**Blood Immune Cell Biomarkers In Depression (BICBID)**

*Information Sheet for potential participants*

We would like to invite you to take part in a research study. This leaflet explains why the research is being done and what taking part will involve. Please read the following information carefully and discuss it with others if you wish. You are very welcome to talk to the researchers before you decide.

**SUMMARY**

**Purpose of the study**

* Many people with depression still feel depressed despite taking antidepressant medications.
* Scientific evidence has shown a link between inflammation and depression. We also know that stress alters the immune system, and that the immune system may be important in the link between stress and depression.
* This study aims to develop a blood test which can identify how immune cells in the blood are altered in depression so that, in the future, we can offer people experiencing depression more personalised care and treatments, depending on their blood test results.
* We aim to recruit approximately 30 people currently experiencing depression and taking an antidepressant, 30 people who are currently experiencing depression and not taking an antidepressant, and 30 people who have never experienced depression to attend for a study visit.

**What does this study involve?**

* You will be asked to make one visit to one of the study sites, on either the Addenbrooke’s Hospital campus in Cambridge or the CPFT Windsor Research Unit located on the Fulbourn Hospital Site.
* You will have to fast overnight (10 hours) before the study visit.
* At the visit, you will be asked questions about your mental health.
* You will provide blood and urine samples
* You may be contacted following your appointment if the research team requires any clarification of specific questions.

**Potential benefits of taking part**

* If you take part in the study visit you will receive £100 for your time and effort, plus your travel expenses.

**Potential disadvantages of taking part**

* The questionnaires and blood samplings are low risk for your health.

**Will I be eligible to take part?**

We are planning to study both people who are currently experiencing depression and people who have never experienced depression (the “control group” below). We have listed some of the key criteria below:

∙  Aged between 18 and 60 years inclusive

∙  Body mass index (BMI) of 18.0 or above

∙  **Not** currently diagnosed with schizophrenia, bipolar disorder or an eating disorder

∙  **Not** currentlypregnant or breast-feeding

∙  **Not** using recreational drugs other than tobacco and alcohol

∙  To be eligible for the “control group”, you must never have been treated for a mental health condition.

∙  To be eligible for the group experiencing depression, you need to be currently depressed. We are recruiting both people who are not currently taking antidepressants and people who are currently taking antidepressants

∙  If you have other medical diagnoses, you may still be able to take part as long as these conditions are under control at the moment.

Many thanks for your time and interest. More information about the study is included below. If you have any questions, you can call us on the number at the end of this information sheet. We will give you a call soon to ask whether you are interested in taking part.

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

Over 300 million people globally have experienced depression. Antidepressant treatment and/or psychological therapies do not work for everyone and some people remain depressed despite the treatments currently available. It is therefore important to identify new treatments that work in a different way.

There is evidence to suggest that some people with depression have increased levels of inflammation in the body. Results from experiments which artificially cause inflammation in animals and humans suggest that increased inflammation can lead to a range of depressive symptoms. But not everybody who is depressed has increased inflammation. In this study, we will compare the immune system in people who are currently depressed with the immune system in people who have never been depressed. We will collect data from people who are depressed, including both people who are currently taking antidepressants and people who are not currently taking antidepressants. This is a follow-on study from the Biomarkers in Depression Study (BIODEP), which you may also have taken part in. As well as people who are experiencing depression, we will also collect data from people who have never experienced depression, so that we can tell whether our immune findings are different in depressed compared to non-depressed people. We hope that this will allow us to develop biomarkers for different types of depression. A biomarker is a biological molecule in the body tissues, blood or other bodily fluids that can be measured and can be used to indicate what processes are happening in the body.

**Why have I been invited?**

You have been invited either because you have indicated that you have experienced depression, or because you have indicated an interest in being a ‘control’ participant (i.e. you have never been treated for depression).

**Do I have to take part?**

Participating in this study is completely voluntary. If you decide to participate you will be asked to sign an Informed Consent Form, however you are still free to change your mind and leave the study at any time without giving a reason. If you choose not to participate or to leave the study, your future medical treatment and normal standard of care will not be affected in any way.

**What will I be asked to do if I take part?**

If you are interested in taking part, you will be asked to answer pre-screening questions which will allow the research team to assess your eligibility. The research team will call you to discuss your participation, potential eligibility (through a series of general and mental health questions) and answer any queries you may have.

If you agree to participate, you will attend for a study visit. We will ask you to fast for 10 hours (i.e. overnight) before the study visit and you will need to avoid strenuous exercise for 24 hours before the visit.When you attend for the study visit, the study team will discuss the study with you and answer any questions you have. If you are still keen to take part, you will sign the Informed Consent form. If you consent to take part in the study, you will proceed with the assessments listed below.

