Title of Study: Influence of the menstrual cycle on muscle and liver glycogen and circulating substrates during exercise in healthy women

Name of Chief Investigator: Professor Guruprasad Aithal

Local Researcher(s): Tomoka Matsuda, Dr. Penny Gowland, Dr. Stephen Bawden, Dr. Mehri Kaviani, Dr. Jane Grove

Participant Information Sheet

We would like to invite you to take part in our research study which is funded by Japan Society for the Promotion of Science. Before you decide, we would like you to understand why the research is being done and what it would involve for you. One of our team will go through the information sheet with you and answer any questions you have. Talk to others about the study if you wish. Ask us if there is anything that is not clear.

Background Information

Women make up approximately half the athletes in the world, but their training programme takes no account of the fact that the body changes throughout the menstrual cycle for premenopausal women. Specifically the blood concentrations of female hormones change. Estrogen increases the burning of fat for energy, increasing the exercise time until exhaustion. Progesterone reverses this effect. Glycogen is a more immediate source of energy for the body, which is built from glucose and is stored in the liver and muscle. The amount of glycogen stored in the body is highly related to fatigue and exercise performance. In a previous study, we have been found that muscle glycogen concentrations differ during exercise depending on the phase of the menstrual cycle. We now want to investigate this for the liver.

What is the purpose of the study?

The purpose of this study is to find out how the phase of your menstrual cycle affects the levels of glycogen stored in your liver, and to compare this to the levels of hormones and sugars and similar substances in your blood, and how these are affected by exercise. In this study, the three different menstrual cycle phases (i.e. start of cycle, mid cycle, and end of cycle) are compared. This will help us to develop better ways to train female athletes.

Why have I been invited?

You are being invited to take part because you are a healthy female with a regular menstrual cycle and regular exercise habits.

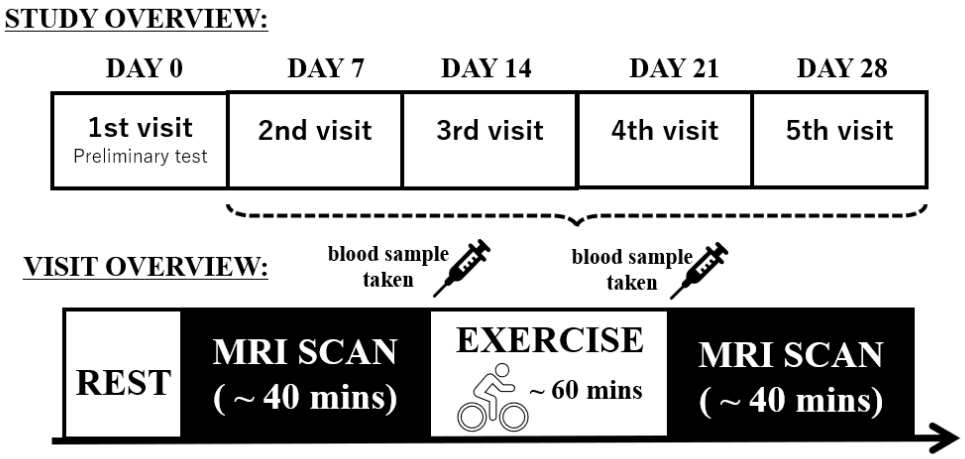
Do I have to take part?

No. 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 be asked to sign a consent form. If you decide

to take part you are still free to withdraw at any time and without giving a reason. This would not affect your legal rights.

What will happen to me if I take part?

Taking part in this study involves completing 5 study visits where you will be assessed by MRI scan and blood tests before and after exercise tests (including preliminary test). Each test will be administered on the same day: one day per week. If you decide to participate, there will be a screening interview in person at Nottingham Digestive Diseases Centre (NDDC) in the Queens Medical Centre or remotely/electronically, via phone or computer, plus 5 exercise study visits which will take place in the Sir Peter Mansfield Imaging Centre (SPMIC). The visits are described below:



Optional Screening visits x1:

At first you will be invited to take part in an interview with the researcher in NDDC (QMC) to find out if the study is suitable for you. Alternatively, this can be done over email or the phone. If you are initially eligible and agree to participate, the study researcher will send you a consent form to sign and then you will be asked to provide details of your menstruation days (At least 6 cycles) as well as exercise frequency and time in a questionnaire in order to check your menstrual cycle and decide the phase of menstrual cycle on test. After analysing your menstrual cycle, if you have regular menstrual cycle (every 25 - 38 days), you will be eligible to complete the next five-exercise test visits of the study. After that, we give you all necessary instructions about experiment day (the exercise protocol, measurement items and method), food provided, storage and intake, and using an ovulation predictor kit

