Cambridge University Hospitals NHS
NHS Foundation Trust

UNIVERSITY OF CAMBRIDGE

Metabolic Research Laboratories, Level 4, Institute of Metabolic Science
Box 289, Addenbrooke's Hospital, Cambridge, CB2 0QQ

Title: Investigating gut hormone levels in human health and disease "GutHHD"

Protocol C: Single Blood Test Study

Information Sheet for Volunteers

You are being invited to take part in a research study. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully. Talk to others about the study if you wish.

- Section 1 tells you the purpose of this study and what will happen if you take part.
- Section 2 gives you more detailed information about the conduct of the study.

Do ask us if anything is not clear or if you would like more information. Do take your time to decide whether or not you wish to take part.

SECTION 1: AIMS OF THE RESEARCH

Who are we and what do we do?

We are a team of doctors and nurses in Cambridge**.** We are interested in understanding how hormone levels released from the gut vary across different individuals. This will help us to further understand how these hormone levels vary in healthy volunteers and in patients with a particular metabolic or gastrointestinal disease. This will aid the development of new tests and new treatments for patients with different metabolic and gastrointestinal diseases.

What is the purpose of this study?

We wish to understand how hormones released from the gut and another metabolic markers vary in human health and across different metabolic and gastrointestinal diseases.

Newer technique have been developed to measure gut hormones in humans. We wish to utilise these new techniques to measure how gut hormones and other metabolic markers.

The long term aim of this work is to develop a technique for measuring gut hormones in clinical practice, and see how it varies across different metabolic and gastrointestinal diseases. This should aid diagnosis of such conditions, and help develop new treatments for these diseases.

Am I eligible to take part?

In this study we aim to assess how gut hormones and metabolic markers vary in a single blood test in different metabolic and gastrointestinal conditions.

We are recruiting a wide range of volunteers including:

- Volunteers with no diagnosis of a gastrointestinal condition and a regular bowel habit
- Volunteers with a diagnosis of a gastrointestinal condition (including but not limited to patients with an altered bowel habit eg constipation or diarrhoea).
- Volunteers who have been referred for or have previously had a SeHCAT scan
- Volunteers on or being started on a medication which can cause gastrointestinal side effects (including but limited to gut peptide therapies; metformin or oncology therapies eg tyrosine kinase inhibitors).

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You are eligible to take part if you are between the ages of 18 and 75.

A full exclusion criteria is included later in this information sheet.

If you have questions before the trial and are uncertain regarding your eligibility a virtual screening appointment can be arranged, at which consent to take part in the study can be taken also.

Do I have to take part?

Taking part in this study is entirely voluntary. You can take some time to decide whether or not you want to take part and you are free to withdraw at any time, without giving a reason. If you participate, we will ask you to sign a consent form and you will be given a copy of the form. If you do not wish to take part it will not affect the standard of care you receive regularly.

What will happen to me if I take part?

You will be invited to the **Translational Research Facility (TRF) located in the Cambridge Centre for Clinical Research (CCRC) at Addenbrooke's Hospital, Cambridge.** The study takes place over a single visit.

During your study visit you will have body measurements taken, a brief medical history and a blood sample taken.

If you are interested in the study, please contact us with the information at the bottom of the sheet and we can answer any questions you may have.

SECTION 2: WHAT DOES THE STUDY INVOLVE?

What happens at the study visit?

When you come tothe research unit, a doctor or senior research nurse will talk to you about everything to make sure you understand things and give you time to ask questions. If you agree to take part, you will be asked to sign a consent form.

You will then have a blood sample and some body measurements taken and be asked to complete a 2 week bowel habit diary (7 days prior to visit and 7 days post visit).

Following conclusion of the study you will be free to go.

Inclusion/Exclusion criteria

We are currently recruiting a wide range of participants including volunteers without a gastrointestinal condition, and volunteers with a wide range of different gastrointestinal conditions.

To study has the following requirements to be eligible to take part currently:

Healthy volunteers:

Inclusion Criteria

- Volunteers between the age of 18 and 75 can be included.

