



# Speaker **Abstracts**

14–16 September 2018  
**Dunedin**



**Physiotherapy  
Conference 2018**

PHYSIOTHERAPY NEW ZEALAND  
Kōmiri Aotearoa

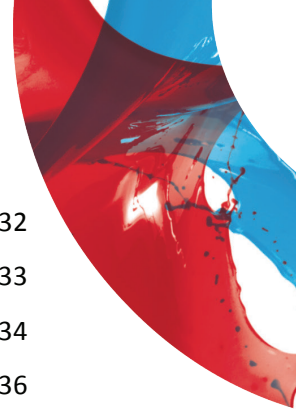


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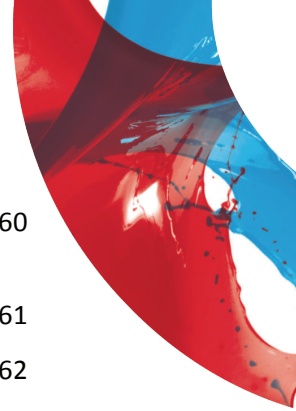
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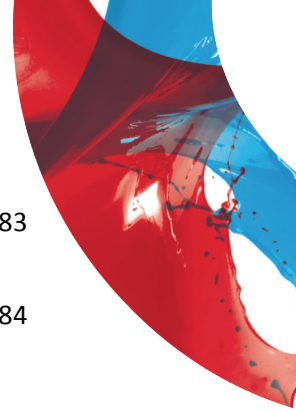




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# Keynote Speaker Presentations

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# Person-centred care: let's include who really matters

## Presenting Author:

Professor Leigh Hale

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## ABSTRACT TEXT

Person-centred care is a philosophy of care that ensures the needs of the person is central to the services provided. Key to this philosophy is the interpersonal relationship developed between the healthcare provider and the person. The concept of the “person” however is fluid and can extend beyond the individual to those who intimately support them, such as family, whānau, carers and support workers. This is especially true when supporting those living with neurological, intellectual and cognitive impairment.

With the rising prevalence of people living with long term conditions, we know health care services will become increasingly stretched. Further, already reported is that people living with long term conditions manage their conditions on their own 99% of the time, and only interact with clinicians and healthcare services for 1% of time.

As physiotherapists we are ideally placed to support people to manage their long term conditions, but I would argue that this support should value and include the wider “person”. This presentation will explore person-centred care, what it means to the physiotherapy profession and, based on our research, how we, as physiotherapists, can support, value and enable the “extended person.”

Key references:

1. Caring counts. Tautiaki tika website: <http://www.neon.org.nz/agedcareinquiry/> Published in May 2012 by the New Zealand Human Rights Commission. [www.hrc.co.nz](http://www.hrc.co.nz) Wellington, New Zealand. ISBN: 978-0-478-35621-2 (Online), 978-0-478-35622-9 (Printed).
2. National Advisory Committee on Health and Disability. How should we care for the carers, now and into the future? Wellington: Ministry of Health; 2010.
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4. Fazio S, Pace D, Flinner J, Kallmyer B. The fundamentals of person-centered care for individuals with dementia. *Gerontologist*, 2018, Vol. 58, No. S1, S10–S19. doi:10.1093/geront/gnx122.

## PRESENTING AUTHOR'S BIOGRAPHY

Professor Leigh Hale is the Dean of the School of Physiotherapy.

Her research is focused on clinical neurorehabilitation, with specific interests in:

- Community falls prevention programmes for older adults
- Fall prevention in adults with intellectual disability
- Self-management and stroke
- Exercise and physical activity in people with long term conditions, particularly Multiple Sclerosis, Stroke, Parkinson's Disease, and Alzheimer's disease
- The use of virtual reality in stroke rehabilitation



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# The secrets of working with not for patients

## Presenting Author:

Professor Fiona Jones

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## ABSTRACT TEXT

This keynote will put forward three suggestions to add value to the way you work. In this world of never ending organisational targets, policy and guidelines it can be easy to lose sight of what's most important to you as physiotherapists and the patients and families you work with. Physiotherapists are capable of the most extra-ordinary achievements but the success is not always owned or realised by patients. By changing the nature of the relationship you have, building on existing capacity of patients and families and by reflecting the language used, the ownership of outcomes and success can be transformed. Using theory, evidence and real life examples I will provide a supporting argument to show how just making a simple change can make a big difference.

This work will draw on a 15 year programme of research in self-management support, co-production and person centred rehabilitation.

## PRESENTING AUTHOR'S BIOGRAPHY

Fiona is Professor of Rehabilitation Research at St George's University of London and Kingston University, and the founder and CEO of 'Bridges self-management'. She was previously the Chief Investigator for SESAME- a cluster feasibility trial to test Bridges within stroke teams in London. Since developing the Bridges programme she has also carried out studies to explore self-management support for people with acquired brain injury and long term neurological conditions as well as exploring professional attitudes and factors influencing sustainability of using programmes within rehabilitation. Fiona has published several articles on self-management and self-efficacy, currently supervises a number of doctoral students who are carrying out research related to self-management. Fiona is also the Chief investigator for an NIHR funded study, 'CREATE' which started in January 2016 and uses Experience-Based Co-Design to explore ways to increase therapeutic activity in stroke units. In 2009 Fiona received the life after stroke award for excellence from the UK Stroke Association and in 2011 she was made a Fellow of the Chartered Society of Physiotherapists. Fiona was the President of the UK Association of Physiotherapists in Neurology from 2013-2017. She received an MBE for services to stroke rehabilitation in the Queen's Birthday Honours 2017.



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# An integrated approach to the management of concussion

## Presenting Author:

Professor Kathryn Schneider

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## ABSTRACT TEXT

Concussion is among the most commonly occurring injuries in sport. In the majority of cases individuals will recover in the initial time period following concussion, but in some cases symptoms can persist and may require treatment. The current evidence supports the use of a multisystem assessment to inform management strategies. Cervical and vestibular rehabilitation and aerobic exercise have demonstrated positive effects on recovery following concussion (Schneider et al, 2017, BJSM). In many cases, a team of health care professionals with multifaceted areas of expertise may be needed to facilitate recovery (Schneider 2016, JOSPT). This talk will review the latest evidence in the assessment and management of concussion.

## PRESENTING AUTHOR'S BIOGRAPHY

Dr. Kathryn Schneider is an Assistant Professor and Clinician Scientist (Physiotherapist) at the Sport Injury Prevention Research Centre, Faculty of Kinesiology at the University of Calgary. Her research focuses on the prevention and treatment of sport-related concussion. Her previous work has identified a large treatment effect using multimodal physiotherapy and vestibular rehabilitation in athletes who have persistent symptoms following concussion. She is a Clinical Specialist in Musculoskeletal Physiotherapy, a Fellow of the Canadian Academy of Manipulative Physiotherapists, has expertise in vestibular rehabilitation with her clinical practice focused on treatment of athletes with ongoing symptoms following sport-related concussion.

She was recognized by Avenue Magazine as "Top 40 Under 40" in 2012 and was the recipient of the Vestibular Disorders Association (VEDA) Champion of Vestibular Medicine Award in 2015. Invited speaking highlights include the 4th and 5th International Consensus Conference on Concussion in Sport, International Olympic Committee (IOC) medical meetings at the Sochi and Rio and upcoming PyeongChang Olympic games, World Rugby Medical Commission Meetings (2016), MLS/US Soccer concussion meetings (2017) and the Canadian Concussion Harmonization Meeting (2017). She represents the Canadian Physiotherapy association on the Canadian Concussion Collaborative and is a member of the Federal Government Working Group on Concussion in Sport. She has worked with many athletes, from recreational to professional and has developed and instructed many continuing education courses for physiotherapists in the area of vestibular rehabilitation, cervical spine treatment and sport-related concussion.



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# Advanced Practice Physiotherapists are essential members of primary care teams. Why aren't we there?

## Presenting Author:

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## ABSTRACT TEXT

Population aging, rising health care costs, physician shortages and increased prevalence of chronic diseases over the past few decades has made health care transformation not only a priority, but a necessity, in many developed nations. These healthcare challenges are further compounded by “baby boomers” who are reaching their osteoarthritic years and demanding earlier access to specialist care and improved quality of life, particularly for chronic musculoskeletal diseases. Meeting these demands has necessitated a change in health care delivery – from transactional based visits with a single provider (often a physician) to integrated interprofessional team-based care delivered by alternate care providers.

Today, there exists substantial evidence (structure, process and outcomes) that using the skills of advanced practice physiotherapists (APPs) in the primary care sector provides equal or more effective care that contains costs and retains or improves patient and health care provider satisfaction. Despite that these new models of APP-led care achieved the positive outcomes in all four areas of the Quadruple Aims Framework (cost, quality, patient and provider satisfaction), spread and scale of the APP roles and new models of care has been limited.

This presentation will review the current status and evidence for APP models of care internationally, as well as discuss the barriers and facilitators to the spread and scale of APP-lead, team-based musculoskeletal care.

## PRESENTING AUTHOR'S BIOGRAPHY

Dr. Linda Woodhouse PT, PhD is an Associate Professor in the Faculty of Rehabilitation Medicine, Department of Physical Therapy at the University of Alberta (Canada). Linda served as an Endowed Chair in Rehabilitation Medicine at the University (2011-2016); as Scientific Director for Alberta Health Services' Bone and Joint Health Strategic Clinical Network (2012 to 2015). She is a Research Affiliate at the McCaig Institute for Bone and Joint Health in Calgary and at Brigham & Women's Hospital/Harvard University in Boston, and is Past President of the Canadian Physiotherapy Association (CPA).

Linda has 30 years of experience as a researcher, educator, and clinician. She has worked predominantly in the musculoskeletal area, developing and evaluating innovative models of integrated interprofessional care. Her research focus is on evaluating pain, physical and functional capacity in individuals with musculoskeletal and endocrine disorders, and evaluating the effects of muscle compounds and exercise on sarcopenia. In the past 5 years she has held or collaborated on \$24 million in peer-reviewed grants. She has over 70 peer-reviewed journal publications, 132 presented abstracts and over 125 invited presentations. Linda continues to be an advocate for integrated data systems and the use of data to drive high quality, cost effective health care delivery.



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# Invited Speaker Presentations

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# Osteoarthritis: models for delivering best-practice care

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## ABSTRACT TEXT

International research shows that health delivery for osteoarthritis (OA) falls well short of best practice; there is apparent need for a 'paradigm shift'. Current models of care for OA are secondary-care centric and silo-bound; a coordinated, patient-centric prevention and treatment approach in a chronic disease management framework is necessary. There are numerous barriers to the delivery of the optimal care described in OA clinical practice guidelines. The primary barrier may be that the health system does not provide a means for delivering this care. For those who access physiotherapy, current physiotherapist practice typically does not comply with that seen in the successful trials underpinning guidelines. Cost-effective interventions applicable to early- and mid-stage OA, when delivered well, are known to improve health outcomes. Optimal primary care management of OA could ameliorate a significant proportion of the health and quality of life burden and the economic costs of OA. However, as the disease burden of OA increases due to demographic pressures and increased prevalence of OA, enablement of access to, coordination, and quality of delivery of those interventions will be necessary to enable cost-effective, patient-centric management of OA to be delivered. This presentation will address the questions of what should be delivered, to whom, how, when, and why.

## PRESENTING AUTHOR'S BIOGRAPHY

Haxby Abbott, PhD, DPT, FNZCP is a Research Associate Professor in the Orthopaedic Surgery section of the Department of Surgical Sciences, Dunedin School of Medicine, University of Otago, in Dunedin, New Zealand. Research in his Management of Osteoarthritis (MOA) group, within the Centre for Musculoskeletal Outcomes Research, includes clinical trials, health economics, and clinical programme development and evaluation. An author of >100 published articles, he has formerly served as the Editor-in-Chief of the Journal of Orthopaedic & Sports Physical Therapy (JOSPT), and Editor of the New Zealand Journal of Physiotherapy.



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# Mindfulness meets Physio

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## ABSTRACT TEXT

Mindfulness, defined as 'paying attention in the present moment, without judgment' is a life skill, a human trait and a way of life. With its roots in ancient Buddhist traditions, Mindfulness has been gaining popularity in secular medical settings due to the growing evidence base for its efficacy in improving physical and mental health. Evidence suggests that mindfulness is helpful as a personal practice for physiotherapists and in informing clinical interventions for a range of health issues. Clinical and neurophysiological research has increased exponentially over the past two decades primarily examining 8 week programs such as Mindfulness Based Stress Reduction (MBSR) taught by skilled teachers. Mindfulness offers a holistic approach to address the complexity of human experience facilitating approach behaviours, situational re-appraisal, acceptance and empowerment. Research suggests that the mechanisms of action are attentional control, automatic and immune system balance, emotional regulation and positive neuroplastic change.

Mindfulness-informed practice is a term used to describe interactions and interventions that are informed by the mindful awareness skills of the practitioner. Physiotherapists require a model of care and training pathway that acknowledges and enhances physiotherapy skills rather than adapting psychological focused interventions. Physiotherapists have a unique skill set that focuses on the physical nature of injury, illness and pain and the functioning of the human body. Therefore it is logical that a physiotherapy pathway to health enhancing physical, emotional, cognitive and behavioural responses focuses on paying attention with a curious and non-reactive attitude to the sensations in the body while resting, moving, meeting challenge and opening to pleasure.

## PRESENTING AUTHOR'S BIOGRAPHY

Musculoskeletal physiotherapist, Yoga teacher, Mindfulness practitioner, Educator.

Director of Mindful Movement Physiotherapy, Australia

Physiotherapist Pain Rehabilitation Services: Northern Adelaide Local Health Network

Georgie provides embodied and experiential training that brings research findings into the clinical setting to assist people with physical and emotional pain to heal and thrive. In Australia, she is a leading mindfulness teacher, a musculoskeletal physiotherapist and yoga teacher with extensive training and experience in working with people with pain individually and in group settings. Since her early days as a therapist Georgie has searched for ways that address the complexity of pain as a deeply personal and complex lived experience. She offers an integrated approach guided by neurophysiology, psychology, yoga, mindfulness and the courageous stories of people with pain. As an innovator in this field Georgie teaches at Flinders University and the University of South Australia and is frequently invited to speak at conferences.

Georgie is passionate about holistic physiotherapy care that empowers individuals and enhances the capacity of the body to heal. She wishes to contribute to a proactive society that fosters health and wellbeing and hopes one day to establish a global collaboration of physiotherapists interested in bringing mindfulness informed practices into health care.



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# The role of exercise and physical activity in cancer survivorship

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## ABSTRACT TEXT

Physiotherapists play an important role in the management of cancer. Cancer is associated with high disease burden and physical hardship. Individuals with cancer experience complex symptoms including cancer-related fatigue, and these symptoms frequently lead to a cycle of inactivity and functional decline. There are well-established guidelines regarding physical activity for people with cancer. The guidelines state that people with cancer should engage in 150 minutes of moderate intensity physical activity per week, resistance exercises two to three times per week, and to avoid sedentary time. This is supported by research which demonstrates that exercise is safe, and associated with improvements in exercise capacity, physical function, muscle strength, health-related quality of life, symptoms and depression in many cancer types. Higher physical activity levels after diagnosis have also been shown to be associated with reduced cancer-specific and all-cause mortality in breast, colon and prostate cancer. Despite the evidence for exercise and physical activity, the majority of people with cancer do not meet the physical activity guidelines. Therefore physiotherapists play an important role through education regarding physical activity (to patients, carers and health care professionals) and with the delivery and prescription of exercise training to cancer survivors. This presentation will outline the rationale, role and evidence supporting exercise and physical activity for people with cancer. It will discuss issues including timing of exercise relative to treatment, and barriers to exercise from the perspective of patients and the healthcare system. Many examples will be drawn from lung, colorectal and haematological cancer areas.

## PRESENTING AUTHOR'S BIOGRAPHY

Dr Catherine Granger is a physiotherapist clinician-researcher with expertise in physical activity and exercise for cancer and cardiorespiratory patient populations. She is the Head of Physiotherapy Research and Chair of the Allied Health Quality and Research Committee at the Royal Melbourne Hospital; and a Senior Lecturer in the Physiotherapy Department at The University of Melbourne in Australia. She holds the inaugural Victorian Cancer Agency Clinical Research Fellowship for Nursing and Allied Health. Dr Granger has over 50 publications in peer review journals and obtained over \$AU1.5million in grant funding as a chief investigator for research projects, predominately in the area of physical activity and lung cancer. She is currently leading a randomised controlled trial investigating the benefit of an exercise and education self-management program for people undergoing surgery for lung cancer. Dr Granger is a strong believer in the dissemination of research findings having received numerous invitations to present at national and international conferences and being a regular host on the Sunday morning 3RRR radio program Einstein-A-Go-Go science show.



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# More than the floor: integrating ideas for disorders of Pain, Prolapse, Peeing and Puffing in men and women

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## ABSTRACT TEXT

Pelvic floor muscle (PFM) activity is essential for diverse functions including continence, pelvic organ support, breathing and spine control. Although the PFM contribution is clear, this cannot be considered in isolation as the mechanisms are affected by forces from above; primarily intra-abdominal pressure (IAP) and this depends on activation of abdominal and diaphragm muscles. It is impossible to consider any of these elements in isolation. Understanding of this complex interaction in women has been evolving for decades, with increasing evidence of dysfunction of this complex in women with disorders across the spectrum of function (i.e. incontinence, pelvic organ prolapse, breathing disorders, lumbopelvic pain, and also chronic pelvic pain)<sup>1</sup>. More recently, in conjunction with enhanced understanding of male PFM function, there has been developing evidence to support similar observations of compromised control of the pelvic-abdominal system, particularly with respect to incontinence after prostatectomy and chronic pelvic pain. This evidence comes from studies that investigate neuromotor mechanisms from the brain's cortex<sup>2</sup>, to the muscle<sup>3</sup>. There is also epidemiological evidence to support the role of dysfunction of this integrated system. It is timely to consider the latest understanding of function/dysfunction of this integrated system in women and men, as well as consider the implications for assessment and rehabilitation strategies to restore optimal function across a range of pain, support, continence and breathing disorders.

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## PRESENTING AUTHOR'S BIOGRAPHY

Paul Hodges PhD MedDr DSc BPhy(Hons) FACP is a NHMRC Senior Principal Research Fellow, Professor and Director of the NHMRC Centre for Clinical Research Excellence in Spinal Pain, Injury and Health. Paul has 3 doctorates; one in Physiotherapy and two in Neuroscience. His research blends these skills to understand pain, movement control, incontinence, breathing and rehabilitation. His multidisciplinary research Centre bridges the gap between basic science and clinical practice and is supported by a Program Grant, Project Grant and Centre of Research Excellence grant from the NHMRC. His research spans from basic research including studies of cellular physiology and brain mechanisms to translation of research to on-line resources for people with pain. He has received numerous international research awards (including the premier international prize for back pain research two times) and published >350 papers and book chapters. He is one of the most highly cited physical therapy researchers in the world with more than 17,000 citations. Paul has presented >220 keynote lectures at major conferences in >40 countries and received the 2011 NHMRC Achievement Award as the highest ranked NHMRC Research Fellow across disciplines in Australia. In 2013 he was made an Honoured Member of the Australian Physiotherapy Association.



**Physiotherapy  
Conference 2018**

PHYSIOTHERAPY NEW ZEALAND  
Kōwhiri Aotearoa

# New ideas about pain and the motor system: new ideas for rehabilitation

## Presenting Author:

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## ABSTRACT TEXT

People with pain move differently. The simplest interpretation is that in acute pain the change in movement/motor function reduces load on painful tissues to reduce pain and potential for further injury. In the presence of persistent pain the relationship is more complex as there is no clear biological “benefit” of the change in movement in most cases. This presentation aims to discuss two recent lines of research that provide insight into the mechanisms underlying changes in motor behaviour when exposed to pain and/or injury. The first tests the assumption that exposure to acute pain leads to a purposeful search for a movement strategy that reduces load on injured/painful tissues. We tested this hypothesis with an experimental paradigm in which participants were exposed to an acute noxious experimental stimulus, but were provided with an option to perform the movement with no/minimal pain. We sought to determine whether participants searched for, found and then maintained this new movement strategy. The second addresses the interaction between pain/injury and the immune system. Immune function (e.g. neuroimmune interaction) has a potential role in pain neurobiology and could contribute to changes in motor function. This work involves data of immune system function in a longitudinal study after an acute back pain episode, and animal studies of the immune system response to back injury plus the potential impact of exercise. Findings of these two lines of research provide new understanding of the mechanisms underlying motor system changes in pain and provide important implications for prevention and rehabilitation.

## PRESENTING AUTHOR'S BIOGRAPHY

Paul Hodges PhD MedDr DSc BPhy(Hons) FACP is a NHMRC Senior Principal Research Fellow, Professor and Director of the NHMRC Centre for Clinical Research Excellence in Spinal Pain, Injury and Health. Paul has 3 doctorates; one in Physiotherapy and two in Neuroscience. His research blends these skills to understand pain, movement control, incontinence, breathing and rehabilitation. His multidisciplinary research Centre bridges the gap between basic science and clinical practice and is supported by a Program Grant, Project Grant and Centre of Research Excellence grant from the NHMRC. His research spans from basic research including studies of cellular physiology and brain mechanisms to translation of research to on-line resources for people with pain. He has received numerous international research awards (including the premier international prize for back pain research two times) and published >350 papers and book chapters. He is one of the most highly cited physical therapy researchers in the world with more than 17,000 citations. Paul has presented >220 keynote lectures at major conferences in >40 countries and received the 2011 NHMRC Achievement Award as the highest ranked NHMRC Research Fellow across disciplines in Australia. In 2013 he was made an Honoured Member of the Australian Physiotherapy Association.



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# Restoring health is much more than just removing disease – how can physiotherapists help the growing population of cancer survivors thrive?

**Presenting Author:**

Lou James

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Sweet Louise

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## ABSTRACT TEXT

There is no way to prevent all suffering and disability from cancer and its treatment. However, cancer rehabilitation can help with preventing suffering, reducing unnecessary disability and improving quality of life for the growing population of people affected by cancer.

The evidence available on the benefits of regular exercise for people diagnosed with cancer basically mandates that exercise prescription should be a standard component of cancer care. There is good evidence that people who exercise regularly experience fewer treatment related side effects, have a lower relative risk of dying from their cancer and their cancer coming back. There are many cancer survivors missing out on adequate rehabilitation services and who are not engaged in the recommend level of regular exercise. Physiotherapists should be involved from cancer diagnosis through to full recovery and be essential contributors to maximizing physical activity for overall survivorship and health.

The rehabilitation process developed by PINC & STEEL has expanded into a comprehensive programme that can be tailored to the needs of individual clients. This approach to rehab is tiered and designed to work with a person affected by cancer from early stages through to well-recovered. Individual programming is important initially but needs to flow into further supportive small group exercise classes and help transition people into community activities for long-term lifestyle change to occur. Evaluation of these programmes have shown a high degree of confidence and enjoyment in the programmes and significant gains in reported health, wellbeing and psychosocial measures.