Exercise test visits x5:

You will also be informed to eat the same standardized meal the evening before each visit and the same standardized breakfast 3 hours before each visit (food will be provided). These visits will be at five time points at SPMIC (University Park Campus) as follows:

Visit 1: Day 0 (Preliminary test: determine exercise intensity)
Visit 2: Day 7 or 14
Visit 3: Day 14 or 21
Visit 4: Day 21 or 28
Visit 5: Day 28 or 35
※Visit 2-5: each phase of menstrual cycle in randomized design.

The research staff will take the following measures in each visit:

- Liver glycogen concentration (MRI scan which will last 15 minutes)
- Muscle glycogen concentration (MRI scan which will last 10 minutes)
- Height, weight, and body composition measurement by Bio-electrical Impedance analysis (BIA).
- Blood sample collection for analyses of hormones and metabolites/chemicals.
- Exercise on the cycle ergometer at 70% maximum work rate for 60 minutes.

Following one of the visits (mid cycle) you will be asked to use an ovulation predictor kit for seven consecutive days.

Expenses and payments
You will be paid £75 for each exercise visit, and extra £25 on completion of the study (all 5 exercise visits), totalling £400 for completion of all 5 test visits.

What are the possible disadvantages and risks of taking part?
As this is an exercise test you are likely to experience temporary fatigue, but as many similar exercise tests have been previously conducted all over the world without any serious effects,the risks are low and no lasting side-effects are expected. All safety procedures will be followed for blood taking and MRI scanning. As part of the screening process, we will select only participants who are able to undergo MRI. All the research procedures and tests have been used on a large number of patients in the UK and world-wide and our research team have extensive experience to carry on all these tests and procedures. Nevertheless, it is possible you might find the compliance to exercise test is boring or stressful. If you do, we will treat this with respect and understanding and be in contact with you during all study periods.

What if we notice something abnormal on your scan?
Since you are healthy, it is extremely unlikely that your scan will show any abnormality. Even if there were an abnormality, it is unlikely that we would notice it since we are taking these scans for scientific research, so they are not the same as scans collected by doctors for medical purposes. Furthermore, the pictures will not be looked at by a radiologist (a doctor qualified to find abnormalities in scans).

What are the possible benefits of taking part?
There is no direct benefit to you from participating in this study. You will however be benefiting this area of research as the study will help us to advance our understanding in this field and help us to uncover more about the influence of menstrual cycle on glycogen. It will also provide a valuable resource for other researchers in other studies in the similar area of research.

What happens when the research study stops?
This exercise experiment is widely performed in practice and known to be safe and well-tolerated. That is, we have no expected causes for entire study discontinuation. In case the study stops, any data that has been collected to date from you will be kept confidential but may still be used in the subsequent analyses. We intend to tell you the results and ask you for your consent to hold your contact details in case we restart at a later date.

What if there is a problem?
If you have a concern about any aspect of this study, you should ask to speak to the researchers who will do their best to answer your questions. The researchers' contact details are given at the end of this information sheet. If you remain unhappy and wish to complain

formally, you can do this by contacting the principal investigator (Professor Gur Aithal, guru.aithal@nottingham.ac.uk) or by raising it with the FMHS research ethics committee https://www.nottingham.ac.uk/mhs/about-us/ethics-committee

In the event that something does go wrong and 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 against the University of Nottingham but you may have to pay your legal costs. The normal National Health Service complaints mechanisms will still be available to you.

Will my taking part in the study be kept confidential?
We will follow ethical and legal practice and all information about you will be handled in confidence.

If you join the study, we will use information collected from you during the course of the research. This information will be kept strictly confidential, stored in a secure and locked office, and on a password protected database at the University of Nottingham. Under UK Data Protection laws the University is the Data Controller (legally responsible for the data security) and the Chief Investigator of this study (named above) is the Data Custodian (manages access to the data). This means we are responsible for looking after your information and using it properly. Your rights to access, change or move your information are limited as we need to manage your information in specific ways to comply with certain laws and for the research to be reliable and accurate. To safeguard your rights, we will use the minimum personally – identifiable information possible.

