

CENTRE FOR HEALTH, ACTIVITY, AND REHABILITATION RESEARCH



Research Activity 2014



Centre for Health, Activity,
and Rehabilitation Research

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RESEARCH ACTIVITY 2014

OVERVIEW

The *Centre for Health, Activity, and Rehabilitation Research* is based at the School of Physiotherapy on the University's main campus in Dunedin, but also has members in Wellington and in Christchurch. Currently, it comprises 14 research active staff and three dedicated research support staff.

We are committed to excellence in research, and to the transfer of research informed knowledge to our learning activities and clinical practice. Our research has expanded rapidly over the last ten years, during which our research outputs, funds, and research student numbers have more than trebled: we are the fastest growing research area within the University in terms of quantifiable indicators of research quality (these consist of the number of research outputs, research students, and research income).

RESEARCH DEVELOPMENT

The School of Physiotherapy moved back to the University from the Otago Polytechnic in 1996. At that time, none of the academic physiotherapy staff who transferred had a doctoral degree, and there was no culture of research. This has changed significantly in the intervening period: all of the academic staff now hold PhD degrees, and a strong research culture has been developed.

The School and the Centre for Health, Activity, and Rehabilitation Research are now recognised nationally as the pre-eminent centre for allied health research, evidenced by PBRF ratings, the Centre's leadership role in the University's Rehabilitation and Disability Research Theme (2007-2011), and Professor Baxter's appointment to the TEC-funded STAR Advisory Panel.

In 2013 the Centre changed its title to the Centre for Health, Activity, and Rehabilitation Research, to better reflect the expansion of its research activities and its multidisciplinary engagement. CHARR has also developed a strong network of

research partners, ranging from community groups (through its group-based exercise and physical activity programmes) to commercial partners nationally and internationally.

RESEARCH NETWORKS AND THEMES

We have developed strong linkages with colleagues and research groups nationally and internationally, as well as across the University.

Ageing well:

The Centre is host for the National Science Challenge in Ageing Well. This was awarded \$14.6M of support funding for research across New Zealand, and will be formally launched in 2015.

The Ageing Well National Science Challenge vision is to add life to years for all older New Zealanders. This will be achieved by harnessing science to sustain health and wellbeing into the later years of life.

The mission of Ageing Well is to push back disability thresholds to enable all New Zealanders to reach their full potential through the life course with particular reference to the latter years of life.

Brain Health Core:

CHARR researchers have been involved in the formation of the Brain Research New Zealand Core as principal research and associate investigators.

Brain Research New Zealand – Rangahau Roro Aotearoa, is a unique research partnership on the Ageing Brain, co-hosted by the University of Auckland and the University of Otago, in conjunction with research teams from the NZ Brain Research Institute in Christchurch, the University of Canterbury and Auckland University of Technology.

We have contributed to two additional University Research Themes: *The Arthritis Research Theme*, (Director: Associate Professor Lisa Stamp) and the *Health of Veterans, Serving Personnel and Their Families* (Director: Associate Professor David McBride, Deputy and Acting Director Professor David Baxter). These networks have served to increase our engagement and collaboration with departments within the University, and key agencies externally (including Arthritis New Zealand, and the New Zealand Defence Force).

INTERNATIONAL: COLLABORATIONS AND ADVISORY BOARD

We have well-established links with research groups internationally, as evidenced by joint publications, grant applications and supervisory arrangements. Key research collaborations include University of Ulster (UK; physical activity, low back pain); University of Melbourne (Australia; concussion, sports medicine); University of Glasgow (multiple sclerosis and physical activity) and University of Sydney (falls and intellectual disability). We also continue active collaborations with previous staff from the School who have moved overseas, including Professor Stephan Milosavljevic (University of Saskatchewan), Dr Paul Hendrick (University of Nottingham), and Dr Leica Claydon (Anglia Ruskin University).

The work of the Centre is supported by an International Advisory Board comprised of international experts in relevant research fields who aid the centre through staff and student exchanges, contributing to PhD programmes through supervisory or advisory roles, reviewing grants/publications, and networking on research developments at the international level.