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## PRESENTING AUTHOR'S BIOGRAPHY

Lou James (MNZM) has dedicated the last 15 years to helping improve the lives of people affected by cancer in New Zealand and overseas. She was an established physiotherapist and business owner of a Physiotherapy and Pilates Studio in Ponsonby when she started seeing a growing number of patients affected by cancer. Lou discovered there was an enormous discrepancy between the incidence of physical impairments and provision of medical rehabilitation services for people affected by cancer. This inspired her to develop an individualised rehabilitation and exercise program to support men and women affected by cancer and subsequently establish a post-graduate cancer rehabilitation education training course for Physiotherapists. Pinc and Steel is now the largest cancer rehabilitation program in Australasia and has extended now into 9 countries.

In 2006, Lou founded the PINC & STEEL Cancer Rehabilitation Trust to help make rehabilitation more accessible and affordable for all New Zealander as there is no health system or ACC funding for cancer rehabilitation in New Zealand. Lou has been recognised for her pioneering work in this field, most recently being appointed a Member of the New Zealand Order of Merit in the Queens New Years Honours List for services to people with cancer.



# Applying person centred self-management in acute and multiple trauma; working with the ups and the downs

## Presenting Author:

Professor Fiona Jones

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## ABSTRACT TEXT

Self-management support programmes are most commonly associated with people who are out of hospital and have a long term condition such as COPD or diabetes. But what if we could start self-management support earlier whilst in hospital and what if there were programmes available for people who experience acute major trauma which might include brain injury? The impact of major trauma on patients and families are extensive, can be long-lasting, sometimes hidden and yet there has been very little attention to supporting people to manage in the longer term. This session will reveal the experiences, findings and lessons learnt following a project to develop and evaluate a new self-management programme across major trauma centres in London. Trauma survivors have been involved in the development from the outset and some of their stories will also be shared.

## PRESENTING AUTHOR'S BIOGRAPHY

Fiona is Professor of Rehabilitation Research at St George's University of London and Kingston University, and the founder and CEO of 'Bridges self-management'. She was previously the Chief Investigator for SESAME- a cluster feasibility trial to test Bridges within stroke teams in London. Since developing the Bridges programme she has also carried out studies to explore self-management support for people with acquired brain injury and long term neurological conditions as well as exploring professional attitudes and factors influencing sustainability of using programmes within rehabilitation. Fiona has published several articles on self-management and self-efficacy, currently supervises a number of doctoral students who are carrying out research related to self-management. Fiona is also the Chief investigator for an NIHR funded study, 'CREATE' which started in January 2016 and uses Experience-Based Co-Design to explore ways to increase therapeutic activity in stroke units. In 2009 Fiona received the life after stroke award for excellence from the UK Stroke Association and in 2011 she was made a Fellow of the Chartered Society of Physiotherapists. Fiona was the President of the UK Association of Physiotherapists in Neurology from 2013-2017. She received an MBE for services to stroke rehabilitation in the Queen's Birthday Honours 2017.



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# Co-creating health in physiotherapy: Moving beyond adherence, education and prescription

## Presenting Author:

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## ABSTRACT TEXT

It has long been acknowledged that for physiotherapy to have optimal effect we cannot rely solely on what happens in the clinic, but also on what happens in between appointments or when people are discharged from our services. This has led to considerable focus on 'adherence' in the physiotherapy literature. It is argued that 'adherence' is associated with better outcomes, but that rates of non-adherence are as high as 70%. However, while research into strategies to improve adherence have proliferated since the early 1990's, education and prescription remain the dominant tools adopted in physiotherapy practice. Recent evidence argues that engagement in rehabilitation is co-constructed and therefore that who we are and how we work as practitioners may be critical. This challenges conventional ideas and thinking around 'adherence' which tend to situate the problem with the client. In this presentation, I introduce a framework for co-creating health as an alternative to 'adherence'. Drawing on examples from our research in a diversity of populations and clinical settings, I will propose some practical tools for physiotherapy that move beyond education and prescription to a focus on building connectivity and capability, and embedding behavioural strategies into practice. I will finish by discussing some of the challenges and tensions experienced by practitioners when introducing these tools into practice, to promote critical reflection on what it would take to embed co-creating health as a framework for physiotherapy practice.

## PRESENTING AUTHOR'S BIOGRAPHY

Nicola Kayes is an Associate Professor and Director of the Centre for Person Centred Research at Auckland University of Technology. She has a background in health psychology and so her research predominantly explores the intersection between health psychology and rehabilitation. She is interested in the role of the rehabilitation practitioner and their way of working as a critical factor in rehabilitation and whether shifting practice and the way we work with people can optimise outcome. Her recent research has focused on better understanding aspects of person-centred practice, therapeutic relationship, self-management, behaviour change and engagement, and the implications this has for key transdisciplinary rehabilitation processes. Her work in these areas has also led to a developing interest and expertise in knowledge mobilisation in rehabilitation and strategies aiming to increase the likelihood of research uptake and impact. Nicola actively contributes to undergraduate and postgraduate teaching in rehabilitation at the School of Clinical Sciences at Auckland University of Technology.



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# Depression in older people: beyond the biomedical model to multidisciplinary care

## Presenting Author:

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## ABSTRACT TEXT

Depression is disabling for older people reducing quality of life and function. Ngaire will talk about ways to recognise depression and important differentials including dementia, review the evidence on nonpharmacological management (including exercise) and social interventions. Working together can make the lot of the older person brighter.

## PRESENTING AUTHOR'S BIOGRAPHY

Ngaire is a GP and Professor of General Practice and Primary Health Care at the University of Auckland and is Head of the Faculty of Medical and Health Science's School of Population Health. Ngaire is a well-established researcher with a large number of publications and research grants. She is recognised as an international expert in interrelated areas of research, and currently leads several research teams, each engaged in a number of research projects:

- Maximising health for older people: an organised programme of research studying the pathway from impairment to dependence. Projects test activity based interventions to improve function in residential care and for those with depression. The impact of vitamin D on cardiovascular function and modelling society through ageing and changing health service needs.
- Falls and older people: studies of falls in older people after stroke, in residential care and in a large sample of primary care patients have led to collaborative teams aiming to prevent falls through intervention development and testing.
- The impact of physical activity on development of disability. Various physical activity trials have led to an understanding of the potential to prevent development of disability.

Developing Robot Technology for older people with dementia.

<https://authors.elsevier.com/a/1W59G5QyCpwRyV>



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# Towards personalized pain treatments based on nociceptive pain profile

## Presenting Author:

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## ABSTRACT TEXT

Inter and intra individual variability in pain experience can be explained by their nociceptive [pro-facilitatory or anti- inhibitory] pain profile. Identification of such a profile in clinical practice will help to characterise endogenous pain modulation function, a key function of the central nervous system that inhibits nociceptive input. This presentation will use quantitative sensory testing data to illustrate pro or anti-nociceptive pain mechanisms in patients with chronic musculoskeletal pain and discuss common modifiable (e.g. psychosocial) factors that are associated with such profiles; providing opportunities for personalising treatments based on their nociceptive profile.

## PRESENTING AUTHOR'S BIOGRAPHY

### 1. Pain mechanisms

Investigating clinical pain mechanisms (central sensitisation, neuroplasticity, and psychosocial factors) for developing targeted management of musculoskeletal pain. Other research includes investigating the measurement properties of pain assessment tools / questionnaires to develop a clinical battery for assessment of pain-related central sensitisation.

Current projects:

- Brain and Joint Pain Study: Subgrouping pain mechanisms (pro-nociceptive, anti-nociceptive mechanisms and neuroplasticity) in musculoskeletal pain (arthritis) and quantifying EEG-based cortical correlates in musculoskeletal pain (e.g. arthritis) for targeted neuromodulation
- Dunedin Multidisciplinary Longitudinal study: Life-course approach to predict musculoskeletal pain chronicity
- Development and validation of clinical test battery for assessing pain-related sensitization

### 2. Pain education and curriculum

Knowledge translation of pain mechanisms research into clinical practice and capacity building of health care professionals on pain mechanisms based assessment and management.

Current projects:

- Impact of IASP pain curriculum based online course on Indian physiotherapists' pain knowledge, attitudes and practice patterns
- Pain content in health professional curriculum (physiotherapy) and its impact on health professional students and recent graduates
- A biopsychosocial understanding of lower back pain: content analysis of online information



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# Principle-based Approach to Managing Rotator Cuff Tendinopathy

## Presenting Author:

Dr Tania Pizzari

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## ABSTRACT TEXT

Shoulder disorders are a leading cause of disability in our society with 1 in 3 people experiencing shoulder pain at some stage in their life. Recurrence is common and symptoms are often persistent, with 40-50% of patients reporting on-going morbidity after 6-12 months and 14% after 2 years. This could reflect the difficulty in managing shoulder conditions and a failure in current management practices.

Understanding the efficacy of management of shoulder pain is hampered by the differing nomenclature describing shoulder disorders, the divergent beliefs about the mechanism of tendon pathology, and varying management recommendations worldwide. Surgical management and injection therapy are common treatment approaches in shoulder pain, despite conflicting or limited evidence for their success. Conservative, exercise-based management is increasingly recognised as a low cost, safe and effective method of treating rotator cuff tendinopathy, however details of the optimum program are unclear.

This presentation will make try to make sense of the controversies in management of rotator cuff tendinopathy, including a brief discussion about surgical and injection management. During the presentation, the similarities and differences between upper and lower limb tendinopathy will be highlighted and a principle-based approach to physiotherapy management of rotator cuff tendinopathy will be outlined. Clinicians will be able to apply the evidence and practical information in this presentation to the management of their patients with rotator cuff tendinopathy.

## PRESENTING AUTHOR'S BIOGRAPHY

Dr Tania Pizzari has published over 60 manuscripts in peer reviewed journals since completing her PhD in 2002. She has completed four book chapters and has been an invited speaker at numerous national and international sports medicine and physiotherapy conferences. The majority of publications have been in the area of musculoskeletal medicine. In the past two years, she has had 19 publications in high quality journals and had two book chapters in the new edition of the highly regarded Grieve's Modern Musculoskeletal Physiotherapy. Dr Pizzari continues to work as a physiotherapy clinician, has a part-time academic role at La Trobe University, and is a research fellow of the Australia Collaboration for Research into Injury in Sport and its Prevention (ACRISP). She has and continues to supervise many honour, masters, professional doctorate and PhD students in her role. Dr Pizzari also continues her own personal research into soft-tissue injuries in the Australian Football League, shoulder injuries and rehabilitation, outcome measures for shoulder conditions, and the corticospinal effects of hamstring injuries.

In 2016, Dr Pizzari was a co-investigator of a successful grant from the National Basketball Association (NBA) in the USA that will investigate hamstring and adductor muscle injuries in basketball players.

Dr Pizzari is currently leading four randomised controlled trials (RCTs) in the area of subacromial pain syndrome, hip osteoarthritis, lateral hip pain, and lumbo-pelvic stability and has been involved in the successful completion of RCTs of rehabilitation for shoulder injuries, lateral hip pain and reducible discogenic lower back pain.



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# Unravelling the Deep Hip Muscles

## - Implications for Rehabilitation

### Presenting Author:

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### ABSTRACT TEXT

The deep gluteal muscles, in particular the gluteus medius, are a common focus of hip rehabilitation in patients with hip disorders. Dysfunction of the gluteus medius is considered to be a component of a number of musculoskeletal presentations and a risk factor for lower limb injury. There are a plethora of exercises advocated to target hip abductor muscle strength across a range of hip conditions.

Despite the focus on the gluteus medius in musculoskeletal screening and rehabilitation, the role of the different segments of the muscle have only recently been identified, and the importance of the gluteus minimus in hip function and dysfunction has been revealed.

Our electromyographic and magnetic resonance imaging research to date, combined with existing evidence from biomechanical, cadaveric and radiological data highlights the gluteus minimus as a critical component of hip health. In addition, the different segments of the muscle and not just the muscle as a whole may be important to consider. The gluteus medius is less impacted in disorders of the hip.

This presentation will outline the role of the deep gluteal muscle segments and highlight the deviations in their structure and function in hip osteoarthritis and lateral hip pain. Based on these deviations, we have evaluated appropriate exercises for inclusion in the rehabilitation of hip osteoarthritis and lateral hip pain. These exercises will be described to allow clinicians to implement them into their evidence-based management of patients with these hip disorders.

### PRESENTING AUTHOR'S BIOGRAPHY

Dr Tania Pizzari has published over 60 manuscripts in peer reviewed journals since completing her PhD in 2002. She has completed four book chapters and has been an invited speaker at numerous national and international sports medicine and physiotherapy conferences. The majority of publications have been in the area of musculoskeletal medicine. In the past two years, she has had 19 publications in high quality journals and had two book chapters in the new edition of the highly regarded Grieve's Modern Musculoskeletal Physiotherapy. Dr Pizzari continues to work as a physiotherapy clinician, has a part-time academic role at La Trobe University, and is a research fellow of the Australia Collaboration for Research into Injury in Sport and its Prevention (ACRISP). She has and continues to supervise many honour, masters, professional doctorate and PhD students in her role. Dr Pizzari also continues her own personal research into soft-tissue injuries in the Australian Football League, shoulder injuries and rehabilitation, outcome measures for shoulder conditions, and the corticospinal effects of hamstring injuries.

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# Lessons learnt from a pandemic: What HIV has taught physiotherapists.

## Presenting Author:

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## ABSTRACT TEXT

The HIV pandemic which swept through South Africa and the rest of sub-Saharan Africa presented health care professionals, including physiotherapists, with unprecedented challenges. Now over 20 years on we can reflect on the lessons learnt and how they translate to practice in all areas of our physiotherapy practice.

A brief overview of the rise of HIV and the response of government will be presented. Never before had the political response to a disease been so crucial in the way it would play out. Health care professionals joined lawyers, NGO's and patients and their families to become health activists and advocates. Overcrowded wards and ever increasing mortality rates stretched healthcare providers to their limits, both professionally and emotionally.

As access to life changing and life-saving medication was achieved, HIV became a chronic manageable disease. Its ability to affect multiple body systems simultaneously has meant working across traditional boundaries and necessitated that we think 'out of the box'. Solutions to address chronic lung disease, neurological and musculoskeletal impairments as well as mental health challenges needed to be found. This took place in a context of poverty and social deprivation where stigma and discrimination provided additional barriers to achieving optimal participation.

HIV is a multigenerational disease affecting people across the life span from all sectors of society. The lessons we have learnt and the challenges we continue to grapple with, are relevant to our management of people with other acute and chronic conditions.

## PRESENTING AUTHOR'S BIOGRAPHY

Joanne Potterton is an associate professor in the physiotherapy department at the University of the Witwatersrand in Johannesburg, South Africa. She is responsible for teaching paediatric physiotherapy at undergraduate and post graduate level. Joanne's main research interest is paediatric HIV and its effect on child development. Joanne's research has contributed to understanding the complex interplay between HIV infection and social deprivation and the impact this has on infant and child development.

Joanne has supervised numerous post graduate students at masters and PhD level and has presented and published her work nationally and internationally.



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# Whose Norm is it Anyway?

## Challenges of developmental assessment in a multi-cultural society

### Presenting Author:

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### ABSTRACT TEXT

Around the world children remain amongst the most vulnerable in our societies. Developmental delay is a common manifestation of many of the challenges children face. Poverty, malnutrition, domestic violence, and acute infections continue to threaten progress in this area.

As physiotherapists we have a battery of tests and skills available to assess and manage developmental delay in children with a variety of underlying conditions. Many countries have strict criteria for accessing early intervention and rehabilitation services based on scores obtained on standardised assessments. For those of us who work with children from a variety of cultural and ethnic backgrounds, questions of validity and reliability of tools developed in a health and social context very different to our own need to be asked.

Developing new tools to suit every cultural nuance and ethnic variation is costly and unrealistic. This paper will present some case studies and discuss some of the adaptations that have been made to modify existing tools

As clinicians and researchers we need to be cognisant of the differences in child rearing practices and environmental and epigenetic factors that may be impacting on the scores the children get on the tests we administer. At the end of the day we need to be confident that the best interests of the children and their families are being served and that we are respecting the cultures of everyone in our societies.

### PRESENTING AUTHOR'S BIOGRAPHY

Joanne Potterton is an associate professor in the physiotherapy department at the University of the Witwatersrand in Johannesburg, South Africa. She is responsible for teaching paediatric physiotherapy at undergraduate and post graduate level. Joanne's main research interest is paediatric HIV and its effect on child development. Joanne's research has contributed to understanding the complex interplay between HIV infection and social deprivation and the impact this has on infant and child development.

Joanne has supervised numerous post graduate students at masters and PhD level and has presented and published her work nationally and internationally.



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# The physiotherapy management of the patient undergoing major abdominal surgery. What's hot, what's not?

## Presenting Author:

Dr Julie Reeve

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Auckland University of Technology

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## ABSTRACT TEXT

Evidence suggests that implementing interventions in the preoperative period to maximise physical and psychological status prior to surgery may assist in improving surgical outcomes for patients undergoing major surgery. Such interventions include patient education, optimisation of nutritional status and improving functional capacity by preoperative exercise training (prehabilitation). Physiotherapy interventions have been widely utilised since the 1950's in patients undergoing major surgery and aim to improve surgical outcomes by preventing and treating postoperative complications. Until relatively recently, physiotherapy research and practice have primarily focussed on the postoperative period, however, with the introduction of enhanced recovery after surgery (ERAS) protocols which focus on multimodal perioperative care pathways, medical professionals have re-examined traditional practices in an attempt to improve quality of care by reducing complication rates, improving patient satisfaction and promoting earlier discharge from hospital. As such, best practice physiotherapy provision is also being examined and preoperative physiotherapy interventions are being increasingly investigated. Such interventions focus on education and advice to increase patient knowledge in relation to postoperative expectations and rehabilitation goals, and the use of exercise-based interventions to increase functional capacity in an attempt to reduce the risk of postoperative pulmonary, cardiovascular and musculoskeletal complications.

As studies investigating preoperative interventions in patients undergoing major abdominal surgery have recently been undertaken in New Zealand (NZ), this presentation will consider the evidence to date in this surgical population, drawing on local studies where possible. Evidence from contemporary randomized controlled trials, systematic reviews and meta-analyses will be presented to develop recommendations for clinical practice and discuss future research opportunities available to physiotherapists working within surgical care.

## PRESENTING AUTHOR'S BIOGRAPHY

Dr Julie Reeve is a Senior Lecturer in Physiotherapy at AUT University in Auckland, New Zealand. She contributes to undergraduate and postgraduate education and research programmes. Her teaching and research has primarily focussed on the physiotherapy management of the patient undergoing major surgery and acute and critical illness. Her current research interests include preoperative physiotherapy education and prehabilitation for patients undergoing major surgery, rehabilitation following acute and critical illness and rehabilitation following a diagnosis of cancer. Her previous research work has included clinical trials investigating physiotherapy for patients undergoing open thoracic surgery, preoperative education of patients undergoing abdominal surgery and systematic reviews investigating prehabilitation. She is a reviewer for several medical and physiotherapy journals, has reviewed grant submissions for several bodies and has been an editorial board member for the NZ Journal of Physiotherapy and the International Journal of Therapy and Rehabilitation.



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# Sport-related concussion: Athlete, sport and injury specific considerations

## Presenting Author:

Professor Kathryn Schneider

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## ABSTRACT TEXT

Sport-related concussion is a heterogeneous injury that affects athletes in many different ways. In some cases, individuals will follow an uncomplicated course of recovery. In other cases, an athlete may have ongoing symptoms and require rehabilitation. An individualized approach to assessment and management of concussion is recommended (McCrory et al, 2017 BJSM). Each athlete is unique and has his/her own intrinsic factors that may or may not increase their susceptibility to injury. Similarly, the risk of concussion varies depending on the sport, conditions and rules of the game. This talk will include an evidence-based review of factors that can influence risk of concussion and recovery in multiple different sporting contexts as well as practical application to clinical practice.

## PRESENTING AUTHOR'S BIOGRAPHY

Dr. Kathryn Schneider is an Assistant Professor and Clinician Scientist (Physiotherapist) at the Sport Injury Prevention Research Centre, Faculty of Kinesiology at the University of Calgary. Her research focuses on the prevention and treatment of sport-related concussion. Her previous work has identified a large treatment effect using multimodal physiotherapy and vestibular rehabilitation in athletes who have persistent symptoms following concussion. She is a Clinical Specialist in Musculoskeletal Physiotherapy, a Fellow of the Canadian Academy of Manipulative Physiotherapists, has expertise in vestibular rehabilitation with her clinical practice focused on treatment of athletes with ongoing symptoms following sport-related concussion.

She was recognized by Avenue Magazine as "Top 40 Under 40" in 2012 and was the recipient of the Vestibular Disorders Association (VEDA) Champion of Vestibular Medicine Award in 2015. Invited speaking highlights include the 4th and 5th International Consensus Conference on Concussion in Sport, International Olympic Committee (IOC) medical meetings at the Sochi and Rio and upcoming PyeongChang Olympic games, World Rugby Medical Commission Meetings (2016), MLS/US Soccer concussion meetings (2017) and the Canadian Concussion Harmonization Meeting (2017). She represents the Canadian Physiotherapy association on the Canadian Concussion Collaborative and is a member of the Federal Government Working Group on Concussion in Sport. She has worked with many athletes, from recreational to professional and has developed and instructed many continuing education courses for physiotherapists in the area of vestibular rehabilitation, cervical spine treatment and sport-related concussion.



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# Biomechanics and Neurosciences: conflict or concordance for musculoskeletal disorders?

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## ABSTRACT TEXT

Early concepts underlying musculoskeletal assessment and treatments were strongly influenced by the prevailing biomedical and biomechanical knowledge. As research and investigation methods progressed, further knowledge emerged about the complexity of the human body, mind and the environment. Assessment and treatments focussed mainly on the “local pathology model” or biomechanical variables as main risk factors for injuries. There is growing acceptance of the lack of a direct relationship between pathology, biomechanical variables and pain (symptoms) associated with various musculoskeletal disorders. Merging a ‘neuroscience’ approach with well-entrenched knowledge of biomechanics and pathology may provide greater scope for physiotherapy management of patient. Such approaches include psychologically-informed concepts and could lead to enhanced patient self-efficacy, self-management and empowerment. This presentation will present current evidence for (or against) an integrated approach for rehabilitation of patients with musculoskeletal disorders, with a focus on rotator cuff-related pain. I will provide recommendations for clinical practice, based on preliminary research from our Centre and findings from research on other persistent pain syndromes.

## PRESENTING AUTHOR'S BIOGRAPHY

My research focusses on outcomes of musculoskeletal injury, exploring long term effects of injury and pain on physical performance, quality of life, and patients' and health professionals' beliefs. I have a special interest in biomechanics and neurophysiological aspects of pain management, combining quantitative and qualitative research methods.

Current studies:

- Investigating outcomes of anterior cruciate ligament reconstruction with an emphasis on factors associated with risk for osteoarthritis
- The role of neuroscience pain education in the physiotherapy management of patients with persistent shoulder pain. Rotator cuff related pain is one of the most common injuries in the middle-aged and older adults. A pilot study is currently being conducted, including development of education resources that can be used for patients living with such pain.

