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MUCOSAL study

ImMUnologiCal memOry to reSpirAtory viraL infection in the airways (MUCOSAL)

PARTICIPANT INFORMATION SHEET

We would like to invite you to take part in our research study to investigate how immunity against respiratory infections is generated in different parts of our body (lungs, nose and blood) and how long this protection lasts.

The study is being run by the Oxford Vaccine Group, which is part of the University of Oxford and Liverpool Vaccine Group

Before you decide on whether to participate in this study, it is important that you take the time to understand why the research is being done and what it would involve. Please read this information sheet carefully. If you have any further questions about the study, please do not hesitate to contact us (contact details are below).

If you are interested in taking part in this study, then please complete the online pre-screening questionnaire at https://apps.ovg.ox.ac.uk/redcap/surveys/?s=DAME8RK9KWNXMJAR

If you have further questions about the study that you would like to discuss with our team, please contact us at:
Email: info@ovg.ox.ac.uk
Tel: 01865 611400

Summary

Who can take part?	Adults in generally good health, aged 18 – 85 years
Study Aims	• To test immunological memory to respiratory viruses, using blood, nasal, and lung cells to better understand how these cells protect against respiratory infections. The viruses we will be investigating are SARS-CoV-2, Respiratory Syncytial Virus (RSV), Influenza, Rhinovirus, human coronaviruses (hCoV) and Human Metapneumovirus (HMPV) • To compare immunological memory between older and younger people.
Chief Investigator	Dr Andrea Collins
Principal Investigator	Prof Maheshi Ramasamy
Study Sites	Oxford Vaccine Group, University of Oxford Centre for Clinical Vaccinology and Tropical Medicine Churchill Hospital, Headington, Oxford, OX3 7LE Liverpool Vaccine Group, Liverpool School of Tropical Medicine,

	Accelerator Building, 1 Daulby Street, Liverpool, L7 8XZ, United Kingdom
What are symptoms of a respiratory infection	A respiratory infection includes infection of the breathing spaces such as throat, nose, sinuses, airways or lungs. Symptoms may include any of the below lasting for more than 24 hours: • Nose discharge /runny nose • Blocked nose • Sore throat • Hoarse voice • Cough • Feeling tired and unwell • Body aches • High temperature or feeling feverish • Loss of sense of taste or smell • A feeling of pressure in your ears and face • Breathing problems
Procedures	1. Lower airway sampling (lungs) 1-2 times, using a bronchoscope. Maximum two bronchoscopy procedures. 2. Upper airway sampling (nose and throat): - Nasosorption, nasal cells, nasal swabs - Throat swabs 3. Blood collection 4. Nasal tissue biopsy at 6-10 weeks after infections (optional procedure)
What happens in the study?	• Volunteers will take a nose swab if they experience some of the symptoms described above to confirm they have a respiratory infection caused by one of the viruses we are investigating. • Volunteers will then attend a face-to-face screening, give their consent and eligibility to take part will be assessed. At this visit, the volunteer will undergo a physical examination and have samples collected. This study will include 3 groups: • Group A: All participants will undergo research bronchoscopy, including nasal cells and blood collection (same visit) at 2-8 weeks after confirmed respiratory infection. There will be a follow-up visit at 16-20 weeks (appr. 4months) post infection for nasal cell and blood sample collection. • Group B: Some participants from group A will be followed-up for up to 12 months after the infection. These participants will undergo a second research bronchoscopy at 40-52 weeks (9-12 months) post infection. • Group C: If participants from group A have a 2nd new infection, they will be invited to have an additional bronchoscopy at 2-8 weeks after that second infection. • Optional procedures, such as nasal biopsy sampling will be performed in some participants once at 6 to 10 weeks post first or new respiratory infection.

Expenses and reimbursements	Participants would be reimbursed for their time, travel and the inconvenience of taking part in the study. All participants will be reimbursed based on the following figures: **Group A:** up to £455 Screening visit: £110 Bronchoscopy visit +/- spirometry: £250 Follow-up visits (in-person): £90 Follow-up (phone): £5 **Group B/C:** up to £820. Group A reimbursement plus: Screening visit: £110 Bronchoscopy visit +/- spirometry: £250 Follow-up (phone): £5 Participants in Group A or C will be offered the optional Nasal tissue procedure. **Nasal Tissue Biopsy procedure** up to £165: Screening visit by phone: £5 Nasal Tissue Biopsy Visit: £150 Follow-up (phone): £5 Follow-up (phone): £5 You may also receive reimbursement for any in person unscheduled visits you are asked to attend by the study team. You would be reimbursed £90 per unscheduled visit.
Risks of participation	During the bronchoscopy, there may be some mild discomfort. After the procedure, participants may more commonly experience a sore nose/throat, cough or mild chest/back ache. A full discussion of risks, including rare but potentially serious ones, can be found on page 11.
Benefits of participation	You will be helping research into understanding the differences between blood and lung/nose immune responses to respiratory viral infections and how these responses behave over time. You will also help us compare these responses across different age groups in the study. Finally, you will also be helping in the development of new vaccines that can provide better and longer protection against COVID and other respiratory infections.