You can find out more about how we use your information and to read our privacy notice at: https://www.nottingham.ac.uk/utilities/privacy.aspx.

The data collected for the study will be looked at and stored by authorised persons from the University of Nottingham who are organising the research. They may also be looked at by authorised people from regulatory organisations to check that the study is being carried out correctly. All will have a duty of confidentiality to you as a research participant and we will do our best to meet this duty.

Your contact information will be kept by the University of Nottingham for 5 years after the end of the study so that we are able to contact you about the findings of the study and possible follow-up studies (unless you advise us that you do not wish to be contacted). This information will be kept separately from the research data collected and only those who need to will have access to it. After this time your data will be disposed of securely. During this time all precautions will be taken by all those involved to maintain your confidentiality, only members of the research team given permission by the data custodian will have access to your personal data. All other data research data will be kept securely for at least 7 years.

In accordance with the University of Nottingham's, the Government's and our funders' policies we may share our research data with researchers in other Universities and organisations, including those in other countries, for research in health and social care. Sharing research data is important to allow peer scrutiny, re-use (and therefore avoiding duplication of research) and to understand the bigger picture in particular areas of research. Data sharing in this way is usually anonymised (so that you could not be identified) but if we need to share identifiable information, we will seek your consent for this and ensure it is secure.
Although what you say to us is confidential, should you disclose anything to us which we feel puts you or anyone else at any risk, we may feel it necessary to report this to the appropriate persons.

What will happen if I don't want to carry on with the study?
Your participation is voluntary and you are free to withdraw at any time, without giving any reason. If you withdraw we will no longer collect any information about you or from you but we will keep the information about you that we have already obtained as we are not allowed to tamper with study records and this information may have already been used in some analyses and may still be used in the final study analyses. To safeguard your rights, we will use the minimum personally-identifiable information possible.

What will happen to any samples I provide?
We would like to use your blood samples to analyse estradiol, progestrone, blood lactate, blood glucose, free fatty acid. Samples will be stored in the University of Nottingham laboratories.

We would also like to seek your consent so that any remaining samples may be stored and used in possible future research – this is optional (please indicate you agree to this on the consent form). The samples will be stored in anonymised format within an ethically-approved research tissue bank (NDDCBRU research tissue bank in Nottingham Digestive Diseases Centre in the Queens Medical Centre, Nottingham) securely at the University of Nottingham under the University's Human Tissue Research Licence (no 12265).Some of these future studies may be carried out by researchers other than current team of NDDCBRU who ran the first study, including researchers at institutions outside UK. Any samples or data used will be anonymised, and you will not be identified in anyway. We will not sell your samples or data. If you do not agree to this any remaining samples will be disposed of in accordance with the Human Tissue Authority's codes of practice.

What will happen to the results of the research study?
We aim to publish the results from the study in various scientific publications academic peer reviewed journals. In addition, we hope to present this work at local and international academic conferences. Participants will not be identified in any of these publications. We expect that within five years' timeframe the results will be available on our website (www.nddcbru.org.uk) and a summary report available from Nottingham Digestive Diseases Centre.

Who is organising and funding the research?
This research is being organised and funded by Japan Society for the Promotion of Science.

Who has reviewed the study?
All research in healthcare is looked at by independent group of people, called a Research Ethics Committee, to protect your interests. This study has been reviewed and given favourable opinion by the University of Nottingham Faculty of Medicine and Health Sciences Research Ethics Committee and your local NHS Trust(s).

Further information and contact details
Primary point of contact for general enquiries:

Chief Investigator:
Professor Guruprasad Aithal
Email: guru.aithal@nottingham.ac.uk

Research Fellow:
Tomoka Matsuda

Email: 19pda10@nittai.ac.jp

Formal complaints can be made via the National Health Service complaints procedure or NHS Patient Advice & Liaison Service (PALS): Tel 0800 183 0204; Email: pals@nuh.nhs.uk ; NUH NHS Trust, c/o PALS, Freepost, NEA 14614, Nottingham NG7 1BR.

Don't forget you can change your mind & withdraw from the study at any time.

Covid-19

Following the recent outbreak of Covid-19 infection in the UK, close contact between people outside of family groupings or 'support bubbles' is being discouraged at this time to reduce the spread of the virus, and to protect vulnerable individuals from contracting Covid-19.

