Imperial College London

Participant Information Sheet

An observational study of young smokers who may be at risk of developing Chronic Obstructive Pulmonary Disease (COPD)

THE BLF EARLY COPD DEVELOPMENT PARTNERSHIP

IRAS Project ID: **206796**

You are being invited to take part in a new observational research study. This study aims to detect younger smokers who may be at increased risk of losing lung function and help us to understand the inflammatory basis of that excess lung function loss. You can take part in the study if you are 30-45 years of age (and not had your 46 birthday) and you are a current smoker. If you take part you will attend an initial visit and will then be followed up every 6 months for 3 years. We anticipate each visit to take approximately 2-3 hours. The study will involve taking a scan of your chest as well as detailed measurements including lung function tests, blood and sputum samples. Before you decide to take part in the study it is important for you to understand why the research is being done and what it will involve in more detail. Please take time to read the following information carefully and discuss it with others if you wish.

Part 1 tells you the purpose of this study and what will happen to you if you take part.

Part 2 gives you more detailed information about the conduct of the study

Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

Thank you for reading this.

Part 1

- **What is the purpose of the study?**

Chronic Obstructive Pulmonary Disease (COPD) affects around 8% of the UK adult population and is the cause of considerable illness and deaths. Furthermore exacerbations (flare-up of symptoms) are a major cause of hospital admission in the UK. COPD is usually a progressive condition originating with airway inflammation caused mainly by smoking from early adulthood and leading to airflow limitation.

Patients are usually diagnosed with COPD later in life but at this stage the disease is already well established. Understanding the mechanisms of early COPD and studying smokers, and those who quit smoking once enrolled, at a younger age when symptoms first develop and lung function decline is already occurring is especially important.

The main objective of this research is to study the very early stages of development of COPD. This will be done by recruiting a novel cohort of young smokers, in whom we will follow the trajectories of lung function decline to identify those at risk of progression.

- **Why have I been invited?**

  You have been invited to take part in this research because you are a young smoker with either normal or mild abnormalities of lung function. It is expected that approximately 1000 participants will be selected for this study from 8 centres nationwide.

- **Do I have to take part?**

  It is up to you to decide to join the study. We will describe the study and go through this information sheet with you. If you agree to take part, we will then ask you to sign a consent form. You are free to withdraw at any time without giving a reason. This would not affect the usual standard of care you receive.

- **Expenses**

Travel expenses to and from your home/work place and the hospital will be reimbursed. This includes taxi fares, train tickets, parking and fuel costs.

- **Payment**

We will recompense you to take part in this study. Payments will be made as follow:

£25 for visit 1
£25 for CT scan visit (even if this is performed on the same day as visit 1)
£25 for visit 2
£25 for visit 3
£25 for visit 4
£25 for visit 5
£25 for visit 6
£25 for visit 7

If you are eligible, we will pay you up to £200 for attending initial and follow up visits. If you decide to withdraw from the study, we will pay you for the visits you have attended. We will not pay ineligible participants for attending a screening visit.

- **What do I have to do?**

If you wish to join the study you will first be asked to attend a visit (Visit 1) which lasts about 2-3 hours during which the following will take place:

We will discuss the study with you again during this visit and if you agree to participate, will ask you to sign a consent form to agree to participation in the study and give permission for the research team to obtain information from your full electronic medical record (Primary and secondary care). This linked data will be anonymised for analysis. You will also be asked to give permission for your data and samples to be shared with pharmaceutical companies as well as other third parties inside and outside of the European Union for current study analysis and future research proposals. Your samples will be used for research in the same topic as the current research. All such research would be reviewed (and given a favourable opinion) by a REC. We will also ask you to sign a second consent form if you agree to have a computerized tomography (CT) scan of your chest.

- We will ask you some questions about your medical history including your smoking, family, occupation and medication history.

- We will perform a physical examination. Your height and weight will be recorded and your blood pressure examined.