Other research interests:

- Neuromuscular control following hamstring injury
- Role of footwear as a potential risk for lower limb injury
- Clinical reasoning skills for physiotherapists



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# New technologies for improving outcomes in Neurological Rehabilitation

## Presenting Author:

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## ABSTRACT TEXT

There is a great deal of excitement about the potential of non-invasive brain stimulation (NIBS) to improve outcomes for people with a variety of neurological conditions. There are a growing number of NIBS interventions that aim to increase corticomotor excitability and facilitate muscle activation, including transcranial magnetic stimulation (TMS), transcranial direct current stimulation (tDCS) and paired associative stimulation (PAS). Early laboratory based studies provided great promise yet there has been little move to translate these technology driven interventions into routine clinical practice. The objectives of this presentation are to discuss the neurophysiological rationale of NIBS interventions, present updated results of non-invasive brain stimulation studies and to highlight the possible reasons for lack of translation to practice. Using the example of exciteBCI, a NIBS technology developed by our team we will demonstrate how we have used co-design principles as a guide to ensuring alignment with clinical practice and increasing the chances of the exciteBCI technology succeeding as an intervention that is 'fit for practice'.

## PRESENTING AUTHOR'S BIOGRAPHY

My professional specialty is in neurological rehabilitation, I have taught neurological rehabilitation on undergraduate and postgraduate programmes since 1996. I have expertise in 3 dimensional motion analysis and was key in attracting the ADHB and STARSHIP hospital gait analysis service to AUT. I have good links with the profession which assists in disseminating our research findings and effecting a change in practice.

My research interests are within the area of neurological rehabilitation and health of older adults. Recently I have been involved in research and implementation work based on ideas of population health to improve the health of large populations of people rather than focusing on change at an individual level (publications currently in review). This is a different approach in physiotherapy, which mainly focuses on treatment at an individual level. As part of this work I have become increasingly aware of the importance of economic evaluations alongside clinical trials. In our recently completed multi-site randomised controlled trial of falls prevention in older adults we conducted an economic evaluation. Working alongside an economist on this trial sparked my interest and I went on to study health economics in 2009-10, through the University of Aberdeen and have attended a course on Advanced Methods of Cost-Effectiveness Analysis, 21-23 February 2011, run by the Health Economics Research Centre, University of Oxford. In April 2012 I attended a workshop on "Discrete Choice Experiments", run by the Health Economics Research Centre, Aberdeen. This is a relatively new method of health economic evaluation that could be particularly pertinent for rehabilitation research.



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# Return to sport after anterior cruciate ligament reconstruction: risks, rewards and the research evidence

## Presenting Author:

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## ABSTRACT TEXT

The aim for most athletes undergoing anterior cruciate ligament (ACL) reconstruction surgery is to return to some level of sporting activity. However, rates of return to pre-injury sport are often less than might be expected and many factors influence whether an individual will return to sport after this surgery. The fate of the younger athlete who sustains an ACL injury is a topic that has received recent attention due to the accumulating and consistent evidence that younger athletes are at considerable risk for not only one but multiple ACL injuries. Little is known about how to determine when it is safe to return to sport following ACL reconstruction or how to predict whether an athlete will be able to successfully return. Longer and objectively progressed rehabilitation for younger patients that focuses on neuromuscular training should be considered as one approach. Consistent evidence also shows that the majority of graft ruptures occur within the first two postoperative years, therefore delaying a return to sport should also be considered. The notion that a set of return to sport criteria can be applied to reduce the risk of further injury has become popular with many different criteria proposed. As younger patients are more likely to pass return to sport criteria this needs to be investigated with greater scrutiny. Another risk of returning to sport following ACL reconstruction is that of sustaining injury to the menisci or articular surfaces, which may in turn increase the risk of developing osteoarthritis. Therefore both the athlete and patient need to recognize that return to sport following ACL reconstruction is associated with a risk of further injury and development of osteoarthritis.

## PRESENTING AUTHOR'S BIOGRAPHY

Dr Kate Webster is an Associate Professor and Director of the Sport, Exercise and Rehabilitation Research Focus Area at La Trobe University, Melbourne Australia. Dr Webster's primary area of research interest is anterior cruciate ligament (ACL) reconstruction. Her research as it relates to the ACL has focussed on surgical techniques and outcomes, knee biomechanics and return to sport issues, with a focus on the psychological impact of returning to sport participation. Her current research also explores the high ACL re-injury rates in younger athletes and return to sport criteria. She was the lead developer of the ACL-Return to Sport after Injury scale and is a past recipient of the prestigious ACL Study Group traveling scientist award. She has received several national and international awards for her research and has over 150 scientific publications. Dr Webster also teaches evidence based practice, supervises higher degree research students and is a research supervisor for the AOA accredited OrthoSport Victoria Fellowship in Knee Surgery.



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# Role of Psychology in Anterior Cruciate Ligament Rehabilitation

## Presenting Author:

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## ABSTRACT TEXT

Despite having good knee function, many athletes do not return to their previous level of pre-injury sport following anterior cruciate ligament (ACL) reconstruction. This suggests that there are other factors which influence return to sport after this surgery. Recent studies have demonstrated that a range of contextual factors affect the return to sport rate after ACL reconstruction including age, sex, sport participation level and psychological factors. In terms of psychological factors, there is convincing evidence that a lower fear of re-injury and greater psychological readiness are associated with higher return to sport rates. A number of measurement tools are available which aim to measure such constructs, one which is specific ACL injury is the Anterior Cruciate Ligament Return to Sport after Injury (ACL-RSI) scale. This scale has shown clear associations between psychological readiness and return to sport, even when used before athletes undergo surgery. Clinical cut-off scores have been proposed, which may guide both the athlete and clinician in the return to sport process. This talk will review the evidence of the psychological aspects related to injury recovery and returning to sport following ACL reconstruction injury and surgery. Measurement tools and injury intervention plans will be discussed and an illustrative case study will also be presented.

## PRESENTING AUTHOR'S BIOGRAPHY

Dr Kate Webster is an Associate Professor and Director of the Sport, Exercise and Rehabilitation Research Focus Area at La Trobe University, Melbourne Australia. Dr Webster's primary area of research interest is anterior cruciate ligament (ACL) reconstruction. Her research as it relates to the ACL has focussed on surgical techniques and outcomes, knee biomechanics and return to sport issues, with a focus on the psychological impact of returning to sport participation. Her current research also explores the high ACL re-injury rates in younger athletes and return to sport criteria. She was the lead developer of the ACL-Return to Sport after Injury scale and is a past recipient of the prestigious ACL Study Group traveling scientist award. She has received several national and international awards for her research and has over 150 scientific publications. Dr Webster also teaches evidence based practice, supervises higher degree research students and is a research supervisor for the AOA accredited OrthoSport Victoria Fellowship in Knee Surgery.



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# Economic Evaluation of Back Pain Triage Models of Care

## Presenting Author:

Professor Linda Woodhouse

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## ABSTRACT TEXT

**Background:** The high prevalence, disability and work absenteeism associated with low back pain (LBP) make it the single most costly musculoskeletal health condition and the second leading cause of reduced quality of life. However, the majority of back pain (80-90%) has no identifiable pathological cause and resolves within weeks without surgery or imaging. This paradox suggests that we need to change how LBP is managed in order to reduce unnecessary burden to individuals and the health care system.

**Purpose:** This presentation will provide an overview of the development, implementation and evaluation of a new model of early triage-based interprofessional care for patients with LBP. The goal was to eliminate inappropriate use of diagnostic imaging (66%) and emergency room visits (55,000 annually) in the management of patients with LBP and to determine if costs and quality differed using alternative care providers (i.e. physiotherapists/chiropractors) and models of care (i.e. primary/secondary/tertiary setting).

**Methods:** We evaluated the outcomes and cost of implementing a provincial care pathway for early assessment of patients with back pain at the 3 sites: (1) adjacent to an emergency department in a Community Hospital, (2) co-located with an orthopaedic surgeon's clinic in a hospital, and (3) in a primary care network (PCN) with private practice physiotherapists and chiropractors. Time-Driven Activity Based Costing (TDABC) in combination with discrete event simulation was used to estimate costs.

**Results:** Care models that use alternative care providers with expertise in triage and management of musculoskeletal disorders, specifically the spine, were more cost effective. Costs were significantly less in the models that used hospital-based physiotherapists and in the PCN model that used private practice physiotherapists and chiropractors. These costs ranged from \$20 to manage patients identified to have low severity of back pain to \$175-\$200 for those with moderate to severe back pain. Models that implemented the care pathway using family physicians and surgeons to review non-surgical patients were more expensive at \$339 and \$514, respectively.

**Conclusion:** New models of care that use the skills of physiotherapists and chiropractors to assess and triage patients with back pain adjacent to emergency departments and in the primary care sector are cost effective compared to the traditional physician-led models.

**Keywords:** low back pain, triage model of care, eliminate inappropriate care

**Funding acknowledgements:** This study was funded by Alberta Innovates Health Solutions (AIHS) and Alberta Health Services (AHS).



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## PRESENTING AUTHOR'S BIOGRAPHY

Dr. Linda Woodhouse PT, PhD is an Associate Professor in the Faculty of Rehabilitation Medicine, Department of Physical Therapy at the University of Alberta (Canada). Linda served as an Endowed Chair in Rehabilitation Medicine at the University (2011-2016); as Scientific Director for Alberta Health Services' Bone and Joint Health Strategic Clinical Network (2012 to 2015). She is a Research Affiliate at the McCaig Institute for Bone and Joint Health in Calgary and at Brigham & Women's Hospital/Harvard University in Boston, and is Past President of the Canadian Physiotherapy Association (CPA).

Linda has 30 years of experience as a researcher, educator, and clinician. She has worked predominantly in the musculoskeletal area, developing and evaluating innovative models of integrated interprofessional care. Her research focus is on evaluating pain, physical and functional capacity in individuals with musculoskeletal and endocrine disorders, and evaluating the effects of muscle compounds and exercise on sarcopenia. In the past 5 years she has held or collaborated on \$24 million in peer-reviewed grants. She has over 70 peer-reviewed journal publications, 132 presented abstracts and over 125 invited presentations. Linda continues to be an advocate for integrated data systems and the use of data to drive high quality, cost effective health care delivery.



# Morphology and management of greater trochanteric pain syndrome

## Presenting Author:

Dr Stephanie Woodley

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## ABSTRACT TEXT

Greater trochanteric pain syndrome (GTPS), is characterised by pain and tenderness in the region of the greater trochanter. It is a prevalent condition, particularly in postmenopausal women, and has a substantial impact on function and quality of life. Recent research has provided insight into the pathoanatomical changes underlying GTPS which include gluteal tendinopathy with or without bursal distention, alongside atrophy and fatty infiltration of gluteus medius and gluteus minimus. The anatomy of the deep gluteal muscles and the implications that morphological changes may have on muscle strength and functional activation in patients with GTPS will be discussed.

Physiotherapists commonly treat patients with GTPS yet there is little consensus around the optimal management of this condition. A recent online survey of physiotherapists practicing in Australia, Ireland and New Zealand was undertaken with the aim of establishing current clinical practice related to GTPS. Findings related to diagnosis and treatment, collated from the 361 respondents, were largely consistent across the three countries, and this presentation will focus on those related to New Zealand physiotherapists. In general, the majority were confident in diagnosing GTPS and most appear to be drawing upon current evidence related to assessment, incorporating a range of symptoms, imaging (27%), and tests such as palpation (83%) and single leg stance (93%). Similarly, the most common treatment options, education (100%) and exercise (100%), are in-line with the current evidence base. However, a proportion of New Zealand physiotherapists appear uncertain about a range of tests that may also be useful in differential diagnosis (e.g. FABER test 21%; resisted external de-rotation test 33%) and/or are using adjunct treatments without clear rationale and a lack of supporting evidence. These findings indicate the need for further evidence-based education on the diagnosis and treatment of GTPS.

## PRESENTING AUTHOR'S BIOGRAPHY

Stephanie is a senior lecturer at the University of Otago, based in the Department of Anatomy. Coming from a physiotherapy background, Stephanie has taught clinical anatomy to physiotherapy and science students for 15 years and also mentors postgraduate research students. Her research focuses on the hip and pelvic regions, with a particular interest in the anatomy of the gluteal muscles, hip pain, imaging and clinical assessment. Stephanie utilises a range of anatomical techniques and imaging procedures with the aim of advancing knowledge of human structure and function and applying evidence-based anatomy to clinical practice.



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# Māori Injury Outcomes: Pathways and Experiences After Injury

## Presenting Author:

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## ABSTRACT TEXT

Māori experience considerable health inequities compared to non-Māori. Injury outcomes are no exception. Māori experience more than two times the mortality risk, and 1.5 times the risk of hospitalisations, due to unintentional injuries compared to non-Māori. Additionally, Māori hospitalised for injury are at 1.7 times the risk of disability 24 months post-injury than non-Māori.

Emma will discuss some of the key findings from the Prospective Outcomes of Injury Study (POIS), a prospective cohort study of 2856 injured New Zealanders, 20% of whom are Māori. Her talk will focus on post-injury outcomes, at different time-points, for injured Māori. Many pre-injury, injury-related, and early post-injury characteristics, independently predict a range of post-injury outcomes for Māori, some of which differ for non-Māori.

Māori-specific findings from POIS are adding to the currently limited knowledge about post-injury outcomes for Māori and provide insights into the key aspects of the complex post-injury pathway that should be focused on to improve injury outcomes and reduce inequities for injured.

## PRESENTING AUTHOR'S BIOGRAPHY

Emma Wyeth (Kāi Tahu, Te Ātiawa, Ngāti Mutunga, Ngāti Tama) is a Senior Lecturer – Māori Health and Director of the Ngāi Tahu Māori Health Research Unit in the Department of Preventive and Social Medicine. She is also the Co-Deputy Director of Ngā Pae o te Māramatanga, New Zealand's Māori Centre of Research Excellence (CoRE). Over the last ten years, the majority of Emma's research has focused on injury and disability outcomes for Māori. Emma is a Co-Investigator of the 'Prospective Outcomes of Injury Study' (led by Professor Sarah Derrett) and the 'Subsequent Injury Study (SInS): Improving Outcomes for Injured New Zealanders' (co-led by Professor Sarah Derrett and Dr Helen Harcombe) and the Principal Investigator of the 'Māori Disability Outcomes: Experiences and Pathways After Injury' project.



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# Free Paper Presentations

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# Accuracy of the Fitbit Zip is affected by velocity and gait quality in stroke survivors

## Presenting Author:

Dr Divya Adhia

## Affiliation:

School of Physiotherapy  
University of Otago

**Authors;** Lynne Clay (University of Otago), Megan Webb (University of Otago), Claire Hargest (University of Otago), Divya Adhia (University of Otago)

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## ABSTRACT TEXT

**Introduction:** Fitbit Zip™ (FBZ) is a low-cost user-friendly device that could help motivate stroke survivors to increase their physical activity. However, inaccuracy in step counts from altered gait variables could cause dissatisfaction and reduce compliance. The aim of this study was to establish the accuracy of FBZ, and to determine the influence of gait variables on the FBZ accuracy.

**Methods:** Twenty-one individuals with a clinical diagnosis of stroke wore a FBZ at the non-paretic hip, and were videoed whilst completing six minute walk test. The steps recorded by FBZ were compared against the criterion standard of manually counted steps from video recordings. Spatio-temporal gait parameters were calculated, and gait quality was assessed using Wisconsin Gait Analysis (WGA) tool. The accuracy of FBZ was determined using Kendall's Tau correlation coefficient. The association between the gait parameters and quality, and the FBZ accuracy was determined using linear regression analysis.

**Results:** A high level of correlation was observed between the FBZ steps and manual counting ( $r=0.80$ ,  $p<0.001$ ). Step difference demonstrated significant negative association with gait velocity ( $R^2=0.35$ ,  $B=-59.94$ ,  $p=0.007$ ) and positive association with WGA score ( $R^2=0.69$ ,  $B=4.59$ ,  $p<0.001$ ), indicating poor FBZ accuracy in participants with lower speed ( $\leq 0.8\text{m/s}$ ) poor gait quality (WGA score  $>16$ ).

**Conclusion:** FBZ is an accurate measure of step activity in people with stroke, but accuracy can be compromised with lower speed and poor gait quality.

**Key practice points:** Clinicians should consider gait velocity and quality before advising FBZ as a motivational tool to increase physical activity in stroke survivors.

## PRESENTING AUTHOR'S BIOGRAPHY

Divya is an assistant research fellow at the School of Physiotherapy, University of Otago. Her research interests include developing targeted behavioural interventions to optimize physical activity levels in individuals with long term health conditions.



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# Can differences in active straight leg raise muscle activation predict pelvic girdle pain?

## A comparison between pregnant and non-pregnant women

### Presenting Author:

Dr Daniela Aldabe

### Affiliation:

Anatomy Dept  
University of Otago

**Authors;** Daniela Aldabe (University of Otago), Stephanie Woodley (University of Otago), Niels Hammer (University of Otago), Melanie Bussey (University of Otago)

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### ABSTRACT TEXT

**Introduction:** The Active Straight Leg Raise (ASLR) is used clinically to assess the pelvic force closure mechanism. The aim of this study was to compare muscle activation of pregnant women with non-pregnant women during the ASLR test and verify whether it can predict pelvic girdle pain (PGP).

**Methods:** Forty pregnant and 30 non-pregnant women without PGP or low back pain were assessed. Muscle activation, normalised by maximum voluntary contraction (MVC), of biceps femoris, rectus femoris, external oblique and multifidus was assessed using superficial electromyography. Pregnant women were contacted monthly throughout pregnancy to assess PGP symptoms.

**Results:** Differences between groups were small. Biceps femoris (lifting leg) was less active in pregnant women: right limb, mean difference (MD) 1% (standard error [SE] 0.4%) MVC,  $p=0.01$ ; left MD 2% (SE 0.9%),  $p=0.02$ . Multifidus was less active in non-pregnant women: (a) right ASLR, right multifidus MD 4% (SE 1%),  $p=0.01$ , and left multifidus MD 3% (SE 1%),  $p=0.02$ ; (b) left ASLR, right multifidus MD 4% (SE 1%),  $p=0.01$ , and left multifidus MD 3% (SE 1%),  $p=0.03$ . Muscle activation did not predict the presence of PGP in late pregnancy.

**Conclusion:** Changes in muscle activation observed in the pregnant women could be a result of regulatory mechanisms to compensate for pregnancy-related hormonal changes. Hence, it is reasonable to expect that differences in muscle activation could not predict PGP later in pregnancy. Data normalisation can explain the small group differences.

#### Key practice points

Pregnancy might affect muscle response in movements (like the ASLR) that require pelvic stabilisation.

### PRESENTING AUTHOR'S BIOGRAPHY

Daniela Aldabe is a clinical researcher with a strong interest in Women's Health with special attention to pregnancy-related musculoskeletal disorders. She has conducted a number of studies in this area examining postural control in pregnant women and its predictive value for pregnancy-related pelvic girdle pain (PGP). Currently, she is working as a postdoctoral fellow at the Anatomy department and she is involved in different projects, i.e. investigating the role of the sacrotuberous ligament in PGP and exploring exercise therapy recommendations and advice for women presenting with PGP.



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# Assessment of central pain mechanisms in New Zealand physiotherapy clinical practice: An online survey

## Presenting Author:

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## ABSTRACT TEXT

**Introduction:** Recognition and management of central pain mechanisms (CPM) in patients with musculoskeletal (MSK) pain would optimize treatment outcomes. This study aimed to identify current clinical practice of physiotherapists in New Zealand in relation to assessment of CPM in patients with MSK pain.

**Methods:** An online survey was administered (via email invitations) to the members of Physiotherapy New Zealand. The survey recorded the following information: use of different methods to assess CPM including neuroplastic changes and psychosocial factors in MSK pain, and barriers/facilitators of using test procedures for assessing CPM in clinical practice.

**Results:** Overall survey response rate was 36%. This survey showed that 141 physiotherapists use pain mechanism-based assessment and treatment approach. Of those, 16% always assess central sensitization (CS). However, quantitative sensory testing (QST) tools, such as algometer, are rarely used for assessing CS. Fifty percentage of physiotherapists assessed psychosocial factors, such as catastrophizing (21%), self-efficacy (19%), fear avoidance beliefs (18%), and mental health (15%). Lack of adequate knowledge and training, limited clinical time and unavailability of the testing equipment are the common barriers for using QST procedures for CS assessment.

**Conclusion:** Physiotherapists in New Zealand generally assess CPM routinely in their practice.

However, objective assessment of CPM using specific test procedures was not a part of routine practice. Further research is required to address ways to overcome identified barriers in using test procedures in clinical practice.

**Key practice points:**

- There is a need for building capacity of physiotherapists for assessment of CPM.
- Assessing CS using reliable and validated test procedures would reveal new targets for intervention.

## PRESENTING AUTHOR'S BIOGRAPHY

Im a PhD student and my current resrach is Knowledge translation of clinical assessment of pain mechanisms in to clinical practice.



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# The association between physical activity and low back pain: a systematic review and meta-analysis of observational studies

## Presenting Author:

Hosam Alzahrani

## Affiliation:

Discipline of Physiotherapy  
The University of Sydney

**Authors;** Hosam Alzahrani (The University of Sydney), Martin Mackey (The University of Sydney, AU), Emmanuel Stamatakis (The University of Sydney, AU), Joshua Zadro (The University of Sydney, AU), Debra Shirley (The University of Sydney, AU)

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## ABSTRACT TEXT

### Abstract

**Objective:** To investigate the association between levels of total and domain-specific physical activity (PA) and non-specific low back pain (LBP) in adults.

**Methods:** PubMed, Medline, Scopus, CINAHL, EMBASE, SPORTDiscus, and Web of Science were searched up to March 2017 for cohort and cross-sectional studies, published in English, examining the association of non-occupational PA with LBP. Separate meta-analyses were conducted to derive a pooled estimate of the association of medium and high levels PA and LBP, using the generic inverse-variance method with fixed- and random-effects models.

**Results:** Data from 24 studies (15 cohort and nine cross-sectional) with a combined total of 95,796 participants were included in quantitative syntheses. The pooled fully adjusted risk ratios (RR) from cohort studies comparing medium with lowest activity levels were 0.90 (95% CI 0.85 to 0.96) for total PA, and 0.90 (95% CI 0.85 to 0.96) for leisure-time physical activity (LTPA). The pooled RR comparing highest with lowest activity levels were 1.00 (95% CI 0.92 to 1.08) for total PA, and 1.01 (95% CI 0.93 to 1.10) for LTPA. The pooled fully adjusted odds ratios (OR) from cross-sectional studies comparing medium with lowest activity levels were 0.93 (95% CI 0.65 to 1.32) for total PA, and 0.77 (95% CI 0.62 to 0.96) for LTPA. The pooled OR comparing highest with lowest activity levels were 1.05 (95% CI 0.89 to 1.23) for total PA, and 0.85 (95% CI 0.79 to 0.93) for LTPA.

**Conclusion:** Physical activity appears to be associated with lower prevalence of LBP, but we found no evidence of dose-response.

