**Title of Study:** The relationship between impairment, functional ability and performance in Para Equestrian Dressage athletes.

**Version 8, 07.08.2021**

You are invited to participate in a research study, but before you decide whether to participate, 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 and feel free to ask for further information or clarity. Please also feel free to discuss this with your friends, relatives, coach or other para dressage stakeholders. You do not have to accept this invitation and should only agree to take part if you want to. Thank you for reading this.

**This information is available in different size fonts and formats. Please let us know if you would like another format, including a different font, font size or audio by contacting the Principal Investigator, Dr. Sarah Jane Hobbs,** [**SJHobbs1@uclan.ac.uk**](mailto:SJHobbs1@uclan.ac.uk)**.**

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

The International Paralympic Committee’s (IPC) Classification Code (2015) mandates the development of evidence-based systems of Classification across all Paralympic sports. An evidence-based classification system must classify eligible impairments according to the extent of activity limitation caused for a particular sport. The FEI is, like many Paralympic sports, currently prioritising the development of a strong scientific evidence base for its Para Dressage Classification system. As such, the FEI have funded this research, which aims to develop recommendations for an evidence-based, sport-specific classification system for Para Dressage. Full details on the research project can be found at the FEI Classification Research Website: <https://inside.fei.org/fei/disc/para-dressage/classification/research>.

We are now undertaking the final study of the three-year research project, which aims to quantify the association between impairment and performance in equestrian athletes/para athletes. Riding performance will be quantified using biomechanical measures during a riding simulator test, and impairment quantified using clinical impairment measures. ***It is important to note that for Para Dressage Athletes, participation in this study will in no way affect or alter your current Classification or Grade status. Classifiers will not be involved in conducting or present during the study and all results will be anonymised.***

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

You are a Para Dressage or Dressage Athlete aged 18 years or older. For Para Dressage Athletes, you have a Confirmed, Review or Review with Fixed Date Classification status and a minimum of 5 years’ experience competing at international (CPEDI) level competition and have competed at this level within the past 4 years. For Dressage athletes, you are competing at Prix St. George or higher.

**Do I have to take part?**

No, it is up to you to decide whether you want to take part. If you do take part, you will be given this information sheet to keep and will be asked to sign a consent form to say that you understand what we are asking you to do. You can stop taking part in the study at any time during the data collection session, without giving any reasons. This will not affect your standing with the FEI or research team.

**What will happen if I take part?**

The study is conducted by researchers from University of Central Lancashire (Preston, UK), Hartpury University (Gloucester, UK) and Michigan State University (Michigan, USA).

Data will be collected in two phases, a ridden phase (on a riding simulator) and a clinical assessment phase, using validated measures of impairment and measures from the current FEI Para Dressage Classification system. Requirements for each phase are detailed below. Data collection will take place at Hartpury University (Gloucester, UK) over 2 consecutive days. Groups consisting of a maximum of 20 participants will be tested over the 2-day period, where half the group (maximum 10) will complete simulator testing and the other half (maximum 10) clinical testing on day 1 and vice versa for day 2. It may be possible to conduct all of the testing in one longer session, but this will depend on coordination of available timeslots. Please let us know your preference if you express interest in taking part. We will do our best to accommodate, but it may be necessary for you to be present over the 2-day period. The clinical impairment measures phase will be approximately 1 hour 45 minutes to 2 hours 30 minutes in duration but will be broken down into smaller test sessions run over the morning and afternoon of the test day to mitigate fatigue wherever required.

