

Physiotherapy New Zealand Conference

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**Physiotherapy
New Zealand
Conference 2016**

16 – 18 SEPTEMBER
AUCKLAND

KEYNOTE SPEAKER PRESENTATIONS

Title: Global Physiotherapy, an international perspective

Author: Stokes E

Affiliation: World Congress for Physical Therapy

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The World Confederation for Physical Therapy (WCPT) is the only global organisation representing the profession of physiotherapy. In 2015, we commenced an unprecedented global consultation with the profession - WCPT Look Forward Together - to gather insights and feedback on our new strategic plan. WCPT Look Forward Together gathered 3700 responses from WCPT's member organisations, subgroups, networks and individual physiotherapists and now we go from Look Forward Together to Move Forward Together. In this talk, Emma will share the story of this remarkable engagement and its outcomes and the next steps for WCPT. She will discuss the key opportunities and challenges for the profession arising from the consultation and how WCPT plans to respond.

BIOGRAPHY

Emma Stokes is Associate Professor at the Department of Physiotherapy in Trinity College, Dublin, Ireland. Her involvement with WCPT began in 1998 when she began representing the Irish Society of Chartered Physiotherapists at international meetings, including WCPT's European Region. She has been on WCPT's Executive Committee since 2007. One of her priorities is to encourage young physical therapists and help them develop into the leaders of the future. Emma will serve as President of WCPT until 2019.

Title: Be the best you can be

Author: Schofield G

Affiliation: Human Potential Centre at AUT Millennium.

Email: grant.schofield@aut.ac.nz

Professor Grant Schofield will cover his recent progression of work in physical activity and health, low carb nutrition, and wellbeing. The central theme around his work is about reorienting health away from the current deficit model to a more useful positive approach, which helps motivate people to be at their best.

Grant will look at:

How the human condition is driven by brain size and energy requirements

How movement plays a central part in human health and wellbeing and the current sedentary environment

How public health nutrition got things all wrong and may have caused more harm than good over the last 30 years. We will look at solutions around eating more fat and less carbs.

This will be wide ranging, so bring your scientific multi-fluency mind along.

BIOGRAPHY

Grant's research and teaching interests range from understanding and improving lifestyle behaviours such as sleep, nutrition, and physical activity, to wellbeing epidemiology and human performance. He maintains a multi fluency across psychology, physiology, public health, epidemiology, and human performance and takes a 'think outside the box' approach to his work in tackling the big health problems of our times. He is known for challenging current beliefs in his field.

Title: Stratified Care: matching patients to the right treatment with musculoskeletal pain

Author: Foster N

Affiliation: National Institute of Health Research

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Musculoskeletal pain, such as low back pain, knee pain and shoulder pain are disabling conditions with high personal and economic costs. Despite much research and many guidelines for practice, there have not been tangible reductions in the population prevalence, or long-term consequences, of these pain conditions. In fact, conditions like back pain are among the top listed in the recent global burden of disease studies. Yet many clinical trials conclude little or no differences between treatments. One reason for this, that has received increasing research attention, is that the 'one size fits all approach' advocated by many guidelines and tested in many trials fails to target treatments at patients who might benefit from them most, thus diluting their potential benefits.

As all our healthcare systems struggle to meet patient demand, getting smarter about how we match patients to the right treatment offers greater likelihood of using available healthcare resources more efficiently. Stratified care involves targeting treatments to subgroups of patients based on their key characteristics such as prognostic factors, likely response to treatment and underlying mechanisms. It aims to tailor therapeutic decisions in ways that maximise treatment benefit, reduce harm and increase healthcare efficiency by offering the right treatment to the right patient at the right time.

Despite much clinical support for the idea of matching patients to treatments, a sobering reflection of the evidence shows a wealth of isolated studies on single subgrouping approaches tested in underpowered, single-group study designs that offer an inadequate basis upon which to change clinical practice. Using an example from research in the UK, this presentation will provide the rationale for improving the quality of our research that tests ways to match patients to treatments, summarise best available evidence about stratified care for musculoskeletal conditions and highlight key directions for the future to better ensure that we can improve the evidence base for matching patients to treatments.

BIOGRAPHY

Professor Foster is recognised internationally as a leading expert in musculoskeletal pain research in primary care, particularly in the field of back pain and in primary care-based clinical trials. Particular achievements include original contributions to testing the clinical and cost-effectiveness of interventions including acupuncture for patients with common musculoskeletal pain. She is one of only two physiotherapists in the UK to be awarded a Primary Care Career Scientist award (2004–2009) and the only physiotherapist to be awarded a National Institute of Health Research (NIHR) Research Professorship (2012–2017).

Title: Getting moving when you have back pain: how people with back pain make decisions about activity and how physios can help

Author: Darlow B

Affiliation: Department Primary Health Care and General Practice,
University of Otago, Wellington

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Physical activity is an important part of being healthy as well as recovering from back pain. The Fear Avoidance Beliefs model is used to explain the way in which people who have pain approach activity, but limitations have been identified with this model. Recent qualitative research has explored how people who have acute and chronic low back pain make decisions about engaging in physical activity. Analysis of in-depth interviews indicates that people with acute and chronic back pain make conscious decisions about participating in activity and rest, and that both groups use a similar conceptual framework. This involves balancing the perceived risks against perceived benefits within the person's current context. This process appears to be more considered, complex and situation dependent than proposed by the fear-avoidance model. When considering the benefits, participants often valued psychological and social benefits of activity above physical benefits. Judgments made were context dependent and influenced by the nature of the pain, the type and importance of the activity, and the participant's previous experience. Exploring the perceived risks, benefits, and contextual factors that influence an individual's decisions about physical activity and rest may help clinicians to better understand their behaviour. Clinicians may best support their patients to engage in physical activity by providing an informed assessment of the risks being considered or highlighting additional benefits beyond those already recognised. Reframing activity discussions in this way may help to shift focus away from decreasing pain or avoiding adverse outcomes toward valued goals like feeling better or having more social interaction.

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. Ben's research aims to understand people's beliefs and behaviours related to back pain so that these can be positively influenced to improve outcomes. Ben is also a member of the Physiotherapy New Zealand Professional Development Committee.

Title: Men's health: A challenge for physiotherapy

Author: Baxter D G

Affiliation: Centre for Health, Activity and Rehabilitation Research, School of Physiotherapy, University of Otago, New Zealand

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Men's health is not currently regarded as a priority in Aotearoa New Zealand by healthcare providers, nor by government ministries or health research funders, despite health disparities between men and women which are similar to other developed countries. There are also striking disparities between Māori and non-Māori: life expectancy at birth is 73 years for Māori males, compared with 80.3 years for non-Māori males.

Previous reports in New Zealand have highlighted such issues around men's health, and recommended a greater focus on men's health issues and the establishment of a national centre in this area.

Reflecting developments internationally, there have been recent moves towards establishment of a national Centre for Men's Health for New Zealand, supported by a network of collaborating researchers across the country. The vision for the proposed centre is to improve the health and wellbeing of all New Zealand males, through research, advocacy, and dedicated activities such as an annual colloquium to promote the activities of those working within the field. This development provides unique opportunities for research and practice in physiotherapy.

BIOGRAPHY

Professor David Baxter is Dean of the School of Physiotherapy, and Deputy Pro-Vice-Chancellor for Health Sciences, at the University of Otago, New Zealand; he is also a Visiting Professor at the University of Ulster (UK), where he completed his undergraduate and doctoral training. David previously led the University of Otago's multidisciplinary Research Theme on Rehabilitation and Disability (2007-2011), and is currently Director for the New Zealand National Science Challenge research consortium for Ageing Well.

David's research expertise is in the fields of rehabilitation, low back pain, complementary and alternative medicine, as well as in laser medicine. His current projects include physical activity interventions (principally walking interventions) for health, photobiomodulation of delayed wound healing, and clinical effectiveness of acupuncture (including laser devices) as an alternative to needles in treatment of pain.

Professor Baxter has authored or co-authored over 200 peer-reviewed research papers in high-impact peer-reviewed journals, and contributed to various textbooks including DeLisa's Physical Medicine and Rehabilitation (5th edition). He is the Editor in Chief of Physical Therapy Reviews, and a member of the Editorial Boards of a number of other international peer-reviewed journals. He has presented multiple platform or poster presentations and educational workshops at national and international meetings. David has been recognised as a Fellow of the Royal Academy of Medicine in Ireland, the International Academy of Lasers in Medicine and Surgery, and the American Society for Lasers in Medicine and Surgery.

Title: Getting started on research

Authors: Foster N E¹, Baxter D G²

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This practical workshop is designed for practising clinicians who are interested in planning and undertaking clinical research projects. This is an entry-level workshop which is targeted at the novice researcher: participants are not expected to have had previous experience in undertaking research, nor to have undertaken postgraduate-level research training.

The session will be led by two senior researchers, with a combined experience of over 50 years in developing and leading physiotherapy research programmes. It is participant-centred and will primarily focus on: developing and refining the research question for your proposed project; the research process, and considerations in selecting the most appropriate research methodology and design to answer your question; and sources and resources for supporting your research.

As an essential part of the workshop, participants will be expected to participate in small group discussions, and to work with others in discussing and critiquing potential research ideas. Participants will be provided with: feedback on their proposed research ideas; advice on research governance requirements (including ethics and locality assessments); and options for funding to support their research.

BIOGRAPHY

Professor Foster is recognised internationally as a leading expert in musculoskeletal pain research in primary care, particularly in the field of back pain and in primary care-based clinical trials. Particular achievements include original contributions to testing the clinical and cost-effectiveness of interventions including acupuncture for patients with common musculoskeletal pain. She is one of only two physiotherapists in the UK to be awarded a Primary Care Career Scientist award (2004-2009) and the only physiotherapist to be awarded a National Institute of Health Research (NIHR) Research Professorship (2012–2017).

Professor David Baxter is Dean of the School of Physiotherapy, and Deputy Pro-Vice-Chancellor for Health Sciences, at the University of Otago, New Zealand; he is also a Visiting Professor at the University of Ulster (UK), where he completed his undergraduate and doctoral training. David previously led the University of Otago's multidisciplinary Research Theme on Rehabilitation and Disability (2007-2011), and is currently Director for the New Zealand National Science Challenge research consortium for Ageing Well.

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Title: Acupuncture for back and pelvic girdle pain in pregnancy: the EASE BACK pilot trial

Authors: Barlas P, Foster N E, Bishop A, Ogollah R, Ismail K, Kettle C

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INTRODUCTION

The EASE Back pilot trial assessed the feasibility of a future large randomised controlled trial testing the additional benefit of acupuncture to standard care for pregnancy-related back and pelvic girdle pain.

METHOD

Pregnant women with back and/or pelvic pain at 12 to 31 weeks gestation were recruited using six methods and randomised to standard care (SC), SC plus true acupuncture (TA) or SC plus non-penetrating acupuncture (NPA) through a semi-flexible protocol in six-to-eight sessions over six weeks. Outcomes included recruitment and follow-up rates, treatment fidelity, and patients' pain and function at eight weeks using the Oswestry Disability Index and Pelvic Girdle Questionnaire. Staff overseeing outcome data collection were blind to treatment allocation

RESULTS

125 of 280 potentially eligible women (45%) were recruited in six months. Three of the six recruitment methods were the most successful. The average number of treatments was six for both SC plus TA and SC plus NPA. Follow-up at eight weeks was 74%. Patient-reported pain and function favoured adding acupuncture to SC. The Pelvic Girdle Questionnaire was found to be an appropriate measure for a future main trial and data from the pilot have informed the sample size for a future main RCT.

CONCLUSIONS

A multi-centre RCT is warranted and feasible to provide robust evidence to inform clinical practice.

KEY PRACTICE POINTS

Acupuncture can be a useful adjunct for the treatment of pregnancy related low back pain.

BIOGRAPHY

Panos Barlas has lectured in physiotherapy for 20 years and is an acupuncture specialist.

Title: Nō wai, Ko wai? The influence of whakapapa on health and wellbeing

Author: Cunningham C

Affiliation: Ngāti Kahungunu and School of Physical Education, Sport and Exercise Sciences, University of Otago, Dunedin.

Email: chelseacunningham23@gmail.com

Whakapapa is the essence of health and wellbeing. Whakapapa is a tool, created by our tūpuna (ancestors) to frame our existence as Māori. The pēpeha (an expression of whakapapa) outlines our whakapapa in relation to the maunga (mountain), the awa (river) the waka (canoe), the iwi (tribe), the hapū (sub-tribe), the marae (meeting house) and the tūpuna (ancestors) we connect to. By identifying the names of places and people, we create a timeline of locators of who we are, where we come from and where we exist today. The opportunity to 'walk your pēpeha' enables you to not only identify these places but also engage with them, making the connection stronger. It is through whakapapa that you are able to identify 'who' and 'where' you come from, this is vital to identity and therefore health and wellbeing.

Identity is a key struggle for rangatahi (youth), therefore my research explores the idea of reconnecting rangatahi to ancestral places such as those you would identify in your pēpeha to see if it enhances identity, knowledge of whakapapa and overall health and wellbeing. The overall outcomes will assist whānau, hapu and iwi in providing a possible solution to enhancing overall health and wellbeing; and assist in developing an initiative on creating a programme that is able to connect Māori to their whakapapa through engagement with ancestral places with the objective to help understand 'who' they are and 'where' they come from, reaffirming identity as well as positive enhancements to health and wellbeing.

BIOGRAPHY

Chelsea (Ngāti Kahungunu) has recently completed her Masters in Physical Education at the University of Otago titled: Nō wai, Ko wai? The Influence of Whakapapa on Health and Wellbeing. She has a strong passion for whakapapa, Māori health and working with Rangatahi Māori (Māori youth) and whānau (families). Chelsea is also a youth worker at Te Hou Ora Whānau Services Ōtepoti where she leads the Amatanga Girls Club. Chelsea hopes to head back home to Hastings and start her own initiative which will involve connecting rangatahi and whānau to ancestral places such as maunga (mountains), awa (rivers) and Marae (meeting house) to reaffirm identity, increase physical activity levels and enhance overall health and wellbeing.

Title: How does lumbar posture influence the way trunk muscles work?

Author: Mawston G

Affiliation: Department of Physiotherapy, Auckland University of Technology

Email: gmawston@aut.ac.nz

Lumbar posture during physical activities has been shown to influence the loads on the musculoskeletal structures of the spine and the risk of low back injury. Many physiotherapists provide postural advice for injury prevention and the rehabilitation of patients following back injury. Therapists often describe the ideal lumbar posture as one where the spine is in a “neutral” position. However, during the performance of a number of vocational and sporting activities the lumbar spine moves through a range of lumbar postures, and this influences lumbar spine biomechanics and trunk muscle recruitment, as well as the risk of low back injury. This presentation will focus on how changes in lumbar posture influences trunk muscle responses and loading on the lumbar spine during occupational, sporting and rehabilitation activities. Therapeutic interventions that address potentially dangerous lumbar postures will also be discussed.

BIOGRAPHY

Grant Mawston is a senior lecturer in the Department of Physiotherapy and a co-director of the Health and Rehabilitation Research Institute who has a particular interest in exercise-based rehabilitation and neuromuscular control of the lumbar spine. Grant’s teaching expertise is in the area of exercise physiology and rehabilitation, biomechanics, and musculoskeletal physiotherapy. Prior to joining AUT University, Grant worked in the area of musculoskeletal physiotherapy and was the physiotherapist for New Zealand Gymnastics team over a number of years. Grant’s PhD focused on the neuromuscular control and spinal kinematic responses during sudden loading and manual handling tasks, with a particular focus on spinal posture and fatigue.

Title: Rehabilitation following treatment for abdomino-pelvic cancer

Author: Frawley H

Affiliation: Department of Rehabilitation, Nutrition and Sport, La Trobe Sport and Exercise Medicine Research Centre, La Trobe University

Email: H.Frawley@latrobe.edu.au

This presentation will consider rehabilitation following surgical treatment for gynaecological, colorectal and prostate cancer. Although improved surgical techniques and adjuvant therapies result in higher survival rates following surgery for abdomino-pelvic cancer, patients often report lower levels of physical activity compared to pre-diagnosis, suffer from physical and psychological morbidity, and report impaired pelvic floor function. Evidence is emerging regarding the effect of physical activity on cancer recurrence and survival in many tumour streams, hence international guidelines recommend cancer patients engage in regular and moderate intensity physical activity following treatment. However this is not routinely implemented and has not been evaluated in gynaecological and colorectal populations in Australia. Further, the effect of a general physical activity programme on pelvic floor function in pelvic cancer cohorts has not been evaluated. We decided to investigate the feasibility of a multidisciplinary general oncology rehabilitation programme for patients following surgery for pelvic cancer in a private health care setting. Secondly, we were interested in the effect of this programme on functional capacity, muscle strength, psychological distress, level of physical activity, self-efficacy, and health-related quality of life. This is a prospective pre-post cohort study. Results to date of feasibility (patient referral rates, enrolment, attendance, adherence and participant evaluation of programme) will be presented, as will clinical outcome data for participants who have completed their six month assessment time-point.

BIOGRAPHY

Dr Helena Frawley is a pelvic floor physiotherapist and researcher. Helena is Associate Professor in Physiotherapy at La Trobe University Melbourne; the Head of Allied Health Research at Cabrini Health, and an NHMRC Health Professional Research Fellow. Helena completed her PhD at The University of Melbourne in 2008, and gained Fellowship of the Australian College of Physiotherapists in 2011, as a Clinical Specialist Continence and Women's Health Physiotherapist. Helena's research is focused on pelvic floor muscle measurement and conservative therapies to treat pelvic floor dysfunction: pelvic organ prolapse, pelvic pain, incontinence and pelvic floor problems following pelvic surgery, including for pelvic cancer. Her other research interests are adherence to exercise, and translational research, including implementation of clinical practice guidelines.

Title: Does pelvic floor muscle training help female sexual function?

Author: Frawley H

Affiliation: Department of Rehabilitation, Nutrition and Sport, La Trobe Sport and Exercise Medicine Research Centre, La Trobe University

Email: H.Frawley@latrobe.edu.au

Female sexual function may be affected by biological, psychosexual or contextual factors. Treatment of female sexual dysfunction may be addressed by any or a combination of these factors. Pelvic floor muscle training (PFMT) has been proposed to improve female sexual function via the biological pathway. The effect of PFMT on female sexual function has received little attention from robust studies to date. This topic will be addressed with reference to recently published literature. While studies to date have been heterogeneous and of low-moderate quality, there is some evidence that PFMT may improve at least one variable or aspect of sexual function. Most studies have explored the relationship between PFMT and sexual function in women with existing pelvic floor dysfunction, therefore little is known regarding the effect of PFMT on sexual function in women without pelvic floor dysfunction. This presentation will also consider the mechanisms of how PFMT may affect sexual function, the association between adherence to PFMT and change in sexual function, and the association between improvement in sexual function and change in pelvic floor muscle function.

BIOGRAPHY

Dr Helena Frawley is a pelvic floor physiotherapist and researcher. Helena is Associate Professor in Physiotherapy at La Trobe University Melbourne; the Head of Allied Health Research at Cabrini Health, and an NHMRC Health Professional Research Fellow. Helena completed her PhD at The University of Melbourne in 2008, and gained Fellowship of the Australian College of Physiotherapists in 2011, as a Clinical Specialist Continence and Women's Health Physiotherapist. Helena's research is focused on pelvic floor muscle measurement and conservative therapies to treat pelvic floor dysfunction: pelvic organ prolapse, pelvic pain, incontinence and pelvic floor problems following pelvic surgery, including for pelvic cancer. Her other research interests are adherence to exercise, and translational research, including implementation of clinical practice guidelines.

Title: Implementation of clinical practice guidelines: is evidence for pelvic floor muscle training for urinary incontinence and pelvic organ prolapse translating into clinical practice?

Author: Frawley H

Affiliation: Department of Rehabilitation, Nutrition and Sport, La Trobe Sport and Exercise Medicine Research Centre, La Trobe University

Email: H.Frawley@latrobe.edu.au

There is strong evidence from systematic reviews and randomised controlled trials, that pelvic floor muscle training is effective for the treatment of urinary incontinence and pelvic organ prolapse, and guidelines recommend that this treatment should be offered as first-line management. However this is not universal nor routine in clinical practice. Evidence has been disseminated and is widely accessible in the research community, and to a lesser extent to clinicians, however the recommendations are not implemented with fidelity to the evidence, or in some settings, not implemented at all. This workshop shall explore the barriers and enablers to this translation of research into practice. Small group discussions will allow participants to brainstorm what particular factors affect uptake of the guidelines in their local context, and how they may address this important evidence-to-practice gap. Case studies will be invited from participants who have tried to implement the recommendations and have encountered both challenges and success, in order to assist colleagues with their implementation efforts.

BIOGRAPHY

Dr Helena Frawley is a pelvic floor physiotherapist and researcher. Helena is Associate Professor in Physiotherapy at La Trobe University Melbourne; the Head of Allied Health Research at Cabrini Health, and an NHMRC Health Professional Research Fellow. Helena completed her PhD at The University of Melbourne in 2008, and gained Fellowship of the Australian College of Physiotherapists in 2011, as a Clinical Specialist Continence and Women's Health Physiotherapist. Helena's research is focused on pelvic floor muscle measurement and conservative therapies to treat pelvic floor dysfunction: pelvic organ prolapse, pelvic pain, incontinence and pelvic floor problems following pelvic surgery, including for pelvic cancer. Her other research interests are adherence to exercise, and translational research, including implementation of clinical practice guidelines.

Title: 'Somebody's kindly following you along the line': supporting physical activity for people living with long-term conditions.

Author: Hale L

Affiliation: School of Physiotherapy, University of Otago, New Zealand

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Evidence for the health benefits of exercise and physical activity participation for people living with long-term conditions is incontestable. The challenge for such people is firstly to how to engage in physical activity, and then how to maintain this engagement regularly and for the long-term. We have developed and evaluated several interventions to enable long-term physical activity and exercise participation for people living with a long-term condition or disability. All interventions evolved from what people living with such conditions, and those who support them, told us and on experiential learning. We used a bottoms-up approach. These interventions cater to a wide range of people, including those living with diabetes, complex multimorbidity, Multiple Sclerosis, stroke, Alzheimer's disease and intellectual disability. Although our interventions for different population groups developed independently and are subtly different, their common ingredient is the support provided by a physiotherapist. Other key facilitators we identified to enable people to participate long-term in physical activity were individual choice of activity and control over level of engagement coupled with support, advice and encouragement from a physiotherapist. I would argue though that support is not only the common ingredient but possibly the key one. This presentation will report on this research, a pathway that has led me to believe that physiotherapists primarily enable healthy and engaging lives through movement and support.

BIOGRAPHY

Professor Leigh Hale is the Dean of the School of Physiotherapy, University of Otago. Her research expertise transcends both quantitative and qualitative domains and is focussed on clinical neurorehabilitation. Current research interests include:

- 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
- Disability awareness
- Valuing support workers

Title: Removing 'Humans' from 'Health' through Māori Environmental Physical Activity

Author: Heke I

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Mainstream systems Science Dynamics and Group Model Building suggests that an individual's poor health outcomes can be traced back to the systems that they interact with e.g. obesity has less to do with eating and more to do with policy, culture, social marketing, financial situation etc. This discussion is generating some insightful information because it's validating centuries old Māori processes known as whakapapa. An example in case, earlier this year I conducted a mountain bike journey that covered 3000km and travelled from one end of Aotearoa New Zealand to other. During this journey I attempted to inform Māori communities of the massive range of environmental representatives through the Facebook site - The Mobile Wānanga with Dr Ihirangi Heke. The reason I did this was in order to increase the rates of physical activity in Māori as an authentic rationale for why we might engage with physical activity and health that is environmentally centred and not human centred. If we are able to move away from health and focus on knowledge transferral through environmental awareness, then we can remove deficit-based information that has traditionally failed to engage Māori. This is a systems / whakapapa approach that is gaining much interest locally and globally.