## PRESENTING AUTHOR'S BIOGRAPHY

Hosam Alzahrani is a PhD candidate in the Discipline of Physiotherapy at The University of Sydney. His major areas of interest include low back pain and physical activity. He holds a Master of Physical Therapy degree from Loma Linda University and a Bachelor of Science degree in Physical Therapy from King Saud University. He worked as teaching assistant and then lecturer at the Department of Physical Therapy in Taif University, Saudi Arabia.



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# The effectiveness of lifestyle physical activity intervention compared to other interventions in the management of people with low back pain: a systematic review and meta-analysis of randomised trials

## Presenting Author:

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## ABSTRACT TEXT

**Objective:** To investigate the effectiveness of lifestyle physical activity (LPA) interventions compared to other commonly prescribed interventions for the management of people with low back pain (LBP).

**Methods:** We performed a systematic review with meta-analyses of randomized controlled trials, searching Medline, Scopus, CINAHL, EMBASE, and CENTRAL. This review considered trials investigating the effect of LPA intervention compared to other interventions in people aged  $\geq 18$  years diagnosed with non-specific LBP. Analyses were conducted separately for short-term ( $\leq 3$  months), intermediate-term ( $>3$  and  $<12$  months), and long-term ( $\geq 12$  months), for each outcome. The analyses were conducted using weighted mean difference (WMD). The overall quality of evidence was assessed using the GRADE system.

**Results** Three trials involving 422 participants were included in this review. Due to insufficient data, we were able to conduct meta-analyses for pain and disability outcomes only. For pain, the pooled results did not show any significant effects between LPA intervention and other interventions at all-time points. For disability, LPA was not statistically more effective than other interventions at short-term; however, the pooled results favored LPA at intermediate-term (WMD= -6.05, 95% CI: -10.39 to -1.71,  $p=0.006$ ) and long-term (WMD= -6.40 95% CI: -11.68 to -1.12,  $p=0.02$ ) follow-ups among participants with chronic LBP. The overall quality of evidence was rated “moderate-quality” based on the GRADE system.

**Conclusion** For people with chronic LBP, the LPA intervention provide intermediate and long disability relief, although this improvement was not clinically important. These findings may have implications for including LPA in management LBP in clinical practice.

**Practice points** The results of this review suggest that the LPA interventions decrease disability at intermediate- and long-term in people with chronic LBP. Furthermore, even though the improvement was not clinically important, the LPA may still be appropriate to prescribe to people with LBP as many are inactive and at increased risk of chronic disease. Therefore, the LPA may still have important role in decreasing risk factors for chronic disease.



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#### PRESENTING AUTHOR'S BIOGRAPHY

Hosam Alzahrani is a PhD candidate in the Discipline of Physiotherapy at The University of Sydney. His major areas of interest include low back pain and physical activity. He holds a Master of Physical Therapy degree from Loma Linda University and a Bachelor of Science degree in Physical Therapy from King Saud University. He worked as teaching assistant and then lecturer at the Department of Physical Therapy in Taif University, Saudi Arabia.



# Impact of thumb base osteoarthritis: a qualitative study of patients' perspectives

## Presenting Author:

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## ABSTRACT TEXT

**Introduction:** Despite the high prevalence of thumb base osteoarthritis (OA), little is known about the patient perspective. This study aimed to explore the impact of thumb base OA from the perspective of people with the condition in the New Zealand context.

**Methods:** In this pragmatic qualitative study, semi-structured interviews and solicited diaries were conducted with 30 adults with thumb base OA. The holistic health lens of the Te Whare Tapa Whā framework was adopted. Data were thematically analysed using an inductive approach. Results were interpreted using the Health Impact Model.

**Key results:** Five inter-related levels of impact were identified: symptom status, functional limitations, restrictions in social activities and roles, negative thoughts and feelings, and altered sense of self. Impact at each level was influenced by personal and environmental factors. An unmet need was identified – participants desired more information about the condition and how they can help themselves.

**Conclusion:** Thumb base OA has a significant impact on all aspects of health. Important functional restrictions as well as other aspects of health important to patients are not captured in currently used outcome measures for thumb base OA. Patient information about the condition is lacking.

**Key practice points:** Clinical practice and research need to account for the mental, social and spiritual impact of thumb base OA. Additional questions specific to thumb base OA may improve the sensitivity of outcome measures. Easily-available evidence-based patient information is likely to reduce the impact of thumb base OA.

## PRESENTING AUTHOR'S BIOGRAPHY

Physiotherapist and Hand Therapist at Southern DHB, and part-time PhD candidate investigating the impact of thumb base osteoarthritis and the effectiveness of splinting.



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# Muscle activity during the Active Straight Leg Raise is associated with innominate mobility

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## ABSTRACT TEXT

**Introduction:** The Active Straight Leg Raise (ASLR) is a reliable and responsive test of function in pelvic girdle pain (PGP). While only small innominate movement may be detected during the test, poor performance outcome in the ASLR is associated with increased symphyseal mobility. The study aim is to determine the association of innominate mobility with specific stabilising mechanisms during the ASLR.

**Methods:** Innominate mobility was assessed in thirty (17 Females, 12 Males) healthy participants during a modified Faber protocol, as either Reciprocal (n=15, higher-mobility) or Unilateral (n=15 lower-mobility). The ASLR was performed with surface EMG of the, internal oblique (OI), external oblique, multifidus (MF), gluteus maximus and biceps femoris and normalised to a submaximal test.

**Results:** The Reciprocal group displayed significantly larger contralateral OI activity (>28% p=0.001,  $\eta^2=0.113$ ) and significant bilateral coactivation of OI (p<0.001,  $\eta^2=0.175$ ) compared to the Unilateral group. In contrast the Unilateral group had slightly larger MF activity (>5% p=0.028,  $\eta^2=0.054$ ) and ipsilateral OI (>30% p=0.034,  $\eta^2=0.05$ ) with right side ASLR compared to the Reciprocal group.

**Conclusion:** Increased OI activity during the ASLR has previously been associated with pregnancy related PGP. Previous research has argued that increased muscle activity may be required to stabilise the pelvis during ASLR in PPGP potentially due to increased pubic symphysis laxity. The findings of the current study support the theory that increased mobility requires increased activity in the OI for stability in the ASLR.

**Key practice points**

Pelvic girdle mobility has an effect on the mechanism for stability during the ASLR.

## PRESENTING AUTHOR'S BIOGRAPHY

Dr Bussey is a researcher in Clinical Biomechanics, Chair of Graduate Research in the School of Physical Education Sport and Exercise Sciences at the University of Otago and an Adjunct Professor to the School of Physical Therapy in the University of Saskatchewan. Her specific research expertise is neuromuscular mechanisms for disturbed postural stability related to pain and recurrent injury. She is the co-author of the textbook "Sports Biomechanics: Reducing injury and improving performance" Routledge, 2013.



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# Pelvic organ prolapse in Nepal: what is the prevalence, symptoms, quality of life and pelvic floor muscle function for women

## Presenting Author:

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## ABSTRACT TEXT

### Introduction

Pelvic organ prolapse (POP) is a common condition for women in Nepal but the impact on their quality of life (QoL) and the role of the pelvic floor muscles (PFMs) are not well understood. We sought to determine the prevalence of POP and the associated symptoms, QoL scores and PFM function for Nepali women.

### Methods

We collected demographic and QoL (P-QoL) questionnaires from Nepali women attending health screening camps diagnosed with a POP. Additionally, we performed the POP-Q system and Modified Oxford Scale (MOS) for women attending an outpatient gynaecology clinic. Descriptive statistics, chi-square and logistic regression were used.

### Results

Out of the 404 women attending the camps, 76 (19%) were diagnosed with a POP. Mean age was 47 years (range 30-74) and a vaginal bulge was reported in 37 (49%) women. The QoL subdomains affecting women were; emotional health (58%), sleep (43%) and physical limitations (39%). At the clinic, 124 women were assessed with a mean age 39 (range 21-74) years, BMI 26 (17-39), median parity 2 (0-9), 74 (60%) had a stage II-IV POP and 63 (52%) demonstrated good PFM function. We found no association between good PFM function and the participants' age, parity, BMI or POP stage ( $p>0.05$ ).

### Conclusion

Nepali women with a POP reported experiencing symptoms and reduced QoL. PFM function was not associated with age, parity, BMI or POP stage.

### Key practice points

It is essential that treatment strategies for Nepali women with a POP target QoL especially emotional wellbeing. When compared to studies in Caucasian populations, Nepali women may have different risk factors involved in PFM disorders.



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## PRESENTING AUTHOR'S BIOGRAPHY

Delena has been a physiotherapist in private practice settings for 17 years with special interest in Women's Health. After completing her Masters of Public Health she discovered her passion of health literacy especially for women in low resource settings. She is completing a PhD at the University of Sydney on conservative strategies for the management of pelvic organ prolapse for women living in remote communities around Nepal. The goal is to be able to utilise the resources developed during her PhD to reach women living in similar communities where accessing health professionals is challenging.



# Prevalence, symptoms and quality of life for Nepali women diagnosed with a pelvic organ prolapse attending reproductive health screening camps

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## ABSTRACT TEXT

### Introduction

Pelvic organ prolapse (POP) is a common condition for women in Nepal but the impact on their quality of life (QoL) is not well understood. We sought to determine the prevalence, symptoms and QoL scores for Nepali women diagnosed with a POP.

### Methods

In January 2018, three reproductive health screening camps were conducted around Kathmandu Valley. Women diagnosed with a POP were invited to participate in the study and completed demographic and QoL (P-QoL) questionnaires. Descriptive statistics were calculated.

### Results

Out of the 404 women attending the camps, 76 (19%) were diagnosed with a POP (Stage I n=42, II n=24, ≥III n=20). Mean duration of prolapse symptoms was four years (range 0-48), age 47 years (30-74), BMI 25 (14-37) and parity 3 (1-10). Previously recognised risk factors were reported including regular heavy lifting (81%), smoking (18%), use of patuka (62%) and home birthing (71%). A vaginal bulge was reported in 49%, stress urinary incontinence 75% and constipation 54%. The QoL subdomains affecting women were; emotional health (58%), sleep (43%), physical (39%) and role limitations (35%), personal relationships (26%) and social limitations (17%).

### Conclusion

Pelvic organ prolapse was identified in 19% of women who reported symptoms and reduced QoL. The most common subdomains with reduced QoL scores were emotional health, sleep and physical and role limitations.

### Key practice points

Nepali women with a POP may suffer from reduced QoL impacting their physical and emotional health. It is essential that treatment strategies target QoL especially emotional wellbeing.

## PRESENTING AUTHOR'S BIOGRAPHY

Delena has been a physiotherapist in private practice settings for 17 years with special interest in Women's Health. After completing her Masters of Public Health she discovered her passion of health literacy especially for women in low resource settings. She is completing a PhD at the University of Sydney on conservative strategies for the management of pelvic organ prolapse for women living in remote communities around Nepal. The goal is to be able to utilise the resources developed during her PhD to reach women living in similar communities where accessing health professionals is challenging.



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# Challenges for female partners supporting their blokes with stroke to participate in physical activity

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## ABSTRACT TEXT

### Introduction

Stroke survivors and health professionals rely on family members to provide physical, cognitive, emotional and social support after discharge from rehabilitation. However, family caregivers can feel overwhelmed and unprepared for this challenging role.

### Methods

We used a qualitative participatory approach to engage thirteen female partners of male stroke survivors in individual interviews and focus groups to explore their views about the challenges they encountered when encouraging their partners to participate in physical activity. Data was analysed inductively for themes.

### Results

This presentation focuses on two key themes. First, the women described the burden of an unwanted and challenging new life. They explained how they felt forced to take on additional responsibilities within the family unit and the challenges they faced in preserving their own personal well-being. Second, the women had come to realise that the health system presents barriers through limited and inequitable health services, health professionals' attitudes, and information that is confusing, not individualised or lacking.

### Conclusion

If female partners are to be an essential source to facilitate and encourage physical activity by their male stroke survivors, they require more targeted support from physiotherapists and the wider the health system.

### Key practice points

We recommend physiotherapists consider the value of collaborating with the primary caregivers of stroke survivors to play an active role in goal setting for physical activity alongside their partner, and that health professionals (including physiotherapists) provide information that meets the stroke survivor and caregiver's changing needs over time. This may go some way to easing the burden and subsequent challenges experienced by caregivers after stroke.

## PRESENTING AUTHOR'S BIOGRAPHY

Ally is a clinical educator at the School of Physiotherapy, University of Otago Christchurch. Her main area of interest is neuro-rehabilitation. Ally is currently in her final year of her PhD thesis titled, "Access to physical activity for men following stroke".



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# An international study of attitudes and confidence about best practice osteoarthritis care in the current and future health workforce

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## ABSTRACT TEXT

### Introduction

Effective implementation of contemporary osteoarthritis (OA) models of care requires a health workforce with the right knowledge and skills. We aimed to measure attitudes and confidence about best-practice OA care in current and future multidisciplinary clinicians.

### Methods

Clinicians (GPs, GP registrars, physiotherapists and primary health care nurses) and final year medical and physiotherapy students in Australia, Canada, and New Zealand were surveyed in 2017. The Pain Attitudes Beliefs Scale assessed biomedical orientation to care. Custom instruments assessed confidence in OA knowledge and skills, and agreement with high- and low-value OA care approaches.

### Results

1,886 clinicians (267 GPs, 81 GP registrars, 1,380 physiotherapists, and 158 nurses) and 1,161 students (465 medical and 696 physiotherapy) responded. Compared to physiotherapists, biomedical treatment orientation was significantly greater in nurses (mean difference; 95%CI: 6.7; 5.5-7.8), GPs (1.5; 0.6-2.4), and GP registrars (4.0; 2.5-5.6). Biomedical treatment orientation was significantly greater in medical students compared to physiotherapy students (2.0; 1.3-2.7). Confidence in OA knowledge and skills was significantly greater in physiotherapists than GPs, GP registrars and nurses ( $p < 0.001$ ). While most clinicians and students disagreed that joint replacement is inevitable (80.8-93.2% and 77.6-80.8%, respectively), fewer disagreed with use of arthroscopy for knee OA (63.7-82.4% and 55.6-65.5%) and MRI (38.6-91.1% and 47.5-79.0%). The majority agreed (90.4-98.0% and 91.4-96.8%) that exercise is indicated irrespective of the stage of OA.

### Conclusion

Physiotherapists self-reported less biomedical orientation and superior confidence in OA care.

### Key practice points

Professional development that explicitly explains indications for arthroscopy and MRI may support high-value OA care.



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### PRESENTING AUTHOR'S BIOGRAPHY

Ben is a Musculoskeletal Physiotherapy Specialist and a Senior Lecturer in the Department of Primary Health Care and General Practice at the University of Otago, Wellington.



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# Living with osteoarthritis is a balancing act: an exploration of beliefs about knee pain in people with osteoarthritis

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## ABSTRACT TEXT

### Introduction

Beliefs about knee osteoarthritis (OA) influence activity levels, social and leisure participation, and emotional wellbeing. This qualitative study aimed to explore the beliefs of New Zealanders with knee OA about the disease, how these beliefs had formed, and the impact these beliefs had on activity participation, health behaviour, and self-management.

### Methods

Thirteen participants with knee OA were purposively recruited through primary care, secondary care, and community advertisements. Audio-recorded semi-structured interviews were transcribed verbatim. Data were collected and analysed concurrently by two independent researchers using Interpretive Description. Recruitment continued until theme saturation was achieved.

### Results

Participants described strong beliefs in a biomechanical model of progressive structural deterioration resulting in pain and bone grinding on bone. These beliefs, reinforced by participants' joint symptoms and health professionals' explanations, heavily influenced understanding of OA impact and management. Participants expected ongoing wear and tear causing progressive increases in pain and decreases in function, and ultimately requiring joint replacement surgery. This concept, combined with health professionals downplaying OA's importance, reduced exploration of management options. Participants described balancing competing values and risks when making decisions about activity participation, medication, attentional focus, accessing care, and making the most of today without sabotaging tomorrow.

### Conclusions

The belief that joint use wears out articular cartilage is widely held and can be perpetuated by messages from health professionals. This belief results in cautious approaches to activity and limits participation in valued activities.

### Key practice points

Information provided to people with OA needs to address unhelpful or inaccurate language and beliefs.



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### PRESENTING AUTHOR'S BIOGRAPHY

Ben is a Musculoskeletal Physiotherapy Specialist and a Senior Lecturer in Department of Primary Health Care and General Practice at the University of Otago, Wellington.



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# Using palpation for the assessment of muscle 'tone' - how accurate are we?

## Presenting Author:

Melissa Davidson

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## ABSTRACT TEXT

### Introduction

Physiotherapists commonly use digital palpation to assess muscle tone (also termed tension, activity, tightness, or stiffness). However, these subjective assessments rely on opinion, and skill levels, of clinicians, rather than validated or reliable standardised scales that have been assessed against an objective standard. Despite this, it is standard clinical practice globally to use palpation to assess muscle tone, and to base clinical management on these assessments. The aim of this study is to assess physiotherapists palpation skills for the assessment of muscle tone against a novel device that can objectively measure force in newtons (N), movement/displacement (mm), and calculate 'tone'/stiffness (N/m).

### Methods

A 7-point arbitrary scale graded from -3 to +3 (-3 = low tone, 0 = 'normal' tone, +3 = high tone) was used to assess the physiotherapists ability to detect different levels of tone using a custom designed 'Palpation Instrument' developed by the Auckland Bioengineering Institute of the University of Auckland. Participants performed three randomized trials of the scale, resulting in 21 measures per participant, with movement, force and tone being recorded at each measure.

### Results

Preliminary results to date suggest a lack of consistency in the assessment of tone. Wide variations were recorded in the force applied (range 0.6 N to 4.8 N at '0' on scale), and the distance the participant moved the instrument (range 1 mm to 8.3 mm at '0' on scale). There was a lack of agreement between participants in the tone relative to the scale at all levels (range 228 N/m to 740 N/m at '0' on scale).

### Conclusion

This observational study demonstrated the inconsistencies in physiotherapists assessment using a subjective scale against a objective measurement instrument.

### Key practice points

The assessment of tone based on palpation skills may be questionable

## PRESENTING AUTHOR'S BIOGRAPHY

Melissa Davidson is a Physiotherapy Specialist in Pelvic Health who is completing her PhD at the Auckland Bioengineering Institute and working clinically in the pelvic health field. She is the current secretary for the International Organisation of Physical Therapists in Women's Health, a committee member for Physiotherapy New Zealand Special Interest Group in Pelvic, Women's and Men's Health, and a member of Physiotherapy New Zealand National Executive.



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# Working towards loving the new me" Exploring experiences of two different approaches to pain self-management

## Presenting Author:

Dr Hemakumar Devan

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## ABSTRACT TEXT

**Introduction:** Current best practice recommends group-based pain management programmes (PMPs) for persistent pain self-management. The Bridges Self-Management Programme (Bridges SMP) is an evidenced based programme to support the development of self-management skills. The aim of the study was to explore the lived experiences of pain self-management following participation in one of two PMPs; one embedded with Bridges SMP concepts and one without.

**Methods:** 13 participants, 6 in the usual care PMP and 7 in the PMP that integrated concepts from the Bridges SMP (e.g. reflection, achieving small targets, problem solving), were individually interviewed 3 months after completing the PMP. An Interpretive Phenomenological Analysis (IPA) approach was used.

**Results:** The two main themes that emerged from our data analysis were 'Working towards loving the new me' and 'Ups and downs'. 'Working towards loving the new me' describes the changed relationship with pain and consciousness of the new 'self' after the programme. The theme 'Ups and downs' incorporated the sub-themes 'Small victories are victories' and 'Resilience to downs'.

Participants from both groups were at various stages of acceptance and the Bridges SMP group demonstrated improved ability to self-reflect and expressed resilience to both anticipated and unanticipated life events.

**Conclusion:** Our findings provide preliminary evidence to suggest that incorporating Bridges SMP principles into existing PMPs may improve self-reflection as compared to a usual care PMP.

**Key practice points:** Our findings encourage clinicians to reflect on their delivery styles and upskilling on person-centred communication skills to foster self-management in group-based PMPs.

## PRESENTING AUTHOR'S BIOGRAPHY

I am an early career researcher with background in physiotherapy. I am interested in co-creating novel behavioural intervention technologies (e.g. online delivered interventions, websites, and apps) addressing biopsychosocial and cultural factors as a way of providing self-management support in people with persistent pain. I am also interested in utilizing mixed-method approaches to explore and investigate persistent pain experiences and pain coping mechanisms in people with disability.



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# Do smartphone apps foster self-management support in people with persistent pain?

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## ABSTRACT TEXT

**Introduction:** To evaluate the contents of smartphone applications (apps) for people with persistent pain facilitating self-management support and appraise the app quality.

**Methods:** A systematic search was performed in the New Zealand App Store and Google Play Store. Apps were included if they were designed for people with persistent pain, provided information on pain self-management strategies and available in English. App contents were evaluated using an a priori 14-item self-management support checklist. App quality was assessed using the 23-item Mobile Apps Rating Scale (MARS).

**Results:** Of the 939 apps screened, 18 apps met inclusion criteria. Meditation and guided relaxation were the most frequently included self-management strategies. Overall, the included apps met a median of 3 (range 1-8) of the 14 functions supporting self-management. Self-monitoring of symptoms (n=10) and self-tailoring of strategies (n=8) were frequently featured functions, while few apps had features facilitating social support and communicating with clinicians. No apps provided information tailored to cultural needs of the user. The app quality mean scores using MARS ranged from 2.7 to 4.5 (out of 5.0). While use of two apps (Headspace and SuperBetter) have shown improved health outcomes, no apps have been evaluated in people with persistent pain.

**Conclusion:** Although there are numerous pain self-management apps, the comprehensiveness of app-contents in fostering self-management support is limited.

**Key practice points:** Both users and clinicians have to be aware of such limitations and make informed choices in using and recommending apps as a self-management tool.

## PRESENTING AUTHOR'S BIOGRAPHY

I am an early career researcher with background in physiotherapy. I am interested in co-creating novel behavioural intervention technologies (e.g. online delivered interventions, websites, and apps) addressing biopsychosocial and cultural factors as a way of providing self-management support in people with persistent pain. I am also interested in utilizing mixed-method approaches to explore and investigate persistent pain experiences and pain coping mechanisms in people with disability.



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# Perceptions and experiences of engaging in physical activity in adults following coronary artery bypass graft surgery

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## ABSTRACT TEXT

**Introduction:** Engagement in physical activity (PA) and exercise following coronary artery bypass graft (CABG) surgery is important to optimise functional recovery and reduce future risk of mortality. However, there are many potential barriers to engaging in PA early in the post-surgery period, including pain and fatigue. The aim of this study was to explore and describe people's perceptions and experiences of engaging in PA during the first three months following CABG surgery.

**Methods:** We used a mixed-methods study design to study 12 participants (10 male, 2 female; 42 – 82 years). Qualitative data were collected via interviews and quantitative data via standardised questionnaires and accelerometers at weeks 1, 3, 6 and 12 post-discharge from hospital following CABG surgery.

**Results:** Preliminary results suggest that engagement in PA is low in the first 3 weeks following CABG surgery due primarily to fatigue, pain and decreased confidence. In week's 6 to 12 engagement in PA increased as confidence increased and fatigue and pain decreased. Uncertainty about how to progress PA and fear of damaging the sternum was reported at all time points. Support and guidance around PA from any health professionals during this time was minimal.