What is the purpose of this study?

When viruses enter our breathing spaces, also known as airways, they can cause severe infections or no symptoms at all. When our body "remembers" these viruses (immunological memory), it can act quickly and eliminate the infection before symptoms develop. This 'immunological memory' protects the person from serious illness, but importantly also reduces the spread of disease to others. Immunological memory can be achieved by vaccination or previous infection, but we don't know how long this immune memory can last. Cells in our lungs can live longer and potentially remember for longer. We can design better vaccines by understanding the differences between cells in our blood and those in our breathing spaces. This will give greater protection against disease-causing viruses thus protecting especially those at risk.

This study will examine the responses of cells in the nose, lung and blood soon after respiratory infections from viruses and how these responses behave over time and across different age groups. We are interested in viruses such as COVID-19, flu and those that causes cold like infections.

What is Bronchoscopy?

To understand the immunological response in the lungs we need a research bronchoscopy. This is a safe and well tolerated procedure that involves looking into your lungs with a small, thin and flexible camera called a bronchoscope. It is performed under local anaesthetic (numbing medication) by an experienced respiratory consultant. The doctor might ask if you would like a sedation injection to make you relaxed.

The maximum number of bronchoscopies anyone can have for this study is two. Having one bronchoscopy is a requirement for all study participants (Group A), and after the first bronchoscopy participants are invited for a follow up that might include another bronchoscopy (Group B or Group C).

Bronchoscopies are commonly performed in clinics to help diagnose persistent cough or infection and obtain samples to provide treatment for lung problems. The advantage of doing bronchoscopies in this study is that we can take samples safely from your lungs. The samples we might take include washings (flushing a small part of the lung with some salty water and then sucking some of the sample back for analysis), brushings (where we brush part of your airways to obtain cells), or biopsies (where we take small rice-sized parts of the airways for analysis). The whole visit can take up to 4hours, but the bronchoscopy procedure itself can take up to 1hour.

To confirm that we can proceed with the bronchoscopy procedure, we may conduct a breathing test on your lungs, this test is called spirometry. Breathing tests give an indication as to how your lungs are functioning. They can tell us whether there is any airflow limitation caused by constriction or narrowing of your airways.

Prior to the procedure, we would instruct that you *do not eat or drink anything for 4-6 hours before your bronchoscopy (once we have booked you for your bronchoscopy, we will inform you of the specific time)*. Please do not take any alcoholic beverages or any alcohol-containing products for at least 24 hours before bronchoscopy. You can take any tablets you need with small sips of water up to 2 hours before the bronchoscopy. You should continue any medication unless we have told you to stop it. We may call you a few days before the procedure to remind you of these instructions and we may ask you to stop taking aspirin or diabetes medications on the day of the procedure.

On the day of the procedure, you should consider arranging for someone to bring you in and take you home. We may use sedation and therefore you will not be able to drive a vehicle for a few hours after the procedure. We advise not driving, returning to work, operating machinery, signing legal documents or being responsible for small children for the rest of the day.

A nurse or doctor would check your blood pressure, heart rate and blood oxygen levels and ask you a few questions about how well you have been recently and whether you have any allergies. We would place a cannula (which is a small plastic tube) into one of your veins (usually in the arm) this is for safety reasons and for the sedation if you agree to it. We monitor your blood pressure, heart rate and oxygen levels throughout. We would then use local anaesthetic spray and gel to numb the back of the throat (spray) and the nasal passages (gel). Unfortunately, this doesn't taste very nice and can make your eyes water briefly. We would then pass the bronchoscope through to the lungs and hopefully take samples, as described above.

You will not feel the bronchoscope inside your lungs at all. When the bronchoscope is in the correct position, we use 200mls of sterile saline which is about the same as a cup of tea to collect a 'wash' from that area. The saline is introduced and withdrawn using gentle hand suction and we collect some lung secretions and cells (bronchoalveolar lavage or BAL) to test immune function. It generally takes about 15-20 minutes to prepare a participant for bronchoscopy, including giving the anaesthetic and sedation, and 7 minutes to complete the BAL.

After bronchoscopy, because you will have had medication to numb your throat and maybe even sedation, we will observe you for 1-2 hours. After this time, the medication will have worn off and you will be allowed to eat and drink again as normal before going home.