- Your lung function will be tested to check the condition of your airways. As part of this you will have a breathing test before and after you receive four puffs of a reliever inhaler (salbutamol). This will assess how reactive your airways are (known as bronchial hyper-activity) to better inform the study doctors about the effects of tobacco and additionally to help us rule out asthma. Salbutamol can rarely make you feel a bit shaky and increase your heart rate but these effects typically last one to four hours.

You will be asked about your smoking habits and encouraged to stop, and we will provide advice and referral to smoking cessation support services if you wish to quit smoking. If you are eligible, you will be enrolled into the study and allocated a formal study number which will be used to identify you in subsequent study visits. (If you are in-eligible and have provided consent, you will also be allocate a formal study number and a formal record of your visit and reasons for screen failure will be captured. You will not be asked to attend further visits).

- Further more complex lung function tests will be performed. You will be asked to sit in a glass box and breathe into a machine that will take readings of your lung function. This assessment can take place preferably within 7 days of Visit 1.

- We will ask you to complete five questionnaires which ask about any breathing symptoms you may have and your level of anxiety. These questionnaires are called the MRC Bronchitis Questionnaire, the MRC Dyspnoea (Breathlessness) Score, COPD Assessment Test (CAT), Respiratory Infection Questionnaire and Hospital Anxiety Depression Scale (HADS).

- We will collect a sputum (phlegm) sample. If you are unable to produce sputum spontaneously we can stimulate production of the sputum by asking you to inhale an aerosolised solution of salt-water (saline) for up to twenty minutes. This makes you cough. These samples will be stored and analysed for infection and also for inflammation in your airways. Sputum sample collection can take place preferably within 7 days of Visit 1.

- A blood sample will be collected and stored. We will perform routine tests including markers of inflammation and infection in the body. We will also store a small amount of blood for DNA analysis to examine the genetic factors related to the development of COPD. Blood sample collection can take place preferably within 7 days of Visit 1.

- We will perform a CT scan of your chest if you agree to consent to this. This will be done within 6 months of your first visit. A urine pregnancy test will be offered to females of child-bearing potential prior to the scan to confirm they are not pregnant.

Further non-invasive tests of lung function measurements will take place including measurement of your muscle strength and mass, forced oscillometry and lung clearance index, where you will be asked to breath into a mouthpiece whilst inhaling oxygen or an inert gas (Sulfur hexafluoride); and arterial pulse wave measurements which are taken via blood pressure cuffs attached to your thigh and neck to assess stiffness of your arteries. The cuff around your thigh will inflate to slightly above your normal blood pressure. The cuff around your neck inflates to a lower pressure, no tighter than a tight collar. We will also measure in your exhaled air, concentrations of Volatile Organic Compounds, a diverse group of carbon-based chemicals and levels of exhaled nitric oxide gas (both marker of airway infection and inflammation) and levels of exhaled carbon monoxide (a marker of cigarette smoke exposure).
You will also be asked to complete activity levels and cough related questionnaires. These assessments can take place preferably within 7 days of Visit 1.

<u>During the next 3 years, we will arrange a follow up visit every six months:</u>
During each of these visits, the following will take place:

- We will ask you questions again about any change in your medical history including your smoking history.
- We will perform a physical examination. Your height and weight will be recorded and your blood pressure measured.
- Lung function tests will be performed again, and because the original tests were performed following the blue inhaler (salbutamol) you will be asked to have these breathing tests after receiving the blue inhaler to allow for a fair

comparison to your original visit. This assessment can take place preferably within 7 days of this visit.

- We will ask you to complete the five questionnaires again which ask about your symptoms and anxiety levels you may have.

- We will collect a sputum (phlegm) sample again. These samples will be stored and analysed for infection and also for inflammation in your airways.

- Another blood sample will be collected and stored. We will perform routine tests including markers of inflammation and infection in the body

- You will be asked about your smoking habits and encouraged to stop, and we will provide advice and referral to smoking cessation support services if you wish to quit smoking.