In 2014 the following were visitors to the School:

- Professor Suzanne McDonough, University of Ulster (William Evans Fellow)
- Associate Professor Todd Pataky, Shinshu University (William Evans Fellow 2014)

The Dean also made initial visits to Durham University and Uppsala University in 2014 to pursue the further development of research networks on physical activity and health with Matariki Partners.

CONFERENCES AND EVENTS

CHARR Research Week:

The inaugural CHARR Research week was held from the 24-27th November. Over the course of the week events were held on the following topics:

Graduate Research Conference, Physical activity and health research symposium, Research career development day, and a Healthy ageing symposium.

The events were attended by academics from all divisions across the University, representatives from community organisations, the health sector, and members of the general public.

RESEARCH LEADERS

Professor David Baxter

BSc (Hons), DPhil, MBA

Position: Dean and Professor, Co-Director of CHARR

David's work has largely focused on physical therapy interventions to reduce pain and disabilities, and the impact of non-communicable diseases: physical activity and rehabilitation; low back pain; complementary and alternative medicine; photomedicine and laser therapy; surveys; controlled trials; and systematic reviews of clinical effectiveness of physical interventions for non-communicable diseases. Recently participated as a team member on a major HRC-funded trial of non-pharmacological management of osteoarthritis (MOA Trial), with several multinational network projects focused on the use of activity monitors in rehabilitation (including UK, Ireland, Sweden), and non-pharmacological pain management (including Korea, USA, UK and Ireland).

Associate Professor Leigh Hale

BSc (Physio), MSc, PhD (WITS), FNZCP

Position: Deputy Dean and Associate Professor, Co-Director of CHARR

Leigh's work has focused on the needs of people with disabilities, and developing community-based interventions to improve function, participation and engagement: Neurological rehabilitation and disability research; community-based rehabilitation; virtual reality in rehabilitation; falls prevention; using both qualitative and quantitative methodology (with people with multiple sclerosis, stroke, Parkinson's disease, intellectual disability, older adults, diabetes)

Professor S. John Sullivan

DipPhEd (Otago)MSc PhD (Wat)

Position: Associate Dean of Under-Graduate Studies and Professor, Co-Director of CHARR

John's international research has led to publications in the areas of: clinical neurophysiology and motor control; therapeutic massage; traumatic brain injury and physical activity; sports-related concussion; sports injury and the use of the world wide web and apps in sports concussion and sports medicine. Professor Sullivan and his collaborators are focusing their sports concussion research on: the understanding of the physical and social consequences of a sports concussion, the use of emerging social networking technologies in concussion awareness and management, the development of a safe return-to-play protocol and sideline screening assessment tools.

KEY AND EMERGING STAFF

Dr Cathy Chapple

BSc (Hons), Grad Dip Phty, Post Grad Dip Phty, MManipPhty, PhD (Otago)

Position: Associate Dean of Clinical Studies and Lecturer

Research Interests

Cathy's research focuses on Osteoarthritis of the knee and hip focusing on: effectiveness of physiotherapy intervention, predictors of treatment outcome; models of care, patient consulting behaviour, levels of physical activity, and pain with osteoarthritis. She has an interest in translating research into physiotherapy clinical practice by exploring: facilitators and barriers to implementation of research findings, and alternative/new models of physiotherapy practice e.g. working in orthopaedic clinics. Her interest in clinical education focuses on the use of simulation to augment clinical practice, models of clinical practice, and clinical reasoning in students and experienced physiotherapists.

Dr Prasath Jayakaran

BPT, MPT, PhD (Otago)

Position: Post-doctoral fellow

Research Interests

Prasath has a primary interest in musculoskeletal rehabilitation, particularly in persons with a physical disability. Further to completion of his doctoral studies (2012) on lower limb amputation, Prasath completed his first postdoctoral fellowship (one year) in Brunel University, London where he was closely involved in a couple of projects investigating gait and balance with an application to people with disability. In January 2014 he started a 3-year postdoctoral fellowship at the Centre for Health, Activity and Rehabilitation Research, University of Otago.

His current research interests include; postural control and functional balance in persons with physical disability, physical activity and quality of life in persons with long-term physical disability, and motor control and cortical re-organisation in persons with lower limb amputation.