**Conclusion:** Further research is required to explore cost-effective ways for health professionals to provide guidance around progressively increasing PA during this time in order to increase confidence and engagement in PA.

**Key practice points:** PA guidelines following CABG surgery need to be realistic and achievable in order to match individuals' capabilities and limitations in the early post-surgery period.

## PRESENTING AUTHOR'S BIOGRAPHY

Emily Gray is a professional practice fellow at the School of Physiotherapy, University of Otago. Her research interests are lifestyle factors and health promotion in the prevention and management of long term health conditions.



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# Effects of dry needling trigger point therapy in the shoulder region on patients with upper extremity pain and dysfunction: a systematic review and meta-analysis

**Presenting Author:**

Michelle Hall

**Affiliation:**

Active Health

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## ABSTRACT TEXT

### Background

Myofascial trigger points (MTPs) are frequently found in the shoulder region of patients with upper limb pain or dysfunction; this review aimed to assess the effectiveness of MTP dry needling (TDN) in the shoulder region for such patients.

### Methods

TDN was compared to control or any other intervention. Outcome measures included pain or any upper limb dysfunction, including strength, joint mobility, spasticity, or any valid functional tool. The PEDro scale was used to assess the quality of the included trials.

### Results

Eleven randomized trials involving 496 participants were appraised. There was very low evidence that TDN of the shoulder region is effective for reducing pain and improving function in the short term. Needling both active and latent MTPs was more effective than needling an active MTP alone for pain immediately and 1-week after treatment (SMD = -0.74, 95%CI = -1.2 to -0.3; and SMD = -1.0, 95%CI = -1.52 to -0.59).

### Conclusion

There is very low evidence to support the use of TDN in the shoulder region for treating patients with upper extremity pain or dysfunction. Future studies are likely to change the estimates of the effectiveness of TDN in the shoulder region for upper limb pain or dysfunction.

### Key practice points

- Overall, very low evidence to support the use of TDN in the shoulder region for treating patients with upper limb pain or dysfunction.
- There is some evidence that needling both active and latent MTPs is more effective than needling an active MTP alone for pain.

## PRESENTING AUTHOR'S BIOGRAPHY

Michelle qualified from Manchester University in 1994, and has since completed post-graduate training in manual therapy. In 2016 she completed a Masters in Physiotherapy, endorsed in acupuncture. Michelle has gained extensive experience in many areas of musculoskeletal physiotherapy in the UK and in NZ and is currently working in private practice in Christchurch. Her systematic review into the effects of dry needling the shoulder region for upper extremity pain is currently was accepted for publication by Physiotherapy Journal (UK).



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# Participation in work and activities following injury: what effect do subsequent injuries have?

## Presenting Author:

Dr Helen Harcombe

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## ABSTRACT TEXT

### Introduction

Participation in work and society is beneficial for health and wellbeing. However, injury can result in activity limitations and participation restrictions. This study describes participation in work and activities 12 months following a sentinel (initial) injury, and examines the impact of sustaining a subsequent injury (SI) on these participation outcomes.

### Methods

Participants (n=2856) were recruited to the Prospective Outcomes of Injury Study following an Accident Compensation Corporation entitlement claim. Participation outcomes were whether participants reported working fewer paid hours, reduced participation in unpaid work, or reduced activities at 12 months compared to before the sentinel injury. Using multivariable models, characteristics of SIs were examined as potential predictors of reduced participation.

### Results

At 12 months, 30% reported fewer paid work hours, 12% had reduced unpaid work, and 25% had reduced activities. Sustaining a SI predicted reduced paid work (RR 1.5; 95%CI 1.2, 1.8), but not unpaid work or activities. Participants who had intracranial SIs were at highest risk of reduced paid work (RR 3.2, 95%CI 1.9, 5.2). Those sustaining SI at work had less risk of working fewer hours (RR 0.7; 95%CI 0.6, 1.0) than those with non-work SIs. Participants sustaining assaultive SIs had higher risk of reduced unpaid work (RR 2.6, 95%CI 1.0, 6.8).

### Conclusion

Reduced participation is prevalent after a substantive sentinel injury, and sustaining SI impacts on return to paid work.

### Key practice points

Identification of SI characteristics that put people at high risk of participation restriction may be useful for focusing rehabilitative attention.

## PRESENTING AUTHOR'S BIOGRAPHY

Dr Harcombe is a lecturer in the Department of Preventive and Social Medicine at the University of Otago. Helen has research interests in the areas of injury with a particular interest in what happens following injury, and musculoskeletal disorders particularly among workers. She has a clinical background as a physiotherapist. Along with Associate Professor Sarah Derrett, Helen is co-Principal Investigator of the Health Research Council of New Zealand funded Subsequent Injury Study.



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# Subsequent injuries in the 24-months following an Accident Compensation Corporation (ACC) entitlement claim injury among a general injury cohort

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## ABSTRACT TEXT

### Introduction

Contributing to the substantial burden of injury are multiple injury events incurred by the same people over time. However, little is known about subsequent injury experienced by general (all-injury) populations.

### Methods

This study combined interview data from 2856 Prospective Outcomes of Injury Study (POIS) participants with their e-data from ACC (New Zealand's no-fault injury insurer – Accident Compensation Corporation) and from the National Minimum Data Set of hospital discharges. All claims reported to ACC within a 24-month period following the entitlement claim injury that led to participants' recruitment to POIS (the 'sentinel' injury) were included.

### Results

Over 24-months 58% (n=1653) of participants had at least one subsequent ACC claim; 31% (n=888) had more than one claim. These claims were the result of 3444 subsequent injury events and involved 4470 injury diagnoses. Twenty-six percent of participants had at least one subsequent injury event in the same setting as their sentinel injury. Subsequent injuries occurred most frequently in the home (n=1,221 claims) followed by recreation/sport sites (n=664 claims). Twenty-one percent of participants had at least one subsequent injury that was the same type of injury as their sentinel injury; 17% had at least one subsequent injury event involving the same activity as their sentinel injury.

### Conclusion

Subsequent injuries among people presenting to healthcare providers are common. Identifying those most at risk of subsequent injury and implementing prevention initiatives offers the potential to reduce the overall burden of injury.

### Key practice points

Opportunities exist for initiatives focused on subsequent injury prevention by physiotherapists.

## PRESENTING AUTHOR'S BIOGRAPHY

Dr Harcombe is a lecturer in the Department of Preventive and Social Medicine at the University of Otago. Helen has research interests in the areas of injury with a particular interest in what happens following injury, and musculoskeletal disorders particularly among workers. She has a clinical background as a physiotherapist. Along with Associate Professor Sarah Derrett, Helen is co-Principal Investigator of the Health Research Council of New Zealand funded Subsequent Injury Study.



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# The influence of subjective training load on injury and illness in elite track cycling

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## ABSTRACT TEXT

**Introduction:** The aim of this research was to investigate the relationship between subjective load and injury or illness in elite track cyclists.

**Methods:** A prospective longitudinal study of two cohorts of elite Cycling New Zealand athletes was undertaken in the lead up to the Rio Olympic Games (n=6) and over the 2016/2017 international track cycling season (n=10). Injury surveillance was performed in line with the International Olympic Committee approach and subjective load monitoring using the session rating of perceived exertion method. Data was analysed descriptively and using repeated measures logistic regression with exchangeable correlation matrix to determine any relationship between subjective load and injury or illness.

**Results:** A total of 270 training weeks were analysed. Increasing chronic load was statistically associated with an increased injury or illness risk ( $p=0.02$ ) and gender was the best predictor of illness with female athletes 20 times more likely to suffer illness ( $p=0.003$ ). Increasing acute load and acute to chronic workload ratio reduced illness risk and injury or illness did not always relate to time loss or modification of training.

**Conclusions:** Subjective load was associated with injury and illness risk in elite track cyclists. The methodology utilised in this research should be continued in High Performance Sport to collect ongoing data that may help improve performance outcomes for athletes.

**Key practice points:** Subjective load monitoring is a simple cost-effective way to monitor load in athletes of all levels and may help to reduce the rate of injury and illness along with optimising performance.

## PRESENTING AUTHOR'S BIOGRAPHY

Mark is a Physiotherapist with a special interest in Sports Physiotherapy, clinical education and research. He has worked in both New Zealand and United Kingdom high performance programs attending multiple National and World Championship events with British Skeleton, British Swimming and the Cycling New Zealand track cycling team. He attended the Glasgow 2014 Commonwealth Games and the Rio 2016 Olympic Games as the Physiotherapist for the Cycling New Zealand track cycling team. Mark is also involved in teaching and clinical education in New Zealand and the United Kingdom in the areas of Musculoskeletal and Sports Physiotherapy.



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# Evidence for culturally valid pain assessment tools for Māori - A systematic review

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## ABSTRACT TEXT

**Introduction:** Understanding the lived experiences of pain among Māori is important to address in clinical practice. This systematic review assessed the level of evidence on two aspects capturing Māori experiences of pain: cross-cultural validity of pain questionnaires and experiences of pain acquired through qualitative research methodologies.

**Methods:** A comprehensive electronic literature search strategy was conducted to retrieve relevant studies for inclusion. The following tools were used to assess the risk of bias: Consensus-based Standards for the selection of health Measurement Instruments checklist (cross-cultural validity studies), Critical Appraisal Skills Programme assessment (CASP) tool (qualitative studies). Confidence in the Evidence from Reviews of Qualitative research (CERQual) approach was used to summarize the confidence in the findings.

**Results:** No studies investigated the cross-cultural validity of questionnaires assessing pain experience among Maori. However, one study assessed for appropriateness of pain descriptors in selected pain questionnaires. Two qualitative studies identified key themes on pain experience: Whānau, Māori holistic views of health, whakapapa, and spirituality. CASP evaluation determined the studies as having medium to high quality. CERQual evaluation determined Moderate to high confidence in the findings.

**Conclusion:** Currently, dearth of assessment tools capture Māori experiences of pain. Future research should consider developing culturally appropriate tools encompassing identified key themes to have better insights of Māori experience of pain.

### Key practice points

When talking with Māori living with pain, conversations could incorporate aspects of Whānau, Māori holistic views of health, whakapapa, and spirituality.

**Acknowledgements:** This research project was supported by the Health Research Council Māori Summer Research Scholarship.

## PRESENTING AUTHOR'S BIOGRAPHY

Mr Tobias Hoeta is a 3rd year Physiotherapy student at the school of physiotherapy, University of Otago. He received a Health Research Council Māori summer research scholarship (2017-18) to review the literature on pain assessment tools and models of pain among Māori living with chronic pain. He is passionate about pursuing a research career in Māori health.



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# Physical activity in individuals with a lower limb amputation

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## ABSTRACT TEXT

**Introduction:** Individuals with an amputation due to a dysvascular disease are reportedly more compromised in their physical ability when compared with amputations due to other non-dysvascular aetiologies such as trauma. Decreased physical ability of individuals with a lower limb amputation due to a dysvascular condition may impact on their ability to participate in regular physical activity and concomitant quality of life. This may also be attributed to the age when the amputation occurs and its associated impact on the using the prosthesis. This study explored the physical activity and perceptions towards exercise of individuals with a dysvascular and traumatic lower limb amputation.

**Methods:** A random sample of individuals identified from the national artificial limb database, aged 18 years and over, with a unilateral transtibial amputation due to a dysvascular condition (n= 61) and trauma (n = 116) completed five self-reported surveys. Main outcome measures were: MET-hours/week estimated from the Physical Activity Scale for Individuals with Physical Disability; EuroQoL measures; Exercise Barriers and Benefits Scale (EBBS); Locomotor Capability Index (LCI) and a customized screening questionnaire to identify co-variates. A subset of participants (n=7) also participated in qualitative semi-structured interviews.

**Results:** A significant difference ( $p \leq 0.05$ ) was observed between groups for total MET hours/week, LCI, EuroQoL and EBBS. Simple linear regression revealed that dysvascular amputation, increase in age, lesser experience with the prosthesis, more number of co-morbidities and lesser LCI scores were significant predictors ( $p \leq 0.008$ ) of lower MET hours/week. Age was the only significant predictor in a multivariable model with 0.43 MET hours/day [ $F(5, 161) = 9.28$ ;  $p < 0.001$ ], when adjusted to other variables. Two broad categories (personal and support factors) emerged from the qualitative semi-structured interviews, which influenced current and previous physical activity levels of the participants.

**Conclusion and key practice points:** Physical activity levels and quality of life of individuals with dysvascular amputation is lower when compared with traumatic amputation. This suggests a need for focussed interventions to encourage regular physical activity participation in individuals with a dysvascular amputation.

## PRESENTING AUTHOR'S BIOGRAPHY

Prasath is a Lecturer in School of Physiotherapy, University of Otago and has a primary research interest in rehabilitation of individuals with pain and physical disability. Prasath completed his doctoral studies in 2012 on postural balance in lower limb amputations. He has since completed two postdoctoral fellowships, first at Brunel University, London (one year), followed by another at School of Physiotherapy, University of Otago (three years) where he was involved in projects investigating gait, balance and physical activity, with an application to people with pain and disability.



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# Physical activity in individuals with early signs of hip/knee osteoarthritis - A Feasibility study

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## ABSTRACT TEXT

**Introduction:** Osteoarthritis (OA) of hip/knee significantly impacts daily activities. Undertaking physical activity is a challenge in later stages of OA, with significant pain and disability reinforcing fear of movement and reducing self-efficacy. Therefore, this study aimed to identify individuals with early signs of OA in the community and test the feasibility of a walking programme to improve their exercise self-efficacy.

**Method:** A single-blind randomised controlled trial (RCT) design was used to test the feasibility of a 6-week walking programme. Participants aged 40-75 years were sampled from the New Zealand electoral roll database. A total of 225 respondents reported undiagnosed early signs of hip/knee OA; and N=33 enrolled in the RCT. After baseline assessment participants were randomised into the following three intervention groups: tailored physiotherapy (G1 = 12); tailored physiotherapy + walking programme (G2 = 11) and usual care (G3 = 10).

**Results:** The mean (SD) age of participants was 60 (7) years. At least 50% of the participants in G1 and G2 completed all appointments for the 6-week intervention. The dropout rate for follow-up assessment at 6 weeks and 12 weeks was high (45 and 58%). The mean exercise self-efficacy scores (max 20) at baseline and six weeks were G1=15.87 and 16; G2=16.85 and 11.5; G3=16.16 and 17.

**Conclusion:** Feasibility of a future trial with the same design (recruitment via electoral roll) is questionable due to the issues with recruitment and retention of participants with early hip/knee OA. Recruitment extending to individuals living in the community via GP practices/clinics, with flexible times to attend intervention programme may be some of the strategies that need to be considered while designing future trials particularly in individuals with early signs of OA.

**Key practice points:** Preliminary results suggest that the treatment package has the potential to modify physical exercise self-efficacy in individuals with early signs of OA.

## PRESENTING AUTHOR'S BIOGRAPHY

Prasath is a Lecturer in School of Physiotherapy, University of Otago and has a primary research interest in rehabilitation of individuals with pain and physical disability. Prasath completed his doctoral studies in 2012 on postural balance in lower limb amputations. He has since completed two postdoctoral fellowships, first at Brunel University, London (one year), followed by another at School of Physiotherapy, University of Otago (three years) where he was involved in projects investigating gait, balance and physical activity, with an application to people with pain and disability.



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# Patient characteristics and predictors of completion of a pulmonary rehabilitation programme in Counties Manukau, Auckland

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## ABSTRACT TEXT

**Introduction:** Chronic respiratory diseases are a worldwide public health problem. Pulmonary rehabilitation (PR) is a gold standard intervention for these diseases, yet attendance and completion rates of PR programmes are poor. Counties Manukau Health (CMH), in Auckland, has a high prevalence of chronic respiratory disease. The aim of this study was to investigate patient characteristics that may affect engagement and predict completion of the CMH PR programme. **Methods:** A retrospective analysis was performed, using routinely collected data of 2756 patients referred to the PR programme at CMH. Data were analysed to compare demographic and clinical outcomes of patients who completed, did not complete or did not attend the programme. Regression analyses identified factors predicting completion.

**Results:** Of those referred to PR, 1716 (62.3%) did not attend or did not complete the programme. Significant differences were found between groups in demographic and clinical characteristics.

**Ethnicity, age and six-minute walk test distance were significant predictors of completion.**

**Conclusions:** Those of older age or with poorer exercise tolerance were less likely to complete the programme. Māori and Pacific Island people are less likely to complete PR than European people, despite being disproportionately affected by chronic respiratory disease. To our knowledge, the findings related to ethnicity have not been demonstrated elsewhere.

**Key practice points:** In order to improve engagement with PR and reduce population health inequities, consideration must be given to the method of PR delivery across different age groups, those with poorer exercise tolerance, and, crucially, different ethnic groups.

## PRESENTING AUTHOR'S BIOGRAPHY

Nicola works part-time as a Clinical Educator at Auckland University of Technology and part-time as an experienced physiotherapist at Counties Manukau Health, where she primarily works in the field of pulmonary rehabilitation. She has recently completed a Master of Public Health at Auckland University of Technology. Her research interests include pulmonary rehabilitation, technology in rehabilitation, and health care access, with a particular interest in reducing population health inequities.



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# The Experiences of Accessing Health Care for Families of Children with Non-Cystic Fibrosis Bronchiectasis in Counties Manukau, Auckland

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## ABSTRACT TEXT

**Introduction:** Non-cystic fibrosis bronchiectasis (NCFB) is a worsening public health problem in New Zealand, particularly in the Counties Manukau area in Auckland. Poor access to health care may influence the development of NCFB. The aim of this study was to explore the experiences of accessing health care for families of children with NCFB in the Counties Manukau District Health Board area of Auckland.

**Methods:** Semi-structured interviews were undertaken with ten parents of children with non-cystic fibrosis bronchiectasis. Data were analysed using thematic analysis.

**Results:** Five themes emerged: 1) Searching for answers, describing parents' search for a diagnosis; 2) (Dis)empowerment, describing parents' acquisition of knowledge, leading to empowerment; 3) Health care and relationships, describing the impact of relationships on the parent's health care experiences; 4) A juggling act, describing the challenges of juggling health care with school, work and family; 5) Making it work, describing how parents overcome barriers to access health care for their child.

**Conclusion:** The health provider-parent relationship was crucial for fostering positive health care experiences. Parents' acquisition of knowledge facilitated empowerment within those relationships. Additionally, parents' perceptions of the quality and benefit of health services motivated parents to overcome barriers to accessing care.

**Key practice points:** Three key practice points may enhance service delivery to improve health care access for families of children with NCFB. Firstly, a greater emphasis on patient-centred care.

Secondly, improving channels of communication between parents and health providers and between services. Thirdly, addressing practical barriers such as transportation and child care.

## PRESENTING AUTHOR'S BIOGRAPHY

Nicola works part-time as a Clinical Educator at Auckland University of Technology and part-time as an experienced physiotherapist at Counties Manukau Health, where she primarily works in the field of pulmonary rehabilitation. She has recently completed a Master of Public Health at Auckland University of Technology. Her research interests include pulmonary rehabilitation, technology in rehabilitation, and health care access, with a particular interest in reducing population health inequities.



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# Patients' perspectives of the outcome of anterior cruciate ligament reconstruction surgery: a qualitative study

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## ABSTRACT TEXT

**Purpose:** To explore participants' perspectives on physical activity, sports, occupation and quality of life following anterior cruciate ligament reconstruction (ACLR).

**Methods:** Face-to-face semi-structured interviews were held with ten participants, 2-10 years following ACLR (7 female; aged 20 to 52 years). The interviews were recorded and transcribed verbatim. Participants also completed patient-reported outcome measures [(PRO): Tegner Activity Scale, Knee Outcome and Osteoarthritis Score (KOOS), Sports Confidence scale, and the Short-form Health Survey-12 (SF-12)]. The general inductive approach was used for qualitative data analysis, and PRO's were analysed descriptively. Pre- and post-injury Tegner Activity score were compared with the Wilcoxon signed-rank test.

**Results:** Three overlapping interview themes were identified: 'Continuum of fear of re-injury versus confidence', 'strive to live life normally', and 'need for reassurance and maintenance of knee health'. The Tegner Activity Scores showed no significant differences ( $p>0.05$ ) between pre- and post-injury level of physical activities. Participants still experienced knee-related symptoms (KOOS Symptoms median 59/100) and scored low on quality of life scales as per KOOS and SF-12. The Sports Confidence scale indicated variable confidence among the participants.

**Conclusion:** ACLR leads to long-term fear of injury and behavioural manifestations, with fluctuating levels of confidence, predominantly with physical activities related to the mechanism of injury. Participants were concerned about the future risk of re-injury or osteoarthritis.

**Key practice points:**

- Physiotherapists need to consider long-term fear of injury and behavioural manifestations, and fluctuating levels of confidence for patients with ACLR.
- A rehabilitation maintenance plan may need to be considered for overall knee health, re-assurance and self-confidence.

## PRESENTING AUTHOR'S BIOGRAPHY

I have done my PhD focusing on the Outcomes of anterior cruciate ligament reconstruction from 2 to 20 years post-surgery- using a mixed-method approach. Specific aims of my thesis were to determine medium (2-10 years) and long-term (10-20 years) outcomes of current management of ACLR in terms of muscle strength, physical performance, knee laxity and biomechanical outcomes. Another aim was to explore the participants' experiences of the outcomes of their surgery more than 2 years in relation to physical activity, sports, occupation and quality of life. Currently, I have started working as Assistant Research Fellow in the School of Physiotherapy.



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# Comparing clinical reasoning of physiotherapy and medical students

## Presenting Author:

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## ABSTRACT TEXT

### Introduction

Clinical reasoning is a key aspect of clinical practice in the health professions. While an area of shared interest, it is not clear how health professions might differ in their clinical reasoning ability or learning. This study compares measures of clinical reasoning and responses to an interprofessional clinical reasoning workshop in fourth-year undergraduate physiotherapy and medical students.

### Methods

Twenty-eight physiotherapy students and 71 medical students completed the Diagnostic Thinking Inventory (DTI) survey, then attended a clinical reasoning workshop where small groups of students worked collaboratively to analyse clinical cases. Afterwards, all students provided written reflections about their learning experience, which were analysed thematically and compared.

### Results

There was no significant difference found between DTI scores of physiotherapy (Mean=158.5, SD=11.74) and medical (Mean=159.4, SD=18.21) students;  $t(76.116)=0.286$ , non-significant. In the written reflections, physiotherapy and medicine emphasised different features. The most useful features of the workshop were the interprofessional aspect (physiotherapy 52%, medicine 22%) and the case based format (physiotherapy 22%, medicine 57%). Students considered that clinical reasoning will help them structure their thinking (physiotherapy 43%, medicine 14%); guide their history, examination, or treatment (physiotherapy 22%, medicine 40%); and consider/develop differential diagnoses (physiotherapy 17%, medicine 32%).

### Conclusion

The DTI scores suggest similar clinical reasoning ability in physiotherapy and medical students, while following the workshop each profession expressed differences in the features they found useful, and their view of clinical reasoning. Appreciating these similarities and differences will help develop well designed interprofessional learning opportunities that promote a collaborative approach to healthcare.