Further non-invasive tests of lung function measurements will take place including measurement of your muscle strength and mass, forced oscillometry and lung clearance index, where you will be asked to breath into a mouthpiece whilst inhaling oxygen or an inert gas (Sulfur hexafluoride); and arterial pulse wave measurements which are taken via blood pressure cuffs attached to your thigh and neck to assess stiffness of your arteries. The cuff around your thigh will inflate to slightly above your normal blood pressure. The cuff around your neck inflates to a lower pressure, no tighter than a tight collar. We will also measure in your exhaled air, concentrations of Volatile Organic Compounds, a diverse group of carbon-based chemicals and levels of exhaled nitric oxide gas (both marker of airway infection and inflammation) and levels of exhaled carbon monoxide (a marker of cigarette smoke exposure). You will also be asked to complete activity levels and cough related questionnaires

You will be invited for a voluntary 8th Visit where extra blood samples will be collected for further analysis of blood cells involved in your immune system.

Exacerbation visit

Only applicable to the Royal Brompton and Harefield NHS Foundation Trust.

If you experience an exacerbation, a chest infection or a cold during the course of the study, you will be asked to make an appointment as soon as possible to attend the study clinic. We also schedule four extra visits following your exacerbation. These will take place at days 2/3, 7, 14 and 42 post exacerbation.

For each of the exacerbation and exacerbation follow up visits, the following will be collected and performed during this visit:

- A physical examination and lung function tests will be performed.

- We will ask you to complete diary cards in addition to five questionnaires which ask about your quality of life, symptoms you may have, your activity levels and cough related questionnaires. These include the CAT, MRC bronchitis, the Respiratory Infection Questionnaire, Leicester Cough Questionnaire and the Stanford seven-day physical activity recall.

- We will collect sample sputum (phlegm). If you are unable to produce sputum spontaneously or we will stimulate production of the sputum by asking you to inhale a solution of salt-water (saline) for up to twenty minutes. These samples will be stored and analysed for infection and also for inflammation in your airways.

- A blood sample will be collected and stored. We will perform routine tests including markers of inflammation and infection in the body.

- You will be asked about your smoking habits and encouraged to stop, and we will provide advice and referral to smoking cessation support services if you wish to quit smoking.

- If required, you will be provided with the appropriate medication for your exacerbation.

- Further non-invasive tests of lung function measurements will take place including forced oscillometry and arterial pulse wave measurements which are taken via blood pressure cuffs attached to your thigh and neck to assess stiffness of your arteries. We will also measure in your exhaled air, concentrations of Volatile Organic Compounds, a diverse group of carbon-based chemicals and levels of exhaled nitric oxide gas (both marker of airway infection and inflammation)

Applicable to all sites except the Royal Brompton and Harefield NHS Foundation Trust.

If you experience an exacerbation, a chest infection or a cold during the course of the study, you will be asked to make an appointment as soon as possible to attend the study clinic.

The following will be collected and performed during this visit:

- Lung function tests will be performed.

- We will ask you to complete two of the questionnaires which ask about your quality of life and symptoms you may have, the CAT and the Respiratory Infection Questionnaire.

- We will collect sample sputum (phlegm). If you are unable to produce sputum spontaneously or we will stimulate production of the sputum by asking

you to inhale a solution of salt-water (saline) for upto twenty minutes. These samples will be stored and analysed for infection and also for inflammation in your airways.

- A blood sample will be collected and stored for routine tests including markers of inflammation and infection in the body.

- You will be asked about your smoking habits and encouraged to stop, and we will provide advice and referral to smoking cessation support services if you wish to quit smoking.

- If required, you will be provided with the appropriate medication for your exacerbation.

Part 2

- **What are the potential benefits of taking part?**

- Patients may benefit from having a CT scan of the chest, free of charge. If any abnormalities are found, these will be communicated to your general practitioner and followed-up by the National Health Service.