Dr Gill Johnson

Dip Phty, MSc, PhD (Otago), FNZCP

Position: Senior Lecturer

Research Interests

Gill's main research focus is in the area of spinal health and factors impacting on self-reports of low back pain. Her more recent research interests include the examination of balance performance in different patient populations and quantifying

coupled movement patterns between the jaw and cervical spine using kinematic analysis. Gill's clinical interests include musculoskeletal dysfunction and professional practice issues.

Dr Ramakrishnan Mani

B.P.T (Physiotherapy) M.P.T (Manipulative Physiotherapy), PGCertC (Biostatistics, Epidemiology and Research methodology), PhD (Otago).

Position: Lecturer

Research Interests

Ram's primary research interest is to encompass modern pain sciences [centrally mediated neurophysiological mechanisms, and psychosocial factors] in routine clinical assessment and intervention. Other key research interests include sedentary behaviours and structured physical activity in health and disease, rural occupational health (injury prevention-quad bikes) and clinimetrics. He is a member of various national and international professional organisations such as International Association for study of pain (IASP), New Zealand Pain society (NZPS) and Injury Prevention Network, Aotearoa, New Zealand (IPNANZ).

Dr Hilda Mulligan

BSc, MHSc, PhD (Otago)

Position: Lecturer (School of Physiotherapy, Christchurch)

Research Interests

Hilda's teaching and research interests lie in disability and rehabilitation, with a broad and participatory approach to the meaning of rehabilitation. She particularly enjoys working with children and adults with disabling neurological conditions, and with older adults to address falls prevention.

Dr Meredith Perry

BPhy, MManipTh, PhD (Otago)

Position: Lecturer (School of Physiotherapy, Wellington)

Research Interests

Meredith has an interest in the development of relationships between health care providers and their clients particularly in the area of primary health, chronic conditions (including low back pain) and health behaviours, particularly with respect to the design of physical activity interventions, inter-professional learning, and older adult's recovery following orthopaedic surgery. She has experience in qualitative and mixed methods research.

Dr Daniel Ribeiro

BPhy (IPA), MSc (UFRGS) PhD (Otago)

Position: Lecturer

Research Interests

Dan's research programme has two main research themes. The first is focused on clinical biomechanics, with special interest in shoulder and low back biomechanics.

This is a laboratory-based research focusing on the association between musculoskeletal injury and neuromuscular and movement impairments.

The second theme explores the use of biofeedback in rehabilitation, combining laboratory with field-based research. This theme aims to identify ideal forms of feedback provision and its effectiveness as an intervention tool.

My final goal is to use the information gathered from these research themes to inform and develop new strategies for musculoskeletal rehabilitation and injury prevention

Dr Margot Skinner

Dip Phy, MPhEd, PhD (Otago), FNZCP

Position: Senior Lecturer

Research Interests

Margot had developed her interest in the conservative management of patients with obstructive sleep apnoea, and comparison of posture and 3D movement of the cervicothoracic region to include a wider range of participants such as young female rowers, those with asthma, with obesity and other non-communicable diseases. She also has an interest in research into interprofessional education, and global health initiatives, each of which links well with her teaching commitments and involvement in physiotherapy professional affairs at an international level.

Dr Catherine Smith

DipPhy, PhD (Otago)

Position: Associate Dean Graduate Research and Research Fellow

Research Interests

Cath's current research interests include facilitation of participation in physical activity and exercise for people with disability and chronic health problems, in particular Multiple Sclerosis. She also has a special interest in how dog-walking contributes to the health and well-being of healthy adults and adults with chronic health conditions.

Dr Gisela Sole

BSc (Physio) (Stellenbosch), MSc (Med) Exercise Science (UCT), PhD (Otago), FNZCP

Position: Senior Lecturer

Research Interests

Gisela contributes to sports and musculoskeletal research and teaching at the School. Her research into 'Developing a motor control model for individuals with hamstring injuries'; has contributed towards the understanding of the high recurrence rate of this injury and is leading towards more effective prevention and management strategies. Current research focuses on decreasing risk for osteoarthritis following ACL and other knee injuries, and the role that footwear may have on these. She is also contributing towards research on the association of shoulder pain and various functional limitations.