*Ridden (riding simulator) Phase:* you will be asked to perform a ridden test on a Racewood riding simulator This will involve a pre-defined protocol of various gaits and movements, which will include giving a slowing aid, driving aid, giving aids for lateral movements, turning left and right, giving and retaking the reins. The riding test will last for approximately 2 minutes, followed by a break and then a series of changes between gaits (“transitions”), which will take approximately 2 - 5 minutes. You will be asked to undergo a short warm-up period to familiarize yourself with the simulator movement. For Para Dressage Athletes, you will only be asked to perform tasks on the simulator that are required by your current Grade. You will be asked if you would like to perform movements/gaits outside of your Grade requirements, but this is not mandatory and will be at your discretion. During the testing, we will collect three-dimensional (3D) movement data from arm, leg, trunk and pelvis segments using a motion capture system (Qualisys) inertial measurement unit (IMU) sensors. Riding simulator testing will be approximately 45 minutes to one hour in duration.

You will be required to wear form-fitting jodhpurs (general riding pants) or tights, riding boots and a vest top or tight fitting tee-shirt and a riding helmet that meets current British Standards Institute safety standards (PAS 015:(1998/2011) with BSI kitemark). Reflective markers and IMU sensors will be attached to the head (helmet), shoulders, spine, pelvis, arms and legs using hypoallergenic tape and flexifoam straps. The 3D movement of these markers and sensors are collected in numerical form, but we would like to capture photo/video data to aid with data analysis and for use in educational/scientific presentations. You have the option to participate and decline your photo/video data being used in future presentations. We will securely store photo/video data for three years. **For Para Dressage Athletes: to ensure safety, it is expected that certain compensatory aids will be allowed during testing. Please inform the research team of any relevant requirements for the testing, for example: compensating aids, specific tack or mounting/dismounting requirements. A friend, family member, carer, English translator and/or signer may accompany you to the data collection session for assistance/support.**

*Impairment Testing Phase*: Both able-bodied and Para Athletes will undertake multiple tests to measure impairment. These tests include relevant measures of physical impairment from the current Para Dressage Classification System and an additional set of five clinical assessments: Tests will be conducted by two fully accredited physiotherapists/sports therapists that are ***in no way associated with the FEI or Classification*** but have the clinical expertise required to conduct the testing. Testing will take place in a private room at Hartpury University. In accordance with Classification rules, you will be required to dress as you would for training, including riding boots. However, removing clothing/orthotics such as shoes/socks is acceptable if the examiner is unable to assess otherwise.

Current Classification tests can last between 45 and 90 min, depending on the athlete’s impairment, and all of the clinical impairment measures require approximately 1 hour to complete. You will be offered as many breaks as you require between tests to mitigate fatigue. We will provide a seating area for participants to use during rest periods, which will provide adequate ventilation and space for social distancing. During breaks, participants are invited to visit Hartpury University’s many eateries, which will be open for resting and purchasing food/drinks. **For Para Athletes: current Classification procedures state that only the relevant impairment is to be measured and recorded based on the Athlete’s presenting health condition. To comply with this, it will be necessary for certain members of research team to know your presenting medical condition and current classification status/data (grade/sport class, classification profile, grade status, athlete evaluation data/scores). We will therefore ask for your consent to release only relevant medical and classification certificate/documents held securely by the FEI for these specific purposes prior to the study. Able-bodied Athletes will undergo the full battery of impairment measures.**

**What precautions will you take to help protect me from the coronavirus?**

The study involves face-to-face interaction and some physical contact between researchers and participants (ex. applying sensors and markers to the body and some clinical impairment tests), where social distancing of 1 – 2 m cannot be maintained. Rest assured that precautions will be in place to mitigate the risks of spreading and contracting COVID-19. These precautions include: screening participants for symptoms prior to testing, employing appropriate PPE throughout data collection (face coverings and gloves), practicing good personal hygiene through frequent hand washing and use of hand sanitizer, social distancing of 1 – 2 m wherever possible, ventilating indoor rooms, and thorough cleaning of equipment and rooms between participants.

**What can I do to help protect you from the coronavirus?**

Please wear face coverings and frequently wash hands/use hand sanitizer during your time at Hartpury University for data collection. You will be asked to complete a COVID-19 Research Participant Pre-Visit Check form, which will be used to prevent the spread of COVID-19 and reduce the potential risk of exposure. Please ensure that you follow government advice if you display coronavirus symptoms following your visit to Harptury University and retain the contact details of the research team (at the bottom of this document), so that we can provide the NHS Test & Trace service with contact details where necessary.