Having a diagnosis of the one of the following conditions makes you ineligible to take part:

Exclusion Criteria:

- Known to be currently pregnant or currently lactating

- If clinical investigator feels there is an additional clinical reason not mentioned above which would make them unsuitable for the study (eg other bowel/gastroenterological condition or endocrine condition not listed above; needle phobia etc).

Participants with a gastrointestinal condition/SeHCAT scan or on a medication which can cause gastrointestinal side effects:

Inclusion Criteria

- Volunteers between the age of 18 and 75 can be included.
- Diagnosis of a condition causing chronic diarrhoea and/or altered gastrointestinal motility or irregular bowel habit

OR

- Have been referred or have previously had a SeHCAT scan performed

OR

Are taking a medication which can cause gastrointestinal side effects (including but not limited to to gut peptide therapies; metformin or oncology therapies eg tyrosine kinase inhibitors).

Exclusion Criteria:

- Known to be currently pregnant or currently lactating
- If clinical investigator feels there is an additional clinical reason not mentioned above which would make them unsuitable for the study (eg other bowel/gastroenterological condition or endocrine condition not listed above; needle phobia etc).

Study Day:

The following procedure will happen on and before the study day:

- On the day of the study you will need to arrive at the TRF facility for your scheduled time.

- You will then have a blood test taken and up to 20ml blood drawn. You will additionally have body measurements performed including BMI, weight, waist circumference, heart rate and blood pressure. You will also have a brief medical assessment including a medical history.

- After the sample is taken you will be free to go

- The blood test will include tests for gut hormones and markers of metabolism. It will also include your full blood count, kidney function, liver function tests, lipids and metabolic markers such as your HbA1c and lipid levels (if you have not had one recently performed).

- You will also be given a bowel symptom diary to start up to 7 days prior to your visit, including the study day and for 7 days post the study day. Diary can either be returned in person, by post or by email (preferred option) (cuh.guthormonestudies@nhs.net).

- Before or after the study you may be given some questionnaires to perform which will ask questions regarding your mood, anxiety, eating behaviour and measures of impulsivity.
    - Some of these questions can raise sensitive topics– if you have any distress or wish to discuss anything further you can discuss this with the study psychiatrist (Prof Paul Fletcher)

- You will also be asked some questions about your gut health and symptoms and a questionnaire on your day to day gut symptoms.

- In the unlikely event that the baseline blood tests we measure show any abnormalities we will communicate these findings to your GP.

- The gut hormone tests we will be performing are not regularly performed in clinical practice. In the unlikely event that these tests appear abnormal and merit further investigation we will communicate these findings to your GP.

- Your collected research samples will immediately be frozen, and stored in Cambridge University hospitals before being analysed at a later date.

- Some participants will have the option, with additional consent of repeating the above in a second visit, with second blood sample collection and additional 7-14 day bowel habit chart around the second visit,.
    - This will in particular be offered if you are starting on a medication that has potential for GI side effects, and/or if you have a change in your symptoms.
    - The second visit for blood sample, bodyweight measurements with bowel habit diary would be at least 4 weeks after the first visit.

- You will have the option of claiming travel expenses. This is up to a maximum of a £20 participation fee to cover parking and other travel expenses.

Optional additional tests:

- At the study visit there will be the option of providing a stool sample.

- The purpose of this will be assess the faecal bile acid levels, fatty acid levels, other metabolic markers and also gut bacteria levels "the faecal microbiome" within the sample at each meal study. A stool sample will be subject to the Human Tissue Act, and will be given a unique research ID and be tracked and stored as per the Human Tissue Act.

- This is also an optional part of the study and declining this part would not exclude you from taking part in the study.

Consent to take blood samples and what will happen to my blood samples?

If you agree to take part in the study you will complicate a formal consent form.