Dr Steve Tumilty

GradDipPhys (Northumbria); PGDipPhy(Manip), PGCertTertT, MPhy (Otago), PhD (Otago)

Position: Associate Dean for Postgraduate Studies and Senior Lecturer

Research Interests

Steve's passion is for clinically applicable musculoskeletal research. His recent focus has been exploring the use of low level laser therapy in the treatment of tendinopathies. His research directions include translational research projects that will bring new knowledge to the profession. Current projects include Anterior Cruciate Ligament rehabilitation, the use of outcome measures to monitor progress in a rehabilitation setting, and the incidence of low back pain in the amputee population.

FULL PUBLICATIONS (2014)

2014 Publications

Peer Reviewed Journals

Ahmed, O. H., Lee, H., Schneiders, A. G., McCrory, P., & **Sullivan, S. J.** (2014). Concussion and comedy: No laughing matter? *PM&R*

Aoyagi, M., **Mani, R.**, Jayamoorthy, J., & **Tumilty, S.** (2014). Determining the level of evidence for the effectiveness of spinal manipulation in upper limb pain: A systematic review and meta-analysis. *Manual Therapy*

Arumugam, A., Milosavljevic, S., Woodley, S., & **Sole, G.** (2014). Effects of external pelvic compression on electromyographic activity of the hamstring muscles during unipedal stance in sportsmen with and without hamstring injuries. *Manual Therapy Advance*

Arumugam, A., Milosavljevic, S., Woodley, S., & **Sole, G.** (2014). Effects of external pelvic compression on isokinetic strength of the thigh muscles in sportsmen with and without hamstring injuries. *Journal of Science & Medicine in Sport*.

Baxter, M. L., Milosavljevic, S., **Ribeiro, D. C.**, Hendrick, P., & McBride, D. (2014). Psychometric properties of visually based clinical screening tests for risk of overuse injury. *Physical Therapy Reviews*, (3), 213-219.

Cameron, C., **Smith, C. M.**, **Tumilty, S.**, & Treharne, G. J. (2014). The feasibility and acceptability of using mobile methods for capturing and analysing data about dog-walking and human health [ML Roberts Prize Winner]. *New Zealand Journal of Physiotherapy*, (2), 163-169.

Clay, L., Treharne, G. J., Hay-Smith, E. J. C., & Milosavljevic, S. (2014). Are agricultural quad bike loss-of-control events driven by unrealistic optimism? *Safety Science*, 54-60.

Clay, L., Treharne, G. J., Hay-Smith, E. J. C., & Milosavljevic, S. (2014). Is workplace satisfaction associated with self-reported quad bike loss of control events among farm workers in New Zealand? *Applied Ergonomics*, (3), 496-502.

- Coleman, K., Darlow, B., McKinlay, E., Beckingsale, L., Donovan, S., Stanley, J., Gallagher, P., Gray, B., Naser, H., **Perry, M.**, Pullon, S. (2014). Does interprofessional education make a difference to students' attitudes to practice? *Journal of Medical Imaging & Radiation Sciences*, (4), 344-345.
- Darlow, B., Dean, S., **Perry, M.**, Mathieson, F., **Baxter, G. D.**, & Dowell, A. (2014). Acute low back pain management in general practice: Uncertainty and conflicting certainties. *Family Practice*
- Darlow, B., **Perry, M.**, Mathieson, F., Stanley, J., Melloh, M., Marsh, R., **Baxter, G. D.**, Dowell, A. (2014). The development and exploratory analysis of the Back Pain Attitudes Questionnaire (Back-PAQ). (5),
- Darlow, B., **Perry, M.**, Stanley, J., Mathieson, F., Melloh, M., **Baxter, G. D.**, & Dowell, A. (2014). Cross-sectional survey of attitudes and beliefs about back pain in New Zealand. (5)
- Davies, C., Nitz, A. J., Mattacola, C. G., Kitzman, P., Howell, D., Viele, K., **Baxter, D.**, Brockopp, D. (2014). Practice patterns when treating patients with low back pain: A survey of physical therapists. *Physiotherapy Theory & Practice*, (6), 399-408.
- de Castro, M. P., **Ribeiro, D. C.**, de C. Forte, F., de Toledo, J. M., Aldabe, D., & Loss, J. F. (2014). Shoulder kinematics is not influenced by external load during elevation in the scapular plane. *Journal of Applied Biomechanics*, 66-74.
- Dean, E., Dornelas De Andrade, A., O'Donoghue, G., Skinner, M., Umereh, G., Beenen, P., ... Wong, W. P. (2014). The Second Physical Therapy Summit on Global Health: Developing an action plan to promote health in daily practice and reduce the burden of non-communicable diseases. *Physiotherapy Theory & Practice*, (4), 261-275.
- Dean, E., Moffat, M., Skinner, M., Dornelas de Andrade, A., Myezwa, H., & Söderlund, A. (2014). Toward core inter-professional health promotion competencies to address the non-communicable diseases and their risk factors through knowledge translation: Curriculum content assessment. *BMC Public Health*, 717.
- Devan, H.**, Carman, A. B., Hendrick, P. A., **Ribeiro, D. C.**, & **Hale, L. A.** (2014). Perceptions of low back pain in people with lower limb amputation: A focus group study. *Disability & Rehabilitation*