Bronchoscopy is a safe and well-tolerated procedure but, as with any medical intervention, it carries some risks. The procedure can cause some discomfort while we perform it, mainly a cough. Mild complications include a sore throat or hoarse voice (which normally settle within 24 hours), and a small amount of bleeding which you might notice in your phlegm when you cough, or a nosebleed. A mild complication that is uncommon is fever or feeling feverish, this condition can be related to an inflammatory response of your body to the bronchoscopy, and it usually lasts less then 24h and does not require any specific treatment. You will be able to get in touch with us in case this occurs and we will provide you guidance. Some people also experience mild pain under the right arm (pleurisy) that can last 12-24h. More serious complications, which are extremely rare, include a pneumothorax, which is where air escapes into the wrong part of the lung which can be treated in the hospital setting. Liverpool vaccine Group will not perform lung biopsy. Also extremely rare is the presence of more significant bleeding requiring treatment, which can also be treated in the hospital setting.

A 24-hour on-call emergency telephone number will be available to you should you require medical advice for the duration of the study and up to 1 month post bronchoscopy.

Study Visits
Please see page 6 for a summary image of the visits.

Visit	**What to expect**
Pre-screening questionnaire review **Study chat (optional)**	You will reply to an online pre-screening questionnaire about yourself, give us consent to access, store your medical records and personal information. You will be also asked for consent to take a swab to confirm you have a respiratory infection. This information will be kept confidential. We will inform you if you are eligible to take part in the study and the kit with the self-sample swab will be sent to your home. Alternatively, it will be possible to collect the kit from the corresponding site if you are not yet symptomatic. If you develop symptoms compatible with a respiratory infection lasting for more than 24h you may collect the sample and send it to us (See Figure 1 below) If your sample comes back positive for the viruses we are looking for, we will invite you for a screening visit. If your sample comes back negative, we can provide a new sampling kit for you to use if you develop respiratory symptoms in another future occasion. This is a discussion about your medical history and to answer your questions about the study if not already provided in the online screening questionnaire.

Screening visit before each bronchoscopy or nasal tissue biopsy	• Discussion of study • Sign consent form • Identity check • Review of medical history • Physical examination, including "vital signs" (temperature, pulse, blood pressure) • Breathlessness score • Blood test (and urine pregnancy test, if appropriate)
First Bronchoscopy (Groups A) (See Figure 2)	• Vital signs (temperature, pulse, blood pressure) • If required, spirometry (breathing test) • Bronchoscopy consent • Pregnancy urine test, if appropriate • Bronchoscopy samples • Research Bloods • Nasal samples
Follow up visits (in person)	• Research bloods • Nasal samples • Safety follow-up call
Second Bronchoscopy (Groups B or C) (See Figure 2)	• Vital signs (temperature, pulse, blood pressure) • Bronchoscopy consent • Pregnancy urine test, if appropriate • Bronchoscopy samples • Research Bloods • Nasal samples
Nasal Tissue Biopsy (optional, after either first or second bronchoscopy)	• Inferior turbinate nasal or postnasal area biopsy