**How will my data be used?**

The University processes personal data as part of its research and teaching activities in accordance with the lawful basis of ‘public task’, and in accordance with the University’s purpose of “advancing education, learning and research for the public benefit”. Under UK data protection legislation, the University acts as the Data Controller for personal data collected as part of the University’s research. The University privacy notice for research participants can be found on the attached link <https://www.uclan.ac.uk/data_protection/privacy-notice-research-participants.php>

Further information on how your data will be used can be found in the table below.

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| How will my data be collected? | Kinematic data from the riding simulator will be collected directly onto a password protected computer. Clinical impairment scores will be input directly into an electronic scoring sheet on a password-protected tablet/computer. |
| How will my data be stored? | Hard copy data will be stored by the Principal Investigator in a locked filing cabinet at UCLan. Electronic data will be stored on password-protected servers at UCLan. Data will not be distributed to any 3rd parties. To enable access for researchers, anonymised data will be stored on a secure file sharing server (Microsoft Teams/OneDrive) for the duration of the project only. Once the project has finished, data will be removed from the shared folder and only stored on UCLan password-protected servers. |
| How long will my data be stored for? | Data will be held for 5 years from the end of the study. |
| What measures are in place to protect the security and confidentiality of my data? | Kinematic and video data will be collected on a password-protected computer and transferred to OneDrive and deleted from the password-protected computer at the end of each day. Videos will be stored for up to 1 year or until the processing of all IMU and kinematic data are completed (if this is sooner than 1 year), after which they will be deleted from the secure storage system and destroyed. Where data storage on removable media is required, the researchers will employ recommended encrypted USB flash drives. Where oral consent is required, encrypted audio recording devices will be used and recordings will be removed from these devices and transferred to secure file storage (OneDrive, UCLan Secure Server) as soon as possible. Audio files will be stored in a separate secure file to ensure that they cannot be linked to study data. |
| Will my data be anonymised? | All data published as a research result will be anonymised and your name will not appear in any publication. Each participant will be assigned an individual code and pseudonym following recruitment and obtaining medical and classification documentation. From here, all hard copy and electronic information collected will have personal identifiers removed to prevent the participant being identified. A data key will be used, with all documents assigned with the individual participant code. The data key will be stored separately from the paperwork/electronic documents in a separate locked filing cabinet in the Principal Investigator’s office at UCLan. |
| How will my data be used? | * Kinematic data will be used to quantify rider performance. These data are numerical. * Photographic/video data from riding simulator testing will be used to assist in separating the numerical data into specific gaits and movements and to provide a visual reference for any unexpected movement data. * Clinical impairment test scores will be used to quantify physical impairment. To comply with current Classification procedures, it will be necessary to obtain medical and classification documentation for the athlete’s presenting condition to ensure that only the relevant impairment is measured and for statistical analyses. * Kinematic and clinical impairment scores will be used to determine the association between impairment and activity limitation for para dressage, which must inform evidence-based Classification for the sport. |
| Who will have access to my data? | Only members of the research team from UCLan will have access to your personal data during the study. We will share anonymised data from this study with the FEI and with other members of the research team, who are based in the UK, Switzerland and the USA. |
| Will my data be archived for use in other research projects in the future? | The anonymised data set may be used to support other research within the same theme in the future including with researchers based in other countries, but it will not be possible to identify any individual participant from that data set. This is in accordance with the open data policy. |
| How will my data be destroyed? | Secure and irreversible destruction processes will include shredding of hard copy data and disposal using the University’s confidential waste service. Electronic data will be permanently deleted from the secure UCLan server. This will be conducted 5 years from the end of the study. |

**Contact Tracing**

As well as your research data which we have described above, we will also collect your contact information through the COVID-19 Research Participant Pre-Visit Check form. This is for the sole purpose of facilitating contact tracing by the NHS as part of efforts to control the coronavirus. Your contact information will not be accessed or shared with anyone other than the researcher, their supervisor (as a safeguard in the event of the researcher becoming unwell) and, only if required, an NHS contact tracer. This information will not be used for any other purpose and no other data collected as part of this research will be shared in this way.