BIOGRAPHY

Dr Ihi Heke is a Māori health and physical education consultant involved in a number of national and international projects aimed at improving health through increasing physical activity, especially to address youth obesity. He is funded by the Ministry of Health, the Ministry of Education, Johns Hopkins Medical University (Baltimore) and is an honorary research fellow to the University of Auckland. Previously Dr Heke has held lecturing roles at the University of Otago and Prince Sultan University in Saudi Arabia. Dr Heke has had applied role with elite athletes as a sport psychologist (PhD), been a past board member of Outdoors New Zealand, New Zealand Osteopathic Council and is on the Mahurangi College school board where one of his three children attend. Dr Heke has also been a trained educational psychologist and a provider to the New Zealand Academy of Sport. Recently Dr Heke published a Māori Health Framework that is being adopted by Healthy Families New Zealand, Moving the Māori Nation, Auckland Council alongside significant global interest.

Title: Physiotherapy Regulation in Aotearoa - end to end and all the bits in between

Author: Mueller J

Affiliation: New Zealand Physiotherapy Board

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The purpose of regulation is to provide the public assurance that a physiotherapist is suitably qualified and competent to provide care that meets regulatory standards. To practice safely, a range of regulatory mechanisms provides assurance to the public that the physiotherapist has met educational, ethical and practice standards relevant to our healthcare environment. The concept of 'right-touch' regulation also has significant implications for regulators when considering safety. Should physiotherapy regulators shift the allocation of their resources to a greater focus on preventing breaches of standards and thus ensuring improved safety of the public?

This presentation will commence with an updated snapshot of our profession, and will describe some of the unique challenges of being a Board member accountable for the implementation of the HPCA Act (2003). The regulatory elements and governance requirements that ensure the safety of the public receiving physiotherapy services will be discussed, including the way in which the Board gathers information to assure public safety. The mechanisms required to ensure physiotherapists practice safely throughout their careers will be considered, and the implications of these safety mechanisms and processes that regulators use for practicing physiotherapists will be discussed. The focus of the Board is on the least amount of regulatory intervention required to ensure public safety, enabling the life-long engagement of each physiotherapist with their professional regulator.

BIOGRAPHY

Janice Mueller is a Director of Waipiata Consulting Ltd, a health consultancy business established in 2012. She provides health management consultancy services across New Zealand and Australia, with an emphasis on the allied health and health science professions. She has over 30 years' experience in the health sector working in physiotherapy, general management and allied health leadership roles.

Janice has had extensive experience in clinical and professional governance, leading change management, strategic planning, service reviews, project management, workforce development, human resource management, organisational policy development and professional regulation.

Janice has presented widely at national and international conferences on physiotherapy-specific and allied health issues. She is the current Chair and has been a member of Physiotherapy Board of New Zealand since 2010, and is a Life Member of both the New Zealand College of Physiotherapy and Physiotherapy New Zealand.

Title: Leadership in Healthcare

Author: Smith J

Affiliation: Iceberg Leadership Institute

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90% of what makes a physiotherapist effective in their clinical and professional roles are the attributes that 'lie beneath the surface'. We call this the Iceberg Health Leadership principle. It's not just ones' education, qualification or technical skills that matter. It's the attributes of character, vision, values, personal integrity, communication, persuasion and influence that bring about the desired outcomes with both patients and peers.

The Iceberg Health Leadership workshop is a long established eight-day, 28-module programme offered by the Iceberg Leadership Institute based in Melbourne, Australia. It's characterised as a personal, professional and team development programme for allied health practitioners and their support staff. This workshop offered at PNZ will be a condensed version of some of the core concepts from this programme to empower physios to form lifelong habits that enable them to create lasting influence in the world around them – with patients, referrers, peers, regulators, legislators, insurers, employers and other stakeholders.

In this two-hour workshop participants will be equipped with the ability to define health leadership; develop a rational case for the role of leadership within the clinical setting, understand the ten guiding principles of health leadership, discover the importance of and how to cast organisational vision, the cycles of team development, leadership styles including the dark-side of some leadership attributes, and much more.

Be empowered for greater influence in your workplace.

BIOGRAPHY

Jason founded the Back In Motion Health Group - Australia's largest and fastest growing provider of physiotherapy and related services. He is an active member and leader in business communities such as the Australian Physiotherapy Association, various CEO groups and special interest business forums. Jason's passion for leadership culminated in his establishing the Iceberg Leadership Institute, a forum through which he has provided thought-provoking leadership instruction to hundreds of experienced and emerging professionals since its inception. With his first book, Jason authored an international best seller *Get Yourself Back In Motion – A physiotherapist's secrets to pain relief and optimal health*. Jason is also a popular regular contributor and presenter on health, wellness and business related subjects across a variety of media including television, radio, print and online channels.

Title: Who and what needs to change? Current challenges in behaviour change interventions to enhance lifelong exercise habits in people with Parkinson's

Author: McGinley J

Affiliation: Physiotherapy Department, University of Melbourne, Australia

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Parkinson's disease (PD) is a common and disabling neurodegenerative condition that is rapidly rising in prevalence. Exercise is known to limit disability progression; individuals who have higher levels of physical activity have better physical function, mobility and quality of life. Despite these benefits, most people with Parkinson's have sedentary lifestyles, and do not meet recommended physical activity levels. Recent studies have identified factors associated with physical activity and exercise behaviour in people with Parkinson's disease, highlighting the importance of personal and psychological factors such as exercise self-efficacy and outcome expectations. Emerging evidence from programmes incorporating health behaviour change interventions with exercise programmes show promise in enhancing physical activity in older people and in those with Parkinson's. Implementation of such programmes within health services is limited and requires consideration of the barriers to translation. Challenges which require exploration include access to health services, inter-disciplinary care models, workforce training and telemedicine.

BIOGRAPHY

Associate Professor Jenny McGinley is a physiotherapist and Deputy Head of the Physiotherapy Department. Her research has focussed on the measurement and understanding of movement and function across the lifespan in healthy people and those with neurological conditions including stroke, Parkinson's disease, cerebral palsy and autism. She has a particular interest in gait and mobility outcome measures for clinical practice and research, translation of biomechanical evidence to inform practice and in clinical trials of interventions to improve functional mobility. Her current research is now extending to focus on understanding how people with Parkinson's disease and other neurological disorders can stay active during daily life, and the factors that influence regular physical activity.

Title: Structure function and pain

Author: Cook J

Affiliation: Sport and Exercise Medicine Research Centre at La Trobe University, Melbourne, Australia

Email: J.Cook@latrobe.edu.au

Clinicians are interested in pain. A person with tendon pain is also interested in ameliorating that pain. Clinicians are also focussed on structure, in tendons there is a perception that a tendon can heal and that is essential for the relief of pain.

The trouble is we rarely talk about function in people with tendon pain, nor discuss its relationship with structure and pain. In tendinopathy the structure is often degenerative and not responsive to any interventions. Therefore we must rely on interventions that improve function and the capacity of the tendon, musculotendinous unit, the kinetic chain and the brain to reduce tendon pain.

We must reduce reliance on imaging to diagnose and prognose tendon pain, and start to use our clinical reasoning skills to assess and treat the person in front of us. In tendinopathy there will be profound dysfunction, and improving this will result in reduced pain without the need to change structure.

BIOGRAPHY

Jill Cook is a professor in musculoskeletal health in the La Trobe Sport and Exercise Medicine Research Centre at La Trobe University in Melbourne, Australia. Jill's research areas include sports medicine and tendon injury. After completing her PhD in 2000, she has investigated tendon pathology, treatment options and risk factors for tendon injury. Jill currently supplements her research by conducting a specialist tendon practice and by lecturing and presenting workshops both in Australia and overseas.

Title: Rehabilitation of tendinopathy what is the difference between the upper and lower limb?

Author: Cook J

Affiliation: Sport and Exercise Medicine Research Centre at La Trobe University, Melbourne, Australia

Email: J.Cook@latrobe.edu.au

Tendons are often thought to be the same at each joint and across the body, simplifying our treatment approaches because a 'one size fits all' program should be efficacious for all presentations. As our understanding of pathology, pathoetiology and access to imaging improves, it is becoming apparent that this is not quite true and perhaps we need to be more thoughtful about treatment.

The right load for the correct time frames is the best treatment for tendinopathy, but loads through the upper and lower limb vary widely and also depend on activity. Strategies that identify the best loading approach for each tendon requires clinical expertise and knowledge of the loading each tendon undergoes.

The staged approach to tendon rehabilitation works clinically, although research is scant. Progressive loading to increase the capacity of the tendon, muscle, kinetic chain and motor cortex of the brain is effective treatment. Strategies to enhance this approach and education of the person are essential for it to work.

Identifying how factors that affect tendons such as obesity, diabetes and cholesterol also contribute variably to pathology, pain and response to treatment is also essential, along with their effect in upper and lower limb tendons. So far from being singular and simplistic, tendon rehabilitation is complex and must be tailored to each tendon, person and circumstance.

BIOGRAPHY

Jill Cook is a professor in musculoskeletal health in the La Trobe Sport and Exercise Medicine Research Centre at La Trobe University in Melbourne, Australia. Jill's research areas include sports medicine and tendon injury. After completing her PhD in 2000, she has investigated tendon pathology, treatment options and risk factors for tendon injury. Jill currently supplements her research by conducting a specialist tendon practice and by lecturing and presenting workshops both in Australia and overseas.

Title: Intensive care unit (ICU) recovery – what do we know, what can we do and where are we to go?

Author: Haines K

Affiliation: ICU Physiotherapist and Allied Health Research Lead at Western Health, Victoria

Email: Kimberley.Haines@wh.org.au

The field of ICU survivorship research has rapidly evolved in the past decade indicating that recovery for both patients and their families is incomplete. Post-Intensive Care Syndrome (PICS) was conceived as an umbrella term to describe the myriad of impairments following ICU. The aim was to create a common language to improve communication, education and research amongst providers across various settings from ICU to primary care with the hope that this may initiate improvements across the continuum of care. Yet some years on, there remains much work to do to achieve such awareness and meaningful change. Further, there are no proven therapies to reduce the frequency and severity of PICS. A number of early ideas that seemed plausible have not demonstrated the desired effect of improving post-ICU outcomes such as early rehabilitation although there are methodological limitations of this work. Physiotherapists remain crucial to the management of critical care patients across the spectrum of care from ICU to reintegration to the community. Whilst the evidence for early rehabilitation in ICU is mixed, it remains a worthy endeavour to restore function and quality of life. This may include a bundled approach to managing sedation, weaning and early rehabilitation. Challenges in implementing early rehabilitation exist, particularly for some high risk groups such as bariatric patients and those on haemofiltration. Physiotherapists must continually appraise their role in the ICU and how they can function as a highly skilled member of the inter-professional team. Promising new approaches to improving recovery such as ICU follow up clinics, peer support and engaging patients as partners are available for exploration. Physiotherapists can take an active leadership role in exploring these innovative concepts as we all strive toward achieving enhanced recovery for patients and their loved ones.

BIOGRAPHY

Kimberley is a senior critical care physiotherapist and Allied Health Research Lead at Western Health. She is a National Health and Medical Research Council (NHMRC) Scholar and has recently completed her PhD at The University of Melbourne, titled Recovery Following Critical Illness. Kimberley has significant experience in the coordination and implementation of patient and family-centred research in the ICU and is currently leading the largest Australian study investigating the psychological outcomes of informal caregivers of the critically ill. Kimberley was a co-investigator for the ICU-EXERCISE trial; a NHMRC-funded randomised controlled trial. Her research interests and publication history include outcomes of ICU survivors and their caregivers, consumer engagement, early rehabilitation, prediction of outcomes and clinical decision-making in the ICU.

Title: Implementing research findings into clinical practice: how to change the world.

Author: Haines K

Affiliation: ICU Physiotherapist and Allied Health Research Lead at Western Health, Victoria

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The implementation of research findings into clinical practice is commonly cited as taking on average, up to 17 years after the generation of evidence in a clinical setting. For example, recent research has found that early mobilisation of ventilated patients occurs on only 17% of all possible opportunities in Australian ICUs, despite Level one (meta-analysis) evidence of benefit. The incorporation of evidence as a cornerstone of intervention, by definition, optimises health and system outcomes. Several approaches can be followed to facilitate translation of research findings into clinical practice and implementation science is now a stand-alone research field. The Theoretical Domains Framework (TDF) is a useful implementation science framework to follow for investigating implementation problems and designing implementation strategies. The TDF can be broadly applied in four steps. First, findings of systematic reviews and meta-analyses are examined and audits of clinical practice are conducted to identify whether there is an evidence-practice gap. For example, existing meta-analyses have demonstrated the benefit of mobilising patients with critical illness, yet the behaviour is not consistently demonstrated in ICU. Where a gap exists, the second step involves the identification of barriers and enablers to the target behaviour. The final two steps involve the development of behaviour change interventions to target the identified barriers and evaluating the efficacy of the interventions to reduce the evidence-practice gap by increasing the observed frequency of the target behaviour. Hospital departments should aim to ensure these processes are embedded as part of their clinical, quality and governance evaluation frameworks and understand that alignment of their practice to evidence is an essential component of their role as practicing professionals. However, key challenges may limit research translation; for example, the availability of resources and possible knowledge and skill gaps in the completion of these steps. There are also obvious limitations in the concept of research translation where primary studies of intervention efficacy (i.e. randomised controlled trials) may be lacking for clinical interventions. Strategies to optimise implementation may include reallocation of clinical resources from areas with uncertain effectiveness to implementation or evaluation roles, joint academic appointments and ensuring alignment of outcome measures with areas of key interest to health organisations (i.e. adverse events, length of stay, costs of care and re-admission). The implementation of research findings is therefore essential for clinicians, managers and organisations to demonstrate, promote and provide evidence for in order to optimise the health outcomes of patients.

BIOGRAPHY

Kimberley is a senior critical care physiotherapist and Allied Health Research Lead at Western Health. She is a National Health and Medical Research Council (NHMRC) Scholar and has recently completed her PhD at The University of Melbourne, titled Recovery Following Critical Illness. Kimberley has significant experience in the coordination and implementation of patient and family-centred research in the ICU and is currently leading the largest Australian study investigating the psychological outcomes of informal caregivers of the critically ill. Kimberley was a co-investigator for the ICU-EXERCISE trial; a NHMRC-funded randomised controlled trial. Her research interests and publication history include outcomes of ICU survivors and their caregivers, consumer engagement, early rehabilitation, prediction of outcomes and clinical decision-making in the ICU.

Title: Health and Safety Law? (yawn) Wake me up when it's over... A 'Practical School' overview of the responsibilities, myths and opportunities for physios

Author: Roberts M

Affiliation: APAM, Managing Director and Occupational Health Physiotherapist, Injury Prevention Services Pty Ltd

Email: michaelroberts@ipmsafety.com.au

In health, science and philosophy there are 'schools of thought'. A school of thought is a collection of people who share a common outlook, philosophy, social or cultural movement.

'The Practical School of Health and Safety at Work' sits in contrast with 'impractical schools of thought'. If workplace safety and health is focused on legal compliance, lost time or financial loss reduction, then, in our view, it's stuck in an impractical school of thinking.

Let's face it. Organisations can't truly be hurt, no matter what lawyers say about companies being 'entities', organisations can't suffer. They don't take it home, they don't bleed and they don't die. People do. People break, wear out and stress out. People are the ones who get the full impact of an injury, an illness, a work-related break down.

Science-based practitioners can enable Health and Safety at Work to become people-centred. In New Zealand that opportunity is available right now and up for grabs.

This approach arises out of intense frustration with the dominant law-focused OHS paradigm and over 25 years of occupational health physiotherapy practice in Australia by the speaker. It is built on four key health and safety at work insights:

1. Personal
2. Risk-relevant
3. Action
4. Leadership

This presentation will introduce you to how physiotherapists can understand the new Health and Safety at Work laws through the Practical School approach. We will then identify the wide open opportunities to use this understanding to prevent injury, illness and deaths in New Zealand workplaces.

BIOGRAPHY

Michael is a passionate advocate for the emerging role that physiotherapists can play in making workplaces healthy, safe and well. He co-wrote and delivers Australian Physiotherapy Association's Level 1 Occupational Health Physiotherapy (OHP) training across Australia since 2011, enabling hundreds of physiotherapists to transition to the OHP field.

Michael spent seven years specialising in acquired brain injury, before turning to preventing harm through Work Health and Safety. His special interests are in injury prevention through early intervention, ergonomic design, risk control, leadership development and building positive workplace cultures.

Title: Yes you can! How physios can succeed in occupational health.

A 'Practical School' primer on how physios can do great business in occupational health.

Author: Roberts M

Affiliation: APAM, Managing Director and Occupational Health Physiotherapist, Injury Prevention Services Pty Ltd

Email: michaelroberts@ipmsafety.com.au

It's Wednesday at Melbourne Zoo. I'm leading a day-long seminar with 24 of the executive team at Zoos Victoria, and I'm challenging their expression of leadership. I feel privileged to provide genuinely valuable insights and methods of risk management to a group of world-leading vets, keepers, directors and managers.

Tomorrow we're improving the ergonomics of ticket booths and then risk assessing gorilla enclosures following recent zoo incidents in other parts of the world.

My consulting company has a three year contract here. The CEO is a brilliant, inspiring South African woman who reinvented the purpose of this organisation. Most people in this room, and many of the 400 staff, would walk over broken glass for her. An exceptional client and an incredible opportunity. How does a stock-standard physio get here?

We nickname this 'Ultimate Physiotherapy'; the regular name is Occupational Health Physiotherapy. Drawing on similar subjective and objective assessment skills you use with patients we assess risks. Then, with good 'Practical School' education, mentoring and experience under our belts we can 'treat' the organisation through its equipment, systems and people; in ergonomics, manual tasks, pre-employment assessments and more.

By doing this we prevent injury and ill health at its source; through engaging, educating and leading people in organisations to effectively and reliably prevent harm.

This presentation will identify how physiotherapists can innovate themselves and extend their practice into work-place health, step by step. Participants will learn of excellent resources and opportunities available to them through a variety of sources.

BIOGRAPHY

Michael is a passionate advocate for the emerging role that physiotherapists can play in making workplaces healthy, safe and well. He co-wrote and delivers Australian Physiotherapy Association's Level 1 Occupational Health Physiotherapy (OHP) training across Australia since 2011, enabling hundreds of physiotherapists to transition to the OHP field. Michael spent seven years specialising in acquired brain injury, before turning to preventing harm through Work Health and Safety. His special interests are in injury prevention through early intervention, ergonomic design, risk control, leadership development and building positive workplace cultures.

Title: Rehabilitation technology: The hype, the reality and the role of physiotherapists.

Author: Signal N

Affiliation: AUT University

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Robotics, gaming, wearables, neuromodulation, brain computer interfaces... In contrast to our historically low-tech, hands-on approach to rehabilitation, there has been an explosive growth in the development of technologies for rehabilitation in the past 10 years. This growth has been driven by both the application of existing technologies to rehabilitation, and the development of new technologies. The future role of technology in rehabilitation is highlighted by the recently published *New Zealand Health Strategy: Future direction* and New Zealand and international research funding specifically targeting rehabilitation technology development and evaluation. Popular, health and social media reports of rehabilitation technologies abound, often illustrating the potential of technologies to augment rehabilitation and if some reports are to be believed, replace therapists in the provision of rehabilitation. But what is the reality? In this presentation we focus on the rationale, evidence and potential of robotics, gaming and neuromodulation technologies. We ask; what is the theoretical rationale which underpins each of these rehabilitation technologies, how effectively do they change outcomes of function and participation, how seamlessly do they translate into clinical practice and how well is the perspective of the patient and the therapist considered? Lastly we explore the role of the physiotherapist as a developer, evaluator and advocate of rehabilitation technologies.

BIOGRAPHY

Nada has worked as a physiotherapist in community, rehabilitation and acute care settings; primarily with people with neurological conditions. She has a Masters in Health Science and in 2014 she completed her Doctorate of Philosophy. She is a Senior Research Fellow and Co-Director of the Rehabilitation Innovation Centre at AUT University.

Title: A physiotherapist-led vocational advice service improves work outcomes in adults with musculoskeletal pain in primary care: the study of work and pain (SWAP) trial (ISRCTN 52269669)

Authors: Foster N E (on behalf of the SWAP study team), Wynne-Jones G, Artus M, Bishop A, Lawton S A, Lewis M, Main C, Sowden G, Wathall S, Burton A K, van der Windt D, Hay E M

Affiliation: Arthritis Research UK Primary Care Centre, Research Institute for Primary Care and Health Sciences, Keele University

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INTRODUCTION

Musculoskeletal (MSK) pain is a common cause of work absence. The SWAP randomised controlled trial (RCT) tested the clinical and cost-effectiveness of adding a physiotherapist-led vocational advice (VA) service to best current primary care for adults with MSK pain.

METHOD

The SWAP trial was a cluster RCT in six UK general practices, three randomised to best current care (control) and three randomised to provide best current care and the VA service (intervention). Patients were 18 years old and over, absent from work for less than six months or struggling at work because of MSK pain. Primary outcome was the number of days off work over four months. Analysis was by intention-to-treat. Cost-effectiveness and cost-benefit analyses determined the cost per sick day avoided, net societal benefits and return on investment.

RESULTS

338 participants (158 intervention, 190 control) were recruited and follow-up at four months was 79%. Intervention participants took significantly fewer days off work over four months (mean 9.3 days, SD 21.7) compared with control (mean 14.4 days, SD 27.7); adjusted incidence rate ratio (IRR) 0.51 (0.26, 0.99), $p=0.048$. This difference was largely due to fewer GP certified absent days, mean 8.4 days (intervention) v 13.5 days (control). The VA service led to a cost-saving of £7.20 per sick day avoided, with a net societal benefit of £763 in favour of the intervention and return on investment of £51 for each £1 invested.

CONCLUSIONS

Adding a physiotherapist-led VA service to best current primary care for MSK pain leads to significantly fewer days lost from work, and broader societal cost-savings.

KEY PRACTICE POINTS

Physiotherapists can provide a VA service for MSK patients that leads to fewer days lost from work and cost-savings.

BIOGRAPHY

Professor Foster is recognised internationally as a leading expert in musculoskeletal pain research in primary care, particularly in the field of back pain and in primary care-based clinical trials. Particular achievements include original contributions to testing the clinical and cost-effectiveness of interventions including acupuncture for patients with common musculoskeletal pain. She is one of only two physiotherapists in the UK to be awarded a Primary Care Career Scientist award (2004–2009) and the only physiotherapist to be awarded a National Institute of Health Research (NIHR) Research Professorship (2012–2017).

Title: Management of disabling back pain – time to re-think?

Author: O’Sullivan P

Affiliation: School of Physiotherapy and Exercise Science, Curtin University,
Western Australia

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Historically, back pain has been thought to be caused by an injury, resulting in damage to the spine. This belief has driven exponential increases in radiological imaging to identify ‘pathological structures’, injections to detect ‘painful structures’ and in some cases surgery directed to these structures. Physiotherapy practice has responded to this problem with a various manual treatments and exercise interventions with a view to correct ‘biomechanical faults’ presumed to be underlying the problem. These approaches together have not arrested the escalating cost and disability burden of back pain in our community.

In contrast to these beliefs, contemporary research suggests that back pain often develops in adolescence and sets a trajectory for later life. It is rarely caused by injury and findings on MRI scan correlate poorly with the back pain experience. Furthermore biomechanical faults are not strongly causally linked to back pain and people with disabling back pain present with excessive trunk muscle co-contraction rather than a lack of ‘core stability’. There is growing evidence that disabling back pain is associated with unhelpful beliefs and behaviours that drive fear, distress, sensitization, protective guarding and avoidance. Current clinical practice often reinforces and exacerbates this process.