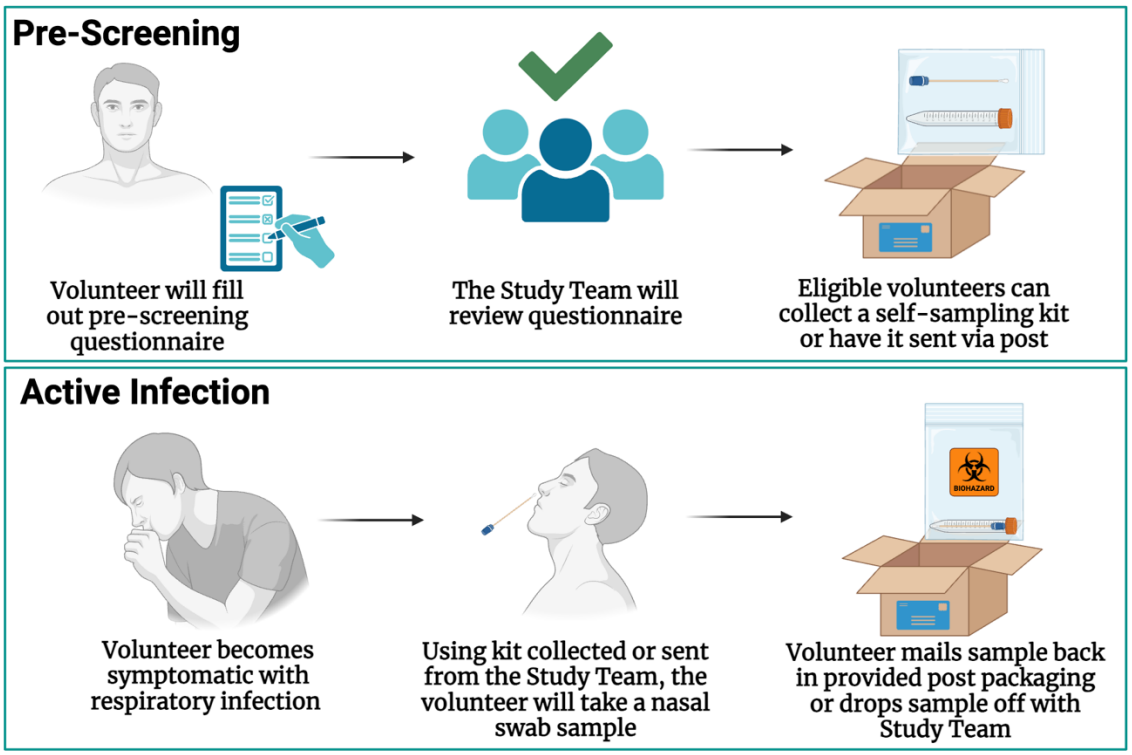

Figure 1. Volunteer pre-screening questionnaire and development of symptoms prompting self-sample collection for confirmation of the respiratory infection

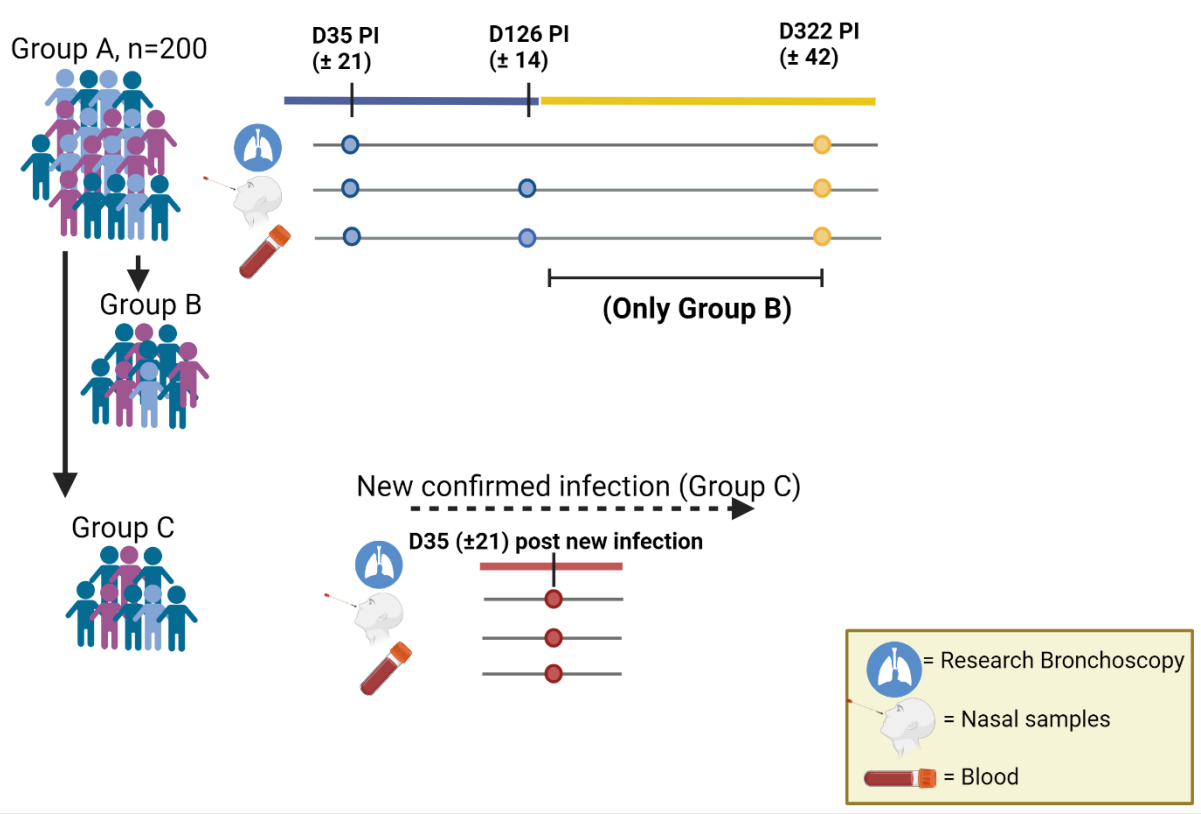

Figure 2. Participants with confirmed respiratory infection and schedule of sample collection for Group A, B and C

How long would I be in the study?
If you are eligible to take part, the study duration will vary depending on the additional procedures you agree to, but this will be up to 12 months starting from your first day of confirmed initial respiratory infection. You can, if you decide to (for whatever reason), withdraw from the study at any time (see What happens if I do not wish to carry on with the study? Page 12

Can I take part in the study?
You are potentially eligible if you:

Are an adult aged 18-85 years and in good health.
Have capacity to provide written consent before any study procedures are performed and can understand and comply with the requirements of the study.
Agree to allow study staff to contact your GP or equivalent NHS databases to access the participant's vaccination records, medical history and notify of participation in the study.
Willing to provide your national insurance number or passport number to be registered on The Over-Volunteering Prevention System (TOPS).
Agree to refrain from blood donation during the study.
Contraception
(If applicable) For participants who could potentially become pregnant: willing to use effective contraception and have negative pregnancy tests during the study.

