Feasibility study for Randomised Controlled Trial of **CU**stodiol-HTK vs **S**t **T**homas' solution for cardioplegia and cold static **S**torage of UK donation after brainstem death hearts in cardiac transplantation.

What is the purpose of the F-CUSToS study?

Donated hearts are a precious gift of life for patients with severe heart failure. The transplant team does everything it can to ensure the best outcome for heart transplant recipients. However, sometimes organs fail or outcomes are not as we would hope. We want to prevent this wherever possible. There may be things that the transplant team can do prior to organ transplantation that will improve the quality of organs. To help doctors learn more about this requires research on transplant organs.

During the transplant process the donor heart is protected by being injected with, and stored in, a liquid solution, called a preservative solution. There are currently two different liquids used for this purpose in the UK. We are not sure if one is better than the other, because no one has ever tested this in a randomised controlled trial (the highest quality study that scientists can perform). This is because in order to test this properly, we need to do research on lots of hearts (nearly 500). However, some surgeons believe that one solution is better than the other, which is backed up by some lower-quality studies. We will never truly know the answer to the question "is one solution better than the other?" unless we do a randomised controlled trial, which is what the team at NHS Blood and Transplant and Royal Papworth Hospital would like to do. Given how precious donor hearts are, we believe it is vital that we do research to ensure we preserve them in the best way possible, in order to provide recipients with the best possible outcome.

The study you are being asked to take part in will help to decide whether we are able to do a high-quality randomised controlled trial to answer this question. This is called a feasibility study. We will primarily test whether or not a sufficient number of participants are willing to take part in a study to answer the question of whether one liquid solution is better than the other.

Please take the time to read the following information carefully and discuss it with others if you wish. If anything is not clear, or if you would like more information, please discuss this with a member of the Transplant team.

Why am I being invited to take part in the F-CUSToS study?

You are eligible to take part in this study as the potential recipient of a heart transplant in the UK. If you wish to take part in the study, it is important that you give your express written consent for the researchers to gather information about you and to allocate your donor's heart to receive one solution or the other.

Do I have to take part?

No. You are free to decide whether you do or do not wish to take part in this research. Your decision, either way, will not affect your treatment. Your transplant operation will proceed as normal and you will be treated with dignity and respect at all times, regardless of whether you consent to take part in this research or not.

What does taking part involve?

If you agree, you will be asked to sign an Informed Consent Form. You will be given a copy of your signed consent form to take away and refer to later. If your doctor confirms that you are able to take part in the study, our medical team will allocate your heart to be preserved in one or other of the solutions, by a process called randomisation. We will then collect data on how you recover from your transplant and how your heart performs. You will not have any extra tests, including blood tests or scans, as a result of taking part in this study.

Essentially, you will not notice any difference in your treatment, from what would be expected if you were not taking part in the study and you will not know which solution was used, just as patients who do not take part in this study are not usually told which solution the heart is preserved in.

You will not have any extra appointments after your transplant as a result of taking part in this study. Some time will be allocated during your routine appointments before your transplant to discuss the study and sign the consent form, should you wish to take part. After your transplant, you may or may not be visited by researchers collecting data during your stay in hospital. Where you do see researchers, they will introduce themselves and explain their reason for being there.

Sometimes, even though you have given permission to take part in the study, it may not be possible for us to allocate your donor heart to receive a particular solution or collect the necessary data, due to unforeseen circumstances in the organ donation process. This means you may not be able to take part in the study, but your transplant will proceed as normal. This is very unlikely, but finding out how likely it is, is one of the reasons for conducting this feasibility study.

What if I don't want to take part?

If you decide not to take part in the research, there will be no change in your care. The same doctors, nurses and allied health professionals will take care of you with the utmost dignity and respect and your decision will not affect the way they care for you or any decisions they make with you.

Will my personal details be protected?

Yes. The Royal Papworth Hospital are the Sponsor for this clinical trial based in the United Kingdom. They will be using information from you and your medical records in order to undertake this trial and will act as the data controller for this trial. This means that they are responsible for looking after your information and using it properly. The Sponsor organisation will keep identifiable information about you for 15 years after the trial has finished to ensure your safety and allow the trial to be reviewed by the authorities after it is finished.

You can find out more about how the Sponsor uses your information through the information below: For the Royal Papworth Hospital NHS Foundation Trust please visit: https://royalpapworth.nhs.uk/our-hospital/information-we-publish/privacy-request or email the Information Governance manager at cathwillcox@nhs.net.

[add site name] will keep your name, date of birth, and NHS number and contact details to contact you about this trial and make sure that relevant information about the trial is recorded for your care and to oversee the quality of the trial. Certain individuals from the Sponsor and Regulatory organisations may look at your medical and research records to check the accuracy of this trial. The Sponsor will on receive information without any identifying information.
[add site name] will keep identifiable information about you from this study for XX years after the study has finished.

