

PhD Opportunity

Identification of risk factors and preventative strategies for musculoskeletal injuries in females

Supervisory team:

Director of Studies:

Dr Christopher Holland

Supervisors:

Dr Darren Cooper

Research Group:

Human Performance

The PhD Opportunity:

Female sport has grown rapidly in professionalism and visibility, with increasing access to high-quality coaching, sport science, and sports medicine support. Despite these advances, musculoskeletal injuries in females continue to occur at disproportionately high rates across a range of sports and physical activities. Previous research has highlighted significant sex-based differences in injury prevalence and risk factors. For example, females have been shown to be up to eight times more likely to sustain certain lower-limb injuries than males, such as ACL tears, due to a combination of biomechanical, hormonal, anatomical, and neuromuscular factors (Silvers-Granelli, 2021). While knee injuries remain a well-studied concern, emerging evidence suggests that females are also at elevated risk of musculoskeletal injuries affecting other regions of the body, including the ankle, hip, lumbar spine, and upper limb, yet these areas remain comparatively understudied.

The Women and Equalities Committee (WEC) has identified systematic gender inequalities in sports research, noting that many current injury management practices are built on studies predominantly involving male participants. This contributes to prevention and rehabilitation strategies that are not always well-aligned with the needs of female athletes. Furthermore, there is growing recognition that improving injury outcomes requires better integration of contemporary research into real-world practice. However, evidence indicates that implementation remains inconsistent, and that practitioner engagement with research can be challenging (Yoong et al., 2023).

This PhD project aims to address the substantial research gap surrounding musculoskeletal injury risk and prevention strategies in female populations. Candidates may choose to focus on a specific region of the body, a particular sport or activity, comparative injury patterns across body regions, or broader systemic issues

influencing injury risk. Equally important is the exploration of adoption, implementation, and sustainability of prevention strategies within applied environments to ensure genuine impact on practice.

References:

Silvers-Granelli, H. (2021) 'Why female athletes injure their ACL's more frequently? What can we do to mitigate their risk?', *International Journal of Sports Physical Therapy*, 16(4), pp. 971–977. doi: 10.26603/001c.25467.

Yoong, S. L. *et al.* (2023) 'Describing the evidence-base for research engagement by health care providers and health care organisations: a scoping review', *BMC Health Services Research*, 23(1), pp. 1–20. doi: 10.1186/s12913-022-08887-2.

Application Process:

To begin the application process please go to <https://www.worcester.ac.uk/courses/business-mphilphd> and click on 'How to Apply' in the top menu. This PhD could be carried out on a part time or full time basis so please select the relevant application link. On the application form, please make it clear that you are applying for one of our advertised projects so we can direct it straight to the relevant people.

The Interview:

All successful applicants will be offered an interview with the proposed Supervisory Team. You will be contacted by a member of the Doctoral School Team to find a suitable date. Interviews can be conducted in person or over Microsoft Teams.

Funding your PhD:

For information about Doctoral Loans please visit: <https://www.worc.ac.uk/study/fees-and-finance/doctoral-loans.aspx>

During your PhD you can access the Research Student Support Scheme to support dissemination costs associated with your research, up to £500 a year.

Research at the University of Worcester

Research is central to the University's mission to make a difference in everything that we do. We are committed to delivering excellent research which extends the boundaries of human knowledge but which also improves people's lives by enabling better health outcomes, improving food security, developing environmentally sustainable solutions for crop production and socially sustainable solutions to our ageing population, enhancing public knowledge and understanding of the past and present.

The University hence focuses its research around five high-level challenges facing society, locally, nationally and globally:

- [Human Health and Wellbeing](#)
- [Sustainable Futures](#)
- [Digital Innovation](#)
- [Culture, Identity and Social Exclusion](#)
- [Professional Education](#)

The success of our research is reflected in our continuous improvement in external research assessment processes. In the most recent Research Excellence Framework, REF 2021, the University saw a near 50% increase in the scale of its research and 12% increase in quality, building on its performance in REF 2014 when it was the UK's most improved university in terms of Research Power, a combination of scale and quality.

Research Degrees at Worcester

Our research students are central to our overall mission for research. They are working at the cutting edge of their disciplines and driving forward the quality of our research whilst enriching our research culture. We are looking to increase our research student numbers as a strategic imperative.

Our commitment to our students is reflected in the results of the Postgraduate Research Experience Survey 2023 in which we ranked 3rd for overall research student satisfaction nationally. Key to our success in this area is the Doctoral School, a focal point for all our research students.

It provides:

- day-to-day support for our students, both administrative and practical, through our dedicated team
- a Research Student Study Space with both PCs and laptop docking station
- a comprehensive Researcher Development Programme for students and their supervisors
- a programme of student-led conferences and seminars

Research Group

Widening Participation:

As part of its mission statement the University is committed to widening participation for its higher degrees. Although most candidates will have an undergraduate and/or a Masters degree, the University is happy to accept applications from candidates with relevant professional qualifications and work related experience.

For further information or an informal discussion on this project, please contact Dr Christopher Holland (c.holland@worc.ac.uk)

Applications can be made at:

<https://www.worcester.ac.uk/courses/business-mphilphd>