This evidence challenges current practice to reframe our understanding and management of back pain disorders. A cognitive functional approach provides a personalised evidence based understanding of low back pain, pain control strategies to enable people to build confidence to return to feared and avoided valued activities and addresses unhelpful lifestyle behaviours. There is growing evidence that this approach results in larger long-term benefits over traditional approaches.

BIOGRAPHY

Peter is Professor at Curtin University, School of Physiotherapy and Exercise Science, Western Australia and works part-time as a specialist musculoskeletal physiotherapist managing complex musculoskeletal pain disorders at Body Logic Physiotherapy.

He and his team conduct clinical research investigating the underlying mechanisms and targeted management of persistent musculoskeletal pain disorders. He has developed an innovative management approach for disabling back pain called ‘cognitive functional therapy’.

He has published over 160 papers with his team in international peer review journals, has been an invited speaker at more than 90 National and International conferences and has run clinical workshops in over 24 countries. Peter’s passion is translating research into practice (see: www.pain-ed.com).

Title: Frailty and dementia; activity for older people with complex problems

Author: Kerse N

Affiliation: School of Population Health, Faculty of Medical and Health Sciences, University of Auckland

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Frailty is a multicomponent syndrome leading to a vulnerability to poor outcomes amongst older people. A phenotypic and deficit accumulation frameworks for frailty are both successful in identifying people at risk. Dementia is the umbrella term for cognitive impairment interfering with daily functioning.

For both these groups' physical activity and exercise are essential to health and can lead to improved outcomes in general as well as from their conditions. This presentation talks about frailty and dementia, as distinct syndromes and their coexistence. The implications of clinical aspects of the exercise and activity programme development and application for these groups will be discussed.

BIOGRAPHY

Professor Ngaire Kerse is a well-established researcher with a large number of publications and research grants. She has a range of interests, both theoretical and methodological and is recognised as an international expert in three interrelated areas of research. She currently leads several research teams, each engaged in a number of research projects including:

Maximising health for older people: an organised programme of research studying the pathway from impairment to dependence.

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.

Title: Augmented Community Telerehabilitation Intervention (ACTIV) to improve outcomes for people after stroke

Authors: Saywell N¹, Taylor D¹, Vandal A² (on behalf of the ACTIV team: Mudge S, Hale L, Milosavljevic S, Feigin V, Brown P, Hanger C)

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¹Health and Rehabilitation Research Institute, Auckland University of Technology

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INTRODUCTION

Stroke mortality is reducing in most developed countries and increased survival is creating a demand for community rehabilitation services that vastly outstrips the ability of the health service to provide them. To help address the shortfall in rehabilitation, a low-cost telerehabilitation programme was developed, using readily-accessible telecommunication devices. ACTIV (augmented community telerehabilitation intervention) is a six-month programme which delivers four face-to face physiotherapy visits and uses phone calls and regular text messages to motivate and encourage engagement in exercises, tailored towards a valued activity.

METHOD

A randomised controlled trial (n=95) was undertaken to investigate programme effectiveness, and compared ACTIV to usual care. The outcomes measured included, a lower limb activity, balance (measured using the step test) and an upper limb impairment, grip strength (measured using the Jamar dynamometer). A qualitative inquiry (n=21) investigated the acceptability of ACTIV to participants. Semi structured interviews were undertaken using a qualitative descriptive method.

RESULTS

There was no difference between ACTIV and control groups for balance ($p=0.79$) or grip strength ($p=0.77$) after the six-month intervention. However, the findings from the qualitative inquiry show that despite the low level of face-to face contact, participants experienced a strong therapeutic relationship with the physiotherapist. This relationship enabled many participants to become or remain engaged in valued activities, which were not reflected in these outcome measures.

CONCLUSION

Receiving ACTIV did not make a significant difference to balance or grip strength but was an important factor enabling participants to engage in what was important to them. Physiotherapists can develop and foster a meaningful therapeutic relationship to encourage and support patients even when rehabilitation is delivered remotely.

BIOGRAPHY

Nicola moved to New Zealand in 1986, having graduated the year before. Following 14 years in many areas of clinical practice Nicola started at AUT in 2000 as a guest lecturer and tutorial assistant and continued to work part-time at AUT and part-time in the community for several years. She completed her MHSc in 2009 and is now completing her PhD study, with the thesis entitled Telerehabilitation to improve outcomes for people with stroke. She combines study with teaching and teaches across a number of undergraduate and postgraduate papers.

Title: Biomechanical overload syndrome

Author: Franklyn-Miller A

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Exertional lower leg pain is a commonly diagnosed overuse injury in recreational runners and in the military with an incidence of 27-33% of all lower leg pain presentations. Typically, patients present with incremental pain on exercise, which is described as 'tightness', or 'constricting pain' across the front of the shin or calf. Symptoms can increase with up-hill running or by increasing running speed with a fixed cadence. Symptoms tend to worsen to a point whereby continued running is impossible. The pain and symptoms are alleviated by rest and are occasionally accompanied by temporary paraesthesia or foot slapping, however typically the individual is able to briefly recommence running prior to a recurrence of symptoms.

In the past this was often diagnosed as chronic exertional compartment syndrome (CECS) and first line treatments such as myofascial release, foam rolling, acupuncture, orthotic intervention, stretching, massage, and training load modification have been tried in an attempt alleviate CECS. However, none have proved successful in a return to similar levels of activity.

Diagnosis was confirmed with intracompartmental pressure measurements which are fraught with error both in diagnostic criteria and methodology, and surgical fasciotomy a poor solution to a chronic problem. In a paper published by BJSM in 2014 the concept of Biomechanical Overload syndrome was proposed after highlighting kinetic and kinematic running features of stride length, ground contact time, vertical oscillation and lower extremity angle all contribute to propagative mechanism.

This talk will explain the pathology of exertional lower limb pain, highlight diagnostic dilemmas with making a diagnosis of CECS and the kinetics and kinematic features seen in runners presenting with anterior shin and posterior calf pain, and using video coaching techniques will highlight how a simple, cheap and effective series of coaching cues can alleviate these symptoms.

BIOGRAPHY

Dr Andy Franklyn-Miller completed his medical training at Imperial College, London in 1998 before joining the Royal Navy and serving with the Royal Marines. He specialised in sports medicine and trained in the UK and Australia as the Royal Navy's Consultant in Sport and Exercise Medicine. Andy has worked as team doctor to British Olympic Rowing, England Rugby, Melbourne Storm Rugby League and the New Zealand Black Ferns.

As Associate Editor of the British Journal of Sports Medicine and author of Clinical Sports Anatomy, and contributing author to the IOC Handbook of Sports Injuries and over 30 peer reviewed publications Andy currently is Director of Research and Rehabilitation at the Sports Surgery Clinic, Dublin and Head of Global development for the clinic.

Title: 3D Biomechanics in return to play testing

Author: Franklyn-Miller A

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Clinical tests (e.g. isokinetic dynamometry, pain-free high speed running) are widely used when deciding on an athlete's ability to return to play (RTP) and rely either on single joint assessments or subjective measures (e.g. pain free movement). Other assessments that can be used to decide on an athlete's ability to return to play (RTP) are diagnostic imaging and questionnaires. However, the value of diagnostic imaging has been questioned for RTP with evidence suggesting that a high proportion of athletes will show signs of persistent injury on return to sport. While questionnaires can gauge an athlete's readiness to RTP, it cannot assess physical aspects of the injury. Commonly used assessment tools can give insights into when an athlete should RTP, all mentioned assessments discard deficits in movement control, strength, rate of force development, and flexibility, which have been associated to increase the risk of re-injury and limit athletic performance. As such, athletes that RTP often experience discomfort due to incomplete rehabilitation or returning to sport too early. This highlights the need for tools to assist in determining an athlete's readiness to return, based on a combination of subjective and objective movement control indicators.

As such, sports specific field tests have been suggested as the ultimate test of an athlete's readiness to return to sport, loading the injured tissue in a variety of movements that the athlete will undertake in field sport. Sports specific field tests have therefore been suggested to complement clinical tests in assessing an athlete's readiness to return to sport and have gained in importance for coaches and athletes when measuring player performance, identifying movement inefficiencies and guiding return to play. Movement control measures can include biomechanical and performance evaluation of athletic qualities, such as jumping, landing, speed and agility, that are vital in field sports - such as football, soccer, rugby, Australian rules, and Gaelic football.

The majority of field-based tests evaluate change of direction and speed. Tests such as the T test, CODAT, Illinois agility run (IAR), the pro agility test, the three cone drill (American football), the L run, the 505 run are examples of such tests and are commonly used by coaches to analyse multidirectional field based movement. However, these tests are predominantly linear based tests focussing on linear speed, acceleration/deceleration and change of direction (COD) and do not meet the multidirectional nature of field sports, are very sport specific and non-transferrable to other sports.

A test that simulating the effects of field sports and progressively load tissues in a variety of ways is the VU test. The SSC VU test is a return to play performance test designed to assess an athlete's readiness to return to sport and the performance of multiple tasks associated with field sport. The test is primarily designed to assess the stresses placed on lower limb muscle groups during field sports and consists of a hurdle hop, prolonged curved run, reaching, prone get ups and high speed running.

Using inertial-based sensors combined with original laboratory data the system aims to provide a working preseason injury benchmark and a medico legally robust return to play test addressing performance and biomechanical efficiency using acceleration, deceleration, change of direction and high speed linear and curvilinear running.

BIOGRAPHY

Dr Andy Franklyn-Miller completed his medical training at Imperial College, London in 1998 before joining the Royal Navy and serving with the Royal Marines. He specialised in sports medicine and trained in the UK and Australia as the Royal Navy's Consultant in Sport and Exercise Medicine. Andy has worked as team doctor to British Olympic Rowing, England Rugby, Melbourne Storm Rugby League and the New Zealand Black Ferns.

As Associate Editor of the British Journal of Sports Medicine and author of Clinical Sports Anatomy, and contributing author to the IOC Handbook of Sports Injuries and over 30 peer reviewed publications Andy currently is Director of Research and Rehabilitation at the Sports Surgery Clinic, Dublin and Head of Global development for the clinic.

Title: Learning from Māori with chronic lung disease: Improving the cultural responsiveness of pulmonary rehabilitation

Author: Levack W

Affiliation: Rehabilitation Teaching and Research Unit, Department of Medicine, Wellington School of Medicine and Health Science, University of Otago

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There is a lack of research on the rehabilitation experiences of indigenous people in colonised countries (370 million people worldwide). This study examined the influence of cultural factors on uptake of pulmonary rehabilitation (PR) – an important intervention of known effectiveness for people with chronic obstructive pulmonary disease (COPD). In partnership with Māori researchers and providers, a grounded theory study nested within kaupapa Māori was conducted. Transcripts were analysed from interviews and focus groups with 15 Māori and, for comparison, 10 non-Māori who had attend PR. Participants had either attended a mainstream hospital-based programme, a community-based programme designed 'by Māori, for Māori', or had experience of both. Data collection focused on factors that facilitated or hampered uptake of PR. Several factors were found to influence uptake of PR, some of which were common to all participants regardless of ethnicity: 1) past experiences of exercise and healthcare systems, 2) attitudes and expectations, 3) access issues (e.g. time, transport), and 4) initial programme experiences. Additionally, several factors specific to Māori were also identified. Central to these was the concept of 'whakawhanaungatanga' – a term that can be loosely understood as the making of culturally-meaningful connections with others. Whakawhanaungatanga is intimately connected with other central concepts in Māori culture: 'wairua' (spirituality), 'whakapapa' (genealogy), 'whānui' (extended family), 'kaupapa' (the principals of shared work). The degree to which PR services acknowledged and incorporated such factors influenced the meaningfulness of PR to Māori participants, and therefore their willingness to engagement with these services. All rehabilitation occurs within a cultural context. Lack of attention to cultural factors in the provision of rehabilitation can impede its uptake by indigenous, minority ethnic groups.

BIOGRAPHY

William is a physiotherapist who has worked in a variety of hospital and community settings, from intensive care through to slow stream residential rehabilitation. His clinical interests are diverse, but his research tends to focus on rehabilitation for people with neurological or chronic respiratory conditions. His PhD, which he completed in 2008, investigated the application of goal planning to the practice of clinical rehabilitation. In 2014, he authored and edited a textbook entitled Rehabilitation Goal Setting: Theory, Practice and Evidence with colleague, Professor Richard Siegert. William is also Treasurer for the New Zealand Rehabilitation Association.

Title: Contemporary perspectives on goal setting in rehabilitation: evidence, outcomes, and person-centredness

Author: Levack W

Affiliation: Rehabilitation Teaching and Research Unit, Department of Medicine, Wellington School of Medicine and Health Science, University of Otago

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There has been a rapid proliferation of research on the application of goal setting over the last ten years. This research has investigated patient experiences of goal setting, explored outcomes achieved by different approaches to goal setting, and examined philosophical beliefs underpinning goal setting practices. This presentation provides an overview of key issues in three areas related to goal setting in inter-professional rehabilitation: 1) the effect of goal setting on health outcomes; 2) the use of goal achievement as an outcome measure; and 3) the role of goal setting to enhance person-centred healthcare provision. Drawing on findings from a range of knowledge sources (a Cochrane systematic review, qualitative research, and concept analyses), this presentation will discuss a range of perspectives on goal setting in rehabilitation, concluding that goal setting needs to be treated as a complex intervention, requiring individualisation and specification of practice at the level of services, populations and people. The use of goal achievement as a primary measure of service quality will be challenged, both in terms of its usefulness as an outcome measure and because it potentially undermines the value of goal setting as a tool for engaging more meaningfully with the people who use healthcare services. Health professionals should avoid formulaic approaches to goal setting in rehabilitation, and instead think critically about their practice, with reference to the best available research and the specific context of their area of clinical practice.

BIOGRAPHY

William is a physiotherapist who has worked in a variety of hospital and community settings, from intensive care through to slow stream residential rehabilitation. His clinical interests are diverse, but his research tends to focus on rehabilitation for people with neurological or chronic respiratory conditions. His PhD, which he completed in 2008, investigated the application of goal planning to the practice of clinical rehabilitation. In 2014, he authored and edited a textbook entitled *Rehabilitation Goal Setting: Theory, Practice and Evidence* with colleague, Professor Richard Siegert. William is also Treasurer for the New Zealand Rehabilitation Association.

Title: Leadership in Physiotherapy

Author: Stokes E

Affiliation: World Congress for Physical Therapy

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Leadership in the profession of physiotherapy is an elusive concept, with a small but growing body of scholarship. There are many models of how to consider leadership, one such as the Warwick 6 C Leadership Framework includes concepts, contexts, characteristics, challenges, capabilities and consequences.

For most of us, our experience of leadership is the lived experience. In this presentation, contexts, characteristics and capabilities will be considered. We [there will be some audience participation] will consider how to reframe that experience to make leadership accessible.

In addition, recent research carried out by McGowan and Stokes on physiotherapy leadership will be presented using Bolman and Deal's multiframe analysis. Using mixed methods, a survey and in-depth interviews, and completed on two groups of 'leaders' - those in management roles and clinical specialists/advanced practitioners - differences are noted in how physiotherapists express their leadership in political, human resource, symbolic and structural frames.

BIOGRAPHY

Emma Stokes is Associate Professor at the Department of Physiotherapy in Trinity College, Dublin, Ireland. Her involvement with WCPT began in 1998 when she began representing the Irish Society of Chartered Physiotherapists at international meetings, including WCPT's European Region. She has been on WCPT's Executive Committee since 2007. One of her priorities is to encourage young physical therapists and help them develop into the leaders of the future. Emma will serve as President of WCPT until 2019.

Title: Gait signatures in pathology and ageing: what do they tell us?

Author: Lord S

Affiliation: Brain and Movement Research Group, Institute of Neuroscience,
Newcastle University, UK

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Measurement of discrete gait characteristics allows a nuanced approach to understanding the neural basis of gait deficit including shared cognitive and motor substrates. By extension, this refined measurement has led to a broader application of gait outcomes to health and pathology than previously considered. Walking is a deceptively simple act, yet highly informative. An extensive body of research shows that selective gait characteristics can predict survival, general health status, cognitive decline, and motor decline in older adults. Subtle gait deficit has been shown to precede clinical symptoms, suggesting it may have a role as a clinical biomarker. Recent work by our group also shows that selective gait outcomes can predict cognitive decline over three years in newly diagnosed Parkinson's disease (PD) in comparison to cognitive outcomes which were not predictive. The application of gait is supported by the use of a model of gait that describes 16 gait characteristics comprising five domains developed in older adults and validated in people with PD. Drawing on this model, this presentation argues for a comprehensive evaluation of gait to maximise its potential. Gait speed is sensitive but not specific, and whilst informative it is limiting. Furthermore, advances in wearable technology are such that discrete measurement is now becoming accessible to us all, with the added advantage that it can take place in home and community environments. Are we ready?

BIOGRAPHY

Sue is a senior researcher in the Brain and Movement (BAM) Group, Institute of Neuroscience, Newcastle University UK (<https://research.ncl.ac.uk/bam/>). Her research focuses on measuring gait and the selective relationship between cognition and gait (and cognition and falls) in ageing and neurodegenerative disease, particularly Parkinson's disease. Recent advances in the measurement of gait in free-living environments extend this knowledge and provide novel insights. Prior to working in the UK, Sue was a Senior Lecturer at the University of Otago where she carried out stroke rehabilitation research.

Title: The changing paradigm of neural functionality – implications for treatment approaches

Author: Rossouw P

Affiliation: Mediros Clinical Solutions

Email: pieter@mediros.com.au

Recent advances in neuroscience research have identified a new paradigm in the understanding of the basic functionality of the brain. The classical approach to understanding the brain as an electrical system, focused research towards effective activation of electrical signalling to ensure neural connectivity. Although the activation of action potentials to fire neural communication is essential in connectivity, researchers found that this signalling does not operate without the release of key neurochemicals (the neuromodulator acetylcholine). This led to a major shift in neural research focusing instead on the role of neurochemicals to address a range of brain-related illnesses with a significant emphasis on the role of pharmacological intervention as a baseline treatment.

Research by Nobel Laureate Eric Kandel and other molecular neuroscientists discovered that the brain is much more than an electrical or a chemical system – the brain is, in essence, a neural network. Facilitating change means facilitating the development of new neural networks. The robustness of neural systems and function of glia led to further significant discoveries about neural networks. Most important is how neural networks can shift towards more integrated higher functioning networks to maximise the potential of the entire system – including physical functionality.

This paper will explore some of these research findings but also points towards the neural principles of facilitating new networks, why 'understanding' is not enough to change the brain and why repetition of actions/movements/activities can be beneficial, but also harmful in certain psychological conditions. This has important implications for physiotherapy practice. Neural research also indicates that a 'one treatment fits all approach' can be an overly simplistic view of treatment and why individualised treatment plans are essential to maximise outcomes. Key elements to consider for effective treatment planning are also discussed.

BIOGRAPHY

Pieter is the Director of Mediros and the Neuropsychotherapy Institute – companies that provide training and conduct research in Neurobiology and Neuropsychotherapy. Currently he focuses on teaching and research in the fields of neurobiology and neuropsychotherapy as well as clinical training for clinicians, psychologists and general practitioners. Pieter has been in private practice for the past 30 years. He holds Honours Degrees in Philosophy and Psychology, a Master Degree in Clinical Psychology and a PhD. Pieter is a member of the Queensland Counselling Association, The Australian Psychological Society and the APS College of Clinical Psychologists.

Title: The neuroscience of ageing - practical strategies to enhance neural activation and reduce the risk of neural degeneration

Author: Rossouw P

Affiliation: Mediros Clinical Solutions

Email: pieter@mediros.com.au

Brain growth reaches its peak at around 25 years of age and plateaus from then on (maturation). Managing brain maturation is essential for wellness and reducing risk of neurodegenerative diseases.

The most profound change in regards to the future profile of the New Zealand and Australian population is projected to occur in the ageing of the population. The population profiles are characterised by an upwards trend in average age - the proportion of young people declines while the proportion of older people increases. This phenomenon not only has economic and political implications but implications for mental wellness in general and mental health in particular.

The paper focuses on:

- Neural wellness - factors and lifestyles that inform effective neural sprouting, synaptogenesis, cortical blood flow, neurogenesis and effective neural activation.
- Neural deterioration and the neuroscience of ageing
 - Risk factors
 - Indicators and Management

BIOGRAPHY

Pieter is the Director of Mediros and the Neuropsychotherapy Institute - companies that provide training and conduct research in Neurobiology and Neuropsychotherapy. Currently he focuses on teaching and research in the fields of neurobiology and neuropsychotherapy as well as clinical training for clinicians, psychologists and general practitioners.

Pieter has been in private practice for the past 30 years. He holds Honours Degrees in Philosophy and Psychology, a Master Degree in Clinical Psychology and a PhD.

Pieter is a member of the Queensland Counselling Association, The Australian Psychological Society and the APS College of Clinical Psychologists.

Title: The dilemma of shoulder diagnosis - the rationale, use, successes and failures of the Shoulder Symptom Modification Procedure

Author: Lewis J

Affiliation: London Shoulder Clinic

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In most cases assessing an individual presenting with a musculoskeletal shoulder problem involves making clinical decisions in highly ambiguous situations. Clinicians need to; exclude serious pathology, consider pain mechanisms, determine the relationship and influence of other co-morbidities, and discern the contribution from often profound, obscured and interwoven psychosocial factors. The process is complicated and becomes more so with the emergence of new research information from a multitude of specialities, which is frequently incomplete, and often contradictory.

Clinical tests, colloquially known as special orthopaedic tests, have been developed to contract, compress and stretch shoulder tissues and a positive clinical response may then be considered to implicate a condition (e.g. subacromial impingement syndrome) or a tissue (e.g. rotator cuff). However, the findings of narrative and systematic reviews have consistently questioned the value of orthopaedic tests as a method of implicating the structures associated with the presenting symptoms. Imaging is commonly used to support the clinical assessment. However the certainty by which imaging findings support or confirm the clinical diagnosis is challenged by myriad studies reporting structural deficits, including; full thickness rotator cuff tears and glenoid labral tears, in people without symptoms. This includes asymptomatic structural deficits in people involved in elite sport. These issues have been discussed previously in greater detail but suggest that definitive diagnosis is difficult and uncertain. Furthermore, the lack of clinical diagnostic accuracy together with the poor relationship between imaging and symptoms implies that; (i) determining the sensitivity, specificity, positive and negative predictive values of these tests is impossible, and (ii) people with shoulder pain may undergo operations to repair tissues that are not related to their presenting symptoms.

The findings of these clinical and radiological investigations have challenged the basis to which a definitive pathognomonic diagnosis may be achieved. This has been recognised previously and clinicians have suggested that assessment and management could be based on assessment and management of the presenting symptoms without a definite structural diagnosis. Another model, known as the Shoulder Symptom Modification Procedure (SSMP), was first described by Lewis (2009) as a systematic approach to assess clinical variables that may be associated with shoulder symptoms to determine their relationship with the presenting symptoms. Similar to the Mulligan and McKenzie approaches, procedures identified that partially or completely improve the presenting symptoms are then used in patient management. The reason why SSMP procedures may decrease symptoms remain unknown. If SSMP techniques do not decrease symptoms or only partially alleviate symptoms then other management strategies need to be added or introduced, such as a rotator cuff rehabilitation programme. This workshop will discuss the rationale for the SSMP, its potential benefits, current research, its limitations and what to do when it doesn't alleviate symptoms.