All information collected about you because of your participation in the trial will be kept strictly confidential. Your personal and medical information will be kept in a secured database and be treated in the strictest confidence. Only authorised personnel from the F-CUSToS team will have access to your medical and personal data.

Your study doctor or nurse will collect some personal details about you including your date of birth, hospital number, NHS number (if known) and any relevant information about your health. During the study, your study team will be asked to provide information about your heart transplant and any side effects that you may experience to the F-CUSToS team.

Following your registration, you will be assigned a unique number that will be associated with all the data collected, including which solution your heart has been preserved in. The researchers who are not involved in your care will not be able to identify you and will not be able to find out your name, hospital or NHS numbers or contact details. Only anonymous trial data, without any personal information, will be published at the end of this trial. Only the operating teams and researchers are allowed to know which solution is used. This is to ensure that your care is not changed in any way as a result of being part of the study. Occasionally individuals from NHS Blood and Transplant or your clinical team may wish to access your personal details for quality assurance purposes. Where this is the case, you will be contacted to ask for your express consent for this purpose.

This information will not identify you and will not be combined with other information in a way that could identify you. The information will only be used for the purpose of health and care research and cannot be used to contact you or affect your care. It will not be used to make decisions about future services available to you, such as insurance.

How will we use information about you?

We will need to use information from your medical records for this research project.
This information will include your:

- NHSBT recipient number

- Name
- Address
- Date of Birth

People will use this information to do the research or to check their records to make sure that the research is being done properly.

People who do not need to know who you are will not be able to see your name or contact details. Your data will have a unique number instead.

We will keep all information about you safe and secure.

Once we have finished the study, we will keep some of the data so we can check the results. We will write our reports in a way that no one can work out that you took part in the study.

What are your choices about how your information is used?

- You can stop being part of the study at any time, without giving a reason, but we will keep information about you that we already have.
- If you choose to stop taking part in the study, we would like to continue collecting information about the outcome of your transplant from the NHS Blood and Transplant Registry. This helps to protect the validity of the study.
- We need to manage your records in specific ways for the research to be reliable. This means that we won't be able to let you see or change the data we hold about you.

Where can you find out more about how your information is used?

You can find out more about how we use your information:

- at www.hra.nhs.uk/information-about-patients/
- by asking one of the research team
- by sending an email to Papworth.randdenquiries@nhs.net, or
- by ringing us on 01223638000 and asking for the Papworth Research and Development Data Protection Officer.

What happens if I withdraw my consent to participate?

As outlined above, if you withdraw your consent to participate, we will keep the information we already have in order to protect the validity of the research. If your transplant has already occurred, we will not collect further data, but we will continue to access data on the outcome of the transplant via the NHSBT transplant registry, unless you expressly tell us that you do not wish us to do this. If your donor heart has not yet been retrieved, the heart will not be allocated to one of the two preservative fluids and the surgeon will use the standard fluid. If you withdraw consent after the donor heart has been retrieved but before your transplant operation, it will not be possible to stop the

random allocation of preservative fluid but we will not continue to access further data unless you expressly tell us that you do not wish us to do so.

Will my GP be informed?
Yes, with your permission. You will be asked to give consent to us informing your GP. If you do consent, a letter will be sent to your GP informing them that you are taking part in this study. This means that we and they know whom to contact in the event of any issues.

What if I change my mind at a later date?
If you change your mind, please contact a member of the local Research Team to let them know. Your data will not be able to be removed from the study, but you will continue to have your normal post-transplant follow up and this decision will not affect your care in any way.

How can I find out about the results of the research project?
Once this study has been conducted, a decision will be made on whether or not to proceed with the randomised clinical trial. If you wish to find out the results of this study, you may contact a member of the Research Team at any time to ask for this information, using the contact details below or via your transplant team. If you do not have access to the internet and you would like to receive further information or provide feedback on your personal experience, please contact a member of the Transplant Team.

Who is funding and organising the study?
This study is generously being funded by Heart Research UK and conducted in collaboration with NHS Blood and Transplant and Royal Papworth Hospital.

The Chief Investigator for this research is Mr Marius Berman (email: marius.berman@nhs.net), Surgical Lead for Transplantation at Royal Papworth Hospital and Associate Clinical Lead for Organ Retrieval at NHSBT. Please contact Mr Marius Berman or Dr Luke Williams, the Trial Co-ordinator, (luke.williams5@nhs.net) if you have any questions.

You will not receive any payment for participating in this study and we are unable to reimburse any expenses incurred by your participation in this study.