You will have some baseline blood tests performed which will be standard tests used in hospitals and general practice including your full blood count, kidney function, liver function tests, markers of glucose metabolism and thyroid function. These will be processed in the regular clinical laboratories at **Addenbrookes hospitals** and as they are performed in a regular NHS laboratory the results will be added to your medical records. If you have had a recent blood test including these tests, you clinical researcher may decide that a repeat of these is not required, and will extract the previous results from your health records.

Other tests will be more specialized and more common to research rather than regular clinical use and will include gut hormones and other metabolic markers.

The blood samples you provide for these purposes will immediately be processed to remove any cells and genetic material. The remainder of the blood sample will then be frozen and stored at the University of Cambridge. Your samples will be given a unique anonymized research ID. Only clinical researchers named (Dr Chris Bannon, Dr Htar Htar Hlaing, Dr Kate Fife, Dr Nyan Lin Myint, Dr Sree Subramanian, Prof Fiona Gribble, Dr Philip Wild, Dr Agatha Van Der Klaauw, Prof Paul Fletcher, and Dr Jeremy Woodward) on this project will have access to the identity of the samples, and to all other processing the sample they will only see a unique research ID.

The majority of analysis will take place in the University of Cambridge and University of Cambridge Hospitals laboratories, however it may be necessary for specialized tests that your samples need to be analyzed at another NHS or University laboratory.

If you agree to provide a stool sample these will be stored in accordance with the Human Tissue Act.

The majority of analysis will take place in the University of Cambridge and University of Cambridge Hospitals laboratories, however it may be necessary for specialized tests that your samples need to be analyzed at another NHS or University laboratory. If stool samples are analyzed at an alternative site it will again be in accordance with the Human Tissue Act.

What if some of the tests show that I have a particular problem?

If any of the tests show anything that might require further medical assessment, these results will be discussed with you and appropriate follow-up will be arranged through the doctor at your local hospital or your GP. If you would like further details about any of the tests we would be happy to provide this.

What are the possible benefits of taking part?

This research study is aimed at advancing knowledge only and may not result in any direct medical benefit to you or specific patients. It will help us to learn more about levels of gut hormones and other metabolic hormones and markers with the aim of developing new clinical diagnostic tests and new treatments.

Can I withdraw from the study?

You can withdraw from the study at any time without giving a reason. You will be asked if you wish for your research data and samples collected to that point to remain in the study or if you would like them to be removed from the study.

If you wish to withdraw from the study, before the visit this can be done via email to the research team (cuh.guthormonestudies@nhs.net).

On the study day this can be performed verbally to one of the research nurses or research doctors and this will be documented and a withdrawal form provided to you. If you wish to withdrawal after the study day, this can be done by contacting the research team by email or by post (email cuh.guthormonestudies@nhs.net). A withdrawal form will be provided to sign to state if you would like your data and or samples additionally removed as well. If a form is not returned but you have stated in writing you wish for samples and data to be removed this will be acted upon.

Will my taking part in the study be kept confidential?

Yes. All information collected will be anonymised and kept confidential and be kept separate from your medical records; any information which can identify you, for example your name and address, will not be revealed. Anonymous data will be stored on both paper and electronic format and can only be traced back to you with a coded crib sheet.

This crib sheet encoding your identity to your research id will be stored on paper in a locked file cabinet in the Institute of Metabolic Science, and electronically on an encrypted spreadsheet kept on Addenbrooke's clinical computer network. Only named clinical researchers (Dr Chris Bannon, Dr Htar Htar Hlaing, Dr Kate Fife, Dr Nyan Lin Myint, Dr Sree Subramanian, Prof Paul Fletcher, Prof Fiona Gribble, Dr Jeremy Woodward, , Dr Philip Wild, Dr Agatha Van Der Klaauw) will have access to this crib sheet.

Non anonymised data such as the coded crib sheet will be kept for up to 3 years after the study has concluded.

Other researchers will only have access to the anonymised data which will be stored electronically and on paper. Anonymised data will be stored long term after the study and will be used for publication.

To ensure adherence to Good Clinical Practice, our research will be monitored by the NHS Trust; however, all information will remain confidential. Our data management is in compliance with the Data Protection Act.

