

RESEARCH DIRECTIONS

Fatigue in Australian Rules Football

Dr Jason Siegler, Dr Richard Lovell, Dr Paul Marshall and Associate Professor Simon Green from the School of Science and Health with John Quinn from the Greater Western Sydney Giants have been awarded a UWS Research Partnership grant to profile physiological fatigue patterns throughout a competitive Australian Rules Football season.

'Profiling and monitoring the physiological fatigue associated with specific Australian Football League performance tasks will provide further evidence for a holistic fatigue model currently being developed,' says Dr Siegler. 'Looking at whole body movement, performance and fatigue in a real-world setting is an important progression from isolated, lab-based research and will provide an opportunity to apply the model in a performance context. The utility of applied, real-world research increases our capacity to apply our fatigue model to other populations, such as sedentary clinical populations with a measurement of fatigue in a home context.'

The research team will first undertake pilot work to focus on the feasibility of measuring neuromuscular fatigue within the confines of the Greater Western Sydney Giants sport science facility. A repeated sprint protocol will be developed based on Australian Football League (AFL) average sprint distances and recovery times from match play for profiling muscle recruitment and allowing for fatigability comparison under both acute and chronic (season-long) conditions. The pilot data collected will provide insight into the measurement accuracy and measurement timing of the physiological and biophysical measurements. The team will determine the most consistent periods of training and recovery for obtaining measurements and how these measurements might relate to physical match performance.



The results of this research will provide a performance algorithm that could be implemented at the club to more accurately monitor performance capacity throughout the AFL season. The algorithm could be applied across various sporting codes and could be investigated in other populations (e.g. homebound patients). It will also provide the foundation for further collaboration between the UWS and the Greater Western Sydney Giants, with potential for the creation of student internships, post-graduate research collaboration and a rare opportunity to access elite-level athletes.

Project Title: Physiological fatigue and performance monitoring in Australian Rules Football
Funding has been set at: \$32,970
Contact Details: j.siegler@uws.edu.au
<http://www.uws.edu.au/ssh>
November 2012