You must not have:

Uncontrolled medical or surgical conditions that means you are not suitable for a bronchoscopy.
Medical conditions or are on medications that affect your immune system, such as cancer medications and long-term steroid medications.
You are on medications that increase the risk of bleeding such as blood thinners (except aspirin).
A history of hepatitis B and C or HIV infection.
Allergies to medications such as sedatives and anaesthetic medication
On long term oxygen or poor oxygen levels in your blood.
Asthma on treatment with inhalers containing steroids? (e.g. beclomethasone, budesonide, fluticasone, mometasone)
You are pregnant, breast-feeding or intend on becoming pregnant during the study.

If you are unclear whether you might be eligible to be involved in the study, you can contact the study team (details at the end of this information sheet).

Do I have to take part?
No. It is up to you to decide whether to take part. If you do decide to take part, you will be given this information sheet to keep (it will be sent electronically but you can request a paper copy) and you will be asked to sign a consent form.

What happens if I choose to take part?

<u>Online pre-screening questionnaire</u>

If you decide that you would like to take part in this study, then you will need to complete a short set of online questions that cover some of the key criteria for participation in the study e.g., your previous medical history, including your mental health history, and any current medical problems that you may have. If the study is right for you at this point, we will contact you to provide further instructions on

the next steps. In addition, we will ask you to provide consent for the study team to access your medical records via the electronic patient records or through your GP. This consent is only to allow access to your medical records, and not the consent for enrolment into the study. If you choose to participate in the study, a separate consent will be taken at the screening visit. We will assess that you are eligible for the study and contact you. We will then provide you with the kit for the self-sample swab you will collect in case of symptoms of respiratory infection lasting more than 24h and send it back to us. The postal kit will be pre-paid, you will not need to pay for any postage. If your sample comes back positive for the viruses we are looking for, we will invite you for a screening visit. If your sample comes back negative, we can provide a new sampling kit for you to use if you develop respiratory symptoms in another future occasion.
Please note that as these swabs are used for research purposes, we cannot provide you with tests results or give you guidance on managing any symptoms or treatment.

Screening visit

At the screening visit, you will meet with study staff, who will discuss this information sheet with you and would provide an opportunity for you to ask any questions you might have about the study and what's involved. You may take as much time as you feel necessary before making any decision on whether to take part. If you then decide to take part, and the study team considers that you have understood the information, you will be asked to sign the study consent form.

This will be followed by a physical examination, which will include the doctor listening to your heart and lungs with a stethoscope and examining your abdomen. Your vital signs (blood pressure, pulse, and temperature), weight and height will be measured. A blood sample will be taken (approximately 15 mL equivalent to 1 tablespoon). If applicable, a urine sample may also be taken to perform a pregnancy test.

Bronchoscopy (see page 4, what is bronchoscopy?)
Bronchoscopies will be performed 2-8 weeks post initial infection, 40-52 weeks post initial infection or 2-8 weeks post new infection, depending on the group allocation. We will ask about any recent serious medical problems. You will have a pregnancy test (if appropriate) and we will obtain research bloods and nasal samples.

Nasal and throat sampling
Flexible swabs or nasal probes will be inserted and gently rotated inside the nostril which takes several seconds to do. We will also use a small strip which will be gently inserted inside the nostrils and held by gently pressing the outside of the nose for a few minutes. These samples may cause sneezing and/or watery eye. Occasionally there may be a little discomfort and rarely minor bleeding.

We will also collect nasal cells using a very small and narrow plastic spoon (about the size of a toothpick) into the inner surface of the nose that is withdrawn in a sweeping motion to collect small cells. We will perform this twice on each nostril. The nasal cell sample is slightly uncomfortable and may make your eyes water briefly. Sometimes a small amount of blood can be seen on the sample probe, however, it is rare for it to cause a nosebleed. Also, for throat swabs, we take a small cotton swab and wipe the back of your throat in a circular motion. Nasal and throat samples will be obtained at bronchoscopy visit and in person follow-up visit.

During the study, you may also be asked to attend an extra visit, for example, if a blood test needs to be repeated.