BIOGRAPHY

Dr Jeremy Lewis PhD FCSP is a Consultant Physiotherapist and Professor of Musculoskeletal Research, and Independent Prescriber. His primary clinical and research interest are; rotator Cuff related shoulder pain, Frozen Shoulder; complex shoulder problems and tennis elbow. Jeremy has also trained as a sonographer and performs ultrasound guided shoulder injections. He has also completed an MSc (Musculoskeletal Physiotherapy), and Postgraduate Diplomas in Sports Physiotherapy, and in Biomechanics. He has taught and lectured internationally in over 30 countries. Jeremy is an associate editor for the journals; Shoulder & Elbow and, Physiotherapy. He was a co-editor and author for Grieve's Modern Musculoskeletal Physiotherapy (4th ed).

Title: The conundrum that is the shoulder

Author: Lewis J

Affiliation: London Shoulder Clinic

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The shoulder, together with the elbow and hand, permits a multitude of complex upper limb functions. These activities range from tasks requiring dexterity and precision typically performed inside our field of vision, such as threading a needle, to high powered explosive activities commonplace in sport, such as the tennis serve or baseball pitch. These activities require a highly responsive vestibular and sensory motor system that is capable of calculating (often in fractions of a second) the distance and direction to a target, which may be moving, and where we may also be moving. As well as being a joint of communication (child's shoulder shrug) and carriage (carrying a backpack) the shoulder and upper limb is also a weight bearing limb, as evidenced in street dance, gymnastics, yoga, mountain climbing and when lifting ourselves out of a chair. To perform these incredible functional tasks, the shoulder requires combinations of strength, agility, speed, stability and endurance. The ability to perform many upper limb activities (such as a tennis serve) also requires energy transfer from the lower limbs. As such, assessment limited only to the shoulder may provide the clinician with an incomplete understanding of the individual's functional needs. Deriving a definitive pathognomonic diagnosis is often beyond our current clinical ability. Furthermore, findings from multiple studies have revealed that there is an uncertain relationship between current imaging findings and symptoms for the majority of musculoskeletal conditions involving the shoulder. In addition to this, clinicians need to; exclude serious pathology, consider pain mechanisms, unravel controversies associated with posture, determine the relationship and influence of other co-morbidities, and, discern the contribution from often profound, obscured and interwoven psychosocial factors. The process of diagnosis is complicated, and becomes more so with the emergence of new research information from a multitude of specialities, which is often incomplete, and frequently contradictory. Evolutionary changes and adaptations may be an additional factor influencing modern shoulder function. Although people experiencing musculoskeletal shoulder problems should derive considerable confidence that exercise therapy is associated with successful outcomes that are comparable to surgery, management outcomes may be incomplete and associated with persisting and recurring symptoms. This underpins the need for ongoing research to; better understand aetiology and pathology, improve methods of assessment as well as management.

BIOGRAPHY

Dr Jeremy Lewis PhD FCSP is a Consultant Physiotherapist and Professor of Musculoskeletal Research, and Independent Prescriber. His primary clinical and research interest are; rotator Cuff related shoulder pain, Frozen Shoulder; complex shoulder problems and tennis elbow. Jeremy has also trained as a sonographer and performs ultrasound guided shoulder injections. He has also completed an MSc (Musculoskeletal Physiotherapy), and Postgraduate Diplomas in Sports Physiotherapy, and in Biomechanics. He has taught and lectured internationally in over 30 countries. Jeremy is an associate editor for the journals; Shoulder & Elbow and, Physiotherapy. He was a co-editor and author for Grieve's Modern Musculoskeletal Physiotherapy (4th ed).

Title: Vestibular rehabilitation for adults and children: Pathology, etiology and incidence, signs and symptoms, assessment and evidence-based vestibular rehabilitation

Author: Rine R M

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There is increasing evidence of vestibular related impairments in adults and children with varying diagnoses, to include concussion or mild traumatic brain injury, central nervous system disorders, and balance impairment. According to a report by the National Institute of Deafness and Communication Disorders of the U.S. National Institutes of Health, 45% of individuals with dizziness have a vestibular deficit. However, most adult patients are not properly assessed or diagnosed for five-to-seven years from the onset of symptoms. A recent report revealed that 20% of children in the U.S. over the age of five years reported dizziness, but only 20% had been seen by any health professional for this condition. Deficits of the vestibular system impair balance, reading acuity, gross motor performance and development. Consequently, all patients in all clinic settings who present with balance impairment, complaints of dizziness, and/or oscillopsia should be screened for vestibular system involvement so that efficacious intervention can be provided. This presentation will provide a brief review of the etiology of vestibular system pathology, incidence of vestibular impairments in children and adults, standard assessment and screening tools, and the efficacy of vestibular rehabilitation.

BIOGRAPHY

Rose Marie Rine, P.T., PhD is sole proprietor of Specialty Therapy Source, has numerous publications on balance development, the role of vestibular function in development, and the identification of and intervention for vestibular related impairments in children. She received her entry level degree in physical therapy from the University of Connecticut and the doctoral degree from Northeastern University in experimental psychology/neuroscience. She has presented her work, funded by the National Institute of Health, the Foundation for Physical Therapy and the Section on Pediatrics of the APTA, at national and international meetings. She served as consultant, lead scientist of the Sensory Domain and member of the Scientific Coordinating Committee for Health Measurement on the NIH National Children's Study. She has been on the faculty at the University of Miami, Northeastern University, University of North Florida and Marshall University.

Title: Chronic pain, myofascial trigger points and sensitisation: Integrating advancements in the pain sciences with evaluation and dry needling strategies

Author: Shah J P

Affiliation: Rehabilitation Medicine Department, Clinical Centre, National Institutes of Health, Bethesda, MD

Email: JShah@cc.nih.gov

This lecture will discuss clinical and laboratory methods of evaluation and treatment of myofascial trigger points (MTrPs), mechanisms of pain in myofascial pain syndrome (MPS) and the promises and pitfalls of these techniques being used to study MTrPs. Intriguing data suggest that the soft tissue milieu around the MTrP, neurogenic inflammation, sensitisation, and limbic system dysfunction all play a role in the initiation, amplification, and perpetuation of MPS. Furthermore, sensitisation is a dynamic process that can profoundly affect the perception, intensity and location of one's pain experience. It may also influence the physical findings associated with MTrPs, such as pain pressure threshold (i.e. muscle tenderness).

Conversely, active or spontaneously painful MTrPs can sensitise and/or activate nociceptors, neurologic segments, dorsal horn neurons and higher CNS structures, thereby facilitating sensitisation throughout the neuraxis. Either way, objective and reproducible physical findings associated with active MTrPs and surrounding soft tissue (e.g. allodynia and hyperalgesia) help guide the clinician toward treatment strategies that address both the active MTrP(s) and other sensitized elements involved in a pain syndrome.

New ultrasound technologies to study soft tissue pain are being used to elucidate the viscoelastic and blood flow properties of MTrPs and surrounding soft tissue. Visual images and quantitative measures of the soft tissue will be demonstrated in order to describe mechanisms of, and contributors to active MTrPs. Studies show that quantitative measures may serve as treatment targets and objective outcome measures in treatment trials utilising dry needling for MPS.

BIOGRAPHY

Jay P. Shah, MD is a physiatrist and clinical investigator in Bethesda, Maryland-USA. His expertise is in mechanisms of chronic pain, myofascial pain, and acupuncture techniques. His presentations integrate the fascinating knowledge emerging from the basic and clinical pain sciences. Jay and his co-investigators have utilised novel microanalytical and ultrasound imaging techniques that have uncovered the unique biochemical milieu (e.g. inflammatory mediators, neuropeptides, etc.) and viscoelastic properties of active myofascial trigger points (MTrPs). Their studies have revealed objective, reproducible and quantifiable muscle tissue properties associated with MTrPs and the quantitative effects of dry needling on these tissue properties. Jay was selected by the American Academy of Pain Management as the 2010 recipient of the Janet Travell Clinical Pain Management

Title: Towards trust – better relationships, better outcomes

Author: Eland K, Gaupset J

Affiliation: ACC

Kim and Jon will talk about ACC's trusted provider model and how we are integrating it into the way ACC does business. Central to the model is our commitment to remove barriers between providers and patients. We are seeking a balance that will result in fewer administrative burdens for providers while allowing us to meet our fiscal oversight responsibilities.

In this interactive session you'll learn how we're making it easier and more efficient to work with us. Initiatives like the ACC32 pilot project and new service codes that remove the prior approval requirement for post-surgery treatment are examples of how we're reducing administration so you can focus on your patients. This is only the start of our journey to make the customer the centre of what we do.

You'll also have an opportunity to share your thoughts and ideas on other improvements we should consider. We want to explore opportunities on how we, together with providers, can more effectively use ACC data to drive clinical insights and encourage the use of treatments and protocols that deliver fast and sustainable change.

We can't do this alone. Strong, trusted relationships with the physiotherapy community and other providers will be the foundation of a sustainable health system. Join us on the journey.

BIOGRAPHY

Kim is a UK-trained registered nurse and registered midwife who, after moving to New Zealand, worked in the areas of neonatal intensive care, renal dialysis and general practice. In her current role as ACC's clinical lead of allied health, Kim builds and maintains strategic relationships with the allied health sector. She also raises awareness of the necessary and valuable role allied health providers play in treating ACC clients and ensures the sector is well-represented in ACC's service design and development of clinical resources.

Kim also leads two teams of allied health clinical advisors who worked with tertiary institutions over the past year to deliver key ACC messages to undergraduate students of physiotherapy, osteopathy, chiropractic, acupuncture and podiatry.

Jon spent 20 years providing residential services for people with intellectual disabilities in Australia. His work supported the de-institutionalisation of people with complex health needs and dual diagnosis' into community residential settings. Moving to New Zealand with his family nine years ago, Jon took up a role commissioning disability services with the Ministry of Health.

For the past five years Jon has been ACC's category manager of primary care. Jon is responsible for commissioning primary care services on behalf of ACC clients, which includes a range of medical, nursing and allied therapy services. Physiotherapy services are a significant part of the primary care portfolio.

Title: ACC's National Guidelines for Managing Sports Concussions

Author: Fulcher M

Affiliation: New Zealand Football

ACC's National Guidelines for Sports Concussion in New Zealand are based on the 2012 Zurich consensus statement. The consensus statement provides up-to-date evidence-based guidelines on assessing and managing concussion in sport. Dr Fulcher will review some of the literature around assessing and managing concussion and discuss the Zurich consensus statement.

The guidelines promote the six 'Rs': Recognise, Remove, Refer, Rest, Recover, Return to play/work/school. Dr Fulcher's workshop will help allied health professionals understand their role in recognition, referral and onward management of patients where concussion/brain injury is suspected. The guidelines can be simply integrated into a primary care setting contributing to a standard continuum of care for brain injury in New Zealand.

The workshop will include a practical demonstration and discussion on the use of the SCAT 3 assessment tool, the preferred method of assessment promoted in the guidelines.

BIOGRAPHY

Dr Mark Fulcher is a sport and exercise physician based in Auckland. Since graduating from medical school in 2001, Dr Fulcher has worked extensively in sports medicine and is especially interested in injury prevention and the treatment of concussion. He works closely with ACC and is part of their Sports Collaboration Group which recently released national guidelines for managing sports concussions.

Dr Fulcher is the Medical Director at New Zealand Football and Netball NZ and is currently the doctor for the All Whites, Football Ferns (New Zealand Women's Team), Silver Ferns and the Northern Mystics. He is also Medical Director of the ITU World Championship Triathlon event held in Auckland. Previously he has been the lead tournament physician of both the ASB Classic and Heineken Open Tennis Tournaments.

Dr Fulcher continues to be involved with sports medicine education contributing regularly as a guest speaker/lecturer at universities and sports medicine meetings around the country.

Podium Presentations

Title: Development of critical care rehabilitation guidelines in clinical practice; a quality improvement project

Author: Elliott S

Affiliation: Physiotherapy Practitioner at Medway NHS Foundation Trust

Email: sarahelliott44@hotmail.com

INTRODUCTION

Rehabilitation in critical care has the potential to restore lost function and improve quality of life on discharge, but patients are often viewed as too unstable to participate in physical rehabilitation. Following a physiotherapy service evaluation of the provision of critical care rehabilitation, a number of concerns were raised in our practice. It was identified that there was a need to standardise pathways for clinical decision making in early rehabilitation so interventions are safe, timely and consistent. The NICE Guidelines (2009) and GPICS (2015) both advocate the need for a structured rehabilitation programme that addresses both physical and psychological needs of the patient by utilising standardised assessment and outcome measures.

PARTICIPANTS

The author, and participants, are all physiotherapists at Medway NHS Foundation Trust where the study was undertaken.

METHOD

PDSA cycles were used as a method for quality improvement within this setting. After consideration of the literature, the participants identified the guidelines devised by Stiller et al (2007) as a protocol that could be trialled within clinical practice. The rationale for the use of Stiller's guidelines included; assessment of clinical risk, system-based approach to assessment, holistic, sets boundary conditions/identifies adverse events and are simple to follow.

However, after trialling these guidelines the participants felt it did not fully meet the needs of clinicians and patients at the hospital, a district general hospital with 25 critical care beds. Therefore at Medway NHS Foundation trust we developed our own, local evidence-based critical care rehabilitation guidelines which incorporate core components from existing literature. The participants also suggested that our guidelines should be; flexible, patient centred, time efficient, be in a user friendly flow chart in order to standardise our approach to rehabilitation within critical care. They also identified that the guidelines should include type and duration of exercise, which may improve the MDT's understanding of physiotherapy and rehabilitation.

RESULTS

The participants took the key ideas from all the authors and research reviewed as part of this study to devise our own rehabilitation guidelines. The guidelines have been designed not as a formal protocol, but to highlight key considerations that physiotherapists may consider when clinically reasoning whether or not the patient is suitable for rehabilitation. Type and duration of exercise are considered and the physiotherapist is prompted to review the therapeutic intervention and its impact before making future plans. The guidelines are presented in an easy to follow flow chart.

DISCUSSION

The overwhelming reflections by physiotherapists regarding the use of rehabilitation guidelines was that they didn't take into account the individual needs of the patient and the psychological benefit that exercise may bring. It also highlighted that we need to review the types and frequency of exercises and the MDT's understanding of the term rehabilitation as this often caused conflict between physiotherapists and MDT when deciding treatment plans.

CONCLUSION

Following this project the participants surmised that, in our clinical setting, we were seeking to create trust critical care rehabilitation guidelines that can act as a reference or teaching aid for all members of the MDT and that they will guide:

- clinical decision making in assessing a patient's suitability for commencing/progressing rehabilitation with an critical care patient
- an appropriate risk assessment
- a comprehensive physical and non-physical assessment
- options of rehabilitation interventions and approaches
- the identification of adverse events and potential cessation of the intervention
- time points of certain actions during the patient pathway
- standards that should be met
- promotion of increased adherence to rehabilitation programmes by all members of the critical care team
- patient centred care
- promotion to include families within the rehabilitation pathway
- promote adherence to NICE Guidelines CG83

KEY PRACTICE POINTS

These guidelines may assist physiotherapists and other members of the MDT with evidenced-based decisions and clinical reasoning to ensure safe and timely interventions when rehabilitating the critically ill. These guidelines are currently being utilised in clinical practice and will be reviewed and amended as identified by the participants as ongoing PDSA cycles within the department.

BIOGRAPHY

Sarah Elliott is a physiotherapy practitioner at Medway NHS Foundation Trust where she specialises in critical care. She commenced her professional doctorate in 2011 at the University of Brighton.

Title: Using EZPAP positive pressure device as a respiratory physiotherapy treatment within a district general hospital (DHG)

Author: Elliott S

Affiliation: Physiotherapy Practitioner at Medway NHS Foundation Trust

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INTRODUCTION

EZPAP is a positive pressure hand held device that amplifies an input flow of air providing a larger flow and volume with less effort than an unsupported inspiration, as well as positive expiratory pressure on expiration. It is marketed as an adjunct to respiratory physiotherapy to increase lung volume, prevent atelectasis, clear secretions and improve gas exchange. However, there is a lack of published research analysing the use of EZPAP for respiratory physiotherapy.

METHOD

Twenty five patients who used the EZPAP device were audited within a DHG. Data was collected on: diagnosis, physiotherapy respiratory problem and rationale for treatment, and number of treatments and outcome of intervention. The data collection utilised physiological parameters such as respiratory rate, SaO_2 , oxygen demand, auscultation and palpation which was collected subjectively. Additionally, qualitative data from the patients and physiotherapists on their experience in using the device were also collected. Physiotherapists were also asked why they chose EZPAP over other standard respiratory physiotherapy techniques.

RESULTS

EZPAP was effective in increasing lung volume, as measured by auscultation and palpation in post abdominal surgery patients. It was effective in clearing secretions with fatigued patients who had ineffective coughs and preventing possible atelectasis in patients with neurovascular disorders, or limited by bed rest as they did not require positive pressure ventilation to maintain their respiratory status and as a positive pressure treatment to improve gas exchange with patients with pneumonia. It has a place in all medical directorates including critical care and paediatrics and can be used for both acute and long-term conditions.

CONCLUSIONS

The EZPAP is an easy to use and effective physiotherapy adjunct for treating acute and chronic respiratory adult, and paediatric patients, within a DHG with a high compliance rate to treatment and should be considered as an additional adjunct to standard respiratory physiotherapy techniques and devices. Further investigation is required for its use as a home or community therapy option.

BIOGRAPHY

Sarah Elliott is a physiotherapy practitioner at Medway NHS Foundation Trust where she specialises in critical care. She commenced her professional doctorate in 2011 at the University of Brighton.

Title: Lung infection prevention post-surgery major abdominal with pre-operative physiotherapy (LIPPSMAck POP) trial: a multi-centre randomised controlled trial.

Authors: Anderson L⁶, Boden I^{1,2}, Browning L^{2,3}, Skinner EH^{2,4}, Reeve J^{5,6}, Hill C⁷, Robertson IK⁸, Denehy L²

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INTRODUCTION

Following upper abdominal surgery (UAS), prophylactic postoperative physiotherapy is commonly provided to reduce the incidence of pulmonary complications (PPC). Studies investigating the implementation of preoperative physiotherapy education have demonstrated significantly lower PPC rates although this has not been tested in a well-designed, randomised controlled trial.

METHOD

LIPPSMAck POP is an international, multi-centre, double blinded, randomised controlled trial. 441 adults scheduled for elective open UAS at two Australian and one New Zealand hospitals were randomised within six weeks of surgery to receive either an information booklet (control), or an information booklet and a single preoperative physiotherapy education and training session (treatment). In both groups, post-operative mobilisation was standardised and no respiratory physiotherapy was provided. Primary outcome was PPC using standardised diagnostic criteria. Secondary outcomes included hospital length of stay (LOS), pneumonia and hospital costs. Data was analysed intention-to-treat.

RESULTS

434 participants completed the trial. Pre-operative physiotherapy significantly reduced PPC incidence to 12% (95%CI 9-17%: $p<0.001$) compared to 28% (95%CI 22-34%) in the control group. Pneumonia (23% v 9%, $p=0.002$), LOS (12.6 days v 10.1 days, $p=0.02$) and hospital costs (net saving \$4,116, $p=0.04$) were also reduced in the treatment group.

CONCLUSION

LIPPSMAck POP provides conclusive evidence that preoperative physiotherapy education and training significantly reduces PPC, pneumonia, LOS and hospital costs following elective open UAS.

KEY PRACTICE POINTS

Preoperative physiotherapy education and training is a low-cost, low-risk intervention that should be provided to all patients awaiting elective open UAS

BIOGRAPHY

After graduating in 2004, Lesly completed two years of inpatient rotations at Auckland Hospital, followed by a year travelling. On return to NZ she started working as a staff grade physiotherapist at North Shore Hospital and has been there ever since, later moving into a senior position. Apart from a short stint covering maternity leave in the outpatient respiratory area, she has worked in the acute inpatient wards, primarily in ICU/HDU and surgical, but also on the medical wards.

Title: Developing a new research framework of inquiry with an Indigenous population in regard to obesity

Authors: Bell R¹, Tumilty S¹, Hale L¹, Smith C¹, Kira G²

Affiliations:

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INTRODUCTION

Non-communicable diseases are disproportionately and inequitably represented amongst Indigenous populations, and continue to be on an upward trend globally. If we, as health care professionals, policy makers and researchers, are to effectively challenge these trends we cannot continue to maintain the status quo. Traditional research processes are often incongruous with that of Indigenous peoples and the aim of this research was to develop a new research framework that more effectively resonated with Indigenous peoples when conducting health research in New Zealand.

METHOD

A modified community-based participatory research (CBPR) paradigm was developed that was lead and owned by the Indigenous community, in partnership with university-based researchers, to inform a framework of investigation into health, wellness and their relationship to obesity.

RESULTS

CBPR with an Indigenous community identified three foundation elements when conducting research: [1] relationship building, [2] consultation and generation of an identified research area of need, and [3] formation of an Indigenous panel of expertise to provide leadership for all aspects of the research process.

CONCLUSION

This modified framework positioned Indigenous people as decision-makers at the forefront of the research process from conception through to implementation and analysis. Embedding cultural values and beliefs within an Indigenous knowledge framework into CBPR, may represent the start of a more meaningful way to identify how to mitigate health disparities that disproportionately affect Indigenous populations. While the area of investigation is obesity, our team proposes that this framework could be applied to any area of interest.

KEY PRACTICE POINTS

This presentation challenges current normative processes with approaches to research with Indigenous populations and subsequently derived health policy, education, and clinical practice.

BIOGRAPHY

Ricky has a Masters in Manipulative Physiotherapy with Distinction from the University of Otago, and is a current PhD candidate. He is the recipient of numerous awards including most recently, a Department of Internal Affairs PhD scholarship, Ministry of Health Te Apa Māreikura Award and Queen Elizabeth II Postgraduate Fellowship.

Title: Participants' experiences of a mixed ability yoga series

Authors: Bevis A, Waterworth K, Mudge S

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INTRODUCTION

Yoga is a form of exercise that can improve flexibility and movement control. Benefits of yoga include corrected posture, and improved sleep and balance. Yoga can be adapted for individuals with disabilities to promote engagement with physical activity and so may be applicable for therapists seeking alternatives to traditional delivery methods of exercise prescription. This project explored participants' experiences of a mixed ability yoga series in which adaptive principles were applied to individualise yoga components to participants' abilities.

METHOD

This study adopted a qualitative descriptive design. Seven participants (female, mean age of 52 years) with a range of health conditions were recruited from a group yoga series at AUT University to participate in semi-structured interviews. Inclusion criteria were attending at least two sessions from an eight-week block. The interviews were transcribed and coded and data were examined using thematic analysis.

RESULTS

Participants in the mixed ability yoga series had positive experiences of participation. Key facilitators were engagement partnerships, physical activity beliefs, supported participation and concepts of disability. Skilled adaptation, the promotion of an inclusive environment and understanding of perceptions of disability were valued. Barriers, including initial perceptions of yoga, were identified, however the majority of these were mitigated during the series.

CONCLUSION

Participants valued the opportunity to undertake the series and noted several factors which facilitated their participation in yoga, including its inclusive nature, individualised adaptations and overall health benefits.

KEY PRACTICE POINTS

Health professionals should consider service delivery models such as the provision of group activities in mixed ability settings. Learning to skilfully individualise adaptation to tasks and activities that were undertaken as a group can be promoted as valuable components of a therapists practice.

BIOGRAPHY

Alex is currently an undergraduate physiotherapy student at AUT School of Physiotherapy. She also has a background in physical education.