* With a researcher you will review any **medical conditions** you have (if relevant) as well as any **medications and other therapies** you are taking. If you are in the group experiencing depression, the researcher will also discuss which antidepressant medications you have taken in the last 2 years, and any other therapies you are undergoing. If you are taking any medications, please bring your current medication list with you to the study visit.
* An assessment of your **symptoms and stress levels** - you will be asked questions about your sleeping and eating patterns, moods/emotions, feelings, past stresses, and any thoughts of harming yourself.
* **Measurement of your height and weight** for calculation of your body mass index (BMI).
* **Blood sample collection** (see more detail below). These samples will be used for research analysis to help scientists understand how proteins, chemicals and cells in the blood are affected by depression. No more than 130 ml (~7 tablespoons) of blood will be taken during the visit.
* Once you have had the blood tests, we will give you **breakfast**.
* **Urine collection** for a **recreational drugs screen**. You will not be able to take part in the study if you test positive for recreational drugs including opiates, cocaine, (meth)amphetamines, MDMA or ecstasy, cannabinoids, and benzodiazepines.
* **Demographic data collection**: the month and year of your birth, age, gender, ethnicity, occupation and marital status

This study only involves one visit to the study centre as described above. This visit will last approximately four and half hours in total.

**What are the possible benefits of taking part?**

If you take part in the study, you will receive £100 for your time and effort, plus travel expenses.

If you attend the study centre, but it turns out you are not eligible for the study, you would not need to complete the blood sampling or detailed questionnaires. You would be free to go after the initial eligibility checks. You would be compensated £50, plus your travel expenses.

We are doing this study because we want to improve our understanding of how the immune system is altered in people experiencing depression. Information collected as part of your participation in this study may benefit people experiencing depression in the future.

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

There is a risk that we may discover some previously unknown problems on your tests. If this happens, it will be discussed with you. We will inform your GP or other health care professionals as appropriate.

*Study visit:*You will have to fast (overnight for at least 10 hours) before the study visit and you must avoid strenuous exercise 24 hours before the visit. There is a risk that you might feel faint due to the fasting. You will be asked to complete various tasks at the study visit and you may find this tiring.

*Blood samples:*You may experience mild pain and bruising in your arm from the sample collection. Potential side effects caused by blood samples being taken include fainting (please tell the research team straight away if you feel faint), redness, pain, bleeding, bruising and rarely, infection and blood clots (which may cause inflammation, swelling and pain). If you do experience side effects from having a blood sample taken, they are most likely to be minor and will pass quickly.

*Questionnaires:*You will be asked questions about your current and past symptoms and stress levels. You will also be asked about any childhood abuse or unpleasant experiences. Some of these questions may cause embarrassment or make you uncomfortable. If you wish to stop at any point during the questionnaires, that is fine - please let the research team know.

**What if there is a problem?**

Any complaint about the way you have been dealt with during the study or any possible harm you might suffer will be addressed. If you have any concerns about any aspect of this study you should speak to your research team who will do their best to answer your questions. 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 Cambridgeshire and Peterborough Foundation Trust or the University of Cambridge. The normal National Health Service complaints mechanisms will still be available to you. The University has obtained insurance which provides no-fault compensation i.e. for non-negligent harm, you may be entitled to make a claim for this. If you wish to complain or have any concerns about any aspect of the way you have been approached or treated during this study, you can do this through the NHS complaints procedure. If you have a complaint, in the first instance it may be helpful to contact the CPFT Patient Advice and Liaison Service (PALS) who can be contacted as follows:

**T** 01223 219444 (Office hours Monday to Friday)  
**Freephone** 0800 376 0775 (Office hours Monday to Friday)  
**E**  [pals@cpft.nhs.uk](mailto:pals@cpft.nhs.uk)

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

Cambridgeshire and Peterborough NHS Foundation Trust (CPFT) and University of Cambridge are the joint sponsor for this study. We will act as the data controller for this study. This means that we are responsible for looking after your information and using it properly. The Sponsor organisations will keep your personal identifiable information and unique study ID for 5 years after the study has finished ensuring your safety and allowing the study to be reviewed by the authorities after it is finished. The personal identifiable information collected in this study includes your month and year of birth, age, gender, marital status, education and occupation.

Your rights to access, change or move your information are limited, as the Sponsor organisations need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from this 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 the Sponsor uses your information by visiting the CPFT website (<http://www.cpft.nhs.uk/about-us/privacy.htm> - shortened link: https://bit.ly/2LAFllz); through the University of Cambridge website (<https://www.medschl.cam.ac.uk/research/information-governance/> - shortened link: https://bit.ly/2XlHy6x); or by emailing the Information Governance team at: researchgovernance@medschl.cam.ac.uk

CPFT will collect your name, month and year of birth, contact number and address, and NHS number. This information will be stored in a secure online management system that is managed by the University of Cambridge. Your local research team at CPFT and a small number of research staff from the central research office and Sponsor organisation will have access to your identifiable information. This information is required so that your research team can contact you about the study and make sure that relevant information about the study is recorded for your care, and so that the central study team may monitor the progress of the study. If you do not take part, your information will be deleted. Authorised individuals from the Sponsor(s) and regulatory organisations may look at your medical and research records to check the accuracy of this study. CPFT will pass these details to the Sponsor along with the information collected from you and your medical records. The only people in the Sponsor organisation(s) who will have access to information that identifies you will be people who need to contact you in relation to this study and to audit the data collection process. CPFT will keep identifiable information about you from this study for 5years after the study has finished.