Diab, K. S., Hale, L. A., Waters, D. L., & Skinner, M. A. (2014). Factors contributing to postural instability in patients with idiopathic Parkinson's disease: A systematic review. *Physical Therapy Reviews*, (5), 302-327.

Fyhr, C., Gustavsson, L., Wassinger, C., & **Sole, G.** (2014). The effects of shoulder injury on kinaesthesia: A systematic review and meta-analysis. *Manual Therapy*

Gillespie, N., Northcott, J., Due, L., John Lim, Peter Chiu, & **Sole, G.** (2014). Age-related changes of the glenoid labrum: A narrative review. *New Zealand Journal of Physiotherapy*, (2), 94-100.

Hale, L., & Donovan, K. (2014). A video-based balance measure for people with intellectual disability. *Journal of Intellectual & Developmental Disability*, (2), 206-213.

Hale, L., Jones, F., Mulligan, H., Levack, W., Smith, C., Claydon, L., Milosavljevic, S., Taylor, D., Allan, J., MacKenzie, N., Flannery, J., Edwards, S., Rabone, T., Alcock, M. (2014). Developing the Bridges self-management programme for New Zealand stroke survivors: A case study. *International Journal of Therapy & Rehabilitation*, (8), 381-388.

Jayakaran, P., DeSouza, L., Cossar, J., & Gilhooly, K. (2014). Influence of walking aid on temporal and spatial parameters of gait in healthy adults. *PM&R*

Jayakaran, P., Johnson, G. M., & Sullivan, S. J. (2014). Postural control in response to altered sensory conditions in persons with dysvascular and traumatic transtibial amputation. *Archives of Physical Medicine & Rehabilitation*

Kanagasabai, P. S., Mulligan, H., Mirfin-Veitch, B., & Hale, L. A. (2014). Association between motor functioning and leisure participation of children with physical disability: An integrative review. *Developmental Medicine & Child Neurology*

Kannan, P., & Claydon, L. S. (2014). Some physiotherapy treatments may relieve menstrual pain in women with primary dysmenorrhea: A systematic review. *Journal of Physiotherapy*

Kannan, P., Claydon, L. S., Miller, D., & Chapple, C. M. (2014). Vigorous exercises in the management of primary dysmenorrhea: A feasibility study. *Disability & Rehabilitation*

Kingston, L. C., Claydon, L., & **Tumilty, S.** (2014). The effects of spinal mobilizations on the sympathetic nervous system: A systematic review. *Manual Therapy*

Law, D., McDonough, S., Bleakley, C., **Baxter, G. D., & Tumilty, S.** (2014). Laser acupuncture for treating musculoskeletal pain: A systematic review with meta-analysis. *Journal of Acupuncture & Meridian Studies*

Lee, H., **Sullivan, S. J.,** & Schneiders, A. G. (2014). Does a standardised exercise protocol incorporating a cognitive task provoke postconcussion-like symptoms in healthy individuals? *Journal of Science & Medicine in Sport*

Lee, H., **Sullivan, S. J.,** Schneiders, A. G., Ahmed, O. H., **Balasundaram, A. P.,** Williams, D., ... McCrory, P. (2014). Smartphone and tablet apps for concussion road warriors (team clinicians): A systematic review for practical users. *British Journal of Sports Medicine*

Macznik, A. K., Schneiders, A. G., Sullivan, S. J., & Athens, J. (2014). What ""CAM"" we learn about the level of evidence from 60 years of research into manipulative and body-based therapies in sports and exercise medicine? *Complementary Therapies in Medicine*, (2), 349-353.

