.

If your oxygen level drops below a certain level you will need to arrange to have supplemental oxygen available to you inflight to help maintain a safe level.

Fitness to fly assessment

If your doctor thinks you may need supplemental oxygen during your flight then we will arrange to see you for an assessment. This is a single visit and will last up to two hours.

When you attend for your assessment it is important you have not had any hospital admissions or chest infections for the last six to eight weeks to ensure your breathing is stable and normal for you.

When you arrive, you will be asked to sit and rest for 20 minutes. We will put a probe (pulse oximeter) on your finger which you will wear throughout the test to measure your oxygen level. We also put vasodilator cream on your earlobe to increase blood flow to that area, allowing us to take a small sample of blood to analyse.

This blood test enables us to check how much oxygen and carbon dioxide you have in your blood when you are at rest. We will then place a mask over your nose and mouth, with a strap around your head to hold it in place. For the duration of the test you will only be asked to breathe normally. Once you have the mask in place, for the first five minutes you will still be breathing room air. After this time, we will change the circuit so you are then breathing in the reduced oxygen mixture. As the oxygen concentration in the mixture you are breathing is lower

than normal air your oxygen level will drop.

If your oxygen level does not drop too low we will take a further sample of blood from your ear and end the test. If, on the other hand, your oxygen level drops more than a certain level we will add supplemental oxygen, wait until your oxygen level has increased and stabilised and take a second blood sample from your earlobe before ending the test.

If you require supplemental oxygen when flying

If your oxygen level drops and your blood results show that supplemental oxygen is required, your consultant will confirm that you need oxygen and how much oxygen you need.

You will need to contact the airline you intend to fly with and pass this information onto them. They may ask you and your doctor to fill in some forms. Generally, the airline will supply the oxygen needed for your flight and you do not need to bring your own. However, each airline has its own policy on travellers requiring oxygen so it is important that you do your research before booking flights to ensure the airline you travel with does supply oxygen, and in the amount you need. Some airlines will charge to supply you with oxygen, others will not.

Your oxygen prescription is valid for six months, after this time you will need reassessment. This can be arranged with us through your consultant.

Useful contacts

Lung Function Laboratory:

St Mary's Hospital 020 3312 6022.

Hammersmith Hospital 020 3313 2352

Monday to Friday, 09:00 to 17:00

How do I make a comment about my visit?

We aim to provide the best possible service and staff will be happy to answer any of the questions you may have. If you have any **suggestions** or **comments** about your visit, please either speak to a member of staff or contact the patient advice and liaison service (**PALS**) on **020 3313 0088** (Charing Cross, Hammersmith and Queen Charlotte's & Chelsea hospitals), or **020 3312 7777** (St Mary's and Western Eye hospitals). You can also email PALS at imperial.pals@nhs.net The PALS team will listen to your concerns, suggestions or queries and is often able to help solve problems on your behalf.

Alternatively, you may wish to complain by contacting our complaints department:

Complaints department, fourth floor, Salton House, St Mary's Hospital, Praed Street
London W2 1NY

Email: ICHC-tr.Complaints@nhs.net

Telephone: **020 3312 1337 / 1349**

Alternative formats

This leaflet can be provided on request in large print or easy read, as a sound recording, in Braille or in alternative languages. Please email the communications team:
imperial.communications@nhs.net

Wi-fi

Wi-fi is available at our Trust. For more information visit our website: www.imperial.nhs.uk

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