- Patients may benefit from being closely monitored by and having access to a research team experienced in the field of COPD.

- Patients may benefit from having access to stop smoking support through the study if they want it.

- The information we get from this study may help us to treat future patients with prior disease better.

- **What are the possible disadvantages and risks of taking part?**

- You may develop slight bruising after we take a blood sample.
- Producing a sputum (Phlegm) sample may cause coughing and sometimes shortness of breath. You will be monitored to ensure your safety and minimal discomfort.
- The lung function tests are not painful but some people find the complete tests strenuous.

- A CT scan involves exposure to x-ray but the amount of radiation is kept to a minimal. You would not have this scan if you did not take part in the study.

- The effective radiation dose from a high resolution CT scan of the chest is estimated at 7 mSv. This is equivalent to about 2.6 years of background

radiation (in the UK we receive about 2.7 mSv per year from naturally occurring radiation, called "background" radiation.)

- X-rays can cause cell damage that may, after many years or decades, turn cancerous. We are all at risk of developing cancer during our lifetime. The normal risk is that this will happen to about 50% of people at some point in their life. Taking part in this study will increase the chances of this happening to you from 50% to 50.03%.
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- If we find a condition of which you were unaware of, this will be explained to you and further investigations will be carried out and/or you will be referred to your General Practitioner.

- **What will happen if I don't want to carry on with the study?**

Taking part in this study is voluntary and up to you. You may choose not to take part or you may leave at any time. Choosing not to take part or leaving the study will not result in any penalty. You will not lose any benefits to which you are otherwise entitled. Your decision will not affect your access to medical care in the future. All information you gave to us before you leave the study will still be used for the study unless you request this to also be withdrawn. Upon withdrawal from the study, samples already taken may be analysed as planned – it may be possible for them to be destroyed if you request this at the time of leaving the study.

- **What if something goes wrong?**

'Imperial College is the lead centre for the project and holds Public Liability ("negligent harm") and Clinical Trial ("non-negligent harm") insurance policies which apply to this study. If you can demonstrate that you experienced harm or injury as a result of your participation in this study, you will be eligible to claim compensation without having to prove that Imperial College is at fault. If the injury resulted from any procedure which is not part of the trial, Imperial College will not be required to compensate you in this way. Your legal rights to claim compensation for injury where you can prove negligence are not affected.'

If you have any concerns about your lung condition or any possible adverse effects from procedures carried out in the research clinic, please contact one of the research team. If you have a complaint about a person or standard of care you have received you should approach (PI, name and address). Alternatively, you may approach the Patient Advice and Liaison Service (PALS -tel no.)

- **Will my taking part in this study be kept confidential?**

All information which is collected about you during the course of the research will be kept strictly confidential. We will send you a report of your lung function at no cost.

We may pass on information to your general practitioner necessary for your medical care. Information on your date of birth, gender, name and address may be sent securely to the Health and Social Care Information Centre (HSCIC). In the unlikely event that you die death registration data can be collected by the Office of National Statistics to determine the cause even after you have left the study. With these exceptions, any other information about you which leaves the hospital or the research team at the Royal Brompton Hospital or the research team at Imperial will have your name and address removed so that you cannot be recognised from it.

Imperial College London is the sponsor for this study based in the United Kingdom. We will be using information from you and your medical records in order to undertake this study and will act as the data controller for this study. This means that we are responsible for looking after your information and using it properly. Imperial College London will keep identifiable information about you for 10 years after the study has finished in relation to data subject consent forms.

Further information on Imperial College London's retention periods may be found at https://www.imperial.ac.uk/media/imperialcollege/administration-and-support-services/records-and-archives/public/RetentionSchedule.pdf.

Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained. To safeguard your rights, we will use the minimum personally-identifiable information possible. You can find out more about how we use your information by contacting Professor Wisia Wedzicha, Airway Disease Section, National Heart & Lung Institute, Imperial College London.