Title: Implementation of the Chelsea Physical Assessment outcome measure into the intensive care unit and impact on physiotherapy assessment

Author: Bond T

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INTRODUCTION

With the growing body of research into the morbidity associated with chronic critical illness, there are a growing number of physical function outcome measures for use in the intensive care unit (ICU). The Chelsea Physical Assessment (CPAx) is one such validated and reliable measure, providing a comprehensive assessment of physical function in ICU patients. This pilot study reports on the implementation of CPAX into physiotherapy assessments in ICU at Wellington Regional Hospital.

METHOD

Adult patients with an ICU length of stay greater than 72 hours, mechanical ventilation time greater than 48 hours, or an ICU consultant diagnosis of ICU-acquired weakness were eligible. They were included if their Richmond Agitation Sedation Scale was between -2 and +2, and excluded if for palliation within 24 hours. CPAX was performed by the treating physiotherapist on each included patient two-to-three times per week, within their usual physiotherapy assessment. Data were collected regarding CPAX assessment time and whether or not CPAX helped inform the physiotherapy assessment or treatment of the patient.

RESULTS

In a three month period between February and May 2016, 116 CPAX tests were completed on 59 patients, a mean of 1.97 CPAX tests per patient. Median (range) CPAX assessment time was 19 (3–60) minutes. Physiotherapists reported CPAX aided their assessment or treatment in 42/116 (36%) of occasions.

CONCLUSION

CPAX was easy to include in physiotherapy assessments in ICU, without substantial time burden. Refining patient criteria for CPAX may improve the practical application of CPAX.

KEY PRACTICE POINTS

Physiotherapists working in ICU may find CPAX assists with assessment or treatment of appropriate patients and was easy to implement.

BIOGRAPHY

Tom is an in-patient senior physiotherapist working as vacancy/leave cover throughout Wellington Regional Hospital, with special interest in intensive care. Originally from the UK from a rotational physiotherapy background. Research interests include ICU and early mobilisation.

Title: Impairments in Gait, balance and stepping reactions in Cervical Dystonia

Authors: Bradnam L, Barr C, Lennon S

Affiliation: University of Technology Sydney

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INTRODUCTION

Cervical Dystonia (CD) is a neurological movement disorder characterised by aberrant head postures, reduced motion, tremor and pain. Research has focused on neck impairment and little is known about how CD impacts function and participation.

METHOD

A single session study design was used to compare 10 people with CD and 10 age and sex matched controls in a laboratory setting. The primary outcome measure was spatiotemporal gait parameters, using an instrumented walkway. Secondary outcome measures included balance, simple and choice stepping reaction time, timed up and go (TUG), neck range of motion, dystonia discomfort and Falls Self-Efficacy Scale (FES-I). Patients were assessed for dystonia severity with a questionnaire.

RESULTS

There was a difference between CD and controls in spatiotemporal gait parameters (all $P < 0.035$) and reaction time (all $P < 0.001$). The Romberg Quotient (balance) differed between groups ($P = 0.046$). CD patients walked more slowly than controls ($P = 0.004$), were slower to perform the TUG ($P = 0.003$) and had higher FES-I scores ($P = 0.001$), indicating lower falls self-efficacy. There was no correlation between dystonia discomfort and functional measures.

CONCLUSION

This study provides preliminary evidence that people with CD demonstrate functional deficits that impact on balance and walking. Gait speed, TUG and FES-I scores indicate people at CD are at risk of falls. Balance testing and retraining are likely important in their management.

KEY PRACTICE POINTS

People with CD experience functional deficits similar to those in other neurological populations such as Parkinson's disease and multiple sclerosis. Assessment and treatment of balance and gait should be included in their physiotherapy management.

BIOGRAPHY

Professor Bradnam is a physiotherapist with a special interest in rehabilitation of musculoskeletal and neurological disorders, particularly dystonia. Her research investigates how the brain reorganises after injury and its relationship to function and how novel interventions such as non-invasive brain stimulation can be utilised in rehabilitation. She is interested in improving knowledge of best practice rehabilitation for dystonia.

Title: Wives, blokes with stroke, and the ubiquitous stickmen

Authors: Calder A, Sole G, Mulligan H

Affiliation: School of Physiotherapy, University of Otago

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INTRODUCTION

Support persons are more likely to positively influence stroke survivors' health behaviour for physical activity than physiotherapists are. This study explored the role of wives of 'blokes with strokes' in encouraging their husbands to participate in physical activity.

METHOD

Using a qualitative methodology, 13 wives of community-dwelling male stroke survivors were individually interviewed to explore their attitudes about and actions used for encouraging their husband's engagement in physical activity. The interviews were analysed inductively for themes.

RESULTS

This presentation focusses on the theme of the wives (in collaboration with stroke survivors) having replaced physiotherapy prescribed 'stickmen' exercise programmes that targeted stroke-related impairments with their own approach to facilitate their husband's engagement in physical activity. The wives used the following strategies: acquiring knowledge about the need for and requirements of physical activity after stroke; developing a personal philosophy with their husbands about physical activity; using external networks to support their husbands to cope with the demands of physical activity; and evaluation of the appropriateness and accessibility of the built environment for participation in physical activity.

CONCLUSION

Wives of stroke survivors suggest physical activity should incorporate aspects of social, physical, mental and spiritual wellbeing. Physiotherapists should target stroke survivor physical activity towards social participation thereby 'socialising the stickmen'.

KEY PRACTICE POINTS

Physiotherapists need to work collaboratively with stroke survivors and their support person/s to ensure physical activity is enjoyable, meaningful, social and participatory.

BIOGRAPHY

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

Title: SCAN: A framework for engaging in clinical feedback

Authors: Chapple C, McLean A, Macznik A

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INTRODUCTION

In clinical education there is a known mismatch between supervisors' and students' perceptions of feedback. The aim of this research project was to develop and trial a framework for engaging in feedback in the clinical environment. The context was the final year of the Bachelor of Physiotherapy, University of Otago.

METHOD

Development of a feedback framework was based on data from two focus groups with final year physiotherapy students, and nine semi-structured interviews with clinical supervisors. Data were analysed using a general inductive approach. The resulting framework SCAN (Student, Clinician, Associates, Next) is a simple mnemonic to highlight various contributions to the feedback process. Implementation took place during 2014. Evaluation of SCAN involved pre- and post-implementation student surveys, adapted from the Feedback Quality Index (FQI).

RESULTS

FQI response rates were 50% (pre), and 32% (post), with low numbers precluding formal statistical analysis. FQI items with >10% change from baseline were: students actively seeking feedback (pre: 61.1%, post: 75.8%); students and supervisors discussing ways to improve student performance (pre: 75.9%, post: 90.9%); students perceptions of usefulness of comments (pre: 66.7%, post: 78.8%). Additional findings included: more supervisors identified things students had done well; greater student awareness of their role in feedback.

CONCLUSIONS

Preliminary evaluation suggests the SCAN framework is a useful tool to facilitate feedback in the physiotherapy clinical environment. Future work will focus on increasing uptake of SCAN, and further evaluation of usefulness.

KEY PRACTICE POINTS

Feedback has a powerful influence on learning, SCAN may facilitate feedback practice.

BIOGRAPHY

Dr Cathy Chapple is lecturer and Associate Dean for Clinical Studies at the School of Physiotherapy, University of Otago. She teaches undergraduate and postgraduate musculoskeletal physiotherapy. She also co-ordinates the clinical papers. Her research includes physiotherapy management of osteoarthritis, cervicogenic headache and clinical education.

Title: Can yoga be of benefit to my patients with neurological conditions?
A systematic review and meta-analysis

Authors: Clay L^{1,2}, Vangool A³, Copsey B⁴, Boden C², Ward L^{4,5}

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INTRODUCTION

Yoga has a growing popularity worldwide and is increasingly being used by people seeking to improve health or cope with chronic conditions. The evidence of efficacy in people with neurological conditions is not clear.

METHOD

Nine databases were searched for full-text, randomised-controlled trials of yoga in people with clinically diagnosed neurological conditions. Methodological quality and risk of bias were assessed using PEDRo scale and Cochrane Collaboration tool respectively. Only the main outcome measure(s) for each study were evaluated.

RESULTS

Sixteen studies met the inclusion criteria with 12 studies available for meta-analysis. Four studies were rated as good quality with low risk of bias. A total of 1046 participants with multiple sclerosis, Parkinson's, stroke, Guillain Barre, carpal tunnel syndrome, migraine and epilepsy were included. Evidence of a large treatment effect for yoga compared with no treatment were found for quality of life, fatigue and depression. A moderate treatment effect for yoga was found for balance and anxiety and a small treatment effect for yoga was found for pain. There was no evidence in favour of yoga for outcomes of global motor function or mobility.

CONCLUSION

Many different forms of yoga practice have been evaluated in people with neurological conditions making meta-analysis challenging. Evidence suggests that yoga can be considered in this population to improve psychological sequelae and quality of life.

KEY PRACTICE POINTS

Yoga may offer a complementary intervention to physiotherapy for people with neurological conditions.

BIOGRAPHY

Lynne trained as a physiotherapist 1986–1989 in UK and emigrated to NZ in 1993. She has worked in public, private and educational settings and is currently a lecturer at the School of Physiotherapy, University of Otago.

Title: A high intensity interval training programme driving change for people with multiple sclerosis

Author: Davy G

Affiliation: Connect Neuro Physiotherapy

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INTRODUCTION

MS Get a Head Start is an innovative intensive six-week programme using high intensity interval training and self-management education. Its development follows the growing body of evidence supporting the positive neuroprotective effects of high intensity training. There has been a lack of clarity amongst therapists and individuals with MS on how to achieve measureable change through exercise and how to maintain regular exercise.

METHOD

15 people with MS participate in groups of three, in a six-week hydrotherapy programme delivered for one hour, twice a week. This included the delivery of six self-management education sessions on fatigue management, exercise principles, pain management, mental wellbeing and cognitive function, interdisciplinary services and next steps. Set as a circuit of nine exercises using high intensity of 10 seconds, increasing to 45 seconds over six weeks. Outcome measures were 5X Sit to Stand, 10m and 6-minute walk test and the fatigue severity scale.

RESULTS

The combined approach of high intensity interval training and self-management education demonstrated 100% of participants improved on all functional measures, with a 25% average improvement in fatigue and 90% of participants continued a maintenance programme at both a six week and two year follow up.

CONCLUSION

The MS Get a Head Start programme provides a clear, structured, progressive approach for both therapist and individual. Utilising high intensity interval training to drive potential neurological protective elements, delivering a significant improvement in function, fatigue management and exercise adherence.

KEY PRACTICE POINTS

MS Get a Head Start offers a progressive and structured protocol which significantly improves function, fatigue and maintains exercise adherence in MS.

BIOGRAPHY

Gilly Davy is an experienced senior neurological physiotherapist and clinical educator. Gilly is passionate about sharing practical knowledge of the latest evidence-based rehabilitation approaches. Gilly was awarded the Australian Physiotherapy Association 2015 Ipsen Contribution to Neurological Physiotherapy.

Title: The advantages and limitations of providing neurological physiotherapy via telerehabilitation and how to make a meaningful and clinical change

Author: Davy G

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INTRODUCTION

Telerehabilitation is not a new concept, however many physiotherapists are unsure how they can fully utilise it in clinical practice. Neurological physiotherapy is traditionally a very hands-on approach although there is now a greater focus on education and self-management. Telerehabilitation is not able to replace hands on therapy due to limitations of not being physically present, although can provide an adjunct to improve individual's quality of life.

METHOD

Three neurological case studies (Parkinson Disease, Multiple Sclerosis and Peripheral nerve Injury) each received a progressive exercise programme and education with a self-management focus via one to one video conferencing for six-to-twelve weeks. The delivery had an increased psychological emphasis by focusing on coaching, mentoring, educating and increasing accountability of the client. The programme focused on using self-assessment measures than traditional physical outcome measures, measuring meaningful change by using the Goal Attainment Scale and Canadian Occupational Performance Measure.

RESULTS

Significant improvements were achieved in all three neurological case studies with improvements in both GAS and COPM scores as well as all other self-assessment and physical outcome measures used.

CONCLUSION

Specialised neurological physiotherapy services should not be limited only to those who have physical access to them. Delivering a telerehabilitation service is not a direct replication of hands on therapy. Changes in assessment and delivery are need to ensure success.

KEY PRACTICE POINTS

Telerehabilitation is essential to increase the future service provision of neurological physiotherapy.

For telerehabilitation to be most effective a greater focus on self-management and goal measurements is required.

BIOGRAPHY

Gilly Davy is an experienced senior neurological physiotherapist and clinical educator. Gilly is passionate about sharing practical knowledge of the latest evidence-based rehabilitation approaches. Gilly was awarded the Australian Physiotherapy Association 2015 Ipsen Contribution to Neurological Physiotherapy.

Title: Spinal and pelvic kinematics during gait in people with lower limb amputation, with and without low back pain: an exploratory study

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INTRODUCTION

There is a high prevalence of low back pain (LBP) in people with lower limb amputation. However, it is unclear whether in this population there are differences in spinal kinematics between those who do and do not have LBP. This exploratory study aimed to describe the spinal and pelvic kinematics during gait in people with transfemoral and transtibial amputation, with and without LBP.

METHOD

18 participants (15 males, 3 females; mean age 45 years) with traumatic amputation (6 transfemoral, 12 transtibial) were grouped according to their amputation level and presence (or absence) of LBP. Differences in the three dimensional thoracic, lumbar, and pelvic kinematics during walking were reported descriptively due to sample size.

RESULTS

There were substantive differences in the spinal and pelvic kinematics between those with LBP and those without, particularly in people with transfemoral amputation. The transfemoral-LBP group (n = 2) kept the thoracic and lumbar spine rotated towards the prosthetic limb throughout the gait cycle. Those with transfemoral-LBP elevated the pelvis on the sound side and minimised lumbar lateral flexion to achieve the same thoracic lateral flexion angle (Trendelenburg gait) as those with transfemoral-No LBP group (n = 4).

CONCLUSION

This study provides some evidence of differences in spinal and pelvic kinematics that may help explain the differences in kinematics of those with and without LBP in people with transfemoral amputation.

KEY PRACTICE POINTS

Individuals with a transfemoral amputation may need to be educated about the underlying biomechanical issues associated with functional tasks in order to minimise the risk of developing musculoskeletal impairments such as LBP.

BIOGRAPHY

Hemakumar is currently working as an Assistant Research Fellow at the School of Physiotherapy, University of Otago in Wellington and awaiting the results of a PhD thesis which is under examination.

Title: The intense trial: putting the patient first by all playing in the same sandpit.

Authors: Dickson B¹, Signal N², Clay L³, Murphy H¹, Busby W^{1,4}, Taylor D²

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INTRODUCTION

Acquired brain injury (ABI) is a leading cause of disability and represents a significant burden to the person, their family/whanau and society. Evidence-based practice guidelines recommend high dose, high intensity rehabilitation to promote positive outcomes following ABI. However, observational studies of inpatient rehabilitation services highlight that the recommended dose and intensity of rehabilitation is not being achieved. Historically in District Health Board (DHB) settings physiotherapy research has been minimal and often hindered by barriers; thereby further perpetuating the gap between the evidence and clinical practice.

The literature supports collaboration between key stakeholders as an essential element in translating the evidence in to a real world, naturalistic environment in a pragmatic way. The aim of this study is to develop a framework specifically to address these barriers to implementation research in DHBs.

METHOD

Development of a framework for engaging clinicians, researchers and patients in a process of implementation research to operationalize high dose, high intensity rehabilitation in an inpatient DHB setting.

RESULTS

Proposed collaborative research framework with the patient and their family/whanau at the centre, with equal shared roles from DHB clinicians and researchers from different academic institutions.

CONCLUSION

Putting research in to practice requires considerable collaborative efforts across many settings and with different players and this framework may address the challenges historically encountered. Clinicians have a key and equal role to play in implementation research aimed at instituting best practice for optimal patient outcomes.

KEY PRACTICE POINTS

Clinicians have a key role to play in collaborating in implementation research.

BIOGRAPHY

Bridget is a senior physiotherapist that works for the SDHB in the area of neurological rehabilitation. She completed her BPhy in 1997 and MHSc (Rehabilitation) in 2006.

Title: Interactions with community health providers following discharge from inpatient rehabilitation: the experience of individuals with spinal cord injury

Authors: Dwyer K¹, Mulligan H²

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¹ Home Action Team (Christchurch)

² School of Physiotherapy, University of Otago

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INTRODUCTION

There is a growing body of literature investigating community reintegration following spinal cord injury (SCI). Little research, however, examines interactions between individuals with SCI and the community health providers who have considerable involvement with them. This study explored how individuals with SCI viewed the interactions they had with community health providers following discharge from inpatient rehabilitation.

METHOD

Six participants (between one and four years after SCI) participated in individual semi-structured interviews. The interviews were analysed using thematic analysis.

RESULTS

Three themes emerged: (a) Understanding of processes and systems, (b) Knowing what is available and (c) Continuity of care. These themes led to an overarching sense of empowerment encompassing the participants having control, options, choice and being able to get on with life.

CONCLUSION

The findings suggested that individuals with spinal cord injury wish to be empowered to have control over their lives as they transition back to their community. This study highlights the need for community health providers to purposefully facilitate the empowerment of individuals with SCI. While international literature suggests that a sense of powerlessness and lack of control is experienced by individuals with SCI as they transition to their community, the findings from this study contribute to research in the New Zealand context regarding community reintegration following SCI.

KEY PRACTICE POINTS

Community health providers (including physiotherapists) can empower individuals with spinal cord injury as they transition back to their community through communication of processes and sharing of knowledge, ensuring continuity of services from the inpatient setting to home and providing consistency of care in the home environment.

BIOGRAPHY

Kathryn has worked as a physiotherapist in the field of spinal cord injury for 25 years. For the past twelve years she has been part of a multi-disciplinary team which contracts to ACC and works in the community with individuals who have sustained a spinal cord injury.

Title: Development of critical care rehabilitation guidelines in clinical practice; a quality improvement project

Author: Elliott S

Affiliation: Physiotherapy Practitioner at Medway NHS Foundation Trust.

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INTRODUCTION

Rehabilitation in critical care has the potential to restore lost function and improve quality of life on discharge, but patients are often viewed as too unstable to participate in physical rehabilitation. Following a physiotherapy service evaluation of the provision of critical care rehabilitation the need to standardise pathways for clinical decision making in early rehabilitation so interventions are safe, timely and consistent was identified.

METHOD

PDSA cycles were used as a method for quality improvement within this setting. After consideration of the literature, the participants identified the guidelines devised by Stiller et al (2007) as a protocol that could be trialled within clinical practice.

Following trialling of the Stiller guidelines which didn't meet the needs of clinicians and patients at the Hospital our own, local evidence based critical care rehabilitation guidelines which incorporated core components from existing literature were developed.

RESULTS

The guidelines have been designed not as a formal protocol, but to highlight key considerations that physiotherapists may consider when clinically reasoning whether or not the patient is suitable for rehabilitation.

DISCUSSION

Reflections by physiotherapists regarding the use of rehabilitation guidelines was that they didn't take into account the individual needs of the patient and the psychological benefit that exercise may bring.

CONCLUSION

Following this project, the participants surmised that in our clinical setting we were seeking to create Trust critical care rehabilitation guidelines that can act as a reference or teaching aid for all members of the MDT.

KEY PRACTICE POINTS

These guidelines may assist physiotherapists and other members of the MDT with evidence-based decisions and clinical reasoning to ensure safe and timely interventions when rehabilitating the critically ill.

BIOGRAPHY

Sarah Elliott is a Physiotherapy Practitioner at Medway NHS Foundation Trust where she specialises in Critical Care. She commenced her professional doctorate in 2011 at the University of Brighton.

Title: From practitioner to researcher: a threshold concept, a personal reflection on my own tug of war

Author: Elliott S

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INTRODUCTION

I wish to share the personal journey that I have undertaken since embarking on a Professional Doctorate Programme. The features of a threshold concept can be used to define transformative points in my development as a doctoral student.

METHOD

A threshold concept can be considered as a gateway, opening up a new way of thinking about something. It represents a transformed way of understanding, or interpreting something which the individual cannot progress. As a consequence of comprehending a threshold concept there may be a changed worldview. I will utilise key reflective pieces from my research journal to discuss how I moved through the pre-liminal stage as I struggled to comprehend my identity as a researcher. The liminal stage where I tussled with my ontological and epistemological stance before the realisation I had undergone a paradigm shift.

RESULTS

Adjusting one's worldview is very challenging. It is a journey of reflection, self-analysis, questioning, self-doubt, lack of confidence in my ability as a doctoral student, moving back and forth between my old comfortable lens and my new lens.

CONCLUSION

The notion of threshold concepts and their potential to characterise ways of thinking and practising within a discipline is emerging as a powerful and innovative means of gaining insight into students' conceptual understandings.

KEY PRACTICE POINTS

I have a new understanding of who I am, how I see and feel. I wasn't aware at the time that I crossed a conceptual threshold and I have no doubt I will revisit and pass back and forth on many more occasions according to the situation as I continue to grow and change as a researcher.

BIOGRAPHY

Sarah Elliott is a Physiotherapy Practitioner at Medway NHS Foundation Trust where she specialises in Critical Care. She commenced her professional doctorate in 2011 at the University of Brighton.

Title: Patient and physiotherapists' priorities for rehabilitation in an inpatient spinal unit setting: A qualitative study

Authors: Ferdinand S², Dunn J¹, Banks T², King V², Marrow K², Szeto M²

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² School of Physiotherapy University of Otago

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INTRODUCTION

Physiotherapists provide input at all stages of the patient rehabilitation journey following spinal cord injury. Aligning priorities for patients and physiotherapists is important to maximise active participation and facilitate optimal outcome. The aim of this study is to gain an understanding of rehabilitation priorities for patients and physiotherapists in a spinal unit setting.

METHOD

Semi-structured interviews were conducted with a focus on priorities of physiotherapy in the rehabilitation process. Participants were six patients who had sustained a traumatic spinal cord injury in the last year. Also interviewed were six physiotherapists with a minimum of six months experience in rehabilitation of spinal cord injury. Transcribed interviews were analysed using an inductive content analysis approach.

RESULTS

Patients established their main priorities as independence, rehabilitation time, individualisation, motivation and making progress. Independence was seen by patients as a decreased need for assistance. Physiotherapists considered their main priorities to be goal setting with patients, communication, independence, hope and individualisation.

CONCLUSION

The findings demonstrate that individualisation and independence appear to be two key priorities for rehabilitation shared by both patients and physiotherapists. However physiotherapists placed greater priority on how to achieve this by restoring specific functional activities, patients placed greater priority on the implications of this process on their need for assistance.

KEY PRACTICE POINTS

Rehabilitation priorities for physiotherapists and patients may differ in important ways. Consideration should be given to further understanding the meaning attributed by patients to key priorities.

BIOGRAPHY

Sandra is employed at Otago University's School of Physiotherapy. Her key role is to coordinate clinical education for fourth year students in Christchurch. Sandra interacts with a range of physiotherapists in both private and public settings and across rural, community rehabilitation and tertiary care sectors.

Title: Physio 24/7: A one-stop digital tool box

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BACKGROUND

Physiotherapists working in the acute hospital environment commonly work after-hours to treat complex patients with severely compromised respiratory function. Such situations often demand rapid decision-making and specialist treatment to prevent further deterioration. The physiotherapist is often working in isolation with limited peer support and no ready access to up-to-date clinical resources to confirm decisions. The irregular frequency of such demands can make physiotherapy staff vulnerable and challenged to deliver safe and effective patient care. Access to evidence-based clinical knowledge at point-of-care would greatly improve this situation.

METHOD

Physiotherapy software was reviewed to determine if an application was available to provide point-of-care access to clinical resources and support clinical decision making in the acute setting. Nothing was found to meet these requirements. An online tool was developed and has proved feasible. Alignment of physiotherapy resources, processes and pathways with current evidence was undertaken. Information technology support was engaged to undertake the development of a novel online clinical tool – 'Physio 24/7'.