Optional investigations:

Spirometry (breathing test)

The study doctor might ask you to have a spirometry assessment to assess if you are eligible for the research bronchoscopy. This will involve breathing out as hard as you can several times, repeated once more after inhaling salbutamol (a medication used to open your airways). Breathing tests may be familiar for some participants from clinical appointments with the GP or the airways clinic in hospital. Breathing tests may cause some temporary light headedness and coughing.

Nasal tissue biopsy

This is an optional procedure that allows us to take small amount of nasal lining tissue for examination. Should you wish to participate in this procedure, you will be provided with a specific nasal biopsy participant information sheet and will need to sign a nasal tissue biopsy consent form.

What other medical matters are relevant to the study?

Medications

During the study you are encouraged to use your regular medication, if you have any.

If you are on regular blood thinners (except aspirin) we may exclude you from the study.

Contraception

It is a requirement of participation that volunteers who could become pregnant must use contraception (exceptions to this are below).

Female participants where any of the following apply will not be required to use contraception:

1. Post-menopausal
2. Surgical sterilisation
3. Complete abstinence from sex with a male partner

Acceptable contraception methods include:

- Established use of oral, injected, implanted, transdermal or intravaginal hormonal methods of contraception.
- Placement of an intrauterine device (IUD) or intrauterine system (IUS).
- Total abdominal hysterectomy.
- Bilateral tubal occlusion.
- Barrier methods of contraception (condom or occlusive cap with spermicide).
- Male sterilisation, if the vasectomised partner is the sole partner for the subject.
- Sexual abstinence defined as refraining from heterosexual intercourse during the entire period of risk associated with the study interventions. The reliability of sexual abstinence needs to be evaluated in relation to the duration of the clinical study and the preferred and usual lifestyle of the subject.

Male participants in the study are not required to use barrier methods (condoms) for the purposes of contraception.

Pregnancy

If you were to become pregnant during the study, you should tell us immediately, as it may not be safe to take blood at follow up visits or enrol into optional procedures

What should I avoid during the study?

Please do not take any alcoholic beverages or any alcohol-containing products for at least 24 hours before bronchoscopy.

Blood donation

You must refrain from blood donation during your involvement in the study. However, you will be able to restart blood donation once the last study visit has been completed.

Taking part in other clinical studies

You should not take part in other clinical study which involve repeated blood sampling, whilst participating in this study as this may not be safe for you to be donating large amounts of blood and affect the results of this study.

Are there any other potential risks from taking part in the study?

Bronchoscopy

See page 4-5.

Nasal tissue biopsy

Please refer to Nasal Tissue Biopsy Participant Information Sheet
https://www.ovg.ox.ac.uk/studies/mucosal .

Blood samples

Blood sampling may cause slight pain and occasionally bruising. Occasionally, people feel light-headed, nauseous or faint. We will take up to 60ml (approximately up to 4 tablespoons) per visit. For comparison, a **single** donation to the NHS blood bank would be approximately 470ml.

What happens if we find something unexpected?

Since we carry out several medical tests throughout the study, it is possible that we detect previously unknown health issues (*e.g.,* high blood pressure or abnormal blood results). If abnormal results or undiagnosed conditions were to be found during the study, these would be discussed with you and, if you agreed, your GP would be informed. We would refer any newly diagnosed conditions to your GP.

Sometimes incidental medical findings require your GP to carry out further investigations, such as blood tests, scans or referral to specialists.

In the UK, healthcare professionals are legally obliged to report any new suspected cases of hepatitis B, hepatitis C and HIV to the UK Health Security Agency (UKHSA). If you are found to have hepatitis B, C, or HIV, we will be required to send a report to the UKHSA, including your personal contact information. It's important to note that you cannot opt out of this due to UK reporting requirements.

What are the benefits of taking part?

You will be a valuable part of a research study that we hope will eventually lead to the development of more efficient vaccines against respiratory infections and viral transmission. We cannot provide the results of the self-samples as these are only used for research purposes and we cannot provide any advice on managing your symptoms, treatment or guidance on self-isolation. We would recommend following your GP or local NHS pathway for advice.

Will my taking part in this study be kept confidential?

All information collected about you during the research study will be coded with a study number and kept strictly confidential. Any information about you that leaves the clinic will have your name and address removed so that you cannot be recognised, except for your signed consent form and letters sent to your own GP. To enrol into this study, you are required to consent for us to contact your GP.

We will write to your GP to inform them when you enrol in the study and when you complete it, so they can update your medical records accordingly. Your GP may also be asked to share information about your medical history and give access to any other medical records as required to ensure there are no medical reasons that would prevent you from taking part. We would only notify your GP of the results of any medical tests with your permission.