It is important for you to know that during this research study it will not always be possible to maintain recommended social distancing between researchers and yourself. Research staff will be required to be close to you when performing certain tasks, including: measuring blood pressure, height and weight during the screening visit, taking blood samples and positioning you/your child in the scanner during the MR visits.

Government guidelines are constantly evolving in response to changes in the Covid-19 situation, and procedures we employ during this study will therefore be changing in line with these. However, currently we will be implementing the following measures to protect you, your child and the researchers working on this project.

1. Please do not attend any scheduled study sessions if you, or anyone in your social unit, is displaying (or has displayed within the previous 14 days) signs of COVID-19 infection*, or if you are self-isolating following contact with someone who has displayed signs of infection. We will contact you the day before each time you are due to attend the University to check your symptom and isolation status.

2. Similarly, study researchers will not enter University buildings if they, or anyone in their social unit, is displaying (or has displayed within the previous 14 days) signs of infection or if they are self-isolating following contact with someone who has displayed signs of COVID-19 infection.

3. Social distancing will be observed at all times where possible.

4. To keep the number of people within University buildings to a minimum, please do not bring additional people (i.e., siblings or partners) to any study session.

5. The number of individuals (researchers and participants) in study areas will be kept to a minimum, with all individuals required to maintain good hand hygiene whilst in the units and to wear face coverings when social distancing measures are not possible.

6. Prior to your arrival, the research areas that you may touch (e.g., door handles and work surfaces) will be cleaned using surface sanitiser.

7. On arrival, you and your child will be asked to cleanse your hands thoroughly at a hand-wash station and/or using alcohol gel, and will be provided with a face mask to wear during the visit.

8. All utensils and crockery used to prepare and serve any study food products or refreshments during the study visit will be thoroughly cleaned with detergent in hot water immediately prior to use and dried using paper towels which will be discarded following use.

9. At the end of the study visit, you will be asked wash your hands thoroughly again before leaving.

*Please visit: https://www.nhs.uk/conditions/coronavirus-covid-19/symptoms/

Participant Information Sheet

Magnetic Resonance Imaging

(Version 1.0: 28th June 2018)

This information sheet explains what is involved when a research study includes Magnetic Resonance Imaging (MRI)

Before you decide we would like you to understand what the research would involve for you. If you wish to take part, one of our team will go through the information sheet with you and answer any questions you have. Talk to others about the study if you wish.

Ask us if there is anything that is not clear.

You have been given this leaflet in relation to:

Study: Influence of the menstrual cycle on muscle and liver glycogen and circulating substrates during exercise in healthy women

Chief Investigator: Prof Guru Aithal

What is MRI?

Magnetic Resonance Imaging uses radio waves and magnetic fields to look at the water and fat molecules inside your body. These have been developed into powerful techniques to diagnose disease and to investigate the workings of the human body. The foundations of the science behind MRI were developed by a Nottingham scientist called Professor Sir Peter Mansfield, for which he was awarded the Nobel Prize in 2003. The Sir Peter Mansfield Imaging Centre (SPMIC) at the university continues to be a world leading research centre in the field of MRI.

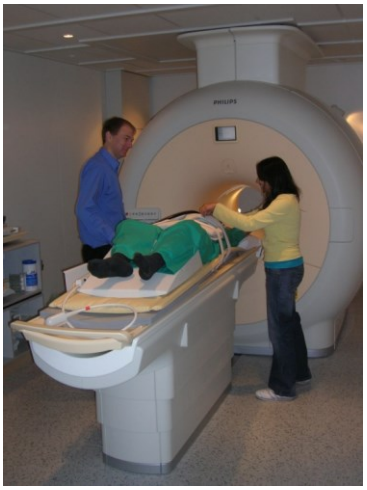
Why is it useful for research?

Since the 1990s researchers at the Nottingham Digestive Diseases Centre have used MRI scanning to understand more about the workings of the stomach, liver and intestines and how these changes make people feel. The MRI scanner does not use X-rays so it is considered safe to have many scans. This allows us to track what happens over hours or weeks.