RESULTS

Development of a draft Physio 24/7 online tool that is accessible by mobile devices and computers using web browser software.

CONCLUSION

Evidence supports point-of-care delivery of evidence-based clinical information to improve clinical practice, support clinical decision-making and reduces errors. The Physio 24/7 tool mobilises this evidence and has potential in physiotherapy services across New Zealand.

KEY PRACTICE POINTS

Point-of-care access to clinical information supports acute physiotherapy clinical practice and professional judgement, and enhances both patient and clinician safety.

BIOGRAPHY

Sarah is a senior cardiothoracic physiotherapist with a specialist interest in enhanced recovery after surgery. In 2005 Sarah completed post-graduate studies in clinical teaching. She coordinates the physiotherapy competency programme at Christchurch Hospital and provides education for community physiotherapists and the West Coast team.

Gabrielle is a physiotherapist at Christchurch Hospital specialising in general medicine. She has a focus on service and quality development and has completed a number of innovative projects to extend the scope of allied health in general medicine. To develop her service she takes a keen interest in supporting the growth of students and new therapists.

Title: 24-hour postural management programmes

Author: Hamer J

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INTRODUCTION

An international consensus statement recommends 24-hour postural management programmes (24-hr PMP) for children with complex disabilities to prevent or minimise postural deformities. In preparation for clinical guideline development, a literature review was completed to identify best practice.

METHOD

A literature search was undertaken in March 2016 using the keywords sleep systems, sleep equipment, postural management, night-time position, positioning equipment. Databases searched included PubMed, Medline, EBSCOhost and CINAHL. Articles were appraised using the Critical Appraisal Skills Programme.

RESULTS

Following abstract and full text review, 16 articles were selected. Eleven further articles were included after reference list searching and contact with international experts and original authors with a total of 27 reviewed. Evidence included one Cochrane review, six qualitative and four cohort studies, five literature reviews, and 10 expert or case reports. Key themes emerged: Comprehensive training programmes, guidelines and clinical pathways improve clinician skills and confidence; outcomes focus on body structure and function; there is a lack of measurement of participation despite claims of improvements in quality of life.

CONCLUSION

There was limited high-level evidence supporting 24-hr PMP. However, evidence recommends training and guidelines to support implementation. Future research is needed to investigate the impact of 24-hr PMP on quality of life in children with complex disability. Research investigating personal and environmental factors may highlight factors that influence uptake of PMP.

KEY PRACTICE POINTS

24-hr PMP may minimise impairment in children with complex disabilities. Guidelines and clinical pathways are required to support clinician confidence and skill in this area of paediatric physiotherapy practice.

BIOGRAPHY

Jane works for Waitemata District Health Board as the Clinical Leader of Physiotherapy in the Child, Women and Family Services along with practicing as a physiotherapist in the Child Development Service.

Title: Physiotherapists conducting research with patients: preparing for the experience of clinician-researcher dual role

Authors: Hay-Smith J¹, Brown M¹, Anderson L², Treharne G³

Affiliations:

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INTRODUCTION

Dual role (DR) experiences are common among clinician-researchers doing research with their own or other patients. We aimed to develop a typology of DR experiences to help clinician-researchers plan for and respond to such experiences.

METHOD

Systematic searching of six databases (inception to 28.07.2014) for primary studies or first-person reflective reports of DR experiences, supplemented by 'ancestry' searches. Coding (in NVivo) focused on clinician-researchers' DR experiences. One researcher (MB) conducted all procedures that were cross-checked (JHS). All authors discussed coding disagreements and verified the themes.

RESULTS

From 7135 records we included 36 studies. Two overarching themes describe DR catalysts – a research role involves behavioural patterns typical of a clinical role, and a connection develops with participants that resembles a clinician-patient relationship. Five subthemes encapsulated the clinical patterns repeated in research (clinical queries, perceived agenda, helping hands, uninvited clinical expert, research not therapy) and five subthemes described concerns about the researcher-participant relationship (clinical assumptions, suspicion and holding back, revelations, over-identification, manipulation).

CONCLUSION

Clinician-researchers use clinical skills during research in ways that set up a relationship resembling that of clinician-patient. Clinicians' engrained orientation to patients' needs is often in tension with the research role, with ethical and methodological consequences.

KEY PRACTICE POINTS

DR is inevitable given the primacy accorded to patient wellbeing. The DR typology offers a discussion framework to help physiotherapist-researchers plan and implement ethically and methodologically sound research.

BIOGRAPHY

Jean moved into full-time academic work in 2001 after practising as a physiotherapist for over 20 years in NZ and the UK. She teaches and supervises rehabilitation research in an interprofessional, postgraduate, distance learning academic unit. Her own research interests centre on research methodology, health behaviour change and treatment adherence.

Title: A new role in primary care; a musculoskeletal practitioner

Author: Hensman Crook A

Affiliation: 'One medical' (Consultant musculoskeletal physiotherapist in the UK running an extended scope direct access assessment and triage service in primary care).

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INTRODUCTION

With growing patient and financial demands on primary care, a different way of working in general practice is essential. The musculoskeletal care pathway was identified as an area that could be streamlined by creating a new direct access, extended scope physiotherapist role (injection therapy, requesting investigations, prescribing, and triage to other services). The aim of this audit was to assess the benefits of the musculoskeletal practitioner role to patients, general practitioners (GP) and secondary care.

METHOD

Data collection over the first 12 months after implementation in a general practice serving 6000 people focusing on capacity, source of referral, assessment outcome, injection therapy and patient satisfaction.

RESULTS

Direct referral and GP use of the service increased. Of all patients seen, 81% had no GP contact, creating 781 available consultation spaces over 12 months. Referral to secondary care reduced to an average of 6%, and conversion rate to surgery increased to 98%. There was a 93% increase in injections performed, reducing referral to secondary care and improving patient convenience. Of the patients surveyed, 90% 'rated the service as excellent', and 10% 'very good'.

CONCLUSION

The musculoskeletal practitioner role is an effective, efficient and financially viable role within primary care. It addresses both primary and secondary care service requirements, and provision of an easily accessible, reproducible highly specialised musculoskeletal service.

KEY PRACTICE POINTS

The musculoskeletal practitioner could be developed as a new role for physiotherapists. It provides direct access service at the first point of contact and benefits have been shown for the patient, GPs and secondary care.

BIOGRAPHY

Amanda is a consultant musculoskeletal physiotherapist in the UK running an extended scope direct access assessment and triage service in primary care. Having created the service, it has been implemented around the UK and is included the Westminster vanguard for primary care.

Title: Effect of Acu TENS on serum alkaline phosphatase

Author: Kaur H, Sethi J

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INTRODUCTION

Osteoporosis is metabolic bone disease presenting with elevated alkaline phosphatase (ALP) as a biochemical bone marker, indicating an increased bone cell activity, hence potential bone loss. Aim of present study was to observe the effect of Acu TENS on serum ALP levels in post-menopausal osteoporotic women.

METHOD

Ten pre-diagnosed osteoporotic post-menopausal women were randomized into experimental and control group. Treatment group received application of TENS (frequency 4 Hz and pulse width 200 microseconds) at acupuncture points (KID3, SP6 and ST36) for 50 minutes for 5 days while control group received placebo treatment (non-functional TENS). Serum ALP levels were measured (day one and five).

RESULTS

Student's t-test (two-tailed, independent) was used for statistical analysis. Serum ALP concentration found to be significantly increased (mean 94.6 pre and 111.80post) ($p = 0.013$) in control group while significantly decreased (mean 115.80pre and 109.00post) ($p = 0.024$) in experimental group. There was no statistically significant difference inter groups ($p = 0.869$).

CONCLUSION

Decreased level of serum ALP in experimental group suggests bone loss control while elevated levels in control group suggest continued bone loss. According to Traditional Chinese Medicine, the stimulation of specific acupuncture points may work towards restoration of kidney qi (kidney system comprising the kidney, marrow, bone and brain), building calcitonin and the hormone responsible for recalcification.

KEY PRACTICE POINTS

Acu TENS can be used as safe, non-invasive and cost effective therapeutic technique for Osteoporotic patients as compare to pharmacological therapy which involve side effects, post extensive research support on large sample.

BIOGRAPHY

Harpreet has completed a BPT and MPT (Orthopaedics). Formerly worked as Assistant Professor in Department of Physiotherapy in Lovely Professional University, Punjab, India. Currently a PhD (part time) student at LPU and living in New Zealand. Life member of Indian Association of Physiotherapists.

Title: Movement patterns of the knee during gait following ACL reconstruction: a systematic review and meta-analysis

Authors: Kaur M¹, Ribeiro DC¹, Theis CJ², Webster K³, Sole G¹

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INTRODUCTION

This systematic review and meta-analysis compared lower limb kinematics and kinetics of the anterior cruciate ligament (ACL) reconstructed knee with the contralateral limb, and with healthy age-matched controls during walking, stair climbing and running. It also described differences over time following ACL reconstruction (ACLR) for those variables.

METHOD

Database searches were conducted for studies exploring peak flexion and adduction angles and moments following ACLR during walking, stair negotiation and running. Risk of bias assessment was performed for all included studies and meta-analyses were performed.

RESULTS

Twenty-seven studies were included in meta-analyses. There was strong to moderate evidence to suggest no significant difference in peak flexion angles between groups during walking, stair ascent. Strong evidence showed lower peak flexion moments in participants with ACLR compared to both groups during walking, and stair activities. Strong to moderate evidence indicated lower peak adduction moments in ACLR participants compared to the contralateral limb during walking and stair descent; however, no difference was found when compared to control group. Compared to controls, knee adduction moments are lower during the early phases following reconstruction (< 2 years), but are higher, on average, five years post-surgery.

CONCLUSION

Joint kinematics are restored, on average, six years post-surgery, while knee external flexion moments remain lower compared to controls. Findings indicate partial recovery of knee function following reconstruction. The risk of these impairments may have for long-term osteoarthritis needs to be further explored.

KEY PRACTICE POINTS

The findings suggest that individuals with ACLR have residual gait asymmetries and may need long-term maintenance programmes.

BIOGRAPHY

Mandeep Kaur is the PhD candidate at the University of Otago, New Zealand. She was working as a clinical therapist and lecturer in India and has moved to New Zealand for her PhD. Her research is focused on looking at the outcomes of anterior cruciate ligament reconstruction related to the movement patterns, sports-specific, muscle strength, and functional outcomes in participant with following 2-15 years of surgery. A part of her research work is also focused on looking at the health related quality of life and levels of satisfaction in participants using the qualitative approach.

Title: Anterior cruciate ligament injury prevention in netball: New initiative

Author: Sharon Kearney

Affiliation: Netball New Zealand

Email: shaz.kev@xtra.co.nz

INTRODUCTION

Anterior cruciate ligament (ACL) rupture is one of the most devastating knee injuries, with long-term limitations in sports performance (Arder, Taylor, Feller, and Webster, 2014) and symptoms associated with knee osteoarthritis (Oiestad, et al., 2010). Increased ACL injury is associated with level one sports such as netball that involve jumping, cutting, and pivoting (Johnsen et al, 2016). Netball has a high ACL injury rate.

INITIATIVE

The FIFA 11+ was developed as a comprehensive warm-up programme for football to help address lower limb injury rate (Soligard et al, 2008). The warm up consists of a standardized set of activities (strengthening, running, jumping, landing, balancing and cutting exercises) that is conducted before all trainings and games. The FIFA 11+ programme has been shown to be successful in decreasing lower limb injury rate, time lost to injury and ACL injury rate (Silver-Granelli et al, 2015). Netball NZ have partnered together with Accident Compensation Corporation (ACC) to develop a netball specific warm-up based on the FIFA 11+ programme (NetballSmart Dynamic Warm up).

CONCLUSION

By developing a Netball specific warm-up based on the FIFA 11+ programme, Netball New Zealand in conjunction with ACC aim to decrease lower limb injuries and ACL injuries in netball. However awareness of the programme is vital. Physiotherapists are important in supporting and promoting injury prevention practises in Netball and all sports clinicians, including physiotherapists, can add it to their injury prevention options.

KEY PRACTICE POINTS

Sports physiotherapists should look at the Netball NZ new warmup and know where to find information on the Netball Smart Dynamic warm up so patients, parents and coaches can be given the right direction.

BIOGRAPHY

Sharon is a physiotherapist who has worked with Netball New Zealand for 23 years. She has held varying roles working with both development athletes, the Silver Ferns and in an Injury Prevention consultancy role. During this time she has attended three World Youth Cups, Five World Netball Championships and two Commonwealth Games.

Title: A Systematic Review of Reviews: The role of the cerebellum in motor learning.

Authors: Kumari N, Signal N, Lewis G, Taylor D

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INTRODUCTION

The cerebellum is pivotal in learning and re-learning of motor skills and an understanding of its function may inform physiotherapist's clinical practice. Historically, research has emphasized the role of the long-term depression (LTD) at Purkinje neurons in learning and refining motor skills. However, more recent research has described additional plasticity mechanisms at various synapses. This review aims to elucidate the cerebellar role and its plasticity mechanisms across the time scale of motor learning and discuss the implications for clinical practice.

METHOD

Five databases were searched for reviews on the role of the cerebellum in motor skill learning published in English after January, 2005. The quality of the reviews were evaluated using the AMSTAR Checklist and the guidelines by Mulrow; Oxman and Guyat.

RESULTS

Following the title, abstract and full-text screening, 18 of 308 records met the inclusion and exclusion criteria and were included with an appraisal score of three to nine. Three themes were identified: cerebellar activation at different stages of motor learning, cerebellar activation when learning different motor tasks and cerebellar plasticity mechanisms.

CONCLUSION

The cerebellum is most active in early motor learning stage of sensorimotor tasks and not serial reaction tasks. A distributed and synergistic recruitment pattern shifts from the cerebellar cortex to deep nuclei which is not limited to Purkinje neuron LTD but includes multiple mechanisms and sites, much of which is still unknown.

KEY PRACTICE POINTS

Understanding the cerebellar plasticity mechanisms and its role in motor learning may provide an avenue for modulating its activity to augment motor learning.

BIOGRAPHY

Nitika is currently pursuing her PhD at AUT University. She is a physiotherapist by background and completed a Masters of Physiotherapy (Rehabilitation) in India.

Title: Diagnostic accuracy of 'directional preference' determination in relation to confirmed discogenic pain

Author: Laslett M

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INTRODUCTION

Most back pain is categorized as 'non-specific' yet diagnosis of structural causes of low back pain (LBP) is important when pain is persistent. LBP is often believed to be of discogenic origin. Commonly used tests have potential to identify these cases. This study compares the directional preference (DP) finding (index test), with controlled provocation discography in chronic low back patients (reference standard test).

METHOD

Chronic LBP patients received a repeated movement assessment and controlled provocation discography in a blinded diagnostic accuracy study. Disability was measured by the Roland-Morris Questionnaire, Distress was estimated using the Distress Risk Assessment Method. Contingency tables were constructed for all patients, distress and disability subgroups. Sensitivity, specificity and likelihood ratios were calculated.

RESULTS

74 patients completed all tests. Mean age was 51 years, mean symptom duration was 170 weeks. Males comprised 51%. For the group as a whole, sensitivity and specificity, were 55% and 90% respectively. Likelihood ratio of DP (positive test) was 5.75 and non-DP (negative test) was 0.50. Specificity of DP in non-distressed and distressed patients was 94% and 90% respectively. Specificity of DP in severely disabled versus less disabled patients was 80% and 100% respectively.

CONCLUSIONS

Directional preference is highly specific to discogenic pain in chronic back pain patients, identifying about half of those with discogenic pain. Severe disability and to a lesser extent, distress, reduced the specificity of DP.

KEY PRACTICE POINTS

Discogenic pain is highly probable in chronic LBP patients with a DP. Certainty reduces slightly when distress levels are high and even more when the patient is severely disabled.

BIOGRAPHY

Mark is an independent clinical researcher with a special interest in musculoskeletal diagnostics.

Title: An audit of clinical outcomes in patients with Temporomandibular joint disorder treated using The Latimer Technique®.

Author: Latimer M

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INTRODUCTION

Temporomandibular joint disorders (TMD), reportedly affect 28-78% of the US population and represent a significant health burden causing facial pain, social embarrassment and impacting oral function. Clicking and decreased mouth opening range of motion (ROM) are the most common symptoms of TMD. The Latimer Technique® is a new manual therapy system used to diagnose and treat the joint structures which contribute to clicking and other TMD symptoms.

METHODS

The aim of this clinical audit was to describe outcomes in a cohort of patients with TMD when treated with The Latimer Technique®. A retrospective analysis of outcomes in mouth opening ROM and click-free ROM using a precision dial caliper were undertaken. Outcomes from 92 consecutive patients with TMD treated by three physiotherapists in a single clinic over a five-year period were analysed.

RESULTS

Eighty-nine (97%) patients had increases in mouth opening ROM of up to 38.1mm, indicating improvements up to 206% from pre-intervention values with an average improvement in ROM of 26.63%. Of these patients, 70 (79%) returned to full, click-free range of movement (> 45mm) within 8 treatments in less than 6 weeks.

CONCLUSION

This retrospective audit suggests that The Latimer Technique® is an effective treatment method for TMD, increasing mouth opening ROM and click-free ROM to normal ranges in a short timeframe. Future clinical research could evaluate The Latimer Technique® in comparison to other treatment modalities such as muscle energy techniques, Rocabardo exercises, massage or dry needling.

KEY PRACTICE POINTS

The Latimer Technique® is a potentially effective treatment option for patients experiencing TMD.

BIOGRAPHY

Mark qualified in physiotherapy at LaTrobe University in 1997 and attained his APA Sports Physiotherapist title in 1997. He has worked at three Commonwealth Games and one Olympic Games. Over 22 years, he developed The Latimer Approach® - a new, systematic approach for the analysis and treatment of temporomandibular dysfunctions.

Title: Paediatric physiotherapy bronchiectasis service: Improved care for children

Authors: Lunn E, Robertson M, Hamer J

Affiliation: Child, Women and Family Division, Waitemata District Health Board

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INTRODUCTION

Despite a decline in developed countries, bronchiectasis continues to be a challenge for health professionals in New Zealand. Development of paediatric physiotherapy services is needed to improve care for children with Bronchiectasis within North and West Auckland.

METHOD

Physiotherapy Guidelines for children with Bronchiectasis were developed through a consultation process, using evidence-based recommendations (national and international). Standardised assessment and intervention forms were developed. Paediatric Physiotherapy Bronchiectasis database, linked to paediatric medical database was developed. Education was delivered to paediatric community and in-patient nurses. Training was linked to Waitemata District Health board paediatric physiotherapist respiratory credentialing programme.

RESULTS

Physiotherapy in-patients interventions have reduced from 470 in 2014 to 447 in 2015 with an increase in community out-reach intervention numbers. Total numbers of paediatric Bronchiectasis patients seen by physiotherapists in both inpatient and community settings have increased from 8 in 2011, to 52 in 2015. The Paediatric Physiotherapy Bronchiectasis Database accurately records physiotherapy interventions and ensures all children are regularly reviewed and programmes are updated in a timely way. A current total of 11 Physiotherapists are credentialed to treat children with bronchiectasis and consistently use the best available evidence to inform clinical decision-making.

CONCLUSION

A robust process of education, and best practice guidelines improves physiotherapy service delivery and care to children with bronchiectasis.

KEY PRACTICE POINTS

Development of Bronchiectasis clinical guidelines supports clinical decision-making and equitable service to this vulnerable population.

BIOGRAPHY

Erine Lunn (BSc Hons Physiotherapy) is a paediatric physiotherapist who graduated from the University of East Anglia in 2004. She has experience working in paediatrics in the United Kingdom and New Zealand. She has a special interest in bronchiectasis and providing family-centred care.

Title: Formal complaints against physiotherapists in New Zealand, 2012-15

Authors: Larmer P, Nicholls D, Sutherland H (AUT Summer Research Student)

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INTRODUCTION

Complaints against physiotherapists have been reported in many jurisdictions around the world. The literature pertaining to New Zealand physiotherapists is sparse. Physiotherapists are expected to exercise thoughtful ethical judgement and professional integrity when dealing with clients/patients. Analysing past reported complaints may be beneficial in reducing future incidents and supporting physiotherapists to practice safely.

METHOD

A mixed-method analysis of The Physiotherapy Board of New Zealand (PBNZ) and Health Practitioners Disciplinary Tribunal (HPDT) data was undertaken. Each individual record of complaint was examined thematically.

RESULTS

PBNZ received 75 complaints between 2012 and 2015. In addition, there have been five physiotherapists referred to the HPDT since 2006. These complaints range from accusations of inappropriate behaviour, to sexual misconduct, practicing outside of scope of practice and ACC fraud. Fifty one percent of the complaints were against female physiotherapists. Complaints against practitioners were made on average 16 years following graduation. Twenty five percent of complaints were made against overseas trained physiotherapists.

CONCLUSION

This is the first time that complaint data from PBNZ have been reported. The short time frame limits the ability to identify definitive findings, but trends are emerging. Incident reporting and analysis is necessary to enable the PBNZ to identify trends and act accordingly.

KEY PRACTICE POINTS

Complaints against physiotherapists present a complex picture that requires high quality data capture and analysis. In the absence of reliable and valid data, there is little evidential justification for definitive prophylactic action against professional misconduct.

BIOGRAPHY

Peter is Head of School of Clinical Sciences at AUT. He has previously held the positions of Head of School of Rehabilitation and Occupation Studies, Head of Department of Physiotherapy and Head of Postgraduate Studies. He is currently president of Arthritis NZ and Co-chair of the MoH Mobility Action Programme. Prior to joining AUT in 2001, his professional background was in Private Practice Musculoskeletal Physiotherapy. His current research focus is on arthritis management and outcome measures. He has also published a number of systematic reviews.

Title: Effect of strength training on grip strength and function in people with hand OA: a systematic review and meta-analysis

Authors: McNair P, Magni N, Rice D

Affiliation: Health and Rehabilitation Research Institute, Auckland University of Technology

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INTRODUCTION

Hand osteoarthritis (OA) is often associated with atrophy and disuse of the muscles in the hand and forearm. To date, no paper has systematically evaluated the literature concerning efficacy of strength training in people with hand OA. The aim of this systematic review and meta-analysis was to assess the effect of strength training on grip strength and function in people with hand OA.

METHOD

A systematic literature search was undertaken using CINAHL Plus, MEDLINE, SPORTDiscus, Scopus, Web of Science, Cochrane Central Register of Controlled Trials, Allied and Complementary Medicine Database, and the PEDro databases. The Cochrane tool was used to assess risk of bias in the included studies.

RESULTS

As of January 2016, 1894 papers were identified. Only six studies were deemed appropriate for inclusion in our study. The training loads varied across studies, often failing to reach the 60-70% 1RM intensities generally recommended for improving strength. The mean overall effect size (ES) for grip strength was 1.91 [95% CI: 0.01, 3.85], ($p = 0.05$). The mean overall ES for function was 0.27 [95% CI: -0.03, 0.57], ($p > 0.05$).

CONCLUSION

The results provide no clear evidence that strength training improves grip strength or hand function in people with hand OA. However, the number of papers was small and the training parameters were suboptimal in many of the included studies.

KEY PRACTICE POINTS

Further research should aim to assess the efficacy of standardised training regimes with individualised loads set at an intensity sufficient to induce improvements in muscle strength.

