Gwyn Lewis
BSc, MSc, PhD

Research specialisation:
Neurophysiology, motor control, pain, rehabilitation

Experience:
Have approximately 20 years' experience in research. After completing PhD, spent 4 years undertaking a post-doctoral fellowship at the Rehabilitation Institute of Chicago before returning to NZ for a position at Auckland University of Technology. Have worked in the Health and Rehabilitation Research Institute at AUT since this time. Appointed to Associate Professor in 2015. Spent 6 years as a member of the NZ Pain Society Council and had a substantial involvement in committees targeting pain research and education and NZ. Teach neuroscience and research methods in the undergraduate physiotherapy programme and a postgraduate paper in pain.

Research overview:
Doctoral and post-doctoral work focused on motor control, rehabilitation and neurophysiology. Most of this work was in people with movement disorders, predominantly stroke and Parkinson's disease. Also involved a few studies on the use of virtual reality in the rehabilitation of people with movement disorders. Currently research focus is in the area of pain. This includes neurophysiology of acute and chronic pain, predictors of persistent pain, efficacy of pain modulation pathways, and how cognitive and psychosocial factors influence the pain system. Had a substantial involvement in the RugbyHealth project.

Postgraduate supervision:
Doctoral: 3 completed, 2 current
Masters: 5 completed, 1 current

Research publications:

Parker RS, Lewis GN, Rice DA, McNair PJ. In press. The association between corticomotor excitability and motor skill learning in people with painful hand arthritis. Clinical Journal of Pain.

Hume PA, Theadom A, Lewis GN, Quarrie KL, Brown SR, Hill R, Marshall SW. A comparison of cognitive function in former rugby union players compared to former non-contact sport players and the impact of concussion history. Sports Medicine. In press.

Lewis GN, Hume PA, Brown SR, Taylor D, Stavric V. 2017. NZ Rugby Health study: Motor cortex excitability in retired elite and community level rugby players. New Zealand Medical Journal 130(1448):34-44.

Rice DA, Graven-Nielsen T, Lewis GN, McNair PJ, Dalbeth N. 2015. The effects of experimental knee pain on lower limb corticomotor and motor cortex excitability. Arthritis Research & Therapy, 17:204.

Lewis GN, Rice DA, McNair PJ, Kluger M. 2015. Predictors of persistent pain following total knee arthroplasty: A systematic review and meta-analysis. British Journal of Anaesthesia, 114(4):551-561.

Rice DA, McNair PJ, Lewis GN, Mannion J. 2015. Experimental knee pain impairs submaximal force steadiness during isometric, eccentric, and concentric muscle action. Arthritis Research & Therapy, 17:259.

Lewis GN, Rice DA, McNair PJ, Kluger M. In press. Predictors of persistent pain following total knee arthroplasty: A systematic review and meta-analysis. British Journal of Anaesthesia.

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