Mansi, S., Milosavljevic, S., **Baxter, G. D., Tumilty, S.,** & Hendrick, P. (2014). A systematic review of studies using pedometers as an intervention for musculoskeletal diseases. *BMC Musculoskeletal Disorders*

McDowell, J. M., & **Johnson, G. M.** (2014). Acupuncture needling styles and reports of associated adverse reactions to acupuncture. *Medical Acupuncture*, (5), 271-278.

McDowell, J. M., Johnson, G. M., & Hetherington, B. H. (2014). Mulligan Concept manual therapy: Standardizing annotation. *Manual Therapy* (19) 499-503

Mehta, P., Claydon, L. S., **Mani, R.,** Hendrick, P., & **Baxter, D. G.** (2014). Investigating the psychometric properties of patient reported outcome measures in individuals with chronic diabetic neuropathic pain: Prospective longitudinal cohort study protocol. *Physical Therapy Reviews* (6), 440-446.

Mulligan, H., Smith, C. M., & Ferdinand, S. (2014). How did the Canterbury Earthquakes affect physiotherapists and physiotherapy services? A qualitative study. *Physiotherapy Research International*

Pal, J., **Hale, L.**, Mirfin-Veitch, B., & Claydon, L. (2014). Injuries and falls among adults with intellectual disability: A prospective New Zealand cohort study. *Journal of Intellectual & Developmental Disability*, (1), 35-44.

Paul, L., Coote, S., Crosbie, J., Dixon, D., Hale, L., Holloway, E., ... White, L. (2014). Core outcome measures for exercise studies in people with multiple sclerosis: Recommendations from a multidisciplinary consensus meeting. *Multiple Sclerosis Journal*

Peplow, P. V., & **Baxter, G. D.** (2014). Defining a therapeutic window for laser irradiation (810 nm) applied to the inguinal region to ameliorate diabetes in diabetic mice. *Photomedicine & Laser Surgery*,(9), 500-504.

Ribeiro, D. C., Sole, G., Abbott, J. H., & Milosavljevic, S. (2014). The effectiveness of a lumbopelvic monitor and feedback device to change postural behavior: A feasibility randomized controlled trial. *Journal of Orthopaedic & Sports Physical Therapy*, (9), 702-711.

Robertson, L., Hale, B., Waters, D., **Hale, L.**, & Andrew, A. (2014). Community peer-led exercise groups: Reasons for success. *Internet Journal of Allied Health Sciences & Practice* (2).

Salmon, D. M., Handcock, P., **Sullivan, S. J.**, Rehrer, N., & Niven, B. (2014). Reliability of repeated isometric neck strength and endurance testing in a simulated contact posture. *Journal of Strength & Conditioning Research*

Smith, C. M., Fitzgerald, H. J. M., & Whitehead, L. (2014). How fatigue influences exercise participation in men with multiple sclerosis. *Qualitative Health Research*

Sole, C. C., Milosavljevic, S., **Sole, G.**, & **Sullivan, S. J.** (2014). Patterns of mediolateral asymmetry in worn footwear. *Footwear Science*(3), 177-192

Sole, G., Osborne, H., & Wassinger, C. (2014). Electromyographic response of shoulder muscles to acute experimental subacromial pain. *Manual Therapy*, (4), 343-348.

Sole, G., Osborne, H., & Wassinger, C. (2014). The effect of experimentally-induced subacromial pain on proprioception. *Manual Therapy*

Sullivan, S. J., La Grow, S., Alla, S., & Schneiders, A. G. (2014). Riding into the future: A snapshot of elderly mobility scooter riders and how they use their scooters. *New Zealand Medical Journal*

Tumilty, E., Walker, S., & Tumilty, S. (2014). Tainting by numbers: How the disadvantaged become invisible within evidence-based medicine [Discussion/Opinion paper]. *Physical Therapy Reviews* (5), 367-377.