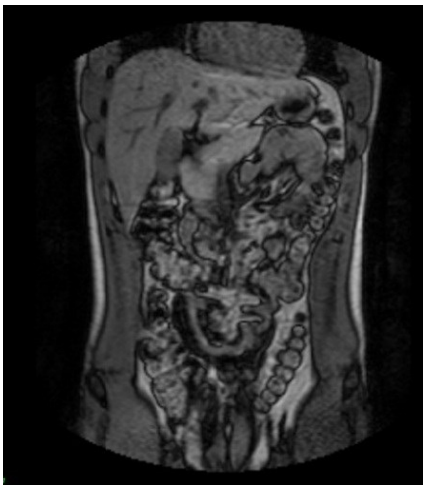
By working with the physicists at the SPMMRC medical researchers can develop new ways to assess the body, and gain new insights into the effects of food and medicines.

What will happen to me if I take part?

The MRI scanner is an extremely strong magnet so any metal that gets near it can cause serious problems. We will provide surgical scrubs and ask you to change into them before you go into the scanner (underwear can be worn but bras usually need to be removed due to metal clips and wires).



Lying on the scanner table



MRI image of the liver and colon

The MRI scans in our studies look in the abdomen (tummy) so you will lie on a table on your back (see picture) and a special cover will be placed on your tummy, held in place with straps. Your arms will usually be inside the cover. The scanner is quite noisy so during the scan you will wear ear defenders (headphones) and sometimes also earplugs.

The table moves so it will slide you into the scanner under the control of the scanner operator. The operator can talk to you through the headphones to tell you what is happening and they can hear you talk back. You have a ‘nurse call’ button to squeeze if there is a problem.

A scan operator at the console.

They can see you in the scanner through

Each scan makes a different set of beeping noises. Some scans require you to hold your breath. The scanner operator will discuss with you what is needed before going in the scanner and will talk you through every step using the headphones.

There is a comfortable volunteers' lounge next to the scanner where you can sit between tests. We often scan more than one person on any day so you may have to wait between tests. It is worth bringing a book or something else to pass the time.

Toilets are just next door and are easily accessible should you need them during the day.

Preparing for your MRI

What you do on the day before each study visit can make an important difference. Excess alcohol, eating particular foods such as lentils, multivitamin/ mineral pills and extreme sport activity can all alter the way your bowel behaves so please avoid any of this. If necessary we will give you a dietary information sheet that goes into detail. Please ask if you are unsure. In some studies we will ask you to fast before your scan.

Staff will always be close by and you will be able to ask them any questions.

Are there any risks?

Before any scanning takes place you will be asked to fill out a questionnaire to identify any reason that might make it unsafe to scan you, like having metal implants in your body. **Piercings may need to be removed while you are in the scanner.** You may still be safe if you raise an issue on the questionnaire but it acts as an alert to protect volunteers so please fill it in as accurately as possible. Some studies will not enroll people who cannot go in the scanner; some will enroll you in the rest of the study but exclude you from the scanning part.

A few people feel claustrophobic in the scanner but most do not. Scans rarely last longer than 15 minutes. MRI uses radio waves similar to those used in radio and TV transmission. These have a much lower energy than X-rays and as such are considered biologically safe. This study will be carried out using a 3 T magnet, within national safety guidelines.

Scanning with magnets this size is already a routine procedure in medical practice, and is considered to be safe, apart from certain circumstances (which we ask about in a safety questionnaire) that exclude you from taking part.

What if I am pregnant (or might be)?

We try to avoid scanning women during pregnancy, although this is just to be careful as there is no known risk using this strength of magnetic field. If you are pregnant you should not take part in the study. If you discover that you are pregnant during the study we will withdraw you. Pregnancy tests are available in the toilets at all magnets if you think you might be pregnant and want to check.

IMPORTANT:

What happens if we notice something abnormal on your scan?

While it is unlikely that your scan will show any abnormality, the SPMIC is NOT a clinical diagnostic facility and the scans we collect are NOT the same as scans collected by doctors for medical purposes.

The pictures will NOT usually be looked at by a radiologist (a doctor qualified to find abnormalities in scans), so we may not see something that a radiologist would detect. This test does NOT replace any tests that your doctor thinks might be needed.

However, it is possible that one of the team working with your scans might notice something that they consider abnormal. The chances of this happening depend on the area of your body scanned, the methods we are using to scan you, your age and your health.

If this happens we will ask a radiologist to review the scan. If he/ she thinks that further action is necessary we will inform you and your GP. Your GP may refer you to other medical specialists for further clinical tests.

It is a requirement of the SPMIC that you give us permission to inform your GP of such a finding before we enrolll you into the study.

In the unlikely event that we do notice something abnormal on your scan, giving you that information might have the benefit of allowing you to start treatment earlier than you would have otherwise.