BIOGRAPHY

Peter is Professor of Physiotherapy at AUT. His research area is joint loading and clinical biomechanics with a particular interest in exercise rehabilitation

Title: Blood flow restriction training for disuse: a systematic review and meta-analysis

Authors: Magni N¹, McNair P¹, Rice D^{1, 2}

Affiliations:

¹ Health and Rehabilitation Research Institute, Auckland University of Technology

² Waitemata Pain Service, North Shore Hospital, Waitemata DHB

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INTRODUCTION

Blood flow restriction training (BFR) is a novel strength training intervention that is effective in young, healthy adults. To date, no paper has systematically evaluated the efficacy of BFR in a rehabilitation setting. The aim of this systematic review and meta-analysis was to assess the effect of BFR on muscle strength and cross-sectional area (CSA) in people undergoing disuse.

METHOD

A systematic literature search was undertaken using CINAHL Plus, MEDLINE, SPORTDiscus, Scopus, Web of Science, Cochrane Central Register of Controlled Trials, Allied and Complementary Medicine Database, and the PEDro databases. The Cochrane tool was used to assess risk of bias in the included studies.

RESULTS

As of July 2016, 505 papers were identified. Fifteen studies were deemed appropriate for inclusion. BFR or BFR plus 20-30% 1RM exercises were used in the studies. The mean overall effect size (ES) for muscle strength was 0.97 [95% CI: 0.57, 1.37], ($p = 0.00001$). The mean overall ES for muscle CSA was 0.52 [95% CI: 0.21, 0.82], ($p = 0.0009$).

CONCLUSION

This is the first systematic review assessing the effectiveness of BFR in a rehabilitation setting. The results provide clear evidence that BFR alone or in association with low load exercises is effective in increasing muscle strength and CSA in people undergoing disuse.

KEY PRACTICE POINTS

BFR has the potential to be used in clinical settings to minimise muscle atrophy and weakness associated with disuse.

BIOGRAPHY

Nico is originally from Italy. After gaining his degree and working two years as a physiotherapist, he came to New Zealand to pursue postgraduate studies in 2013. He is now enrolled in a PhD programme at Auckland University of Technology and works as a physiotherapist in private practice.

Title: A weighty issue: meeting the exercise needs for people with heart failure and obesity

Authors: Mooney S¹²³, Brown H¹, Poole J¹

Affiliations:

¹ Counties Manukau Health

² Auckland University of Technology

³ NZ Respiratory and Sleep Institute, New Zealand

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INTRODUCTION

Heart failure (HF) prevalence in New Zealand is increasing with over representation of Māori and Pacific Island (PI) people. Concurrently, rates of obesity and chronic disease have also grown. Such complex medico-social needs and co-morbidities challenge traditional approaches of health service delivery. National Institute for Health and Care Excellence and international cardiology forums advocate for greater accessibility for people with HF to exercise programmes; body weight limitations make traditional gym-based exercise prohibitive. A community-based aquatic exercise programme was therefore developed framed by Institute of Healthcare Innovation methodology of small change testing, and stakeholder co-design.

METHOD

A rolling programme of once weekly sessions over 20 weeks was established with staggered recruitment. Nine participants, four Māori, four PI and one European have been recruited to date. Baseline data includes a mean age of 52 years, 167 kg, BMI 51.2 and 247.6m walked (shuttle walk test). McNew Quality of Life (QoL) questionnaires were also completed and participant goals identified.

RESULTS

Data at 10 weeks for two participants indicate 100% attendance, improvements in walk distances (190-260m/73% and 260-290m/20% respectively). Consumer and community stakeholder feedback has also been positive.

CONCLUSION

Provisional data evaluation indicates positive health benefits for people with HF and obesity whose exercise needs would not otherwise be met. Innovative practice, enthusiastic staff, consumer and community engagement, and minimal funding requirements contribute to the programme's success.

KEY PRACTICE POINTS

Aquatic exercise for people with HF and obesity offers a practical and beneficial alternative exercise programme.

BIOGRAPHY

Sarah's roles at Counties Manukau Health include clinical lead for 'Healthy Hearts Fit to Exercise', developing exercise and community based cardiac rehabilitation programmes as well as managing clinics for people with bronchiectasis. She is also employed part time as a senior lecturer at AUT University, and has an evening clinic at NZ Respiratory and Sleep Institute.

Title: New Horizons for future physiotherapy roles: Orthopaedic Triage Physiotherapists

Author: Naik L

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INTRODUCTION

Extended scope practitioner roles were first developed in 1987 in United Kingdom to help tackle NHS waiting lists. The current spinal Orthopaedic Physiotherapy Practitioner (OPP) role in Waitemata DHB was established in April 2014 in response to the Ministry of Health target to improve access to elective surgery.

METHOD

The spinal triage pathway involves an orthopaedic clinician reviewing the GP referral (a completed spinal questionnaire) for consideration of surgical options for the patient. The patient is then triaged into either an OPP clinic or to the consultant clinic depending on the findings and clinical data provided in the questionnaire.

Working alongside the orthopedic consultant the OPP then assesses, uses results of investigation and discharges patient with conservative pathways of management or, if appropriate, discusses and refers patients onto the spinal consultant for further opinion.

RESULTS

The impact of the role is audited quarterly with both qualitative and quantitative measures inclusive of waiting times for OPP consultation, referral patterns, patient satisfaction survey and clinic outcomes. The quantitative results and quarterly trend analysis over the last 18 months indicated that patients had nearly 20 days shorter waiting times to be seen in OPP led clinics with 70% discharged back to the GP. The qualitative results showed that overall 95.3% patients were satisfied with the OPP service delivery.

CONCLUSION

Physiotherapy triage within orthopaedics can free up surgeon time to tackle elective lists and reduce waiting times within orthopaedic outpatient clinics. OPP led spinal clinics streamline provision of care and ensure that patients receive care in a timely manner, assisting the orthopedic service to meet its targets.

KEY PRACTICE POINTS

The introduction of an Orthopaedic Physiotherapy Practitioner role at Waitemata DHB has resulted in benefits for patients, the orthopaedic department and the physiotherapy service.

BIOGRAPHY

Leena is a physiotherapist with 30 years all round hands on experience, which includes working as an Extended Scope Practitioner/ Triage therapist involved in service development, teaching and clinical supervision of physiotherapy staff and students.

Title: The effectiveness of real-time biofeedback on spinal posture:
A systematic review

Authors: Naude Y, Mawston G, Boocock M

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INTRODUCTION

Awkward and sustained spinal postures are a known risk factor for acute and chronic back conditions. The use of real-time biofeedback to affect changes in spinal posture is becoming more prevalent as a preventative or intervention approach for studying these conditions in real-world situations (e.g. work environment). This systematic review investigated the effectiveness of portable devices for providing real-time biofeedback on spinal posture.

METHOD

A systematic review was conducted using eight on-line databases. The search terms included combinations of keywords appropriate to: spine; sensor; and feedback. Studies were included if they had an experimental design, implemented real-time biofeedback and included spinal kinematics as an outcome measure. Study selection, quality appraisal and data extraction were undertaken by three independent reviewers.

RESULTS

Seven studies met the inclusion criteria, three of which were pilot randomized controlled studies and four were quasi-experimental. Most studies were of low quality. Interventions consisted of wireless systems that measure spinal motion and provided feedback if this motion exceeded what was deemed safe. Safe motion generally involved avoiding excessive spinal flexion. All studies found that feedback resulted in improved spinal kinematics compared to controls. Only one study reported positive long-term outcomes following the intervention.

CONCLUSION

Real-time biofeedback appears to provide effective short-term influences on spinal kinematics, although there is limited evidence to substantiate this. Larger studies of higher quality are required in future research in order to give more support to this theory.

KEY PRACTICE POINTS

There is evidence to support the clinical use of real-time biofeedback in the short-term prevention and treatment of conditions affecting the spine.

BIOGRAPHY

Yanto works as a Research Officer at the Health and Rehabilitation Research Institute at the Auckland University of Technology and is currently completing a Masters in Philosophy. He is also part of a multidisciplinary team forming the Starship Clinical Gait Analysis Service with interests in gait analysis, biomechanics and pediatrics.

Title: Brain computer interface-based paired associative stimulation: An investigation of the duration of neuromodulatory effects.

Authors: Olsen S¹, Signal N¹, Niazi I K², Christensen T¹, Taylor D¹

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¹ Health and Rehabilitation Institute, AUT University

² New Zealand College of Chiropractic.

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INTRODUCTION

Brain computer interface-based paired associative stimulation (BCI-PAS) is a novel neuromodulatory intervention that increases cortical excitability in people with stroke and has potential to augment standard rehabilitation. The duration of its effect has important implications for how BCI-PAS might be applied before, or within, a standard Physiotherapy session, but previous research has not explored its effects beyond 30 minutes post intervention. This study was carried out to determine the change in cortical excitability in the 60 minutes following BCI-PAS.

METHOD

Healthy participants (n=10) completed a visually-cued motor imagination dorsiflexion task. Electroencephalography recordings were analysed to calculate the timing of the peak negativity of the movement related cortical potential. Participants then completed the BCI-PAS protocol; performing cued imaginary dorsiflexion while the computer delivered electrical stimulation to the deep branch of the common peroneal nerve. The intervention was timed so that afferent, and endogenous efferent signals, coincided in the motor cortex at the point of peak negativity. Corticomotor excitability was measured by recording motor evoked potentials (MEPs) in the tibialis anterior muscle using transcranial magnetic stimulation, before the intervention and at 0, 30, 45 and 60 minutes post-intervention.

RESULTS

There was a significant increase in the mean tibialis anterior MEP amplitudes at 0 (p=0.022), 30 (p=0.029) and 45 minutes (p=0.033) post intervention.

CONCLUSION

Cortical excitability is increased for 45 minutes following BCI-PAS.

KEY PRACTICE POINTS

The BCI-PAS intervention has potential to augment standard neurological rehabilitation. Further work will explore its feasibility and effects when combined with standard therapy.

BIOGRAPHY

Sharon is a Neurological Physiotherapist and currently completing her PhD at AUT University. Her research interests include acquired brain injury and rehabilitation, with an emphasis on the neurophysiological processes that underpin recovery.

Title: An exploration of treatment options available to people with hip and/or knee osteoarthritis in New Zealand

Authors: O'Brien D¹, Larmer P¹, Bassett S¹, Gibbs-Grant J¹, Parkinson C²

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¹ Auckland University of Technology - New Zealand

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INTRODUCTION

Osteoarthritis (OA) is a common chronic condition that can markedly restrict the physical and mental wellbeing of those who live with it. Currently there is no clinical pathway for people living in New Zealand with hip and/or knee OA. The aim of this study was to explore the sequence and nature of treatment options available to people in New Zealand with hip and/or knee OA.

METHOD

Twenty-three people living with hip and/or knee OA participated in face-to-face interviews about their experiences of being offered treatment and being treated for OA. All data were analysed thematically.

RESULTS

Data analysis led to the identification of three themes. The themes were titled: Inconsistent information provided (Theme one), No clear treatment pathway (Theme two), and GPs were the first point of healthcare contact (Theme three). Theme one explored the frustrations that participants described due to receiving inconsistent messages from differing sources of information. Theme two explored the participant's descriptions of the challenges of managing their treatment pathway when living with OA. Theme three highlights how for all participants, their GP was the first person that they sought advice from about their OA and very rarely did the GP refer them on to someone else.

CONCLUSION

Findings indicate that people living with OA are looking for consistent advice and a clear management pathway. Additionally it would appear that the first health professional that people contact about their OA is their GP.

KEY PRACTICE POINTS

Physiotherapists should work with other health professionals to ensure consistent advice and a clear management pathway is provided to people with OA.

BIOGRAPHY

Daniel works as a physiotherapy lecturer at AUT. He is currently completing his PhD. exploring the management of osteoarthritis in New Zealand.

Title: Does hand arthritis influence motor cortex excitability and motor skill learning?

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INTRODUCTION

Chronic pain is associated with motor cortex disinhibition. Motor cortex disinhibition is also associated with motor learning. Therefore, impaired motor control and learning in chronic pain populations may be related to changes in motor cortex excitability. However, no previous study has sort to establish whether chronic arthritic pain may influence motor learning and if this relates to changes in motor cortex excitability.

METHOD

23 people with arthritic hand pain and 20 pain-free controls participated in a cross-sectional study. Hand pain and function were assessed using the AUSCAN Scale. Transcranial magnetic stimulation was used to measure corticomotor excitability of a finger muscle. Motor skill learning was assessed using a 30-min training task involving the index finger of the same hand.

RESULTS

Compared with controls, participants with hand arthritis showed evidence of reduced intracortical inhibition and enhanced facilitation (both $p=0.03$). Arthritis participants were initially poorer at the motor skill task ($p=0.05$) but over the total training time performance was equivalent between groups ($p=0.6$). There were no associations found between measures of corticomotor excitability and motor skill learning (all $p>0.3$).

CONCLUSION

Our findings support previous evidence of cortical disinhibition in chronic pain populations and extend this to populations with hand arthritis. We found no evidence that these alterations are related to impaired function or skill learning.

KEY PRACTICE POINTS

Clinically this may be important for people working in rehabilitation, as it suggests the cortical disinhibition associated with chronic pain does not impair the potential for training-induced neural plasticity or gains in motor performance.

BIOGRAPHY

Rosalind is originally from Sheffield, UK and graduated from AUT with a BHSc (physiotherapy) in 2011. Since completing her degree she has split her time between working as a Research Officer for AUT doing pain research and working as a physiotherapist at Waitakere Hospital. In 2015 Ros completed her MPhil.

Title: The Reliability and Validity of Interprofessional Education and Practice Instruments.

Authors: Perry M, Burns M, Gebreselassie S, Greacon K, Rouse T, Voice M

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INTRODUCTION

Health care professionals are frequently required to work within interprofessional teams, especially when treating patients with multiple, complex or long-term conditions. Interprofessional education (IPE) provides an opportunity to “learn with, from and about” other professions prior to professional registration. Yet research detailing the psychometric properties of tools used to evaluate the effect of these programmes is scarce. The purpose of this study was to measure the test retest reliability and convergent validity of three tools commonly used to evaluate interprofessional Education (IPE).

METHOD

The adapted Attitudes Towards Health Care Team’s Scale (ATHCTS), adapted Readiness for Interprofessional Learning Scale (RIPLS), and the Team Skills Scale (TSS) were distributed to a cohort of 47 undergraduate fourth year physiotherapy students in New Zealand to complete, on two occasions, three days apart.

RESULTS

Internal reliability was “good” for the TSS ($\alpha = 0.86$), and RIPLS ($\alpha = 0.81$). Acceptable test retest reliability were found for the scales; ICC range 0.72-0.86. A significant moderate correlation seen was between the RIPLS and ATHCTS ($r=0.692$, $p<0.02$) for convergent validity.

CONCLUSION

The ATHCTS, TSS and RIPLS, are reliable and valid instruments to evaluate IPE interventions in undergraduate physiotherapy students.

KEY PRACTICE POINTS

Measuring the effect of interventions, including IPE, is essential. The ATHCTS, TSS and RIPLS can assess changes in attitude, readiness for learning and team skills. Further research with different populations of undergraduate health science students is required.

BIOGRAPHY

Meredith is a lecturer at the School of Physiotherapy, University of Otago. Her current research interests are management of musculoskeletal long-term conditions, access to health care, and interprofessional education. She is an Associate Editor of the NZJP and a committee member of PNZ’s Ethics committee

Title: Development of an Interprofessional Education Teaching Team

Authors: Perry M, Darlow B, Coleman K, McKinlay E, Beckingsale L, Donovan S, Gallagher P, Nesser H, Pullon S

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INTRODUCTION

Interprofessional Education (IPE) requires considerable commitment from educators, so it is important to understand their experience in the development of and participation in such programmes. Since 2011, the University of Otago - Wellington, has delivered an IPE programme to pre-registration Health Sciences students from educators with clinical backgrounds in educational psychology, dietetics, medicine, midwifery, nursing, physiotherapy and radiation therapy. The aim of this study was to explore the experiences over time of educators in delivering a pre-registration IPE programme.

METHOD

Two audio-recorded, semi-structured, one-hour focus groups were conducted with mostly the same IPE educators in 2011 (n = 5) and 2014 (n = 6). The focus group transcripts were analysed inductively to identify themes.

RESULTS

Three key themes were identified. These related to the evolution of a growing programme, individual and team skill development, and educator dynamism. Increased programme size, with the introduction of radiation therapy, resulted in greater complexity and risk, but this was also a stimulus for finding efficiencies and improving the curriculum and its delivery. Educators found their development as a team modelled teamwork processes to students.

CONCLUSION

Educators reported positive and rewarding teaching experiences. Expansion of the programme over time provided opportunities for team work and development of trust within the teaching team and facilitated new learning opportunities.

KEY PRACTICE POINTS

Time must be factored in when expanding an IPE educator team, including educator-induction and support. Teaching within IPE programmes requires skill acquisition and the development of trust and teamwork.

BIOGRAPHY

Meredith is a lecturer at the School of Physiotherapy, University of Otago. Her current research interests are management of musculoskeletal long-term conditions, access to health care, and interprofessional education. She is an Associate Editor of the NZJP and a committee member of PNZ's Ethics committee

Title: A slinging match: Preventing shoulder subluxation after stroke

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INTRODUCTION

Shoulder subluxation is common following stroke. A range of supportive devices are used to prevent subluxation, but no randomised trials have been carried out to determine their efficacy. The aim of this study was to determine whether combining a modified lap-tray and triangular sling is more effective than a hemi-sling in preventing shoulder subluxation after stroke.

METHOD

A prospective, randomised trial with concealed allocation, assessor blinding and intention-to-treat analysis. Forty-six acute stroke survivors were included. The experimental group used a modified lap-tray while sitting and a triangular sling while standing to support the affected arm for four weeks. The control group used a hemi-sling while sitting and standing. The primary outcome was shoulder subluxation on X-ray. Secondary outcomes were upper limb activity, pain and co

RESULTS

There was no significant difference between groups for shoulder subluxation (mean difference: -3mm, 95% CI -8 to 3). There was a trend in the experimental group for less pain at rest (mean difference: -0.7 out of 10, 95% CI -2.2 to 0.8) and during shoulder external rotation (mean difference: -1.7 out of 10, 95% CI -3.7 to 0.3) and for having less shoulder external rotation contracture (mean difference: -10 deg, 95% CI -22 to 2).

CONCLUSION

A lap-tray during sitting combined with a triangular sling during standing is no more effective than a hemi-sling in preventing subluxation, pain, contracture and activity limitation in acute stroke survivors.

KEY PRACTICE POINTS

The use of a lap-tray during sitting and triangular sling during standing is not indicated as an alternative to a hemi-sling to prevent shoulder subluxation after stroke. Strategies with proven efficacy, such as electrical stimulation, should be considered.

BIOGRAPHY

Elisabeth is a physiotherapist and Assistant Professor at the University of Canberra with a particular interest in neurological physiotherapy. She has a particular interest in the evidence-based rehabilitation of people after stroke, as well as in the processes required for efficient and effective multidisciplinary service provision. Elisabeth's current research projects have a focus on improving physical activity in people after stroke, as well as improving ways to teach the skills required for stroke rehabilitation to physiotherapy students.

Title: Factors correlated with new injury in Nordic Skiers

Authors: Reid D², Worth S¹, Henry S¹, Howard A¹

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INTRODUCTION

Nordic skiing is a repetitive sport characterised by hours of endurance training that may predispose athletes to overuse injuries. This study aimed to determine the relationship between functional movement patterns, training habits, injury history and the incidence of new injuries sustained by collegiate and professional Nordic skiers in North Eastern America.

METHOD

At enrolment, subjects performed the Movement Competency Screen (MCS) that included five functional movements. Then, for 12 consecutive months, subjects completed a survey about the duration and type of training, new injuries, and any alterations in training or competition due to injury. Spearman's correlation determined the relationship between new injury and: MCS score; past injury; total training time; and run training time. Injury incidence is the mean number of injuries per subject per 1000 training hours.

RESULTS

Seventy-one subjects enrolled (35 men, 36 women, 18–27 years old) while 41 subjects completed the study. Mean MCS score was 14.43 (± 1.46). New injury during the study was positively correlated with previous injury ($p=0.041$) but not with MCS score ($p=0.63$), training time ($p=0.30$), or running time ($p=0.08$). Injury incidence was 3.81 new injuries per subject per 1000 training hours. Lower extremity injuries were more commonly reported than upper extremity or trunk injuries.

CONCLUSION

This is the first season-long prospective injury study of Nordic skiers. Previous injury was correlated with new injuries.

KEY PRACTICE POINTS

To instigate injury prevention measures good baseline injury incidence and screening data is required. This study established MCS scores and longitudinal injury incidence in a group of Nordic skiers.

BIOGRAPHY

Duncan is an Associate Professor of Physiotherapy and Associate Dean of Health at AUT University, His research interests are in the area of injury prevention and movement screening.

Title: Sensorimotor changes in people with osteoarthritis of the hand:
A case control comparison

Authors: Rice D^{1,2}, Magni N¹, McNair P¹

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INTRODUCTION

Hand osteoarthritis (OA) is a common cause of pain and disability, affecting 20% of adults over the age of 70. Traditionally, rehabilitation has focused on impairments of peripheral structures (i.e. the joint and surrounding tissues). However, chronic pain conditions are often associated with altered function in the central nervous system, including sensorimotor regions of the brain. The aims of this study were to determine whether left/right recognition and tactile acuity are disrupted in people with hand OA and to explore possible relationships between these tests and validated measures of hand function.

METHOD

Twenty patients with symptomatic hand OA and 19 healthy pain-free controls undertook a hand left/right recognition task, control left/right recognition task, two-point discrimination (TPD) test and tests of hand function, including the DASH, Purdue Pegboard and TEMPA.

RESULTS

When compared to healthy controls, people with hand OA were slower and less accurate in the hand left/right recognition task ($P < 0.05$), but not the control task. No difference was found between groups for TPD. Moderate correlations between TPD and measures of hand performance were identified, however no association was found between left/right recognition and hand function.

CONCLUSION

Patients with hand OA demonstrate specific deficits in hand left/right recognition, but not a control left/right recognition task. TPD threshold was moderately related to hand function.

KEY PRACTICE POINTS

Brain related changes in sensorimotor function should be considered in the assessment and treatment of patients with hand OA.

BIOGRAPHY

David is a senior lecturer in physiotherapy and Senior Research Officer in the HRRI at Auckland University of Technology. He also works at the Waitemata Pain Services at North Shore Hospital. David has a PhD in Clinical Neurophysiology. His research focuses on the neuromuscular consequences and management of joint injury and arthritis and the mechanisms and management of chronic pain conditions.

Title: A systematic review and meta-analysis of prospective cohort studies investigating musculoskeletal risk factors for the development of low back pain

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INTRODUCTION

Identification of treatable musculoskeletal risk factors for the development of low back pain (LBP) may offer clinicians a way to reduce management costs and improve the quality of life of sufferers. Therefore the aim is to systematically review prospective cohort studies investigating lower back and/or lower limb musculoskeletal risk factors in the development of LBP.

METHOD

MEDLINE, EMBASE, AMED, CINAHL, SPORTDiscus, and the Cochrane Library were searched from inception to February 2016. No age restrictions of participants were applied but articles had to be published in English and have a follow-up period of 12 months or less. Two authors independently reviewed and selected relevant articles. Methodological quality was assessed independently by two authors.

RESULTS

Twelve articles of moderate methodological quality were included. Meta-analysis revealed that reduced lateral flexion range of motion (OR=0.41, 95% CI 0.24-0.73, p=0.002), limited lumbar lordosis (OR=0.73, 95% CI 0.55-0.98, p=0.034), and restricted hamstring range of motion (OR=0.96, 95% CI 0.94-0.98, p=0.001) were significantly associated with the development of low back pain. Meta-analyses on lumbar extension ROM, quadriceps flexibility, fingertip to floor distance, lumbar flexion ROM, back muscle strength, back muscle endurance, erector spinae and quadratus lumborum cross sectional area, and abdominal strength were nonsignificant.