LEGAL BASIS

As a university we use personally-identifiable information to conduct research to improve health, care and services. As a publicly-funded organisation, we have to ensure that it is in the public interest when we use personally-identifiable information from people who have agreed to take part in research. This means that when you agree to take part in a research study, we will use your data in the ways needed to conduct and analyse the research study.

Health and care research should serve the public interest, which means that we have to demonstrate that our research serves the interests of society as a whole. We do this by following the UK Policy Framework for Health and Social Care Research.

INTERNATIONAL TRANSFERS

There may be a requirement to transfer information to countries outside the European Economic Area (for example, to a research partner). Where this information contains your personal data, Imperial College London will ensure that it is transferred in accordance with data protection legislation. If the data is transferred to a country which is not subject to a European Commission (EC) adequacy decision in respect of its data protection standards, Imperial College London will enter into a data sharing agreement with the recipient organisation that

incorporates EC approved standard contractual clauses that safeguard how your personal data is processed.

CONTACT US

If you wish to raise a complaint on how we have handled your personal data or if you want to find out more about how we use your information, please contact Imperial College London's Data Protection Officer via email at dpo@imperial.ac.uk, via telephone on 020 7594 3502 and via post at Imperial College London, Data Protection Officer, Faculty Building Level 4, London SW7 2AZ.

If you are not satisfied with our response or believe we are processing your personal data in a way that is not lawful you can complain to the Information Commissioner's Office (ICO). The ICO does recommend that you seek to resolve matters with the data controller (us) first before involving the regulator.

NHS will collect information from you for this research study in accordance with our instructions.

NHS will use this information as needed, to contact you about the research study, and make sure that relevant information about the study is recorded for your care, and to oversee the quality of the study. Certain individuals from Imperial College London and regulatory organisations may look at your medical and research records to check the accuracy of the research study. Imperial College London will only receive information without any identifying information. The people who analyse the information will not be able to identify you and will not be able to find out your name, NHS number or contact details.

NHS will keep identifiable information about you from this study for 10 years after the study has finished.

When you agree to take part in a research study, the information about your health and care may be provided to researchers running other research studies in this organisation and in other organisations. These organisations may be universities, NHS organisations or companies involved in health and care research in this country or abroad. Your information will only be used by organisations and researchers to conduct research in accordance with the UK Policy Framework for Health and Social Care Research.

Your information could be used for research in any aspect of health or care, and could be combined with information about you from other sources held by researchers, the NHS or government.

Where this information could identify you, the information will be held securely with strict arrangements about who can access the information. The information will only be used for the purpose of health and care research, or to contact you about future opportunities to participate in research. It will not be used to make decisions about future services available to you, such as insurance.

Where there is a risk that you can be identified your data will only be used in research that has been independently reviewed by an ethics committee.

- **What will happen to the results of the research study?**

The results of this research will be presented at national and international medical conferences and published in peer reviewer scientific and medical journals. Medical abstracts are usually available from the internet at no cost. Medical journals can provide full publications at a cost. You will be able to find publications on the internet, or we will provide you with copies of any appropriate publications. You will not be identifiable in any report or publication as all of the results will be anonymous and present group data.

- **Who is organising and funding the research?**

This research is funded by five commercial partners (GSK, AstraZeneca, Novartis, Boehringer Ingelheim and Chiesi).

The study is under the sponsorship of Imperial College London

Professor Wedzicha, Imperial College London, is the Chief Investigator of this research cohort and the projects that will stem from the cohort patients. You will be seen in the research clinic at (add your location) by a doctor or nurse in the (add name) team.

- **Who has reviewed the study?**

This study was given a favourable ethical opinion for conduct in the NHS by [add when known] REC.

- **Contact for Further Information**

If you require any further information, would like advice on the study, or have any concerns while taking part in the study please contact our team on:
name: Dr Andy Ritchie
Telephone: 07561 45177

Thank you for taking the time to read this information sheet. If you decide to participate in this study, you will also be given a copy of the signed consent form to keep.