pRotective vEntilation with veno-venouS lung assisT in respiratory failure (REST)

Participant Information Sheet and Consent Form for Participant with Recovered Capacity

A study to determine whether lung protection enabled by extracorporeal carbon dioxide removal ($ECCO_2R$) is of therapeutic value in patients with acute hypoxaemic respiratory failure.

While you were unwell in the Intensive Care Unit (ICU), your relative/friend/ partner/doctor gave consent/advice for you to take part in the above named research study. Your relative/friend/partner/doctor was asked to give this consent/advice on your behalf as you were not well enough to give consent yourself. Now that you have regained the capacity to consent we are seeking your permission to continue in this study. Please read the Patient Information Sheet carefully and if you have any questions or concerns in relation to the study, the study Research Nurse or Principal Investigator at your site will be happy to discuss these with you.

Thank you for your time in considering this request.

p**R**otective v**E**ntilation with veno-venou**S** lung assis**T** in respiratory failure **(REST)**

Patient Information Sheet

What is the purpose of the study?

Many patients admitted to the Intensive Care Unit (ICU) have a breathing machine, or ventilator, to help them breathe and ensure that enough oxygen gets into their blood and carbon dioxide is removed. For reasons that are unclear, when people are critically ill their lungs often fail; this is termed acute respiratory failure. Currently there are no specific treatments other than placing the person on a ventilator to help bellow air in and out of the lungs. In light of this we are investigating a treatment for acute respiratory failure.

Some studies have suggested that ventilation, even though a life saving intervention, may damage the lungs and prevent healing and repair. This is especially so when ventilation requires excessive pressure and volume to ensure enough oxygen is provided and carbon dioxide is removed. There is currently a device called extracorporeal carbon dioxide removal ($ECCO_2R$), which is similar to kidney dialysis, that can remove carbon dioxide from the blood. This device is used in the UK sometimes and has the potential to assist ventilation and allow ventilation pressure and volume to be reduced. However, at the moment nobody is sure whether $ECCO_2R$ will help patients in the ICU with acute respiratory failure.

This study is being conducted to find out if $ECCO_2R$ may be a potential therapy in the treatment of acute respiratory failure by studying its effects in a number of patients with the condition.

We will determine if there is a greater chance of patient's surviving by applying $ECCO_2R$ and using more protective ventilation. We will also look at whether $ECCO_2R$ reduces the time patients spend on a ventilator and in hospital and also the quality of life and condition of the lungs after hospital discharge.

Why have you been chosen?

The doctors in the ICU found that you were suffering from acute respiratory failure. We think that treating patients early in this situation with protective ventilation may help the lungs to recover, so we need to include patients in the study within 48 hours of becoming unwell in ICU. Neither the researchers nor the intensive care doctors know for sure whether $ECCO_2R$ helps you recover. With the permission of a close relative or doctor caring for you in ICU we included you in this study to see if $ECCO_2R$ helps you recover . We are now inviting you to continue to take part in this study to help us find out if $ECCO_2R$ is beneficial for patients with acute respiratory failure. To fully test $ECCO_2R$ we will be recruiting 1120 patients to join the study from ICUs.

Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and will be asked to sign a study consent form. You are still free at any time to withdraw your consent without giving a reason. If you decide not to take part the standard of care you will receive will not be affected.

What happened to me after I was recruited to the study?

After you joined the study you were put into one of two possible treatment groups. Which treatment group you were allocated to was decided by chance. All patients in both groups were given the usual treatment. In addition, one group received $ECCO_2R$ and more protective ventilation for at least 2 days whilst the other group received standard care in ICU. All patients had an equal chance of receiving $ECCO_2R$ or standard care; half of the

patients in the study received each treatment. If you received the study treatment this will have been obvious due to the nature of the device.
This type of study is called a pragmatic, open, randomised trial, and it ensures that the treatment is tested fairly. Other than $ECCO_2R$ and protective ventilation all participants will have received the same care as other patients with acute respiratory failure.

If you received $ECCO_2R$ treatment, this will have involved the insertion of a special tube or catheter into a vein in your neck or groin. This allowed blood to be removed and returned to enable carbon dioxide to be removed (much like kidney dialysis; a common procedure for intensive care patients). You will also have received a blood thinning medication (anticoagulation) to prevent blood clots forming in the machine. If you were allocated to the intervention you will have remained on $ECCO_2R$ for at least 2 days and up to 7 days as part of the study, depending on how long you were unwell.

Your medical notes will be reviewed by the doctors and nurses, to find out if the treatment that you received has had any effect. The study team will review your progress on a daily basis.

Following discharge from ICU you will continue to be followed up for the duration of your hospital stay. After hospital discharge you will receive a questionnaire, via post or telephone, at 6 months and again at 1 year after the date of randomisation to the trial to ascertain your health status.

What are the possible benefits and disadvantages of taking part?

Taking part in this study may have contributed to improved treatment of patients with acute respiratory failure in the future.