Usherwood, G., & Williams, S. (2014). Teres major strain: Not a minor [Case study] *New Zealand Journal of Sports Medicine*, (1), 16-17

van Bysterveldt, E., Davey, S., Douglas, N., Liu, R., Robertson, L., Conroy, J., **Higgs, C., Hale, L.** (2014). A group exercise programme for people at risk from type II diabetes run as a physiotherapy student clinical placement is beneficial: A qualitative study. *New Zealand Journal of Physiotherapy* (2), 81-88.

Ward, L., Stebbings, S., Cherkin, D., & Baxter, G. D. (2014). Components and reporting of yoga interventions for musculoskeletal conditions: A systematic review of randomised controlled trials. *Complementary Therapies in Medicine*

Ward, L., Stebbings, S., Sherman, K. J., Cherkin, D., & **Baxter, G. D.** (2014). Establishing key components of yoga interventions for musculoskeletal conditions: A Delphi survey. *BMC Complementary & Alternative Medicine* (1), 196.

Ward, L., Stebbings, S., Athens, J., Cherkin, D., & Baxter, G. D. (2014). Yoga for pain and sleep quality in rheumatoid arthritis: Study protocol for a pilot randomized controlled trial. *Physical Therapy Reviews*

White, P. E., Newton, J. D., Makkissi, M., **Sullivan, S. J.,** Davis, G., McCrory, P., ... Finch, C. F. (2014). Knowledge about sports-related concussion: Is the message getting through to coaches and trainers? *British Journal of Sports Medicine*, (2), 119-124.

Winser, S. J., Smith, C. M., Hale, L. A., Claydon, L. S., Whitney, S. L., & **Mehta, P.** (2014). Systematic review of the psychometric properties of balance measures for cerebellar ataxia. *Clinical Rehabilitation*

Winser, S. J., Smith, C., Hale, L. A., Claydon, L. S., & Whitney, S. L. (2014). Balance outcome measures in cerebellar ataxia: A Delphi survey. *Disability & Rehabilitation*

Wurzer, B., Waters, D. L., **Hale, L. A.,** & Leon de la Barra, S. (2014). Long-term participation in peer-led fall prevention classes predicts lower fall incidence. *Archives of Physical Medicine & Rehabilitation*, (6), 1060-1066.

Yu, K. K., **Tulloch, E.,** & Hendrick, P. (2014). Interrater reliability of a Pilates movement-based classification system. *Journal of Bodywork & Movement Therapies*

Journal – professional and other non-research

Hale, L. (2014). The super conference: Stepping outside our comfort zones[Guest editorial]. *New Zealand Journal of Physiotherapy* (2), 117.

Mehta, P. (2014). Review of the book - Acute care handbook for physical therapists. (4th ed) *New Zealand Journal of Physiotherapy*,(2), 111."

Skinner, M. (2014). Review of the book- Respiratory muscle training: Theory and practice. *New Zealand Journal of Physiotherapy* (2), 109."

Appendix I: SIGNIFICANT FUNDING AWARDS 2014

Primary Investigator	Title	Agency
David Baxter	Lymphedema and laser therapy	NZ Breast Cancer Foundation
Ally Calder	Development of a strategic framework to enable support persons to facilitate male stroke survivors to engage in physical activity	Canterbury Physiotherapy Charitable Trust
Ally Calder	Development of a strategic framework to enable support persons to facilitate male stroke survivors to engage in physical activity	Physiotherapy New Zealand
Cathy Chapple	Engaging in feedback in clinical education: A framework.	Ako Aotearoa Regional fund
Hemakumar Devan	Travel grant scholarship	ISB travel grant
Leigh Hale	Maintaining independence in Parkinson's disease: A RCT of a combined physical and cognitive activity	Brain Health Core
Chris Higgs	Dunedin Community Exercise Programme	WellSouth PHO
Prasath Jayakaran	Difference between dominant and non-dominant hemispheres of brain in the excitability of lower limb muscles in healthy adults	Maurice and Phyllis Paykel Trust
Prasath Jayakaran	Early detection of hip/knee osteoarthritis to improve physical activity and self-efficacy	Jack Thomson Arthritis Fund