## PRESENTING AUTHOR'S BIOGRAPHY

Ewan is a new Lecturer in the School of Physiotherapy at the University of Otago. He has been involved in physiotherapy education for over 15 years, and currently leads the 4th year programme. His research interests include exploring how the neck contributes to persistent post concussion symptoms, building collaborative practice through interprofessional education and improving clinical reasoning ability in our graduates.



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# Inter-rater reliability of sonographic measurement of the acromiohumeral and coracohumeral distances and rotator cuff tendon thickness

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## ABSTRACT TEXT

**Introduction:** An understanding of bony landmarks and the rotator cuff tendons is important for assessing normal shoulder function, as well as subacromial and subcoracoid pathologies. The purpose of this study was to measure the acromiohumeral (AHD) and coracohumeral (CHD) distances and supraspinatus and subscapularis tendon thickness using ultrasound, and to evaluate inter-rater reliability.

**Methods:** Twenty-four participants (9 male, 15 female; mean age  $35.1 \pm 10.9$  years) without shoulder pain, were scanned by a senior musculoskeletal sonographer and a physiotherapist on different days. Ultrasound measurements included AHD in neutral and  $60^\circ$  shoulder abduction (passive and active), CHD in neutral, shoulder internal rotation, and internal rotation with active flexion, and supraspinatus and subscapularis tendon thickness. Inter-rater reliability was assessed using a two-way mixed intra-class correlation coefficient (ICC 3,1).

**Results:** For CHD and tendon thickness measurements, ICC values were between 0.84 and 0.98, indicating good to excellent agreement between raters. The ICC values for AHD measurements ranged between 0.61 and 0.79, suggesting good to moderate reproducibility.

**Conclusion:** AHD and CHD, and supraspinatus and subscapularis tendon thickness can be reliably measured using ultrasound imaging. Variation in subject positioning, transducer placement and localisation of anatomic landmarks might have caused lower agreement in AHD measurement. This ultrasound method will be utilised in a larger study investigating age-related changes of these measures.

**Key practice points:**

- Ultrasound is a reliable tool to measure rotator cuff tendon thickness and distances between bony shoulder landmarks in clinically relevant positions.
- Physiotherapists with limited ultrasound experience can reliably evaluate shoulder anatomy.

## PRESENTING AUTHOR'S BIOGRAPHY

Marion is a PhD student in the Department of Anatomy at the University of Otago. After graduating from the School of Physiotherapy in Tübingen, Germany, Marion worked in hospital and private practice settings. After completing a BSc in Physiotherapy at the Fulda University of Applied Sciences in Germany, Marion came to New Zealand in 2008 for postgraduate studies at the School of Physiotherapy at Otago and Auckland University of Technology. Her current research focuses on the clinical anatomy of the shoulder with particular interest in shoulder bursae and ultrasound imaging.



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# Iliocapsularis and pericapsular muscles of the anterior hip; an electromyographic investigation in gait

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## ABSTRACT TEXT

### INTRODUCTION:

Iliocapsularis has the largest capsular attachment of the hip, yet its role in gait is unknown. Current theoretical understanding is that peri-capsular hip muscles provide active stability of the hip, particularly as the hip extends through the gait cycle. The aim of this study was to (i) investigate the role of iliocapsularis in normal gait; (ii) determine the effect of short strides (reduced hip extension) on muscle activity of all peri-capsular hip muscles (iliacus, gluteus minimus, rectus femoris).

### METHODS:

Fifteen healthy volunteers (mean (SD) age 22(2) years) were recruited. Electromyographic activity was recorded using intramuscular electrodes (iliocapsularis, gluteus minimus and iliacus) and surface electrodes (rectus femoris). Burst activity in comfortable stride lengths were compared to short strides using non-parametric repeated measure statistics.

### RESULTS:

Iliocapsularis displayed variable activity during stance and a consistent burst of activity in early swing. During short strides, activity was reduced in stance for iliacus, iliocapsularis and rectus femoris ( $p < 0.01$ ), while gluteus minimus activity increased ( $p = 0.03$ ). Activity was significantly greater in early swing for iliocapsularis ( $p = 0.01$ ). Across both stride lengths, there was an absence of activity in all muscles prior to toe-off.

### CONCLUSION:

This first investigation of iliocapsularis activity in gait has identified a consistent burst profile in early swing. Alterations in short stride, and inactivity prior to toe-off, indicate pericapsular activity relates to local joint action rather than torque production.

### KEY PRACTICE POINTS:

- Activity of pericapsular hip muscles contribute to local joint action in gait.
- Provides target for potential interventions in populations with hip pain/pathology.

## PRESENTING AUTHOR'S BIOGRAPHY

Peter completed a Bachelor of physiotherapy at the University of Otago in 2004. Since then, he has completed qualifications in Sport and Exercise, and obtained a Masters in Sports Physiotherapy at The University of Queensland in 2011. Peter has extensive experience treating patients in a sporting environment, as well as the private practice and hospital setting. With a keen interest in the assessment and management of the hip joint, Peter enrolled in a PhD at the University of Queensland to investigate motor control and muscle morphology in people with femoroacetabular impingement



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# Preparing physiotherapy students for clinical practice: a comparison between behaviourist and constructivist approaches

## Presenting Author:

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Capital and Coast District Health Board

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## ABSTRACT TEXT

**Introduction:** Educational pedagogies refer to the theory and practice of learning, which assist students to develop links between declarative and practical knowledge, thus promoting autonomous clinical practice. We investigated the effectiveness of behaviourist and constructivist pedagogical approaches in preparing physiotherapy students for clinical practice.

**Methods:** Four cohorts of Year 3 undergraduate physiotherapy students (n=15), commencing an acute care placement were randomly allocated to, then prepared for placement by their educator using a constructivist or behaviourist approach. Before, and one week into placement, students answered a survey by marking responses on a 10cm Likert scale. Questions covered students' levels of anxiety, preparedness for clinical placement, contributions to group learning and the educator's role. Paired and unpaired t-tests were used to identify mean statistical differences between surveys within interventions and the full student cohort.

**Results:** In the behaviourist group, there were no significant differences in mean measurements between pre-post survey questions. In the constructivist group, there was a statistically significant change in students' perception of the contribution of the educator to their learning ( $28 \pm 15\text{mm}$  to  $8 \pm 4\text{mm}$   $p < 0.001$ ) and students' enjoyment of the placement ( $33 \pm 11\text{mm}$  to  $16 \pm 11\text{mm}$   $p < 0.001$ ).

**Conclusion:** Our results suggest a constructivist rather than behaviourist approach was preferable in preparing undergraduate physiotherapy students for a tertiary clinical placement. Additional research is required to determine the extent of this difference and the applicability in differing clinical settings.

**Key practice points:** Clinical educators should consider the pedagogical approach most likely to benefit student learning when preparing students for a clinical placement.

## PRESENTING AUTHOR'S BIOGRAPHY

Natasha Lewthwaite is a new-graduate physiotherapist, who graduated from the University of Otago with a Bachelor of Physiotherapy in 2017. Natasha is employed as a rotational physiotherapist at the Capital and Coast District Health Board, and is a current member of Physiotherapy New Zealand.



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# Exercise for hand osteoarthritis: Blood flow restriction vs high intensity strength training

## Presenting Author:

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## ABSTRACT TEXT

**Introduction:** Hand osteoarthritis (OA) is a common cause of pain and disability, often associated with muscle weakness. Resistance training is rarely utilised due to fear of pain exacerbations. A novel intervention called blood flow restriction (BFR) has been shown to induce similar muscle gains as high intensity training (HIT) while utilising low exercising loads. The aim of this study was to determine whether BFR and HIT training produce similar muscle strength adaptations and quantify pain induced by each regime in people with hand OA.

**Methods:** Twenty-one participants with symptomatic hand OA were randomly allocated to BFR or HIT training. Participants trained three times a week for six weeks. Pinch strength gains (kgs) and exercise induced pain (NRS scale) were assessed across training session. Adverse events (pain exacerbations) were recorded.

**Results:** Ten participants in the BFR and eleven in the HIT group completed the training. The absolute risk of pain exacerbation was 1.8% and 4.8% for BFR and HIT respectively. Both groups increased ( $p < 0.05$ ) pinch strength (BFR:  $Mdn = 39.9\%$ ,  $IQR = 21.7\%$ ,  $81.5\%$ ; HIT:  $Mdn = 75.6\%$ ,  $IQR = 28.3.1\%$ ,  $148.9\%$ ), without significant differences between groups ( $p > 0.05$ ). Exercise induced pain significantly decreased in the HIT ( $R^2 = .19$ ,  $F(1,16) = 5.08$ ,  $p < 0.05$ ) but not in the BFR group.

**Conclusion:** Resistance training with BFR or HIT induce similar pinch strength gains. The absolute risk of adverse events was low. Interestingly, exercise induced pain decreased only in the HIT group, whereas no changes were observed in the BFR training.

**Key practice points:** HIT or BFR training are two viable exercise interventions for hand OA and pain exacerbations are rare.

## PRESENTING AUTHOR'S BIOGRAPHY

Nico is currently completing his PhD program at Auckland University of Technology assessing brain changes associated with chronic pain and testing novel interventions for people with hand OA. He also works part-time in the Outpatients Physiotherapy department at North Shore Hospital in Auckland.



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# Is Nasal High flow (NHF) oxygen in the ward setting beneficial

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## ABSTRACT TEXT

### Introduction

The physiotherapists, in conjunction with our Patient at risk team, looked at the use of nasal high flow (NHF) oxygen in adult ward patients to evaluate the effect on respiratory failure or risk of respiratory deterioration. Previous literature had only evaluated this within the intensive care settings.

### Methods

A prospective observational research design was used to obtain data from 67 adult ward patients over a 4-6 week period. The data was analysed and included; demographics, reason for respiratory failure and daily clinical parameters until NHF was discontinued.

### Results

After commencing NHF oxygen there were statistically significant clinical improvements shown by a decrease in both respiratory rate and heart rate, along with an increase in SpO2 within 30 minutes of starting the therapy. No statistically significant differences were found in dyspnoea or sputum retention. The most common diagnosis requiring NHF was pneumonia, and the median length of time patients received NHF was 2.03 days and median length of stay was 8.50.

### Conclusion

NHF is effective and safe to use within the ward environment, both as an adjunct to physiotherapy treatment and with acutely deteriorating patients.

### Key practice points

- NHF is an effective adjunct to use in the ward setting across a variety of clinical presentations
- May reduce demand on ICU
- Future research needed of larger cohort

## PRESENTING AUTHOR'S BIOGRAPHY

Claire Matheson is as a Section head Physiotherapist at CMDHB. In conjunction with her physiotherapy team management duties she works clinically as a physiotherapist primarily in the Critical Care Complex, Middlemore Hospital. She has been involved in the development of the pathway for the acute spinal injury patients and has previously worked closely with the Critical Care team to develop early mobilisation pathway. Claire has most recently been involved with the CHESTY research project looking at prevalence of chest infections following surgery.



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# The effects of a four week high-intensity interval training and home-based walking programme on the aerobic capacity and perioperative risk in a cancer patient undergoing Esophagectomy

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## ABSTRACT TEXT

**Background:** Pre-surgical levels of fitness, in particular a low anaerobic threshold (AT) and peak oxygen consumption (VO<sub>2</sub> peak), are considered major predictors of perioperative morbidity and mortality in cancer patients undergoing major upper gastrointestinal (GI) surgery. The window of time to improve fitness before surgery is often limited (4-6 weeks). The aim of this case study was to examine the effect of a 4-week high-intensity interval training (HIT) and home-based walking programme on the aerobic fitness of an upper GI patient identified as high risk for surgery.

**Methods:** This study was a single case design. The participant, diagnosed with esophageal cancer, underwent cardiopulmonary exercise testing three weeks following a chemotherapy intervention. He was identified as having low fitness levels (low AT and VO<sub>2</sub> peak) that put him at high perioperative risk. The dependent measures were AT, VO<sub>2</sub> peak, and cycle workload at a rating of perceived exertion (RPE) of 12 on the Borg scale. The exercise programme comprised of two supervised HIT sessions per week and 3-4 days of walking.

**Results:** Following the 4-week intervention AT increased by 38% to a clinically significant level that lowered the participant's perioperative risk. This was accompanied by a 33% increase in workload at a RPE of 12 and a 19% increase in VO<sub>2</sub> peak.

**Clinical significance:** This case study highlights the potential for physiotherapists utilize HIT to improve exercise capacity and reduce perioperative risk in poorly conditioned patients undergoing major abdominal surgery.

## PRESENTING AUTHOR'S BIOGRAPHY

Grant Mawston is a senior lecturer in the Department of Physiotherapy at AUT. His key areas of teaching include functional biomechanics and exercise physiology and prescription. He has a research interest in the role of cardiopulmonary exercise testing in the risk stratification of patients undergoing high-risk surgery, and the development of simple clinical measures to identify levels of fitness in this patient group.



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# Māori lived experiences of Osteoarthritis: A kaupapa Māori qualitative study

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## ABSTRACT TEXT

**Background:** Osteoarthritis is a problematic condition that is shown to impact hugely on those who have it. However, what is unknown is the impacts it is having on Māori adults in Aotearoa (New Zealand).

**Aims:** To explore the perceptions and experiences of Māori adults living with osteoarthritis.

**Methods:** A qualitative study guided by kaupapa Māori principles. Semi-structured interviews were conducted with seven Māori adults aged 44 – 71 years old living with osteoarthritis. Interviews were recorded and thematic analysis was utilised to identify key themes derived from the data.

**Findings:** This study identified eight themes. Three new themes were identified that relate specifically to kaupapa Māori. These are āhuetanga Māori, whakamā and whakapapa. The remaining five themes relate to general health and support previous studies that have also identified similar findings. These are impacts on family and self, coping strategies, overwhelming frustration, medication and education.

**Recommendations:** A number of recommendations have been identified to address the key themes of this study. These include providing education to local marae so they can implement appropriate strategies for the people of their marae, educating health professionals involving whānau in treatment planning, and lastly, providing more thorough and easy to understand education.

## PRESENTING AUTHOR'S BIOGRAPHY



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# Electromyographic changes in anterior cruciate deficient (ACLD) knees during unexpected landings

## Presenting Author:

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## ABSTRACT TEXT

### Introduction:

No research in ACLD knees has examined change in muscle activity during landings with an unexpected mechanical event. The aim was to compare muscle activation in ACLD, uninvolved and control knees during landings on false and normal floors. This could highlight altered motor control strategies.

### Methods:

Nineteen ACLD individuals and 19 controls performed repeated one legged landings from boxes 30 cm and 15cm in height onto a solid floor. Subjects also performed a single landing onto a false floor placed at the 15cm height. Thus, subjects unexpectedly fell through the false floor to the solid floor. Electromyographic signals (EMG) were collected from vastus-lateralis (VL), lateral-hamstrings (LH) and soleus (Sol). Epochs between 30-60 and 61-90 ms post-landing were examined.

### Results:

In normal landings, significantly less ( $p < 0.05$ ) VL EMG activity (17-47%) and LH EMG activity (23-59%) was observed in the ACLD limbs compared to uninvolved & control limbs. For false floor landings, EMG activity in all muscles increased, but in VL the increase was significantly higher in the ACLD limb compared to other limbs (33-250%;  $p < 0.05$ ).

### Conclusion:

This study highlights different muscle activation strategies depending upon type of landing. While EMG activity generally increases in all muscles and all limbs with false floor landings, the increase in VL EMG activity in ACLD limbs was significantly higher to that of other limbs.

### Key practice point:

In surprise (unexpected) landings, increased VL activity in ACLD limbs could improve shock absorption, but might also increase anterior shear forces and hence instability.

## PRESENTING AUTHOR'S BIOGRAPHY

Professor McNair is a Professor in the School of Clinical Sciences at Auckland University of Technology. His work is focused on biomechanics of lower limb pathologies, particularly joint injuries and arthritis, where he has a specific interest in exercise rehabilitation, and the extensibility of the soft tissues such as muscle and tendon. His research has been published extensively and he has Editorial and Advisory Board roles on four international journals in areas related to biomechanics and rehabilitation.



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# A strengths based approach utilising the International Classification of Functioning for physiotherapy management for women with pelvic organ prolapse

## Presenting Author:

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## ABSTRACT TEXT

### Introduction:

A strength based approach based on the International Classification of Functioning, Disability and Health (ICF) embraces the world view of the client and focuses on what is working well, the resources available and other life demands experienced by the client. Women with pelvic organ symptoms (POP) often reduce their exercise and activity levels when they experience POP symptoms. The aim of this study was to explore women's experiences through a strengths based approach utilising the ICF framework to aid physiotherapy management of pelvic organ prolapse (POP) symptoms.

### Method:

A descriptive case study design was used to explore the experiences within the real life context of five women living with POP. Semi structured interviews with open ended questions were used. Women were purposefully recruited from the researcher's local regional area of New South Wales.

### Results:

The semi structured interviews found a similarity between the women needing to maintain an active role within their lives and communities in order to work and look after children, but also in limiting their activity levels due to their POP symptoms. Their knowledge of POP and management options were severely limited.

### Conclusions:

Utilising a strengths based approach to assessment and management, all factors affecting the women's life health, life and role within her community may be considered in management approaches to optimise management of POP.

### Key practice points:

Strengths based approach based on the ICF changes the focus from a deficit problem based model to one that focuses on empowering women to manage their own health conditions.

## PRESENTING AUTHOR'S BIOGRAPHY

Kerstin is a Phd candidate at The University of Canberra, exploring pelvic organ prolapse and the relationship with movement. She is also Physiotherapy Discipline Lead and lecturer at Charles Sturt University.



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# Physiotherapists' perspectives on the use of advice and education for patients with rotator cuff-related pain

## Presenting Author:

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## ABSTRACT TEXT

**Introduction:** While extensive research has explored management of persistent rotator cuff-related pain (RCRP), sparse information is available regarding specific advice and education physiotherapists include in rehabilitation of such patients. We explored physiotherapists' current perspectives of their inclusion of advice and education (non-physical interventions) in their management of patients with rotator cuff related pain (RCRP).

**Methods:** Twelve physiotherapists (median 21.5 years of practice; 7 women; 7 NZ European, 3 NZ European/Pacific Islander, 2 Europeans) participated in individual interviews or focus groups. These were audio recorded, transcribed verbatim, and analysed using Interpretive Description.

**Results:** Four key themes emerged. Participants' inclusion of patient education was guided by "Assessment and Decision Making", strongly influenced by their experience, expertise, and patient-related factors. Most advice and education had a "Pathoanatomical Focus". "Uncertainty of Physiotherapists" appeared to influence whether a "Pain Neuroscience Focus" towards advice and education should be implemented. Elements of psychologically-informed strategies appeared to be implicitly included in the non-physical interventions by some of the physiotherapists.

**Conclusions:** Patient advice and education for RCRP appeared to be guided by the patient centred-care model, influenced by the physiotherapists' clinical experience, understanding of the research evidence, and patient-specific factors. However, limited discussion centered on self-management. The balance between a pathoanatomical and a psychologically-informed approaches varied among the physiotherapists.

**Key practice points:**

- Most participants described a predominantly pathoanatomical focus to the advice and education for patients with RCRP.
- Resources to support physiotherapists to integrate psychologically-informed approaches into their advice and education and for such patients may be helpful.

## PRESENTING AUTHOR'S BIOGRAPHY

Karen completed her BPhy (Hons) at the University of Otago in 2018, and is working as physiotherapist at SportsMed, Mosgiel.



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# An investigation of attitudes to exercise and barriers to physical activity in a cohort of adults with obesity

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## ABSTRACT TEXT

### Introduction

New Zealand (NZ) has the third highest obesity rate among developed countries. Obesity is the leading modifiable risk to health in NZ, due to its correlation with non-communicable diseases. A fat loss intervention prescribed for adults with obesity is the consumption of a very low calorie diet (VLCD). Side effects of VLCD include loss of lean tissue, strength, and aerobic capacity. Regular physical activity attenuates these effects and contributes to the maintenance of fat loss. This mixed-methods study aimed to identify attitudes and barriers to physical activity participation, and measure physical activity levels, in an adult cohort prescribed a VLCD.

### Methods

Participants were recruited from a local hospital weight management clinic. A thematic analysis of semi-structured interviews investigating attitudes and barriers to physical activity was conducted. Physical activity levels were measured over seven days using ActiGraph wGT3x-BT accelerometers and the Global Physical Activity Questionnaire.

### Results

Ten adults participated. Thematic analysis identified motivational and facilitative factors which increased engagement in physical activity, including VLCD; psychological and physical barriers which reduced physical activity; and a positive feedback relationship between activity behaviour and its effect on the individual. Most participants were below national guideline recommendations for physical activity.

### Conclusion

VLCD consumption was amongst motivational and facilitative factors that enhanced physical activity. Physical activity was below recommended levels.

### Key Practice Points

Physiotherapy interventions utilising physical activity may be compatible with VLCD consumption in adults with obesity. To enhance physical activity engagement in this population, health professionals should consider the effect of psychological and physical barriers, motivators, and facilitators on the individual.

## PRESENTING AUTHOR'S BIOGRAPHY

Liam Miller is a recent graduate from the Bachelor of Physiotherapy with Honours programme at the University of Otago. His experience lies in the implementation and investigation of physical activity in sedentary individuals.



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# Falls prevention - What can we learn from older adults and their carers?

## Presenting Author:

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## ABSTRACT TEXT

**Introduction:** Falls in older persons are prevalent and costly for the individual and the health system. Although there are evidence-based guidelines for the prevention of falls in older adults, little is known about strategies used by community dwelling older adults and their carers to prevent falls, nor how their strategies compare to guidelines.

**Methods:** We undertook a systematic integrative review of the literature to determine how community dwelling older adults and their carers prevent falls. Following quality appraisal of included articles, information relevant to the aim of the review was extracted, categorised, and inductively sorted into themes. We then compared these findings to evidence-based falls prevention guidelines.

**Results:** There were 17 included studies. Overall, the studies represented the perspectives of 501 older persons and 102 carers. Fall prevention strategies used by older adults arise from self-awareness about their changing physical ability and advice from carers, family and friends that discourage their independence. Together, these lead to less active lifestyles by older adults at risk of falling.

**Conclusions:** The falls prevention strategies adopted by older adults and their carers, in the main, do not align with international best practice fall prevention guidelines.

**Key practice points:**

Physiotherapists may revise how they assess and communicate with older adults and carers about adoption of effective fall prevention strategies.

Older adults and carers should be included in education sessions introducing and explaining intent and content of fall prevention guidelines.

## PRESENTING AUTHOR'S BIOGRAPHY

Hilda's research interests include facilitation of physical activity particularly for adults and children with neurological conditions, community based rehabilitation, and community participation by people with disability, together with behaviour change for self-management by people with long-term conditions. She has developed national and international relationships with physical therapists and researchers across disciplines other than physiotherapy, with over 25 publications in peer reviewed journals in the last five years. Hilda fosters translating research into practice through community engagement with end-user groups, as well as governmental health services, Primary Health Organisations and non-governmental organisations.



