EDITH COWAN UNIVERSITY

PROJECT DETAILS

Project Title:

Optimising Bone Health in Women: The Impact of Sport Participation on Bone Mineral Density Across the Lifespan

Project Summary:

Optimising bone health is essential for reducing osteoporosis risk in women. This research investigates the impact of high-impact sports participation on bone mineral density (BMD) across the lifespan. A systematic review will synthesise existing evidence, while cross-sectional and retrospective studies will examine estrogen's synergistic effect with mechanical loading on bone formation and explore the long-term benefits of sports participation in maintaining peak bone mass and mitigating bone loss during peri- and post-menopausal periods. Findings will establish the long-term benefits of early-life sports participation on adult bone health and inform evidence-based strategies for osteoporosis prevention. This project will bridge research gaps, provide actionable recommendations, and advocate for integrating high-impact activities into lifelong health promotion initiatives for women.

Preferred Applicant Skillset:

The ideal PhD applicant will possess a strong knowledge base in exercise physiology, endocrinology, and/or biomedicine. Preferred qualifications include experience with bone measurements such as dual-energy x-ray absorptiometry, proficiency in statistical analyses, and the ability to effectively communicate with diverse audiences, including athletes and coaches. A background in sport and exercise science is preferred but not required. The candidate should demonstrate strong analytical skills, attention to detail, and the ability to work both independently and collaboratively. Experience in research methodology and scientific writing will be highly valued, as will a commitment to advancing bone health research and its practical applications.

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