**PARTICIPANT INFORMATION SHEET**

**Title of Study:** Measurement of lower limb mechanics during a fencing lunge to determine causes of lower limb injury

**University of Surrey Ref:** FHMS 22-23 269 EGA

**PLEASE KEEP A COPY OF THIS INFORMATION SHEET FOR YOUR RECORDS**

**Section: Taking Part**

**Invitation Paragraph**

I am Phoebe Blackmore, and I am currently completing my final year sports and exercise science research project and I would like to invite you to participate. This project will be overseen by Billy Senington. You should only participate if you want to; choosing not to take part will not disadvantage you in any way. Before you decide whether you want to take part, it is important for you to understand why the research is being done and what your participation will involve. If you have any questions, you can contact us using the contact details at the end of this information sheet.

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

The aim and objective of this study is to identify the potential similarities and differences in lower limb power and mechanics between the three different fencing weapons using force plates, markers, and an Inertial Measurement Unit (IMU) sensor to collect data. The further aim is to link the resultant data to the past injuries of the participants and investigating whether there is a link between lower limb power and kinematics during a lunge, and injury. I am specifically interested in drawing conclusions from the data which adapt the way fencers lunge and, overall, improve performance and reduce the risk of lower limb injury.

**Who is responsible for this study?**

This study is the responsibility of teaching fellow Billy Senington at the University of Surrey (main investigator). In collaboration with Billy Senington, University of Surrey sports and exercise science undergraduate student, Phoebe Blackmore, is also responsible for this study.

**Why have I been invited to take part?**

You are invited to participate in this study because you are a fencer with at least 1 year fencing experience, with a favoured weapon. To be eligible to participate in this study you must have fenced for at least 1 year, injury free at the current time, and aged 18 or over. If you have an acute or chronic injury currently, you are not eligible for this study.

**Do I have to take part?**

Participation is voluntary and you do not have to take part. We will describe the study in this information sheet and will give you 7 days to read this, so you can decide whether you wish to take part. Please contact us if there is anything that is not clear, or if you have any questions, or need more information. Fully informed consent is required before participation in this study.

**What will happen to me if I decide to take part?**

If you decide to take part, you will be given this information sheet to keep and will be asked to sign a consent form to confirm your agreement to participate. You will be given a copy of this consent form to keep. We will then ask you to attend the biomechanics lab in the Duke of Kent Building of the University of Surrey. On arrival you will be provided with a questionnaire, asking basic questions about your fencing experience, level, favoured weapon, and previous injury. Please refrain from strenuous exercise for 24 hours prior to attending the lab. If it is discovered you have a current injury, or cannot take part in the study, your consent form and previously collected data will be destroyed immediately.

After completing the questionnaire, you will have multiple markers placed and stuck onto your hips, legs, ankles and feet. An IMU sensor will also be placed and stuck onto the leading leg. An IMU is a small sensor that measures movement and movement intensity by measuring acceleration. Like the markers, this will be stuck to the skin whilst performing the lunges. Before any physical activity, you will have to complete a warm-up to ensure you reduce the risk of injury during the lunges, with a level 3 personal trainer present to advise you on the warm-up. In total, you will perform 10 maximal lunges, each of which is recorded. In the event of injury, please seek medical attention through your GP or, in an emergency, go to A + E.

**What happens if I do not want to take part or if I change my mind?**

You are free to withdraw from the study at any time prior to the data being anonymised, which will happen 7 days after data collection. Data is also available to be withdrawn at any time upon request, with the same 7-day post data collection restrictions.

If you wish to withdraw from the study, please email the main investigator, Billy Senington at b.senington@surrey.ac.uk .

For your participation in the study, you will receive a £10 Amazon voucher. In the event of withdrawal, the gift voucher will not be honoured. The £10 Amazon voucher will be emailed on completion of your active participation in the study.

**What happens to my data if I want to withdraw?**

Any data already anonymised for analysis will not be removed as your data is unidentifiable. If you wish to withdraw data which has been collected, there is a 7-day timeline post completion of you active participation in the research to withdraw your identifiable information, otherwise anonymised data will not be removed.

If you wish to withdraw and you have identifiable data, this will be removed and deleted appropriately at any time.

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

The information we will get from the study will allow further knowledge and insight into the differences in lower limb power between the three fencing weapons. The conclusions drawn from the study may result in better training techniques, improved performance, and a reduction in injury.

As mentioned above, you will receive a £10 Amazon voucher. The voucher will be emailed on completion of your active participation in the study.