Your contact information, which is fully identifiable, will be stored separately, and with no obvious link, to the research data described above, in a secure encrypted and password protected file on University servers. Your contact information will be destroyed 21 days after the last in-person face-to-face contact. Your contact information can only be withdrawn if we have not yet had in-person face-to-face contact.

**Are there any risks in taking part?**

We do not expect there to be any risks associated with taking part in this study. If you experience any discomfort (mental, emotional or physical) or disadvantage as part of the research, this should be made known to the researcher(s) immediately. If at any point you feel uncomfortable during the clinical impairment measures or riding simulator tests, you are free to pause or end the testing or we may move on to a different clinical impairment test or task on the simulator. Participation in this study requires face-to-face interaction between participants and researchers. Thus, despite the actions detailed above to mitigate the risk of spreading and contracting COVID-19, by attending this face-to-face study there is still a potential increased risk of exposure to the virus.

**Are there any benefits from taking part?**

It is envisaged that the results of the larger study will lead to recommendations for improving the Classification system to ensure that the impact of impairment is minimised during competition, making sport as equitable and fair as possible. Therefore, participants are not likely to directly or immediately benefit from the study, but may benefit from the future application of findings to Para Dressage Classification.

**Expenses and / or payments**

A contribution of £50 for those travelling from the UK and £100 for those travelling from outside of the UK for data collection at Hartpury University may be provided. Please contact the researchers for further information.

**What if I live outside the UK?**

If you wish to travel to the UK for participation in this study, please be aware that there may be travel restrictions and requirements from both the UK government and your home country. You can check the UK regulations here: <https://www.gov.uk/uk-border-control> and <https://www.gov.uk/uk-border-control/before-you-leave-for-the-uk>

Since our funds are limited, we will be unable to cover your expenses should travel restrictions change while you are in the UK that require you to stay longer than anticipated or enter into quarantine.

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

Findings will be published in professional journals. It is likely that the larger study will form the basis for layperson articles in equestrian publications that report on Para Equestrian sport. Findings will form recommendations for the current Para Dressage Classification system, so it is likely that findings will be presented at FEI stakeholder meetings. A summary report will also be available for participants. If you wish to receive this then please fill out the tear off portion of the consent form. Participants will not be identifiable from the results in any publication.

**What will happen if I want to stop taking part?**

You can withdraw from the study at any time, without offering any reasons or explanation. This will not affect your standing with the FEI or research team. Once your data is anonymised, it will not be possible to tell which results belong to which person and thus not possible to isolate and extract the data that relates to you. We envisage that the process of anonymisation will take up to 2 weeks, so you will have 2 weeks from the time of your data collection session to withdraw from the study. If you wish to withdraw your data within this time frame, please contact Dr. Sarah Jane Hobbs, Principal Investigator for this study, using the contact details provided at the end of this document. Once your data is anonymised, the information which identifies you directly will be deleted.

**What if I am unhappy or if there is a problem?**

If you have a concern about any aspect of this study, please contact Dr. Sarah Jane Hobbs, Principal Investigator for this study, using the contact details provided below. If you remain unhappy, or have a complaint which you feel you cannot come to us with, then please contact the Research Governance Unit at [OfficerForEthics@uclan.ac.uk](mailto:OfficerForEthics@uclan.ac.uk). The University strives to maintain the highest standards of rigour in the processing of your data. However, if you have any concerns about the way in which the University processes your personal data, it is important that you are aware of your right to lodge a complaint with the Information Commissioner's Office by calling 0303 123 1113.

**Who can I contact if I wish to take part or have further questions?**

If you wish to express interest in taking part or have any questions, please contact:

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