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# Perceived accessibility and usability of urban parks by older adults with disability

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## ABSTRACT TEXT

**Background:** Over 2/3rds of older adults (>65 years) report having a disability. Persons with disability are less likely to be physically active yet are at greater risk of poorer biopsychosocial health outcomes. Supporting physical activity, particularly in those with long term conditions and/or acute impairment, is a role physiotherapists are especially qualified for. Urban parks are free and are associated with better health outcomes. However, the accessibility and usability of urban parks by older adults with disability in New Zealand is unknown.

**Methods:** This mixed-methods study randomly surveyed 1,000 older adults. Questionnaires included the Perceived Access to Urban Parks, and the EQ-5D-5L. Interviews were conducted post-survey with older adults who identified as having a disability.

**Results:** Over 450 older adults with a mean(SD) age of 74(7) years, including 150 with self-reported disability, completed the survey. More older adults with disability never visited an urban park in the last year compared to older adults without disability ( $p<0.01$ ). Ownership of a private vehicle significantly increased the odds of visiting urban parks ( $p<0.01$ ), OR:3.99 (1.48, 10.8). Mobility in the park also significantly increased the odds of visiting ( $p<0.01$ ), OR:9.55 (1.95, 46.8). Qualitative findings revealed that the natural environment, amenities, community interactions and finding a place to 'be' influenced their decision to visit urban parks.

**Conclusions:** Older adults with disability are less likely to visit parks and they report numerous barriers to participation.

**Key practice points:** Given the ageing population and the health benefits from urban park use, advocacy by physiotherapists for equitable, inclusive, and accessible urban parks is required.

## PRESENTING AUTHOR'S BIOGRAPHY

Meredith is the PI for the PARCS (Parks for Participation and Recreation in the Community Studies) research programme. The PARCS team have a series of investigations completed which have explored the accessibility and usability of parks and playgrounds. They are using this data to develop to create opportunities for collaborative modification of existing parks as sites for recreational physical activity among persons with disabilities. The results are of importance for health care professionals, policy makers, and town planners in devising a sustainable approach to improve park-based physical activity in the community regardless of age or ability.



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# Knowledge and attitudes of secondary school students, referees, parents and doctors towards sports related concussion

## Presenting Author:

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## ABSTRACT TEXT

A survey of the knowledge and attitudes of secondary school students, referees, parents and doctors towards sports related concussion

**Introduction:** Sport related concussion is a significant problem in New Zealand sporting populations. Approximately 21% of traumatic brain injuries (TBI) are sustained in sports. The 'Sports Concussion in New Zealand ACC National Guideline' was released in 2014. This survey aimed to assess current knowledge and attitudes of a range of participants towards concussion in sport following release of the guideline.

**Methods:** The 35-item multi-choice questionnaire was designed based on previous studies of this nature. Responses from 1,149 participants (807 secondary school students, 140 referees, 69 parents and 133 doctors) was gained during sporting events in 2017, and a general practitioner on-line survey.

**Results:** The term concussion was recognised as an injury to the brain by the majority of participants. There was variation in knowledge reported to identify the key symptoms of concussion, the impact of devices affecting cognitive function and the time frames for return to sport. There was limited awareness of the current ACC guidelines. Doctors had limited use of concussion screening tools and limited experience in management of return to play after concussion.

**Conclusion:** Further education is required to optimise management and improve awareness of the ACC concussion guidelines. Further education is required with respect to when to return to sport once symptoms have fully resolved.

**Key practice points:** Physiotherapists often manage sports related concussion. Awareness of the gaps in concussion knowledge would assist in improved future management of sports related concussion.

## PRESENTING AUTHOR'S BIOGRAPHY

Duncan is a Professor of Physiotherapy at AUT University. His main research interests are in Sports Injury Incidence and injury prevention. He has more than 35 years of clinical experience in musculoskeletal physiotherapy. Professor Reid has worked with high performance sports athletes for more than 30 years including as a member of the New Zealand Olympic and Commonwealth Games Medical Teams from the 1988 Seoul Olympics through until the Sydney Olympics in 2000, acting as chief physiotherapist for the 1992, 1994 and 1996 games. In addition to teaching and research, Professor Reid continues to work with elite sports in both clinical and advisory roles, including current partnerships with Rowing New Zealand and High Performance Sport New Zealand.



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# Texting to support physical activity behaviour change in adults with obstructive sleep apnoea (OSA)

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## ABSTRACT TEXT

**INTRODUCTION:** Evidence supports a relationship between physical inactivity and apnoea severity in OSA, with a possible inverse relationship between hours of exercise and severity of sleep-disordered breathing. Increased physical activity, in the form of aerobic exercise, may contribute to a reduction in symptoms; even in the absence of weight loss. Motivation is a major barrier to becoming more physically active in this population, despite recognition of the potential benefits. Studies involving adults with obesity, but without OSA, have demonstrated improvements in physical activity behaviour using text messaging. We aimed to explore the use of texting to support physical activity behaviour change in adults with OSA.

**METHOD:** A single focus group and two individual interviews, using semi-structured questions, were used to explore acceptability and preferences regarding text messaging to motivate increasing physical activity in participants. Adults at high risk of OSA were recruited from the overnight sleep study waiting list. Participants had their OSA diagnosis confirmed prior to focus group participation.

**KEY RESULTS:** Findings suggested personalisation of text messages with questions requiring a response, such as “How far have you walked today?”, and brief educational messages, such as “Untreated OSA can affect your memory and concentration”, are key components of text messages to encourage increasing physical activity over time.

**CONCLUSIONS:** Tailoring text messages to requirements of the individual with OSA is critical to successfully supporting physical activity behaviour change.

**KEY PRACTICE POINTS:** Research findings will inform text messaging content and construct in future physical activity intervention studies for adults with OSA.

## PRESENTING AUTHOR'S BIOGRAPHY

Sarah Rhodes is a PhD candidate with a background in cardiorespiratory physiotherapy and a special interest in sleep disordered breathing, health promotion and physical activity adherence.



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# The initial effects on shoulder muscle activity of shoulder mobilization with movement during shoulder abduction: a repeated-measures study on patients with pain-limited shoulder elevation

## Presenting Author:

Dr Dan Ribeiro

## Affiliation:

School of Physiotherapy  
University of Otago

**Authors;** Dan Ribeiro (University of Otago), Gisela Sole (University of Otago), Jonathan Shemmell (University of Wollongong - Australia), Bill Vicenzino (University of Queensland - Australia)

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## ABSTRACT TEXT

### BACKGROUND

Shoulder mobilization with movement (MWM) may help to restore optimal control of scapular and shoulder muscles in patients with shoulder pain. The primary aim of the study was to assess the immediate post-mobilization effect of MWM on shoulder muscle activity during shoulder abduction. The secondary aim was to assess the immediate post-mobilization effect of MWM on pain and range of motion during shoulder abduction.

### METHODS

This was a repeated-measures, two-treatment crossover, and participant-blinded randomised trial. Thirty-two patients with pain-limited shoulder elevation were included in the study, and were exposed to two conditions (postero-lateral MWM & sham). Participants attended 2 sessions, at least one day apart to minimize carry-over effects. The order of the experimental conditions was randomized. We used a motion analysis system to monitor arm movements, and surface electromyography (EMG) to record muscle activity levels. The primary outcome measures were muscle activity of: upper trapezius, lower trapezius, supraspinatus, infraspinatus, middle deltoid, posterior deltoid, and serratus anterior muscles. The secondary outcome measures were: pain during shoulder abduction and shoulder abduction range of motion.

### RESULTS

Lower trapezius and middle deltoid increased muscle activity levels during the concentric phase. Supraspinatus and serratus anterior muscles increased activity during the eccentric phase following MWM when compared to the sham condition. There was no significant difference in pain levels at follow-up between the two conditions (difference: -0.3, 95%CI: -0.6, 0.1), but significant difference in range of motion at follow-up after the MWM compared to the sham condition (difference: 14°, 95%CI: 5.1, 23.5).

### CONCLUSIONS

Shoulder MWM alters neuromuscular control of scapular and shoulder muscles, and led to increased activity for selected muscles during shoulder abduction in individuals with shoulder pain.

### KEY PRATICE POINTS

Changes in scapular and shoulder muscle control might explain the immediate reductions in pain and increase in range of motion.



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### PRESENTING AUTHOR'S BIOGRAPHY

Dan is a Senior Lecturer at the School of Physiotherapy - University of Otago. He conducts clinical research on musculoskeletal disorders, with a special interest in shoulder rehabilitation. He holds a 'Sir Charles Hercus Fellowship' funded by the Health Research Council NZ.



# How behaviour change intervention mapping of a complex intervention can be useful to modeling and evaluation the whole programme; the story of improving the combination programme of Web-Based Physiotherapy and Blue Prescription

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## ABSTRACT TEXT

### Background:

Physical activity programmes that incorporate behaviour change interventions (BCIs) may be able to increase physical activity engagement in people with multiple sclerosis. However, BCIs such as Blue Prescription (BP) and Web-Based Physiotherapy (WBP) were developed inductively (through participant perceptions, experiences and desires) and have not clearly delineated the type and purpose of BCI components being used. Identification of specific BCI components within these programmes would help researchers to refine their development and identify outcome measures that are best suited to evaluate the intervention.

### Aims:

The aim of this talk is to describe the process and findings of systematically mapping the BCI components of a complex intervention that combines BP and WBP.

### Method:

A systematic search strategy was used to find all the articles describing BP or WBP. All the relevant articles were mapped on to Michie et al.'s BCI taxonomy.

### Results:

The process described above enabled us to identify six components for the BP intervention and seven BCI components for the WBP intervention. Both interventions shared five BCIs: "Goals and planning," "Repetition and substitution," "Natural consequences," "Shaping knowledge," and "Feedback and monitoring." Two of the BCI components were not evident in qualitative interviews: "Natural consequences" or "Antecedent".

### Conclusion:

This mapping process showed promising potential as a tool to better design and evaluate a complex intervention. However, more research and investigation is warranted to improve the BCIs mapping methodology and related evaluation techniques.

### Key practice points:

BCI mapping will help physiotherapists to recognise specific BCI components within complex interventions such as BP and WBP. This recognition will help physiotherapists to better target appropriate interventions that may lead to health-related behaviour change for their patients



### PRESENTING AUTHOR'S BIOGRAPHY

Multiple sclerosis (MS) has been my interest subject for more than 15 years. As previous Iranian MS Society physiotherapy center manager, and current physiotherapy PhD candidate at the University of Otago, I believe to a need of changing in physiotherapy approaches in MS and the other long-term neurological conditions.





# The Cost Saving Potential of a Physiotherapy Service in the Emergency Department in the Management of Back Pain

## Presenting Author:

Trish Schlotfeldt

## Affiliation:

Physiotherapy Department  
Royal North Shore Hospital

**Authors;** Trish Schlotfeldt (Royal North Shore Hospital)

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## ABSTRACT TEXT

**Introduction:** The introduction of a physiotherapy service to assist in the management of back pain can be used to supplement an evidence-based pathway for the management of people with acute back pain in an emergency department in a large metropolitan hospital.

**Method:** Patients presenting between 8am to 8pm with acute non-specific back pain or back pain with leg pain were assessed by a physiotherapist and received a management plan according to an evidence-based pathway. A telephone intervention initiative was developed to ensure that patients with acute back pain without serious pathology were offered follow up care after discharge.

**Results:** 383 patients were assessed by a physiotherapist in the emergency department from February 2016 to September 2017. 84% (322) of these patients were discharged. An analysis snapshot of admission statistics demonstrated a 12 percent reduction in admission to the hospital. This equated to AUD\$331 200. The telephonic intervention demonstrated a decrease in the representation rate to the emergency department in patients that were contacted and received telephonic follow up.

**Conclusion:** The effective utilisation of a dedicated physiotherapy service to assist in the management of back pain demonstrates cost saving to the health service.

**Key Practice points:** The utilisation of a physiotherapy service should be considered to improve efficiency and quality of care for patients with acute back pain.

## PRESENTING AUTHOR'S BIOGRAPHY

Trish completed a MSc in Physiotherapy in 1998 at the University of the Witwatersrand in Johannesburg, South Africa. She has a special interest in the management of low back pain. She has worked as a clinician and an educator in the public and private hospital sector. She has been working within the multi - disciplinary team as the Back and Neck Pain Pathway Triage Physiotherapist at Royal North Shore Hospital to facilitate the development of an evidenced based pathway for the management of patients presenting with back and neck pain, both in the emergency department and in the ambulatory care clinics.



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# The Development of a Back and Neck Pain Pathway in a Metropolitan Hospital

## Presenting Author:

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## ABSTRACT TEXT

**Introduction:** The management of patients presenting to a large metropolitan hospital with back or neck pain using an evidence based approach whilst improving efficiency of service delivery is a challenge. The development of a pathway to manage these patients was undertaken as a proof of concept trial.

**Methods:** A collaboration of the executive of the hospital, the Local Health District and the Agency for Clinical Innovation enabled the development of a management pathway. A steering committee designed a pathway to address rapid access from the emergency department to a rheumatology back clinic, spinal surgery clinic or physiotherapy service. A triage physiotherapist was utilised to decrease the long waiting time for patients to access a surgical opinion, on referral by their general practitioner.

**Results:** The triage physiotherapy process decreased the average waiting time for patients to access a spinal surgical clinic from 381 days in January 2016 to 65 days in March 2017. Of the 644 patients triaged, 296 (46%) were offered a physiotherapy assessment. Of the 211 patients that attended the physiotherapy assessment, 152 were managed conservatively without a surgical opinion, 59 were offered a surgical opinion and seven (3.3%) patients were offered surgery.

**Conclusion:** A clear pathway to manage patients with back and neck pain has demonstrated improvement in patient access to appropriate services.

**Key Practice Points:** The extension of this model of service could be considered by local state health authorities.

## PRESENTING AUTHOR'S BIOGRAPHY

Trish completed a MSc in Physiotherapy in 1998 at the University of the Witwatersrand in Johannesburg, South Africa. She has a special interest in the management of low back pain. She has worked as a clinician and an educator in the public and private hospital sector. She has been working within the multi - disciplinary team as the Back and Neck Pain Pathway Triage Physiotherapist at Royal North Shore Hospital to facilitate the development of an evidenced based pathway for the management of patients presenting with back and neck pain, both in the emergency department and in the ambulatory care clinics.



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# The immediate effect of foot orthotics on gluteus medius and minimus muscle activity in healthy young adults during gait

## Presenting Author:

Dr Adam Semciw

## Affiliation:

Physiotherapy

The University of Queensland

**Authors:** Adam Semciw (The University of Queensland), Paul Hodges (The University of Queensland, AU), Viji Visvalingam (The University of Queensland, AU), Natalie Collins (The University of Queensland, AU)

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## ABSTRACT TEXT

### INTRODUCTION:

Foot orthotics are frequently prescribed to manage lower limb musculoskeletal conditions. Prescription of orthotics is often targeted to correct coronal plane lower limb alignment. However, it is not known how orthotics affect the activity of muscles that are typically used for coronal plane lower limb control, such as gluteus medius and gluteus minimus. The aim of this study was to investigate the immediate effect of foot orthotics on gluteus medius and minimus muscle activity during gait.

### METHODS:

Fine-wire intramuscular electromyography (EMG) electrodes were inserted into the segments of gluteus medius (anterior, middle, posterior) and gluteus minimus (anterior, posterior) of 18 healthy young adults (mean (SD) age 23 (2) years; 8 females). Data were recorded during two walking conditions: 1) sandal; and 2) sandal with prefabricated foot orthotics. Median activity during stance and swing was compared between conditions using Wilcoxon signed rank tests.

### RESULTS:

Foot orthotics resulted in a significant reduction in gluteal muscle activity during stance (all segments) and swing phase (all except GMed posterior and GMin anterior). Median reduction in activity ranged from 10%-36% ( $p < 0.05$ ).

### CONCLUSION:

Prefabricated, unmodified foot orthotics decreases gluteal muscle activity during gait in healthy young adults. This understanding should be tested in people with symptomatic conditions of the lower limb to determine whether similar effects are induced.

### KEY PRACTICE POINTS:

- The prescription of foot orthotics reduces gluteal muscle activity by 10%-36%
- These results may support the clinical prescription of orthotics for those who have fatigued, tired, sore gluteal muscles (e.g. gluteal tendinopathy).

## PRESENTING AUTHOR'S BIOGRAPHY

Adam graduated as a physiotherapist from The University of Sydney in 2001, and completed his PhD at La Trobe University in 2013. In 2015, Adam joined the University of Queensland as a Research Fellow; a conjoint position with Queensland Health. In 2017, he completed a Graduate Certificate in Epidemiology, from the University of Queensland. Adam's research interests include hip and lower limb muscle function in health and disease



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# Physiotherapists helping patients choose wisely

## Presenting Author:

Dr Derek Sherwood

## Affiliation:

Choosing Wisely  
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## ABSTRACT TEXT

### Introduction

Many tests, treatments and procedures offer no value to patient care and can even do harm. Choosing Wisely is a health professional-led campaign in over 20 countries, to reduce unnecessary care and discuss with patients that "more is not always better". This presentation will share the experience of Choosing Wisely in New Zealand, and discuss how physiotherapists can be involved in the campaign.

### Methods

New Zealand's Choosing Wisely campaign was launched in 2016 and has grown substantially. The campaign supports medical colleges and professional societies to develop lists of unnecessary tests, treatments and procedures for their area of practice.

### Results

There are now 130 lists of Choosing Wisely recommendations, spanning a wide range of specialties. A growing number of patient resources have been developed to help health consumers make better choices. A number of District Health Boards have implemented multi-disciplinary initiatives to identify and reduce unnecessary care.

Physiotherapy professional associations have become active Choosing Wisely partners in the USA and Australia. The Australian Physiotherapy Association has developed recommendations for interventions related to physiotherapy that should be questioned.

### Conclusion

Physiotherapists have an important role in efforts to identify and reduce unnecessary health care in New Zealand.

### Key practice points

Physiotherapists are encouraged to participate in the Choosing Wisely movement by:

- reviewing tests, treatments or procedures which may be of little or no benefit to patients,
- encourage patients to ask questions about their care, and foster shared decision-making,
- working with their hospital, services or clinics to identify and reduce unnecessary care.

## PRESENTING AUTHOR'S BIOGRAPHY

Dr Sherwood completed his Medical Degree at Otago University and did his Ophthalmology training in the UK returning to work as a consultant in New Zealand in 1990. Derek has previously been involved in providing eye surgery in Nepal and the Pacific Islands but over the last 10 years in addition to his busy clinical practice, he has focussed on improving Eye Health Services in New Zealand. In 2014 he was elected Chair of the Council of Medical Colleges and is now a clinical lead of Choosing Wisely.



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# A decade on... have we increased the amount of arm activity our patients do in stroke rehabilitation?

## Presenting Author:

Professor Denise Taylor

## Affiliation:

Health & Rehabilitation Research Institute  
Auckland University of Technology

**Authors;** Denise Taylor (Auckland University of Technology), Ruth McLaren (Auckland University of Technology), Marcus King (Callaghan Innovation), Nicola Saywell (Auckland University of Technology), Richard Little (Exsurgo Rehabilitation), Faisal Almesfer (Exsurgo Rehabilitation),

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## ABSTRACT TEXT

**Introduction:** Around a decade ago stroke rehabilitation researchers investigated how much activity patients in rehabilitation actually did. The results were disappointing, despite strong evidence that high movement repetition was important, the results from observational studies indicated that activity levels were low. Our aim was to determine if the levels of actual activity in the arm were higher than that reported a decade ago.

**Methods:** An observational behavioural mapping study was undertaken in two in-patient wards. Participants with a confirmed diagnosis of stroke who were admitted to the wards were suitable for inclusion. Participants were observed for 12 hours, 7am-7pm. Upper limb activity was recorded every 10 minutes as affected arm, unaffected arm, bilateral, or no movement.

**Results:** Twenty participants were recruited and completed the data collection. Only 7.7% of the observed day involved movement of the affected upper limb on its own. The majority of affected upper limb movement occurred in concert with the unaffected upper limb as bilateral movement (19.5% of the observed day). In comparison, the unaffected upper limb moved for 39 percent of the observed day.

**Conclusion:** The reported level of upper limb movement was low and similar to the levels reported a decade ago.

**Key practice points:** Activity levels of the arm remain low in rehabilitation environments despite considerable efforts by rehabilitation staff. As a response the BuzzNudge intervention is being developed by our team to help physiotherapists and patients increase the amount of arm activity and is currently being trialled in a hospital setting.

## PRESENTING AUTHOR'S BIOGRAPHY

Prof Denise Taylors research interests include neural plasticity, brain computer interfaces, smart materials in rehabilitation, exercise based interventions in rehabilitation, telerehabilitation, falls prevention, clinical gait analysis, vestibular rehabilitation and health economics. Denise is one of the founding directors of the New Zealand Dizziness and Balance Centre, a co-Director of the Rehabilitation Innovation Centre, Associate Director of the Medical Technologies Centre of Research Excellence and Principal Investigator with Brain Research New Zealand.



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# TextNudge: a little nudge to stay active

## Presenting Author:

Professor Denise Taylor

## Affiliation:

Health & Rehabilitation Research Institute  
Auckland University of Technology

**Authors;** Denise Taylor (Auckland University of Technology), Nada Signal (Auckland University of Technology), Adam Leys (Waitemata District Health Board), Robyn Whittaker (Waitemata District Health Board), Linda Cameron (University of California, US), Paul Brown

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## ABSTRACT TEXT

**Introduction:** Resource constraints are such that delivering an optimal dose of rehabilitation is impossible. We want to investigate whether using technologies will help us get closer to the optimal dose of rehabilitation. A large randomised controlled trial, the ACTIV study, demonstrated that a low level intervention delivered in large part by mobile phone was effective in improving outcomes following stroke. This study builds on findings from ACTIV to deliver a very low resource demanding intervention.

**Methods:** A pilot feasibility study was conducted in Waitemata DHB, Auckland, to determine if a 12-week automated text-messaging system could be used to support discharge from hospital. Patients were offered the opportunity to take part in the study at the point of discharge from hospital. Interviews were conducted, audio-recorded and transcribed to determine acceptability.

**Results:** TextNudge was offered to all discharged patients over a 4 week period by 8 physiotherapists, who reported that it was easy and quick to set up. One hundred and twenty two patients were eligible and 39 (32%) consented to take part. Fourteen participants, purposively sampled to ensure demographic diversity, agreed to a post-intervention interview. Participants reported that it was an "intuitively good idea". In particular the perception of ongoing support and connection with rehabilitation service was valuable.

**Conclusion:** TextNudge was both technically feasible and acceptable to patients and physiotherapists. **Key practice points:** Developing technology based interventions that support ongoing rehabilitation at a low resource cost is vital if we are to achieve optimal rehabilitation outcomes for our patients/clients.

## PRESENTING AUTHOR'S BIOGRAPHY

research areas to include research on neural plasticity, brain computer interfaces, smart materials in rehabilitation, exercise based interventions in rehabilitation, telerehabilitation, falls prevention, clinical gait analysis, vestibular rehabilitation and health economics. Denise is one of the founding directors of the New Zealand Dizziness and Balance Centre, a co-Director of the Rehabilitation Innovation Centre, an Associate Director of the Medical Technologies Centre of Research Excellence and a Principal Investigator with Brain Research New Zealand.