Responsible members of the University of Oxford and Liverpool Vaccine Group may also be given access to data for monitoring and/or audit of the study to ensure that the research is complying with applicable regulations. No one else will be told that you are involved in the study.

Will I be paid for participating in this study?

Study participants will be reimbursed for their time and inconvenience. The reimbursement provided are considered to be reasonable amounts to cover the costs of participating in this research. There should not be any consequences for tax or benefit purposes.

Reimbursement for all participants will be based on the figures shown on page 3. The sum reimbursed is based on the number of visits you attend. If you choose to withdraw part-way through the study, we will calculate your reimbursement based on the visits you have attended.

Payments are made directly by bank transfer in instalments during the study. For this reason, we require participants to provide their bank details at the screening. Bank details are kept confidential. Personal information such as your name, bank details and national insurance number may be shared with the University finance team to process or verify your reimbursement payments. Financial auditors may also audit the records where this information is held. All confidential data will be stored according to the UK General Data Protection Regulation (see below).

If we ask you to attend any additional (unscheduled) visit, you will be reimbursed for this at the rate appropriate for the type of visit.

What happens if I don't want to carry on with the study?

At any time during the study, you are entirely free to change your mind about taking part, and to withdraw from the study. This would not result in any penalty, nor will your legal rights be affected; however, you will only be reimbursed for the study visits you have attended. Unless you state otherwise, any blood taken whilst you have been in the study would continue to be stored and used for research, as detailed below. You may request that your blood samples are destroyed at any time during or after the study.

In exceptional circumstances, your participation in the study might also be stopped early by the study doctor or the sponsor of the study.

What will happen to the samples I give and my study data?

Your samples and self-sample kit will be assigned a code and will only be identifiable by this code number. Samples collected during this study will be analysed in LSTM and/or University of Oxford and NHS laboratories. We may also send de-identified samples to other researchers working with us on this research project, including researchers within and outside of the UK. All samples you provide will be tested in a de-identified form. However, as your DNA is unique, samples can never be completely

anonymous. Self-samples will only be kept for participants who have been screened and enrolled in the study.

If you choose to take part in this study, we will also ask for your separate permission to store your samples that remain after the study is over (including cells and DNA), in a collection of samples called the Oxford Vaccine Centre Biobank. Details of this will be provided in a separate booklet after you are enrolled into this study, and you are free to decline the Biobank and continue to take part in this study if you wish. If you consent to your samples being stored as part of the Biobank, a copy of your informed consent form for the Biobank (which contains your personal information) will be kept, in the same way as your consent form for the study. If you do not wish for your samples to be stored in the Biobank, they will be destroyed 12 months after the end of the study.

The following tests will be performed on your blood samples:

- Blood tests for blood cell counts, bleeding times, liver and kidney function.
- Blood test for HIV, hepatitis B and hepatitis C
- A blood test for HLA typing, a genetic test of components of the body's immune system.
- Tests of immune responses looking at your antibodies and immune cells.
- If you opt in, samples in this study will be stored in the Oxford Vaccine Centre Biobank and may be used in future research studies.

Detailed immunological tests will be performed on your bronchoscopy samples and optional samples. These will include RNA sequencing analyses, which show which proteins the cells are making and indicate the activity of the cell's genes.

What will happen to my data?

An online screening questionnaire is used to determine your eligibility. For those participants who proceed to take part in the study, the data from the screening questionnaire will be kept with their study records. For those who do not proceed to participate in the study, all answers from the screening questionnaire will be kept until the end of the study recruitment period and then will be deleted. If you supplied your medical history or underwent screening but were not eligible or decided not to take part, then any data collected will be kept until the end of the study.

Responsible members of the University of Oxford, regulatory authorities and study monitors may be given access to data for monitoring and/or audit of the study to ensure that the research is complying with applicable regulations.

You will be given a study number, which will be used on study paperwork and samples. We will be using information from your medical records in order to undertake this study and will use the minimum personally identifiable information possible. We may need to view your ID (driver's license, passport or national ID card) and will record either your national insurance or passport number for TOPs database registration and payment processing. This will be taken at the screening visit. We will securely retain this information until the end of the study. Your bank details will be stored for a minimum of 7 years or in line with financial policy.

General Data Protection Regulation (GDPR) requires that we state the legal basis for processing information about you. Medical research is regarded as "a task in the public interest". The University of Oxford is the Sponsor and the 'data controller' and will use your personal information to contact you about the research study and make sure that relevant information about the study is recorded for your care in relation to your health during the study, and to oversee the quality of the study. Your personal information will be kept confidential and handled in accordance with data protection laws in

the UK.