Once you have agreed to participate in this study you will be allocated a Participant ID Number. This is a unique study number that will be used on all of your study documentation along with your month and year of birth. Your date of birth is considered personal information. We collect this personal information on study documentation to help ensure that the data we receive as part of your study participation is correctly allocated to you. By cross checking these two unique references we can ensure the integrity of the data.

Your personal information will form part of the study data held by the research team and will be used for monitoring, quality checking and analysis purposes. However, your personal information will not be shared with any other 3rd parties and will not be published in any way. The people who analyse the information will not be able to identify you and will not be able to find out your name, NHS number or contact details. Only anonymous study data, without any personal information, will be published at the end of the study. All information collected about you as a result of your participation in the study will be kept strictly confidential. Your personal and medical information will be kept in a secured file and be treated in the strictest confidence.

We will inform your GP of your participation in this study so that they are aware you are taking part. If anything of clinical concern arises as a result of your participation in the study, it will be discussed with you and we will let your GP know.

**What will happen to my samples?**

All research samples collected from you will be labelled with only your unique study ID, month and year of birth.

*Clinical blood assessments:*Your clinical blood assessments (including a full blood count, blood chemistry and a test of your thyroid function) will be analysed at your local hospital and will also be reviewed by your research team.

*Genetic testing:* Genetic material including DNA will be extracted from the blood samples you provide. DNA carries the information that determines our traits. For example, our DNA determines the colour of our hair and eyes. DNA may also explain why some people respond to some medications and others do not. It may also explain why some people get some diseases and others do not. The results of tests done in these samples are only for research. They will not be used for your medical care nor will they be used to make a diagnosis about your health. The genetic analysis results will not be given to you or your general practitioner. Your blood sample will be sent to the central laboratory at the Department of Medicine, University of Cambridge where the DNA will be extracted. Genetic testing for the P2X7 receptor will be carried out at the Department of Medicine, University of Cambridge, UK. Anonymised DNA maythen be sent to an external laboratory for genetic analysis or to analyse DNA for other genes in addition to the P2X7 gene. The lab carrying out the analysis will not be able to identify you from the sample.

*Other research tests: S*ome of the blood taken from a vein in your arm will be used to analyse biomarkers including proteins, immune cell counts and tests of which genes are switched on or off in your blood. Samples may be analysed locally by your research team or stored at the University of Cambridge (Department of Medicine) before being sent for analysis by partners of the NIMA Consortium. Anonymised samples may also be analysed with the help of an external party to achieve the aims of this trial.

If you consent, any blood samples remaining will be stored in an approved central facility to be used in future ethically approved research studies.

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

The results of the study will be anonymous and you will not be able to be identified from any of the data produced.  When the results of this study are available, they may be published in peer reviewed medical journals and used for medical presentations and conferences. Anonymous datasets from the study will become ‘open data’ and will be stored in an online database so that it is publicly available. This is important to the research process as it allows other researchers to verify results and avoid duplicating research. Data are made available free of charge to anyone interested in the research and we would have no control over how these data are used. The people who analyse the information will not be able to identify you.

If you would like to obtain a copy of the published results please contact your research team directly who will be able to arrange this for you.

**Who is organising and funding this study?**

This study is sponsored by Cambridgeshire and Peterborough NHS Foundation Trust and the University of Cambridge, and is conducted as part of the work of the Wellcome Trust Neuroimmunology and Alzheimer’s Disease (NIMA) Consortium. The study is primarily funded by the Wellcome Trust NIMA Consortium, Medical Research Council and the NIHR Biomedical Research Centre.

## Who has reviewed the study?

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee, to protect the participants’ interests. This study has been reviewed and given a favourable opinion by the London City & East Research Ethics Committee. We have written the protocol and information sheet with the help of people who have experienced depression.

## What will happen next?

The next step will be that one of the study team will call you to ask whether you are interested in taking part. You will have a chance to ask any questions. If you are interested in helping with the study, we will work out a time for you to attend for the study visit. The team would ask you to sign a consent form before completing the study visit. A copy of the consent form is included with this information sheet so that you can see it now. It is up to you to decide whether to take part or not. You do not have to give a reason if you decide not to be involved.

**Further information and contact details**

If, at any time, you need to get in touch with someone about the study, or if you have any questions about the study, you can contact us:

**BICBID study team:**

Study team mobile: 07701 317981

**Lead investigators:**

Dr Mary-Ellen Lynall ([mel41@cam.ac.uk](mailto:mel41@cam.ac.uk)) and Professor Ed Bullmore

Department of Psychiatry

Herchel Smith Building for Brain and Mind Sciences

Forvie Site, Robinson Way, Cambridge Biomedical Campus

CB2 0SZ, UK