$ECCO_2R$ is a procedure that is used in the UK in patients who have respiratory failure. A previous study found $ECCO_2R$ was well tolerated and associated with few side effects (about one in every 40 patients); however all procedures have potential side effects. Side effects of $ECCO_2R$ include complications with catheter placement such as blood vessel damage, dislodgement, infection and an increased risk of bleeding. Catheter insertion is similar to other tubes that are placed in the neck or groin veins during any ICU admission

with respiratory failure and carry the same level of risk. To minimise such risks, the catheter was inserted with the help of ultrasound. Ultrasound is a medical test that uses soundwaves to capture live images from the inside of the body; this helped the doctor to directly see the blood vessel and ensure a more accurate insertion of the catheter.

The potential complications whilst $ECCO_2R$ is running are uncommon and include clot formation within the device or the blood vessel (reduced by anticoagulation) or air entrainment into the device (reduced by safety mechanisms within the device). Bleeding can also occur in any patient placed on blood thinning agents (anticoagulation) and although uncommon (less than one in every 50 patients) can be significant, requiring blood transfusion and can potentially lead to serious bleeding. To minimise this risk of bleeding we regularly measured the effect of blood thinning agents on the ability of the blood to clot.

We monitored all participants in the trial to ensure that any side effects are promptly picked up. $ECCO_2R$ would be stopped if they occur.

What if something goes wrong?

Every effort will be made to ensure that no patient taking part in this study is put at risk or harmed in any way. It is unlikely that anything will go wrong as a result of taking part in this study. If you have any concerns about any aspect of this study, you should contact your hospital's Principal Investigator (contact details below), who will do their best to answer your questions. If you remain unhappy and wish to complain formally, you can do this through the normal NHS Complaints Procedure.

If something does go wrong and you are harmed due to someone's negligence, then you may have grounds for a legal action against their NHS Trust.

Would my taking part in this study be kept confidential?

Any information collected about you during the course of the study will be kept strictly confidential and will only be seen by staff involved in the study from the NHS Trust, Trial Co-ordinating Centre, Queen's University Belfast and people from regulatory authorities who ensure that studies such as this are carried out correctly. All of them will have a duty of confidentiality to you as a research participant.

Because we need to contact you after you leave hospital, the Trial Co-ordinating Centre will need to keep records of your name, address and other contact details. Confirmation of your health status may also be sought from your GP surgery prior to study follow up questionnaires being sent out to you.
The CTU will contact your GP by letter to inform them of your participation in the study.
In addition, information held and maintained by central UK NHS bodies, and organisations contracted to provide services to the NHS may be used to access data collected routinely during your stay in hospital and to ascertain long term patient health status. In this instance only your NHS number/hospital number, postcode and date of birth will be used. All other personal data will remain anonymised. This information will be used only for this study and will not be given to anyone else.

You have the right to see your personal health information related to the research study, but you will not be able to review some parts of the information until after the study has finished. When any information from the study is published it will not contain any personal information and it will not be possible to identify any individual.

The data from this study will be kept for at least five years after its conclusion (medical records will be kept for 15 years) and may be used in other research studies; data may be retained by the Belfast Health and Social Care Trust and Queen's University of Belfast. Any study data retained/used will have all personal identifiers removed and it will not be possible to identify any individual.

What will happen to the results of the research study?

The study is expected to take five years. It is envisaged that publication of the results will follow shortly after this, through medical publications, websites and press releases. At this point we will be happy to forward a summarised version of the principle findings of the results of the study at your request.

Who is organising and funding the study?

REST is being organised by a group of doctors and scientists led by Professor Danny McAuley, who is a consultant and professor in intensive care medicine at Royal Hospitals, and Queen's University Belfast, Northern Ireland. It is funded by the National

Institute for Health Research (NIHR) Health Technology Assessment Programme. The Sponsor of the study is the Belfast Health and Social Care Trust.

Who has reviewed the study?

This research has been reviewed by an independent group of people, called a Research Ethics Committee (REC), to protect your safety, rights, wellbeing and dignity. This study has been given a favourable opinion by the REC.

What happens if I have any questions, concerns or complaints about the study?

If you have any questions about your participation in this study or concerns about the way it has been carried out, you should contact your hospital's Principal Investigator or a member of the research team.

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

You are free to withdraw your consent to participate at any time without giving a reason. This will not affect the standard of care you receive. Your study doctor can take you out of the study at any time if it is in your best medical interests to stop your participation.

If you have any questions that remain unanswered, the study doctor or research nurse will be happy to answer these for you. If you require any further information you may contact your hospital's Principal Investigator or the Trial Co-ordinating Centre as below.

Thank you for taking the time to read this Patient Information Sheet.

CONTACT DETAILS:

Chief Investigator:

Name: Prof Danny McAuley
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Principal Investigator:

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REST Co-ordinating Centre:

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Complaints/concerns:

Name: «*name*»

Address: «*address*»
«*address*»
«*address*»
«*address*»
Telephone: «*Telephone*»