Your Data

It is likely that, although you to agree to take part in a particular study, the images we collect on you may be useful in other studies in the future. We will ask you to allow us to use your images in other studies to avoid us having to scan other people in future. Any such use of your images would be approved by an ethics committee.

All information collected about you during the course of the research will be kept strictly confidential, stored in a secure and locked office and on a password protected database. Any information about you which leaves the research facility will have your name and address removed (anonymised) and a unique code will be used so that you cannot be recognised from it.

Who to contact for more information:

Contact details for the research team are given on the main information sheet. You can also contact the SPMIC directly on 0115 9514747.

Study Title: Influence of the menstrual cycle on muscle and liver glycogen and circulating substrates during exercise in healthy women

Investigators: Prof Guru Aithal, Tomoka Matsuda, Proff Penny Gowland, Dr. Stephen Bawden, Dr. Mehri Kaviani, Dr. Jane Grove

Participants Informed Consent Form

Please initial the box for each statement

- I voluntarily agree to take part in this study. ☐
- I confirm that I have been given a full explanation by the above named and that I have read and understand the information sheet given to me which is attached. ☐
- I have been given the opportunity to ask questions and discuss the study with one of the above investigators or their deputies on all aspects of the study and have understood the advice and information given as a result. ☐
- I agree to comply with the reasonable instructions of the supervising investigator and will notify him immediately of any unexpected unusual symptoms or deterioration of health. ☐
- I authorise the investigators to disclose the results of my participation in the study but not my name. ☐
- I understand that information about me recorded during the study will be kept in a secure database. If data is transferred to others it will be made anonymous. Data will be kept for at least 7 years after the end of the study. ☐
- I understand that the image of my body may be used in future studies (approved by an Ethics Committee) beyond the scope of the study explained here. Any images used will be made anonymous, and I will not be identifiable. ☐
- I understand that I can ask for further instructions or explanations at any time. ☐
- I understand that I am free to withdraw from the study at any time, without having to give a reason for withdrawing. ☐
- I confirm that I have disclosed relevant medical information before the study. ☐

Please Turn Over Please Turn Over Please Turn Over

- I shall receive an inconvenience allowance of £75 for each exercise visit and a further £25 on completion of the study (totaling £400 for all 5 exercise visits).

- I have not been a subject in any other research study in the last three months which involved: taking a drug; being paid a disturbance allowance; having an invasive procedure (eg venepuncture >50ml, endoscopy) or exposure to ionising radiation. ☐

- **Optional: Consent for storage and possible use in future research** I agree that the any samples remaining after the study is complete can be stored in the approved Nottingham Digestive Diseases Centre Biomedical Research Unit (NDDCBRU) Research Tissue Bank in the University of Nottingham for possible use in future studies. I agree the data collected may be used in future studies. I understand that some of these studies may be carried out by researchers other than the current team who ran the first study, including researchers at institutions outside the UK. Any samples or data used will be anonymised, and I will not be identified in anyway. ☐

- **Optional: Consent for personal contact** I consent to my personal details being kept in the research database held securely at the University of Nottingham so that I can be contacted about the study findings and other appropriate research studies. ☐

Abnormal Findings in Scans

- I understand that the SPMIC is not a clinical diagnostic facility and so does not routinely inspect images for abnormalities. I understand that my MR scans will NOT routinely be reviewed by a radiologist (or any other medically qualified person) to look for any signs of disease, and it is unlikely that any abnormalities that may be present will be detected. ☐

- On the other hand I understand that if one of the investigators should happen to notice something on my scan which they think is abnormal then they will show my scans to a medically qualified doctor who will contact me if further action is required. ☐

- I agree to my GP being informed of any medically relevant information gained from the study. ☐

GP Name: _____ Telephone number: _____

Surgery Address: _____

Full Name: …… **Telephone:** ……..

Signature: ……. **Date:** ……..

To be filled in by an Investigator

I confirm that I have fully explained the purpose of the study and what is involved to:

……

I have given the above named a copy of the information sheet.

Investigators Signature : …… **Date**…….

Name : ……

Ethics Code : …….…….. **Volunteer Number :** ……..……..