**Are there any potential risks involved?**

The only potential risk involved in participating in this study is the potential of sustaining an injury whilst performing the maximal lunges. The 10 –15-minute warm-up, chosen by you, and with supervision and advice from a level 3 personal trainer has been put in place to reduce the risk of an injury occurring.

**How is the project being funded?**

This research is being performed at the University of Surrey. The university is providing the necessary equipment and biomechanics laboratory space and, as a result, the research is being funded by the university.

**Will my participation be kept confidential?**

We are responsible for making sure your participation is kept confidential and any data is kept secure and used only in the way described in this information sheet.

Your information may be reviewed for monitoring and audit purposes, by the University of Surrey and/or regulators who will treat your data in confidence.

**Will my data be shared or used in future research studies?**

We would like your permission to share the anonymous data collected from this study for potential use in future studies and research.

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

We will produce a final report summarising the main findings and this research may be published.

You can contact the study team to find out the results of the research.

**Who has reviewed this study?**

This research has been reviewed by an independent group of people, called an Ethics Committee. This study was reviewed and given a favourable ethical opinion by the University of Surrey Ethics Committee.

**Section: Your personal data**

**What is personal data?**

‘Personal Data’ means any information that identifies you as an individual. We will be collecting and using some of your personal data that is relevant to completing the study and this section describes what that means.

The information that we will collect will include your name, email address, age and gender which are regarded as ‘personal data’ and height, weight, and BMI, which are regarded as ‘special category personal data. This will be collected from the health questionnaire completed before participating in any physical activity. We will use this information as explained in the ‘What is the purpose of the study’ section above*.*

**Who is handling my personal data?**

The University of Surrey, who has the legal responsibility for managing the personal data in this study, will act as the ‘Data Controller’ for this study. The research team will process your personal data on behalf of the controller and is responsible for looking after your information and using it properly.

**What will happen to my personal data?**

As a publicly funded organisation, we must only use i**dentifiable personal** information from people who have agreed to take part in research and process this data fairly and lawfully. The University of Surrey processes personal data for the purposes of carrying out research in the **public interest** and special category data is processed on an additional condition necessary for **research purposes.** This means that when you agree to take part in this research study, we will use and look after your data in the ways needed to achieve the outcomes of the study.

Your personal data will be held and processed in the strictest confidence, and in accordance with current data protection regulations. When acting as the data controller, the University will keep identifiable information about you for **10** years after the study has finished after which time any identifiers will be removed from the aggregated research data.

Your rights to access, change or move your information are limited, as we need to manage your information in specific ways or the research to be reliable and accurate. If you decide to withdraw from the study, we may not be able to withdraw your data. We will keep and use the minimum amount of your personally identifiable information that we have already collected in order to complete the study.

If you wish to complain about how we have handled your personal data, you can contact our Data Protection Officer who will investigate the matter (dataprotection@surrey.ac.uk). If you are not satisfied with our response or believe we are processing your personal data in a way that is not lawful, you can contact the Information Commissioner’s Office (ICO) (<https://ico.org.uk/>).

You can find out more about how we use your information <https://www.surrey.ac.uk/information-management/data-protection> and/or by contacting dataprotection@surrey.ac.uk .

**Section: Further information**

**What if you have a query or something goes wrong?**

If you are unsure about something you can contact the research team for further advice using the contact details at the bottom of this information sheet.

However, if your query has not been handled to your satisfaction, or if you are unhappy and wish to make a formal complaint to someone independent of the research team, then please contact:

Research Integrity and Governance Office (RIGO)

Research and Innovation Services

University of Surrey

Senate House, Guildford, Surrey, GU2 7XH

Email: rigo@surrey.ac.uk

The University has in place the relevant insurance policies which apply to this study. If you wish to complain or have concerns about how you have been treated during the course of this study, then you should follow the instructions given above.

**Who should I contact for further information?**

If you have any questions or require more information about this study, please contact the research team using the following contact details:

Billy Senington – lead investigator

b.senington@surrey.ac.uk

+44 (0) 1483 682168

Phoebe Blackmore – student investigator

pb00526@surrey.ac.uk

**Sources of Support**

There are organisations who can provide support in case of injury or distress.

If you are a member of the public and you are experiencing psychological distress, there is local counselling is available.

If you need psychological help:

Telephone: 01483 901 429

Email: guildford@centreforpsychology.co.uk

If any participant is injured then visiting a GP is recommended or, in urgent cases, the A&E department.

**Thank you for reading this information sheet and for considering taking part in this research.**