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Prasath Jayakaran	Travel grant scholarship	Maurice and Phyllis Paykel Trust
Prasath Jayakaran	Physical activity and quality of life in persons with dysvascular and traumatic below-knee amputation	New Zealand Artificial Limb Service
Gill Johnson	Strabismus and balance	Maurice and Phyllis Paykel Trust
Leon Mabire	The relative influence of BMI on energy expenditure during brisk walking	Physiotherapy New Zealand
Ram Mani	Sedentary behaviour and its associations with psychosocial factors in individuals with high risk of developing type-2 diabetes mellitus.	University of Otago Research Grant
Hilda Mulligan	MS and fatigue	Royal Society of New Zealand
Meredith Perry	Incidence and prevalence of anterior cruciate ligament (ACL) injuries in female netball players in New Zealand and identification of associated risk factors.	Physiotherapy New Zealand
Daniel Ribeiro	Shoulder muscle activity or shoulder mobilization	Jack Thomson Arthritis Fund
Daniel Ribeiro	Can we optimize rotator cuff muscle activity?	University of Otago Research Grant
Daniel Ribeiro	Travel grant scholarship	James G Hay Award
John Sullivan	Concussion education	University of Otago Continuing Education Fund
Steve Tumilty	Effects of spinal manipulation on the stress systems – a randomized controlled study.	New Zealand Manipulative Physiotherapists Association
Stanley Winser	Travel grant scholarship	Maurice and Phyllis Paykel Trust

Appendix 2: PHD STUDENTS AND TOPICS

PhD Students (2014)

Primary Supervisor School of Physiotherapy

Alimansi, Suliman	Feasibility of a pedometer-driven walking programme in an occupational health setting
Arumugam, Ashokan	Exploring the interaction between the pelvic segment and gluteal and thigh muscles
Balasundaram, Arun	Are symptoms provoked by exercise/physical activity the same as those resulting from a sports concussion?
Baxter, Susan	Health and exercise psychology: walking for people with rheumatoid arthritis
Calder, Ally	Access to Physical Activity for men following stroke
Clay, Lynne	Psychological risk factors for quad bike accidents among rural workers in New Zealand
Devan, Hemakumar	Exploring the relationship between physical activity and low back pain in traumatic above-knee amputees
Diab, Abdulkareem	Body composition: balance in older adults with Parkinson's Disease
Donaldson, Gail	Does the use of silicon oil change the post-operative outcomes after Dupuytren's contracture release surgery?
Kanagasabai, Parimala	Participation of disabled children in New Zealand
Kannan, Priya	Effects of exercise and aerobic training on menstrual pain in women with primary dysmenorrhea: A randomized controlled trial
Kaur, Mandeep	Outcomes of ACL injuries

Centre for Health, Activity, and Rehabilitation Research

Lui, Lizhou	Non-pharmacological interventions for knee osteoarthritis: evaluation of the effectiveness of walking versus walking plus laser acupuncture
Mabire, Leon	The influence of body weight on the effectiveness of brisk walking for the management of obesity in adults
Macznik, Aleksandra	Complementary and Alternative Medicine (CAM) in sports medicine
Mehta, Poonam	Neuropathic pain: minimum clinically important changes (MCIC) in pain and functional outcome measures
Mesbah, Normala	Postural stability in older adults with early diagnosed Alzheimer's disease
Moran, Rob	Musculoskeletal injury prediction in high intensity strength and conditioning athletes
Sampath, Kesava	Thoracic spinal manipulation and short-term changes in the activities of (1) hypothalamic-pituitary-adrenal (HPA) axis and Hypothalamic-pituitary-gonadal (HPG) axis (i.e. HPA-HPG axis) and (2) the sympathetic nervous system (SNS). Is that a potential viable treatment option for people with chronic pain?
Sangelaji, Bahram	Developing and testing an intervention to promote life-long exercise in people with MS
Spontelli Gisselman, Angela	The role of heart rate variability indices in prevention of musculoskeletal overuse injuries in collegiate athletes
Winser, Stanley	Clinical outcome measures for balance and postural control in cerebellar ataxia

Secondary Supervisor School of Physiotherapy

Adhia, Divya	Pelvic girdle pain disorders: innominate mobility test using hip abductor and external rotation
Aldabe, Daniela	A prospective study of muscle activity and innominate bone motion patterns during pregnancy
Kermat Kar, Maryam	Nursing and physiotherapy [Working Title]
Quick, Andrew	The influence of orthognathic therapy on mandibular motion