

BIOMECHANICS AND EXERCISE TESTING LABORATORY

MAXIMISING HUMAN POTENTIAL



**PROFESSOR SUZANNE SNODGRASS, DR HAYLEY LEWTHWAITE, DR EMILY COX,
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Improving human movement for optimum health and performance.

The University of Newcastle is a leader in exercise and physical activity in our region, including the assessment of human biomechanics and cardiorespiratory physiology. Our researchers work with people to improve their physical performance, prevent and manage chronic disease, and prolong a healthy life. We apply sophisticated tools such as our advanced motion analysis laboratory to study body movement and muscle function, high end metabolic stress testing to study cardiorespiratory function, and functional near-infrared spectroscopy to study how the brain works in real time. These capabilities can contribute to innovations for sport, rehabilitation and physical activity.

COMPETITIVE ADVANTAGE

- World-class infrastructure to measure human movement, brain function and cardiorespiratory physiology and fitness
- International collaborations at the highest levels of sport and technology
- Strong multidisciplinary collaboration and local links to physiotherapy, exercise science, physical education, psychology, and nursing
- Access to students for internships, research, industry participation.

PARTNERS

- Hunter Medical Research Institute

- Hunter New England Health
- Diabetes Australia
- Newcastle Knights Women
- National Basketball Association (USA).

SUCCESSFUL RESEARCH APPLICATION

- Balance for Health: Understanding physiological factors related to early balance decline and falls
- Exercise for Type II Diabetes and Long-COVID
- Analysis of tackle technique: measures to reduce concussion risk in female rugby
- Mechanisms of ankle sprains in basketball players
- Functional movement analysis in people with chronic low back and neck pain.

MORE INFORMATION

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