Who has reviewed the study?
All research in the NHS is reviewed by an independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by XXXX Research Ethics Committee. The Medicines and Healthcare Products Regulatory Agency (MHRA) who are responsible for regulating medicines in the UK have also reviewed this study. Additional NHS Blood and Transplant review all studies within transplantation in the UK via their Research, Innovation and Novel Technologies Advisory Group (RINTAG). RINTAG, the NHS Blood and Transplant's internal approval body for organ donation and transplant-related research, have approved this study.

Who is ensuring the study is being run properly?

When the study starts, a group of international experts are invited to form an Independent Data Monitoring and Safety Committee, which is completely independent from the people directing and running the study. This Committee will assess all the safety and other data from the study at regular intervals, and their role is to ensure the study is run correctly and safely. After reviewing the data, if they have any concerns about the study, the Committee will make recommendations to protect your interests and those of other participants.

What if I have a complaint?

If you wish to complain about any aspect of your participation in this study, you may do so through the NHS complaints procedure. In the first instance it may be helpful to contact the Patient Advice and Liaison Service (PALS) at your hospital:

Tel: *[add phone number]*

Email: *[add email address]*

Address: *[add address]*

In the event that something does go wrong and you are harmed by taking part in the research and this is due to someone's negligence then you may have grounds for a legal action for compensation against Royal Papworth Hospital NHS Foundation Trust or the NHS Blood and Transplant service. The normal National Health Service complaints mechanisms will still be available to you. The Sponsor has obtained insurance which provides no-fault compensation i.e. for non-negligent harm, and you may be entitled to make a claim for this.

Further information

If you have any questions concerning this study please contact your:

Study Doctor:

Name: [add name]

Tel: [add phone number]

Research Nurse:

Name: [add name]

Tel: [add phone number]

In the event of an emergency please contact:

Contact: [add info]

Tel: [add phone number]

Alternatively, if you or your relatives have any questions about this study, you may wish to contact one of the following organisations that are independent of the hospital at which you are being treated:

Chief Investigator:

Mr. Marius Berman
Clinical Lead for Transplant and Mechanical Circulatory Support and Consultant Cardiothoracic and Transplant Surgeon, Royal Papworth Hospital NHS Foundation Trust
Associate Clinical Lead for Organ Retrieval, NHS Blood and Transplant
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Principal Investigators:

Birmingham:
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Glasgow:
Mr Phillip Curry
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philip.curry@gjnh.scot.nhs.uk

Harefield:
Mrs Maria Monteagudo-Vela
Consultant Cardiothoracic Transplant Surgeon
m.monteagudo-vela@rbht.nhs.uk

Manchester:
Mr Vipin Mehta
Consultant Cardiothoracic Transplant Surgeon
vipin.mehta@mft.nhs.uk

Newcastle :
Mr Vamsidhar Dronavalli
Consultant Cardiothoracic Transplant Surgeon
v.dronavalli@nhs.net

Cambridge:
Mr Pradeep Kaul
Consultant Cardiothoracic Transplant Surgeon
pradeep.kaul@nhs.net

Thank you for taking the time to consider taking part in this research.

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PARTICIPANT INFORMED CONSENT FORM

Principal Investigator: …… Patient Study Number: ……

Version 0.2, dated 09 June 2023

		Initials
1.	I confirm that I have read and understood the information sheet dated 25 May 2023 version 0.5 for the above study. and I confirm that the study procedures and information have been explained to me. I have had the opportunity to ask questions and I am satisfied with the answers and explanations provided.	
2.	I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without my medical care or legal rights being affected.	
3.	I understand that relevant sections of my medical notes (e.g. blood test results related to the trial and imaging data) and data collected during the study may be looked at by responsible individuals from the Sponsor, Regulatory Authorities or research personnel from my NHS Trust, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records.	
4.	I understand and agree to my GP being informed of my participation in the study and sent details of the F-CUSToS study.	
5.	I understand that the information held and maintained by the central UK NHS bodies may be used to help contact me or provide information about my health status as part of this study.	
6.	I have read and understood the compensation arrangements for this study as specified in the Participant Information Sheet for Recipients.	
7.	I understand that the doctors in charge of this study may close the study, or stop my participation in it at any time without my consent.	
8.	I understand that the research team will record information from my NHS clinical records (including treatment, imaging, pathology, blood test data, and recruitment into other medical research), and use this information for the purposes of the F-CUSToS trial (i.e. relating this data or images stored in my medical records with my genetic data).	
9.	I agree to take part in the above study.	

Name of Patient (PRINT)	Date	Signature
_____	_____	_____
Name of person taking consent (PRINT)	Date	Signature
_____	_____	_____

When completed: 1 for participant; 1 for researcher site file (plus electronic copy); 1 (original) to be kept in medical notes.