Please return this form to the MR Centre receptionist for storage

MR Volunteer Safety Screening Questionnaire:

NAME	Date of Scan	Date of Birth
ADDRESS	Volunteer Number	
	Ethics Code	
Phone number	Weight	Height if applicable

MR scanning uses strong magnetic fields. For your own safety and the safety of others it is **very important** that you do not go into the magnet halls with any metal in or on your body or clothing. Please answer the following questions carefully and ask if anything is not clear. All information is held in the strictest confidence.

1. Do you have any implants in your body? e.g. replacement joints, drug pumps Y/N
2. Do you have aneurysm clips (clips put around blood vessels during surgery)? Y/N
3. Do you have a pacemaker or artificial heart valve? *(These stop working near MR Scanners)* Y/N
4. Have you ever had any surgery? Please give brief details over. Y/N
   (We do not need to know about uncomplicated caesarean delivery, vasectomy or termination of pregnancy)
5. Do you have any foreign bodies in your body (e.g. shrapnel)? Y/N
6. Have you ever worked in a machine tool shop without eye protection? Y/N
7. Do you wear a hearing aid or cochlear implant? Y/N
8. Could you be pregnant? (Pregnancy tests are available in the female toilets) Y/N
9. Have you ever suffered from tinnitus? Y/N
10. Do you wear dentures, a dental plate or a brace? Y/N
11. Are you susceptible to claustrophobia? Y/N
12. Do you suffer from blackouts, epilepsy or fits? Y/N
13. Do you have any tattoos? (If yes, you may be asked to read and sign another form) Y/N
14. Do you have any body piercing jewellery that cannot be removed? Y/N
15. Do you have any skin patches (trans-dermal patches)? Y/N
16. Do you have a coil in place (IUD) for contraception? Do you know what type? Y/N

17. Do you have any condition that may affect your ability to control your temperature ?
(e.g. Do you have a fever, cardiovascular disease, hypertension, diabetes or cerebrovascular disease?)
Y/N

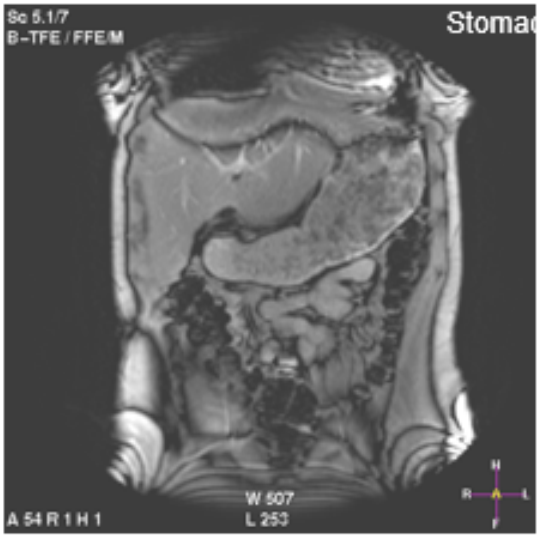
18. Will you remove all metal including coins, body-piercing jewellery, false-teeth, hearing aids etc. before entering the magnet hall? *(lockers available by the changing rooms)* Y/N

19. Is there anything else you think we should know? Y/N

I have read and understood all the questions **Signature:**	**Date:**
Verified by: **Scanner Operator/MR Assistant Signature :**	**Date**

University of Nottingham
UK | CHINA | MALAYSIA

Sir Peter Mansfield Imaging Centre



Healthy female volunteers needed for MRI exercise study

How does menstrual cycle effect metabolism?

We are looking for participants to attend 5 weekly visits where we will measure metabolism before and after an exercise session using MRI and blood samples

Females, Aged 18 – 35, Regular exercise
You will be given an inconvenience allowance

For more information, please contact stephen.bawden@nottingham.ac.uk, study ref: IMCOM

stephen.bawden @nottingham.ac.uk Study ref: IMCOM
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Wording for online advertisement for volunteers:

We often need volunteers for brain and whole body imaging studies. These studies follow protocols that have been approved by local ethics committees. Some of the studies will also provide a small inconvenience allowance and if you would like, you may take away a picture of your body.

You would have to undergo safety screening before being scanned, and in particular we cannot scan anyone with a pacemaker or some types of metal implants in their bodies. Please note that you cannot start to participate in a new medical research study within 3 months of finishing a different one on campus. You may want to watch this video designed to introduce children to the MRI experience.
If you would like to volunteer to participate in one of our studies, please email Henry Bowler or Sarah Wilson or call+44 (0) 115 9514747