Study data may be stored electronically on a secure server by the University IT team and paper notes will be kept in a secure location at each study site or as outlined in local SOP's. We will store the research data and any research documents that contain personal information, such as consent forms, securely for up to 25 years after the end of the study, or as per national regulatory requirements. Anonymised research data may be kept indefinitely for scientific benefit. It will not be possible to identify you in any publication or report.

You can stop being part of this study at any time, without giving a reason, but we will keep information about you that we already have, including samples. If you prefer, you can request that your samples are destroyed (if they have not already been analysed).

If you have agreed that samples can be retained for future research, then your personally identifiable information will be kept with restricted access solely for the purposes of sample management. Samples will be provided for future research only in a form that does not identify you.

At the completion of the study, unless you consent otherwise (e.g., if you request to be informed of other studies), your personal details will not be used to contact you other than exceptional circumstances concerning your safety. If you consent to take part in another study carried out by Oxford Vaccine Group, personal information and medical information including blood test results may be accessed to avoid unnecessary repetition.

If you agree to future contact (e.g. to be informed of other studies) we will continue to store your consent form within the study records and personal information (e.g. name, DOB, contact details) in a password protected database. This will be archived on a university server with restricted access and kept indefinitely, or until the study team feel that it would no longer be required, at which point it will be deleted. This will be held separately from the study data and you can request at any time to have your details removed.

Data protection regulation provides you with control over your personal data and how it is used. When you agree to your information being used in research, however, some of those rights may be limited in order for the research to be reliable and accurate. Further information about your rights with respect to your personal data is available at: https://compliance.web.ox.ac.uk/individual-rights. You can contact the University of Oxford data protection officer at Data.protection@admin.ox.ac.uk You can find out more about how we use your information:

- At www.hra.nhs.uk/patientdataandresearch
- By asking one of the research team
- By sending us an email to info@ovg.ox.ac.uk
- By ringing us on 01865611400

What if there is a problem?

The investigators recognise the important contribution that volunteers make to medical research, and will make every effort to ensure your safety and wellbeing. The University of Oxford, as the research sponsor, has appropriate insurance in place in the unlikely event that you suffer any harm as a direct consequence of your taking part in this study. If something does go wrong, you are harmed during the research, and this is due to someone's negligence, then you may have grounds for a legal action for compensation. While the Sponsor will cooperate with any claim, you may wish to seek independent legal advice to ensure that you are properly represented in pursuing any complaint. The study doctor

can advise you of further clinical action and refer you to a doctor within the NHS for treatment, if necessary.

NHS indemnity operates in respect of the clinical treatment provided.

If you wish to complain about any aspect of the way in which you have been approached or treated, or how your information is handled during the course of this study, contact Prof Maheshi Ramasamy, email: maheshi.ramasamy@paediatrics.ox.ac.uk , phone number: 01865611400 or you may contact University of Oxford Research Governance, Ethics & Assurance (RGEA) at rgea.complaints@admin.ox.ac.uk or on 01865 616480.

TOPS database registration

Volunteers participating in this study must not be enrolled in another study that involves receiving investigational medications or vaccines or blood donations at the same time. To check this, you will be asked to provide your national insurance or passport number. This will be entered on to a national database which helps prevent volunteers from taking part in too many clinical studies. More information can be found at https://www.hra.nhs.uk/about-us/committees-and-services/the-over-volunteering-prevention-system/

What will happen to the results of this study?

The results of this research study may be presented at scientific meetings or conferences and published in a scientific medical journal. This can take approximately 2 years after the study is completed. Your individual results would not be identifiable, nor would you be identified in any report or publication. A reference to the publication(s) will be available on the Oxford Vaccine Group website and other study site websites as appropriate. A copy of the main research publication will be shared with you, when available.

How have patients and the public been involved in this study?

The Oxford Vaccine Group Patient Public Involvement (PPI) group have reviewed the main participant-facing documents associated with this study (participant information sheet, informed consent form and advertising materials).

Who is sponsoring, organising and funding the research?

The study is organised and sponsored by the University of Oxford. The study is funded by Wellcome Trust.

Who has reviewed this study?

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee, to protect participants' interests. This study has been reviewed and given a favourable opinion by North West - Greater Manchester East Research Ethics Committee.

Further information and contact details

We hope this information sheet has given you enough information to make decision on whether to volunteer for this study.

If you would like further information about participating in research, please visit the following website: https://www.nhs.uk/conditions/Clinical-trials/

For independent advice about participating in this study, you may wish to contact your GP.

If you are interested in taking part in this study, then please complete the online pre-screening questionnaire at: https://apps.ovg.ox.ac.uk/redcap/surveys/?s=DAME8RK9KWNXMJAR

If you have further questions about the study that you would like to discuss with our team, please contact us at:

Email: info@ovg.ox.ac.uk

Tel: 01865 611400

Thank you for your interest in taking part in this study.