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# Exercise interventions in healthy older adults with sarcopenia: A systematic review and meta-analysis

## Presenting Author:

Lara Vlietstra

## Affiliation:

Department of Medicine & School of Physiotherapy  
University of Otago

**Authors;** Lara Vlietstra (University of Otago)

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## ABSTRACT TEXT

**Introduction:** Sarcopenia is a well-known geriatric syndrome and described as the loss of skeletal muscle mass and strength, both facing a gradual age-related decline. There is a reported prevalence of 1–29% in the community-dwelling older people and with the rapidly aging population, this prevalence will keep increasing. Evidence around exercise interventions to prevent or slow down sarcopenia is inconclusive.

**Methods:** PubMed/Medline, Embase and Cochrane Library were searched from 2006 to 2017 for randomised controlled trials and controlled clinical trials in adults 60 years and older with sarcopenia. Preferred Reporting Items for Systematic Review and Meta-Analysis protocol and Physiotherapy Evidence Database scale were used to ensure internal validity. Meta-analysis and sensitivity analysis were performed.

**Results:** Searches retrieved 1512 titles. Thirty-two full texts were evaluated, and six trials were included. Methodological quality was 5.5 (0–10). Meta-analysis revealed that knee-extension strength ( $p \leq 0.01$ ), Timed Up and Go ( $p < 0.0001$ ), appendicular muscle mass ( $p = 0.04$ ) and leg muscle mass ( $p = 0.04$ ) significantly improved in response to exercise interventions.

**Conclusions:** Exercise interventions significantly improved strength, balance and muscle mass. However, the number of trials was small and the training effect was inconsistent due to heterogeneity in exercise mode, duration and intensity. More research is needed to confirm these findings.

**Key practice points:** Exercise interventions have the potential as a strategy in reversing or slowing the sarcopenic process. However, existing evidence is based on inconsistent findings, leaving a gap in the current understanding and insufficient evidence to put forward definitive exercise intervention recommendations.

## PRESENTING AUTHOR'S BIOGRAPHY

My name is Lara Vlietstra, 26 years old, and born and raised in the Netherlands. I am graduated as a geriatric physiotherapist and clinical health scientist and currently in the first phase of my PhD at the University of Otago. My research is focussing on sarcopenia in middle-aged and older adults. After my PhD, I would like to develop a research career as an Academic Physiotherapist.

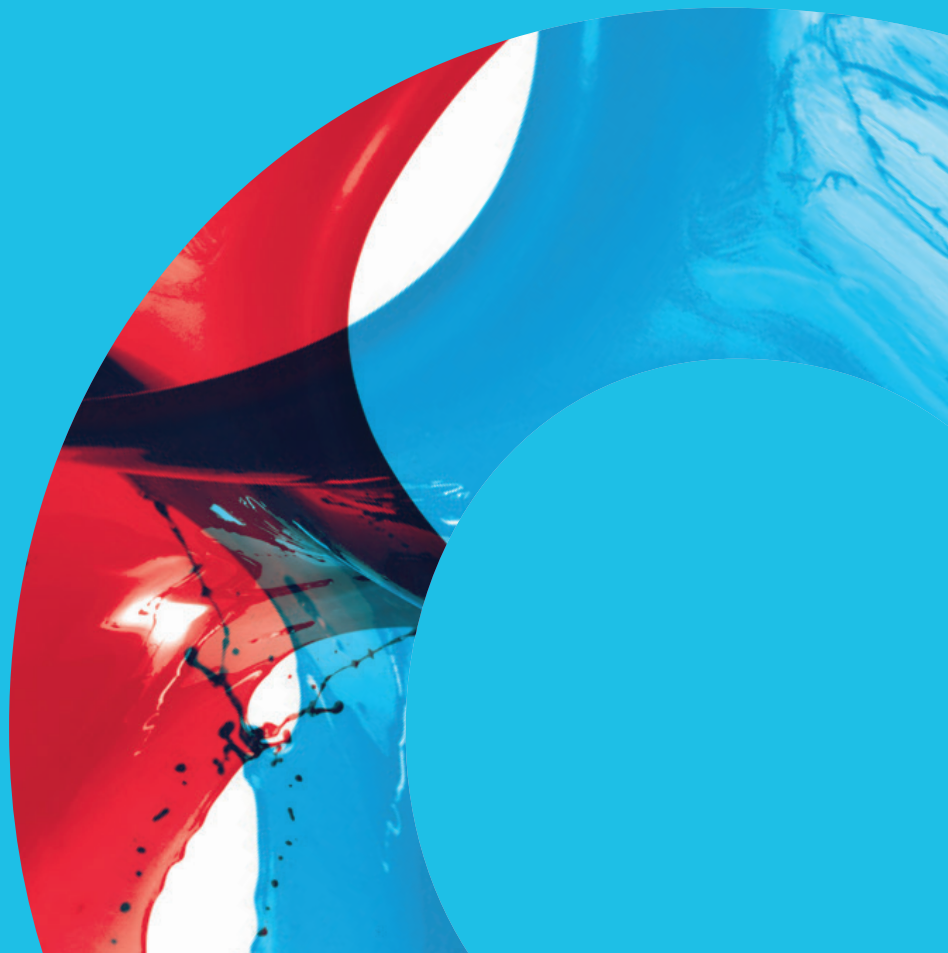


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# Kōrero

## Facilitated discussions



# Stroke prevention for indigenous peoples requires a comprehensive multi-level integrated approach to reduce stroke incidence in Aotearoa

## Presenting Author:

Nita Brown

## Affiliation:

Stroke Foundation of New Zealand

**Authors;** Nita Brown (Stroke Foundation of New Zealand)

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## ABSTRACT TEXT

### Introduction

Each year around 9,000 people in Aotearoa will have a stroke. Approximately 2,500 people every year will die, making stroke the third leading cause of death after heart disease and all cancers combined. Māori people are at two to three times' greater risk than non-Māori of ischaemic stroke and intracerebral haemorrhage.

### Objective

Sixteen key stakeholders from the stroke affected community, (Māori and non-Māori) primary and secondary health organisations have contributed to the development of a 'Māori Stroke Prevention Needs Assessment' that will help develop a pilot project to reduce stroke incidence.

### Issue for discussion

Stroke incidence in the Northland region is slightly higher than the national average. The Northland DHB's Acute Stroke Unit (ASU) admits 330 patients each year 26% of whom are Māori. Although, stroke incidence for non-Māori is declining, stroke incidence continues to increase among Māori particularly under 60 years old. What is being done to reduce stroke incidence in the Northland region?

### Collation and dissemination of key points

This presentation will look into what a comprehensive multi-level strategy could look like to help reduce stroke incidence across the Northland DHB region. Early identification, effective management, primary (and secondary) prevention, education and advocacy are the key components in reducing the incidences of stroke in Aotearoa. Primary Health Organisations, GP clinics, District Health Boards Acute Stroke Units, Māori (Pacific and Asian Health), Public Health Unit's and Disability Support services, and Allied health all have a vital role to play in stroke prevention, improving stroke outcomes, and enhancing life after stroke.

## PRESENTING AUTHOR'S BIOGRAPHY

A creative innovator, a strategic thinker, a cog in the wheel that brings people together, Nita Brown (National Māori Health Advisor) is taking evidence based research and pioneering new pathways to reduce stroke incidence among tangata whenua (indigenous peoples) in Aotearoa. Nita Brown is a descendant from Ngāti Ranginui, Ngai te Rangi, Ngāti Korokī-Kahukura, Waikato and of Irish ancestry. She is a mother of two gorgeous daughters, a partner, a visual artist, and is dedicated and committed to whānau, hapū and iwi health and education development. Nita has extensive experience working in Public Health and Māori education.



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# What does 'work ready' look like?

## Presenting Author:

Chris Higgs

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## ABSTRACT TEXT

### Introduction

Work readiness of new graduates is increasingly discussed with relevance to the needs of different stakeholders (Barradell, 2017). New Graduates' attitudes, behaviours and general preparedness for the expectations of professional practice are questioned by some employers. There are multiple reasons why this is challenging including changes in: the clinical context, employer/new graduate expectations, generational resilience, technology and undergraduate training.

### Objectives

This korero will: Facilitate discussion exploring the attributes expected of new graduates in order to be work ready in a diverse range of clinical settings.

Perspectives from an invited panel of stakeholders (including DHB, Private Practice, ACC, University, New Graduate) will be sought.

### Issues for discussion

1. What attributes are expected of new graduates to be 'work ready'?
2. How do the expected attributes compare between different stakeholders?
3. How should the responsibilities of work readiness be shared?

### Collation and dissemination of key points

Key points (following small group discussion) will be documented (pen and paper) and discussed on a white board. Session participants who attend will be asked if they consent to share their email address. The panel will collate and disseminate the findings following the session to all attendee's including PNZ via email.

Sarah Barradell (2017) Moving forth: Imagining physiotherapy education differently, *Physiotherapy Theory and Practice*, 33:6, 439-447,

DOI: 10.1080/09593985.2017.1323361

## PRESENTING AUTHOR'S BIOGRAPHY

Chris Higgs is Clinical Education Programme Lead at the University of Otago, School of Physiotherapy. He oversees all of the clinical experience of the Bachelor of Physiotherapy (& Honours) students through years 2 – 4 inclusive. His clinical and research work primarily focuses on community group exercise and education interventions for people with diabetes and associated multimorbidity. Chris is involved in Motivational Interviewing training to both undergraduate and postgraduate physiotherapy students and runs weekend workshops for qualified physiotherapists.



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# Towards integrated neck and concussion rehabilitation in New Zealand

## Presenting Author:

Dr Ewan Kennedy

## Affiliation:

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## ABSTRACT TEXT

### Introduction

Concussion is a common condition affecting people around the world, and a challenge on many levels for health professionals to manage. Physiotherapy has a key role to play in multiple aspects of concussion, in particular neck and vestibulo-ocular rehabilitation. Given the potential for neck conditions to contribute to post-concussion symptoms (for example, headache), it is important that physiotherapy assessment of concussion includes neck assessment. However, often neck and concussion rehabilitation are considered separately. This korero will begin with an international perspective, then explore how neck and concussion rehabilitation could be better integrated in the New Zealand context.

### Objectives

To explore issues influencing the integration of neck and concussion rehabilitation by New Zealand physiotherapists.

### Issues for discussion

- How are physiotherapists currently performing neck assessment and rehabilitation in people with concussion?
- How does this compare with vestibulo-ocular and other concussion rehabilitation?
- What factors facilitate the integration of neck and concussion rehabilitation?
- How would neck assessment and rehabilitation ideally be integrated into health services for people with concussion?

### Collation and dissemination of key points

As the group may be diverse (i.e. beyond the scope of a single special interest group), we will request email addresses from participants to facilitate the dissemination of key points. The panel will collate and disseminate key points following the session.

## PRESENTING AUTHOR'S BIOGRAPHY

Dr Kennedy is a new Lecturer in the School of Physiotherapy at the University of Otago. He has been involved in physiotherapy education for over 15 years, and currently leads the 4th year programme. His research interests include exploring how the neck contributes to persistent post concussion symptoms, building collaborative practice through interprofessional education and improving clinical reasoning ability in our graduates.



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# Integrity Services: Exploring ACC data together

## Presenting Author:

Allan Levet

## Affiliation:

ACC

## ABSTRACT TEXT

In this interactive session Allan will share Integrity Services' vision and purpose, and how it is taking a prevention first approach to protecting the ACC Scheme from fraud, waste and abuse. We will show you how we use data to highlight areas of concerns so we can explore this together.

We will work through the kind of challenges we see and how these can be addressed; what our data suggests the mythical "average practitioner" looks like; and to ask what can we provide to help you to protect the integrity of the ACC Scheme.

## PRESENTING AUTHOR'S BIOGRAPHY

Allan is the Northern Area Integrity Manager for ACC. His role is to help protect the ACC Scheme from integrity risks (including internal and external fraud, waste and abuse). In this area he is focused on prevention and changing behaviour through shared learnings, setting/resetting expectations and strategic communications with stakeholders.

Graduating from University of Auckland with BCom, Allan qualified as a Chartered Accountant. He held various accounting and systems accounting roles in public practice. He developed his interest in fraud and risk management in his roles as Technology Operational Risk Manager at ASB and Head of Fraud, Risk and Security at Vodafone NZ.

Allan lives with his wife on a rural bush block in Wainui, North Auckland.





# The global physiotherapy profession: are today's priorities fit for purpose in tomorrow's world?

## Presenting Author:

Dr Margot Skinner

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## ABSTRACT TEXT

**Introduction:** The World Confederation for Physical Therapy (WCPT) is the voice of the profession representing physiotherapists and their organisations around the globe. Traditionally physiotherapists have been known as the specialists in human activity and movement but is this identity sufficient and the voice active enough to take us into the future as a leading health profession?

**Objectives:** To consider the contribution the physiotherapy profession makes internationally in the context of health and well-being; and to understand the priorities for the profession in tomorrow's world with regard to education requirements, population needs, global health priorities and WCPT's strategic plan.

**Issues for discussion:** The physiotherapy profession must keep moving forward but are today's priorities fit for purpose in tomorrow's world? The discussion will centre round the strengths of the physiotherapy profession and how these can be aligned with WCPT's strategic plan and directions for the future. Collaborative practice is known to benefit both patients and health professionals but where does it begin? Innovative concepts for entry level education and post qualification priorities will be considered in the context of WCPT's own guidelines and collaborations with global health alliances.

**Collation and dissemination of key points:** At the end of the discussion participants will be able to articulate the directions in which the physiotherapy profession needs to move to continue to make a positive contribution to global health and well being; and to recognise that by engaging in collaborative practice and strategic alliances themselves, physiotherapists will support the strategic direction of the global profession.

## PRESENTING AUTHOR'S BIOGRAPHY

Dr Margot Skinner is Deputy Dean, School of Physiotherapy, University of Otago and has a longstanding research interest in cardiopulmonary physiotherapy and global health, including non communicable diseases. In the profession Margot has had local, national and international roles and is currently Vice President, World Confederation for Physical Therapy (WCPT). She chairs the WCPT's Accreditation Committee and Membership Committee as well as contributing to WCPT's strategic plan and WCPT's role in the World Health Professions Alliance.



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Conference 2018**

PHYSIOTHERAPY NEW ZEALAND  
Kōmiri Aotearoa

# Applying behaviour change interventions with physiotherapy clients - whose behaviour needs to change?

## Presenting Author:

Dr Catherine Smith

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## ABSTRACT TEXT

### Introduction

Blue Prescription (BP) is a physiotherapy-led intervention developed to increase sustained and enjoyable PA behaviours for people with long-term health conditions. In trials, BP appears useful and acceptable to participants; however, the research team has had mixed success influencing service delivery. Feedback from local physiotherapists suggests that a) physiotherapist behaviours favour an 'expert director' style and b) that physiotherapists don't feel confident using a 'guiding' style that is recommended in behaviour change interventions. In order to achieve the aim of the physiotherapy profession in Aotearoa to "improve the health of all New Zealanders", it is important that physiotherapists can facilitate positive health behaviours in our clients and embed this into service delivery.

### Objectives

This korero will: Facilitate self-reflection on delivery of behavioural change strategies within the physiotherapy profession in Aotearoa; broadly identify where and when behaviour change training should be introduced to physiotherapists and, specifically identify how training for delivery of behavioural change interventions by physiotherapists should be developed.

### Issues for discussion

- 1) What influences whether physiotherapists feature behaviour change interventions in their everyday practice?
- 2) How do physiotherapists in Aotearoa deliver behavioural change strategies in their everyday practice?
- 3) How do service delivery models influence the inclusion of behavioural change interventions in every day practice?
- 4) At what stage in a physiotherapist's professional career is training available for behavioural change interventions? What does/ should this training look like?

### Collation and dissemination of key points

Key points will be circulated to all session participants and to Physiotherapy New Zealand.



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### PRESENTING AUTHOR'S BIOGRAPHY

Dr Cath Smith is a lecturer at the School of Physiotherapy, University of Otago. Her 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. She is a co-investigator in the development and research of the Blue Prescription programme.



# Navigating the world : why understanding spatial memory may help those with MCI as well as those with vestibular disorders

## Presenting Author:

Professor Denise Taylor

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## ABSTRACT TEXT

**Introduction:** This Korero is aimed at physiotherapists who work with older adults and/or people with vestibular disorders and relates to spatial navigation. Information from the vestibular system, visual system and spatial memory is utilised in spatial navigation. There are currently no interventions in clinical practice that address the complex interactions between the systems involved in spatial navigation but recent research shines the light on interesting possibilities for intervention development.

**Objectives:** 1) To present information about spatial navigation in people with vestibular disorders and in people with mild cognitive impairment. 2) To identify commonalities and differences in the pathophysiology of spatial memory loss in vestibular disorders and in MCI. 3) To engage in a facilitated discussion around possibilities for interventions. The session will be grounded in evidence from animal and human research.

**Issues:** Spatial memory is often an early symptom of cognitive decline, but it is seldom treated. People with vestibular disorders are increasingly being recognised as being at risk of having or developing cognitive disorders, including spatial memory difficulties. There is increasing evidence in the literature that may pave the way to develop effective interventions for spatial memory rehabilitation.

**Collation and dissemination of key points:** A brainstorming session will utilise the attendee's diverse experiences with older adults, people with dementia and people who have vestibular disorders and mapped alongside the research evidence to develop feasible intervention strategies for people with spatial navigation difficulties. The outcome from the session will be written and disseminated via a link on AUT's website.

## PRESENTING AUTHOR'S BIOGRAPHY

Denise's research interests include research on neural plasticity, brain computer interfaces, smart materials in rehabilitation, exercise based interventions in rehabilitation, telerehabilitation, falls prevention, clinical gait analysis, vestibular rehabilitation and health economics. Denise is one of the founding directors of the New Zealand Dizziness and Balance Centre, a co-Director of the Rehabilitation Innovation Centre, Associate Director of the Medical Technologies Centre of Research Excellence and Principal Investigator with Brain Research New Zealand.



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# Clinical reasoning: Causation and ACC eligibility

## Presenting Author:

Stafford Thompson

## Affiliation:

ACC

## ABSTRACT TEXT

For most of your patients, understanding / establishing the presence of a personal injury caused by accident is relatively straight forward.

However in some circumstances and for some conditions, establishing a causal link can be more challenging.

This session will provide clarification regarding the factors which help determine eligibility for cover and entitlements following a physical injury caused by accident.

## PRESENTING AUTHOR'S BIOGRAPHY

Stafford Thompson completed his undergraduate training at the School of Physiotherapy, Otago University; subsequently completing post graduate training in rehabilitation at the University of Otago and the Auckland University of Technology.

As a physiotherapist Stafford has worked within private and public sectors as both a clinician and a manager. Stafford currently works within a leadership role within Clinical Services at ACC.

Stafford enjoys spending time with his wife and family, coaching his children's football, cricket and surf life saving teams and running in the hills of Dunedin with the family dog Boris



# Continuing Professional Development: Should it be compulsory?

## Presenting Author:

Dr Jonathan Warren

## Affiliation:

Physiotherapy Board

**Authors;** Jonathan Warren (Physiotherapy Board), Janice Mueller (Physiotherapy Board)

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## ABSTRACT TEXT

### Introduction

The Physiotherapy Board (Board) is the regulatory body for Physiotherapists, established under the Health Practitioners Competence Assurance Act 2003. This legislation covers standards, competence, continuing professional development (CPD), and professional conduct, in the interests of public health and safety.

Ongoing competence is monitored via the Board's recertification programme. This is a trust-based programme whereby physiotherapists maintain their professional development portfolio and log at least 100 CPD hours over three years. Should this be compulsory?

### Objectives

#### Related to CPD:

1. To familiarise participants with the functions of the Board and to come to a consensus on who benefits from CPD.
2. To highlight the meaning of lifelong learning and its different constructs.
3. To discuss the concepts of 'right-touch' and 'risk-based' regulation related to CPD.

#### Issues for discussion

The Board is reviewing the Recertification Programme. There are different CPD models nationally and internationally.

This session will discuss the value of these different models, including that used by the College of Physical Therapists of British Columbia. This utilises an interactive online tool to annually support continuing competence with a self-quiz structure.

This session will challenge the audience to consider the pros and cons of different models.

#### Collation and dissemination of key points

This korero will enable the participants to:

- increase their understanding related to why, and for whom, CPD is necessary
- aid their understanding of what constitutes good CPD evidence of learning
- consider whether there should be mandatory requirements related to CPD.

## PRESENTING AUTHOR'S BIOGRAPHY

Jon is a Professional Advisor at the Physiotherapy Board. He graduated from the Otago Physiotherapy School last century and completed his Doctorate of Health Science from the University of St. Augustine for Health Sciences in San Diego, USA. Jon has worked professionally in New Zealand, Canada, United Kingdom, Ireland and the USA. His experience includes public & private practice, sports physiotherapy, and six years in academia in the USA. He has represented the New Zealand profession for many years and is a past President of Physiotherapy New Zealand. He is interested in education, professional development, health policy and health economics.



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# Physiotherapy Services Contract Redesign Workshop

## Presenting Author:

Fraser Wilkins, Shaun Westhead

## Affiliation:

ACC

## ABSTRACT TEXT

Last year ACC announced we'll be working with Physiotherapy New Zealand on a redesign of the Physiotherapy Services Contract.

This work is important, as Physiotherapists manage 600,000 ACC claims per year and are the face of ACC for many of our clients.

The redesign of the Physiotherapy Service Contract is ACC's commitment to improve the provider and patient experience when supporting injury recovery.

The redesign will take place over 3 years, with incremental changes introduced through annual contract variations in 2018 and 2019, before the new contract is implemented in 2020.

Parallel to those variations, we will also be looking to test new ways of working; including exploring using physiotherapy specialists, and a bundled payment approach to purchasing acute physiotherapy treatment.

We can't do this alone. Strong, trusted relationships with the physiotherapy community will be the foundation of a successful Redesign.

In this interactive session you'll learn what has changed in the 2018 contract variation along with our direction of travel for the 2019 variation and 2020 contract. You'll have the opportunity to share your thoughts and ideas on other improvements we should consider – including injury prevention and funding approaches to pitch side sports treatment.

## PRESENTING AUTHOR'S BIOGRAPHY

Fraser Wilkins is the Portfolio Manager in Primary Care for ACC. Fraser looks after the GP, Urgent Care and allied health services – including Physiotherapy and Hand Therapy. Fraser trained as a Physiotherapist and holds a Clinical Masters in Musculoskeletal Physiotherapy, Post Graduate Diploma in Rehabilitation and a Post-Graduate Certificate in Hand and Upper Limb Therapy. Fraser has been with ACC for 7 years. Prior to joining ACC, Fraser worked in Private Practice Physiotherapy.

Shaun Westhead is a registered Physiotherapist and is the Portfolio Advisor for Primary Care at ACC looking after Medical and Allied Health services including both Physiotherapy and Hand Therapy. Prior to working for ACC Shaun worked as a Physiotherapist in Private Practice in Auckland and Wanaka. Shaun started with ACC in 2013 as a Clinical Advisor and moved to Wellington in 2016 to work in his current role.



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