It is anticipated it will take up to a year to recruit all required volunteers for the study and up to another year to analyse the blood samples.

Blood samples will be stored after the study with an anonymous research ID for up to 10 years for potential analysis with newer techniques for measuring gut hormones and other metabolic markers in the future. If you wish for your blood samples to be removed please contact the team and they will be removed and destroyed.

After this any remaining blood samples will be disposed of and destroyed.

Further information on data collection

Cambridge University Hospitals NHS Foundation Trust (CUHNFT) and the University of Cambridge are joint sponsors for this study based in the United Kingdom.

CUHNFT and the University of Cambridge will be using information from you and/or your medical records in order to undertake this study and will act as joint data controllers.

This means that both organisations are responsible for looking after your information and using it properly.

The University of Cambridge will keep identifiable information about you for 3 years after the study has finished.

CUHNFT will keep identifiable information about you for 3 years after the study has finished.

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 using the following links:

For Cambridge University Hospitals NHS Foundation Trust, please visit: https://www.cuh.nhs.uk/patient-privacy/, or email the Data Protection Officer at: cuh.gdpr@nhs.net

For University of Cambridge, please visit: https://www.information-compliance.admin.cam.ac.uk/data-protection/medical-research-participant-data, or email the Information Governance team at: research_governance@medschl.cam.ac.uk

https://www.hra.nhs.uk/planning-and-improving-research/policies-standards-legislation/data-protection-and-information-governance/gdpr-guidance/templates/transparency-wording-for-all-sponsors/

Will my doctor be informed?

Should you decide to take part in this study, with your agreement, your GP will be informed of your involvement.

Will my medical notes be accessed by the research team

With your consent your medical notes will be accessed by a clinical researcher on the team. This will be for the purpose of checking your baseline blood results in the study, check previous blood results, past medical history and other test results relevant to the study, ,to inform your GP if there are any abnormalities, to check you met the inclusion and exclusion criteria and anything else relevant to the study. All research aspects will remain anonymised within your research data which are kept separate from your medical notes.

What will happen to the results of the research study?

We also intend to publish the results in relevant medical journals as they are likely to be of considerable benefit to both the scientific and medical community. Nothing that can be directly traced back to you will be published, everything will be in an anonymised format only.

A copy of the results can be obtained by contacting the research team (cuh.guthormonestudies@nhs.net) with any questions and to obtain a copy of the results when published in scientific journal.

Newly published research will be also published on the IMS-MRL webpage (https://www.mrl.ims.cam.ac.uk/) where results of studies are advertised once published.

What if there is a problem?

If you have a concern about any aspects of this study, you should ask to speak to the clinical team who will do their best to answer your questions. If you remain unhappy and wish to complain formally, you can do this through the NHS Complaints Procedure.

As a point of reference the Patient Advice and Liaison Service (PALS) service contact details for Addenbrookes hospital are:

Email: cuh.pals@nhs.net

Phone: 01223 216756

The risks of participants suffering harm as a result of taking part in this study are minimal, but insurance (provided by the University of Cambridge and the NHS indemnity scheme) will provide compensation for any negligent harm caused by participation.

Who is funding the research?

The funding for this study comes from a grant to Prof Gribble from Wellcome to measure gut hormones in human blood samples using new techniques. The salary for Dr Bannon working on the trial also comes from this grant.

Who has reviewed the study

All research in the UK is reviewed by an independent group of people, called a Research Ethics Committee, in order to protect your safety, rights, wellbeing and dignity. This study has been reviewed and given a favourable opinion by the [ethics committee name giving approval to be inserted here] research committee.

Contact details:

Additional information or questions regarding this study can be obtained by contacting the following research team members at the above address and telephone numbers (01223 762634)

- Professor Fiona Gribble
- Doctors: Christopher Bannon (cuh.guthormonestudies@nhs.net) (main contact)

This is the end of the information sheet. We would like thank you for taking the time to read this sheet. If you wish to participate, do let us know.