CONCLUSION

We found that a decrease in lateral flexion and hamstring ROM, as well as, a reduction in lumbar lordosis were associated with an increased risk of developing LBP.

KEY PRACTICE POINTS

Clinicians can use these findings when assessing the risk of patients to develop LBP. Future research should aim to measure additional lower limb musculoskeletal risk factors and only include participants with no history of LBP.

BIOGRAPHY

Sean Sadler is a Sessional Academic at the University of Newcastle (UoN), Australia. He has received both academic and teaching awards from UoN. Sean is currently undertaking a PhD in Podiatry with the research focusing on a randomised controlled trial of conservative interventions for the treatment of chronic non-specific low back pain.

Title: On-call physiotherapy service provision throughout New Zealand

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INTRODUCTION

On-call physiotherapy services are provided in many district health boards (DHBs) throughout New Zealand. However, there is currently no readily accessible information about on-call physiotherapy at different DHBs.

METHOD

A purpose-designed online survey of five questions was emailed to Team Leaders at all New Zealand DHBs. The aim of the survey was to determine which DHBs provide on-call physiotherapy, and basic details of these services. Respondents were also invited to join an on-call discussion email group on completing the survey.

RESULTS

The survey was sent to 26 Team Leaders, from 20 DHBs. There were 23 responses (88%) from 17 DHBs, with 20/23 (87%) respondents reporting on-call physiotherapy at their DHB. Of 19 respondents who provided details of their services, 14 (74%) described "full" services: a physiotherapist available at all times outside regular hours, usually for acute respiratory or urgent discharge referrals. The remaining five "partial" services included limited hours services, or no formal roster. Most reported either formal training programmes (3/19, 16%), competency assessment (6/19, 32%), or both (6/19, 32%), with only 1/19 (5%) reporting no formal training or assessment. Thirteen respondents have joined the on-call discussion email group.

CONCLUSION

Most New Zealand DHBs provide on-call physiotherapy. While services vary based on local needs, there are also similarities such as a focus on respiratory or discharge issues. An on-call discussion email group facilitates on-call collaboration between DHBs.

KEY PRACTICE POINTS

On-call physiotherapy is common in New Zealand DHBs. Common features may provide scope for collaboration between DHBs, particularly in areas such as training and competency assessment.

BIOGRAPHY

Daniel graduated in 2001, and worked as the senior ICU Physiotherapist at St Vincent's Hospital in Melbourne between 2006 and 2013. He is currently the senior cardiothoracic and ICU physiotherapist at Wellington Hospital. Research interests include ICU physiotherapy and simulation training. Clinical interests include mobilisation in ICU, mechanical ventilation, and physiotherapist involvement in the multidisciplinary ICU team.

Title: The Rehabilitation Innovation Centre: A novel approach to rehabilitation technology development

Author: Signal N

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INTRODUCTION

There has been an increasing emphasis on the potential of technology in rehabilitation. However, to date new technologies have had little impact on rehabilitation clinical practice. One of the identified challenges to technology development and implementation is limited collaboration between developers and end-users, including patients, their family/whanau, clinicians and healthcare funders.

METHOD

The Rehabilitation Innovation Centre (RIC) is a partnership between industry and research spearheaded by Callaghan Innovation, AUT University and the Burwood Academy of Independent Living. The RIC aims to accelerate the development, impact and implementation of rehabilitation technologies by bringing the voice of end-users to rehabilitation technology development. The RIC works collaboratively across sectors to bring a unique blend of scientific, design, clinical skills and end-user knowledge to each project.

RESULTS

The development of a standing trials population, which is a group of patients and clinicians willing to consider participating in iterative validation of rehabilitation technologies is underway. To date, three projects are in progress, investigating both New Zealand and internationally developed technologies in collaboration with RexBionics, AbleX and the New Zealand Artificial Limb Service. Further work is in the scoping phase.

CONCLUSION

The RIC is a novel approach to the development of rehabilitation technology which aims to promote a vibrant rehabilitation technology industry and the health and wellbeing of New Zealanders experiencing disability by promoting the voice of end users in the development process.

Key practice points: Collaboration is essential to the development of rehabilitation technologies which meet the needs of end users.

BIOGRAPHY

Nada has worked as a physiotherapist in community, rehabilitation and acute care settings; primarily with people with neurological conditions. She has a Masters in Health Science and in 2014 she completed her Doctorate of Philosophy. She is a Senior Research Fellow and Co-Director of the Rehabilitation Innovation Centre at AUT University.

Title: Orthostatic Intolerance after total hip joint replacement surgery: Incidence, Risk factors and Effect on Length of Stay

Authors: Skarin M^{1,2}, Rice D^{1,2}, McNair P², Kluger M¹

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INTRODUCTION

Early postoperative mobilisation is essential for enhanced recovery but can be hindered by orthostatic intolerance (OI), characterised by dizziness, nausea, vomiting, blurred vision and syncope. Our aim was to establish the incidence of OI after total hip joint replacement, identify potential perioperative risk factors that may predict its occurrence and explore its possible effect on length of stay (LOS).

METHOD

Incidence of OI ~24 hours after surgery was determined in 123 consecutive patients undergoing total hip replacement. Logistic regression was used to identify significant perioperative risk factors. LOS was compared between OI patients vs those who did not experience OI.

RESULTS

24% experienced OI resulting in failed mobilisation by a physiotherapist. Factors significantly increasing the risk of OI were female gender (OR = 6.1), patients not being mobilised on the day of surgery (OR = 4.3) and moderate to severe pain ($\geq 5/10$) during mobilisation (OR = 3.2). Overall, predictive accuracy in correctly identifying OI vs tolerant patients was 79%. LOS was greater in OI patients ($p = 0.02$) median (IQR) 3.5 (1.75) days compared to 3 (2) for patients not having OI.

CONCLUSION

OI is common after total hip replacement, particularly in females, in patients who are not mobilised on the day of surgery and is associated with increased LOS. However, these findings should be regarded as exploratory and indicate that there is substantial individual variability.

KEY PRACTICE POINTS

Ensuring patients are mobilised out of bed on the day of surgery and optimising pain control prior to mobilisation may reduce the risk of developing OI. More work is needed to understand the role of other risk factors associated with OI and whether physical and pharmacological interventions designed to support autonomic nervous system function can reduce OI.

BIOGRAPHY

Monica is a Swedish educated Physiotherapist working as a Research Officer at the Health and Rehabilitation Research Institute at AUT University and at the Waitemata Pain Services, Waitemata DHB, North Shore Hospital, Auckland.

Title: Framework for teaching clinical reasoning skills to under-graduate physiotherapy students and models for learning

Authors: Sole G¹, Hale L¹, Skinner M¹, Golding C²

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INTRODUCTION

This study aimed to gain consensus on a framework for teaching clinical reasoning in the Bachelor of Physiotherapy programme. Methods and principles of clinical reasoning vary in different parts of the curricula and this is confusing for students. Defining a consistent framework between laboratory and clinical practice and across the curriculum should facilitate student learning.

METHOD

Educators (n=41) involved in Year 2 to 4 teaching for at least one full academic year across the School's three centres were invited to participate. A Delphi study and focus groups were used to reach consensus about principles of clinical reasoning.

RESULTS

There was consensus that the World Health Organisation International Classification of Function and two clinical reasoning methods (hypothetico-deductive reasoning and pattern recognition) be used to gather and interpret information from the patient, plan and apply management. It was agreed these processes enable theory to be integrated into clinical practice and support the development of generic professional skills and behaviours, along with reflection and learning. As skills develop from the pre-clinical phase to autonomous practice at the end of study in Year 4 supervision will decrease but scaffolding enables students to clinically reason in increasingly complex environments.

CONCLUSION

This project enabled physiotherapy educators to share information and resources across their different geographical and contextual areas and to reach consensus on teaching clinical reasoning.

KEY PRACTICE POINTS

The study has increased the awareness of the ranges of different approaches used in teaching by colleagues. Development of teaching resources applicable across laboratory- and clinically-based teaching is on-going.

BIOGRAPHY

Gisela is a senior lecturer at the University of Otago since 2001. She coordinates the undergraduate Year 3 Musculoskeletal Physiotherapy component and the post-graduate Sports Physiotherapy paper. She also works with Year 2 students in a clinical placement, with a focus on principles of communication, assessment and reasoning skills.

Title: Use of active video games (AVGs) to improve mobility in aged care residents: a randomised controlled trial

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INTRODUCTION

Participation in physical activity can improve measures of physical function in older people living in residential aged-care, which contributes to maintenance of independence. However, finding exercise programmes that are suitable and engaging for aged-care residents is challenging and innovative solutions are needed. This study sought to investigate the feasibility of using AVGs for the purpose of improving measures of mobility.

METHOD

A cluster randomised controlled trial of nine aged-care facilities in Auckland, NZ was conducted. Four facilities (n=29) were randomised to AVGs held twice weekly for eight weeks. The remaining five facilities (n=36) were randomised to usual activities (control). Assessments were conducted at baseline (pre-intervention), and eight weeks post-randomisation using the Timed Up and Go (TUG) and the de Morton Mobility Index (DEMMI). Adherence, adverse events and retention to the study were also documented.

RESULTS

Sixty-five participants (aged 85.5±6.9 yr) were randomised. Participants attended a mean of 8.7±5.1 out of 16 prescribed sessions (54%). No statistically significant differences in mobility measures were found between the groups at eight weeks. In AVG participants with minimal cognitive impairment there was a significant improvement in DEMMI scores (p=0.03) and a trend towards improvement in TUG scores (p=0.05).

CONCLUSION

AVGs were safe and acceptable to residents. Mobility was only improved in residents without cognitive impairment.

KEY PRACTICE POINTS

AVGs in their current form are more suited to residents with minimal cognitive impairment. Specifically, activities need to be slowed down and simplified to accommodate people with cognitive impairment, balance and mobility limitations.

BIOGRAPHY

Lynne is currently the Head of the Department of Physiotherapy at AUT. Her current research interest is physical activity in aged care residents, including the measurement of physical activity in free-living environments. She has been a senior lecturer at AUT for several years and has also worked as an allied health team leader at Auckland City Hospital. Prior to working at AUT, Lynne worked in private practice in musculoskeletal physiotherapy.

Title: Neuro-endocrine response following a thoracic spinal manipulation – a randomized controlled trial.

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INTRODUCTION

Spinal manipulation can trigger a cascade of neurophysiological responses involving multiple body systems including the endocrine system. However, there is little knowledge that supports these effects. Therefore, the objective of this study was to determine whether thoracic spinal manipulation (TSM) influences the endocrine mechanisms specifically salivary cortisol and testosterone concentrations.

METHOD

This study was a double blind randomised controlled trial, using a repeated measures study design. Twenty four healthy males aged between 18 and 45 years were randomised into 2 groups: thoracic spinal manipulation (n=12) and sham intervention (n=12). Salivary samples of cortisol and testosterone were collected at pre-intervention, 5 minutes, 30 minutes, and 6 hours post-intervention.

RESULTS

A statistically significant decrease in salivary cortisol concentration ($p < .001$) in the TSM group at 5 minutes post-intervention compared to the sham group (mean difference: 0.35; 95% CI: 0.12, 0.6) was demonstrated. No significant group by time interaction was noted at any other time points. However, salivary cortisol levels were higher 6 hours post-intervention in the thoracic spinal manipulation group. Thoracic spinal manipulation resulted in an initial increase in salivary testosterone concentration that was not significant when compared to sham.

CONCLUSION

Thoracic spinal manipulation results in immediate decrease (at 5-minutes) in salivary cortisol values that are not duplicated by a sham procedure.

KEY PRACTICE POINTS

Thoracic spinal manipulation influences salivary cortisol levels. Cortisol is known to affect inflammation and healing. Thoracic spinal manipulation may affect inflammation and healing.

BIOGRAPHY

Kesava is a manual therapist in private practice with a keen interest in EBP and research. Pursuing PhD at University of Otago.

Steve is a clinically active academic with research interests in tendinopathy, photobiomodulation, and the manual therapy influences on ANS and HPA axis. He has been invited to present at international conferences in Italy and Japan and has taught manual therapy seminars in New Zealand and Japan.

Title: More or less treatment of achilles tendinopathy

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INTRODUCTION

The combination of eccentric exercise (Ex) and photobiomodulation (PBM) may be beneficial in treating Achilles tendinopathy. The optimum dose for either modality, singularly or in combination has yet to be defined.

METHOD

A 2X2 factorial design comparing 4 groups; 1(Ex regimen1 + placebo PBM); 2(Ex regimen 1 + active PBM); 3(Ex regimen 2 + placebo PBM); 4(Ex regimen 2 + active PBM). The main outcome measure Victorian Institute of Sport Assessment-Achilles Questionnaire (VISA-A). Participants 18-65 years of age with a diagnosis of Achilles tendinopathy older than 3 months. PBM or placebo PBM was administered twice per week for the first 4 weeks prior to a supervised exercise session with a physiotherapist. Exercise regimen 1 followed the Alfredson protocol of twice per day, 7 days per week, for 12 weeks, while exercise regimen 2 consisted of two exercise session per week for 12 weeks.

RESULTS

80 participants were randomised into the four groups. There was no difference between groups at baseline. All groups significantly improved over 12 weeks. At 12 weeks group four scores were significantly better than the other three groups (ES .9, 1.3, 2.5). There was no significant difference between groups one, two, and three at 12 weeks.

CONCLUSION

Alfredson protocol provides no extra benefit over exercises performed twice per week. Four weeks of PBM as an adjunct to an exercise regimen of two sessions per week provided superior results.

KEY PRACTICE POINTS

Exercise twice per week for 12 weeks can be recommended. PBM added to the exercise regimen brings additional benefit.

BIOGRAPHY

Steve Tumilty is a clinically active academic with research interests in tendinopathy, photobiomodulation, and the manual therapy influences on ANS and HPA axis. He has been invited to present at international conferences in Italy and Japan and has taught manual therapy seminars in New Zealand and Japan.

Title: Physiotherapists' experiences of the management of anterior cruciate ligament injuries

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INTRODUCTION

While extensive research has been reported for management of anterior cruciate ligament (ACL) injuries, the perspectives of physiotherapy clinicians have not been explored. This qualitative study investigated physiotherapists' experiences and attitudes regarding ACL injury rehabilitation and determined what research they considered important for their management of these patients.

METHOD

Fifteen physiotherapists from six private clinics participated in semi-structured interviews via individual or small group, face-to-face, video or telephonic methods. The interviews were recorded, transcribed verbatim and the general inductive approach was used to develop key themes.

RESULTS

Participants' management strengths were evident by their intent and commitment to provide expert rehabilitation, using a biopsychosocial approach and evidence-informed practice. Skills to address the psychosocial aspects appeared to be acquired with experience rather than formal education. The lengthy management process (including prolonged referral processes) and interprofessional disconnect concerned participants. Participants suggested translational research was needed for clear directions for exercise prescription and milestones for return to sports and occupation.

CONCLUSIONS

Participants upheld a high professional image, providing a biopsychosocial approach to ACL injury management. Potential areas of improvement include simplifying the referral process and enhancing communication with other health professionals.

KEY PRACTICE POINTS

Education programmes should include psychosocial considerations, in addition to updates on exercise prescription for patients with ACL injuries. Further research is needed to define milestones for return to sport and occupation.

BIOGRAPHY

Arlene completed her undergraduate physiotherapy degree with honours at Otago University in 2014. Currently she is working in a private practice setting in Wellington and plans to continue pursuing her research interests in musculoskeletal injuries.

Title: Pelvic health in New Zealand adolescents – the prevalence of urinary symptoms and pelvic floor knowledge in female adolescents

Authors: Wilson S, Briffa K, Thompson J, Nurkic I, Lalor J

Affiliation: School of Physiotherapy and Exercise Science, Curtin University, Perth, Western Australia

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INTRODUCTION

In contrast to childhood and adult urinary incontinence (UI), research regarding UI in adolescence is limited. The purpose of this study was to a) examine the prevalence and type of UI in adolescent girls; b) discover whether those with UI had sought treatment, and c) determine the level of knowledge and practice of pelvic floor muscle (PFM) exercises.

METHODS

Cross-sectional study. A self-administered questionnaire based on the Australian Pelvic Floor Questionnaire was used to survey adolescent females in Nelson, New Zealand. The questionnaire included graded, yes/no and descriptive format questions, completed either online or on paper.

RESULTS

The survey was completed by 740 girls (mean age 15.4 (1.1) years). Thirty-seven percent had stress UI, 43% had occasional urge UI and 5% reported nocturnal enuresis (bed wetting). Of those with UI, 56% found it bothersome, it affected daily activities in 39%, 20% reduced fluids and 6% wore pads. Few sought help from a health professional (7%) due to feeling too embarrassed (17%), not knowing who to see (8%), self-managing (22%), or not enough bother (50%). Thirty-two percent knew about, and 7% undertook, PFM exercises, but less than 2% did them for UI.

CONCLUSION

UI is common in adolescent girls, with rates comparable to those reported in adult women. Although UI bothered more than half of those affected, few had sought help.

KEY PRACTICE POINTS

Health professionals treating adolescent girls should be aware that UI is prevalent in this group. Education and intervention programmes are needed to inform girls about PFM exercises and other effective treatment.

BIOGRAPHY

Sharon Wilson is a private Pelvic Floor Physiotherapist based in Nelson and her business is called Restore Physiotherapy. Sharon had a Master's Degree in Clinical Physiotherapy (specialising in Continence and Women's Health) from Curtin University, WA. She is the chairperson of the Physiotherapy NZ Pelvic, Men's and Women's Health Special Interest Group.

Title: A feasibility study of a prehabilitation programme for patients awaiting total hip joint arthroplasty

Authors: Woodley S J¹, Flack N A M S¹, Nicholson H D¹, Hargest C², Chapple C²

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INTRODUCTION

Individuals with advanced hip osteoarthritis may benefit from physiotherapy treatment but few data are available regarding optimal intervention for such patients. The aim of this study was to assess the feasibility of a preoperative exercise programme (prehabilitation) for patients awaiting total hip joint arthroplasty.

METHOD

Prospective, case-control study. Twenty individuals with unilateral hip osteoarthritis wait-listed for joint replacement surgery were recruited. The 10 participants (mean age 62.2 ± 9.2 years) in the exercise group undertook an eight-week supervised multi-modal exercise programme, delivered in a group but tailored to individual needs. Ten age-and-sex-matched participants received usual care (control group). The primary outcome measure was the WOMAC questionnaire; secondary outcomes included functional tests as per the Osteoarthritis Research Society International recommendations.

RESULTS

There was no significant difference between groups for any of the outcome measures from baseline to follow up. In the exercise group, the timed up-and-go and 40m fast-paced walk tests were significantly improved at eight weeks ($p < 0.05$). In general, outcomes improved or remained stable in the exercise group, while those in the control group were similar or worse.

CONCLUSION

Findings of this pilot study suggest that physiotherapy-led prehabilitation has the potential to limit functional deterioration in patients with advanced unilateral hip osteoarthritis.

KEY PRACTICE POINTS

Individualised exercises delivered in a supervised group setting may be beneficial for patients awaiting hip joint replacement. These results require consideration alongside patient acceptability (of prehabilitation) and post-operative outcomes, but support future research in a larger sample.

BIOGRAPHY

Stephanie is a senior lecturer in the Department of Anatomy. Her professional background is physiotherapy. Stephanie's research is within the field of clinical anatomy, with her main area of interest being musculoskeletal anatomy, particularly of the hip, pelvic and hamstring regions.

Title: Trait anxiety and sensory profile characteristics in a chronic low back pain population with central sensitisation - Pilot study

Authors: Clark J^{1,2,3}, Yeowell G¹, Nijs J^{2,3}, Goodwin P C¹

Affiliations:

¹ Faculty of Health, Psychology and Social Care, Manchester Metropolitan University, Manchester, UK

² Faculty of Rehabilitation Sciences, Vrije Universiteit Brussel, Brussels, Belgium

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INTRODUCTION

Patients with non-specific chronic low back pain (NSCLBP) and central sensitisation (CS) exhibit sensory processing alterations, somatosensory hypersensitivity and differences in the brain's emotional networks. The concept that CS pain is related to premorbid trait sensory processing and anxiety characteristics remains unknown. The aim of this pilot study was to explore the relationships between four trait anxiety sub-types, four sensory processing profiles and CS pain to test concept plausibility.

METHOD

Patients with NSCLBP with predominantly CS pain were purposively recruited from physiotherapy outpatient clinics in New Zealand. Outcomes included: Central Sensitisation Inventory (CSI), Adolescent/Adult Sensory Profile, and the State/Trait Anxiety Inventory (trait section) with the Marlowe Crowne Sociable Desirability Questionnaire. Descriptive and non-parametric correlation statistics were used to analyse the data, $p < 0.05$.

RESULTS

Of the 21 patients recruited 16 (76.2%) had CSI scores ≥ 40 in association with 1) abnormal trait sensory processing profiles, 2) high trait anxiety sub-types and 3) minimal low trait anxiety. Moderate correlations were identified between trait sensory sensitivity profiles and 1) CS pain ($r = 0.57$, $p < 0.01$) and 2) trait anxiety ($r = 0.65$, $p < 0.01$).

CONCLUSION

These results provide concept plausibility that the extent of CS pain in NSCLBP patients may be associated with premorbid trait anxiety sub-types and abnormal trait sensory processing profiles. Further research is warranted.

KEY PRACTICE POINTS

Identification of abnormal trait sensory processing and anxiety characteristics in patients at baseline may help physiotherapists identify those at risk of developing CS pain, so informing management.

BIOGRAPHY

Jacqui Clark is a physiotherapist and PhD Researcher in pain with Manchester Metropolitan University, UK, and Vrije University Brussels, Belgium. She is an experienced lecturer internationally, an active member of the Pain in Motion international research collaboration and is on the peer review panel for the Journal of Clinical Rheumatology.

Title: Does physiotherapy 'prehabilitation' before hip and knee replacement surgery change function and reduce pain.

Authors: Clode N¹, Wulff L¹, Bailey E², Emery H², Fernandopulle S², Garratt B², Perry M²

Affiliations:

¹ Hutt Valley District Health Board, Lower Hutt

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INTRODUCTION

Evidence is equivocal whether physiotherapy before hip or knee replacement may decrease pain and improve function pre and post operatively. This longitudinal study investigated whether eight weeks of physiotherapy exercise and education ('prehabilitation'), delivered before surgery, would change pre and post-surgery pain and functional outcomes. A secondary analysis investigated whether pre-operative physiotherapy reduced hospital admission length post-surgery.

METHOD

Thirty-three participants awaiting hip and knee replacement were recruited into the study. 28 opted into the 'prehabilitation' group undergoing a 45 minute exercise and 15 minute education session twice per week for eight weeks, five opted for usual care. All participants completed the WOMAC, NRS, Health Thermometer, five times sit to stand and Timed Up and Go outcome measures. Data was collected before and after prehabilitation, and after surgery. Length of hospital stay post-surgery was collected by an audit of hospital records.

RESULTS

The prehabilitation group showed statistically significant improvements in Timed Up and Go ($p=0.004$), five times sit to stand ($p=0.038$) and numeric pain rating scale ($p=0.009$) after prehabilitation. No significant difference was found in length of hospital stay between the usual care and prehabilitation group post-operatively.

CONCLUSION

Prehabilitation may improve patients' pain and function before hip or knee replacement surgery. It is unclear if this results in a reduced hospital length of stay or faster recovery after surgery.

KEY PRACTICE POINTS

Physiotherapists can play a key role in preparing patients for orthopaedic surgery.

BIOGRAPHY

Nick is a practicing musculoskeletal physiotherapist with experience working in different healthcare environments in the UK and New Zealand. Along with working clinically he is currently the Research and Learning Advisor (part-time) at Physiotherapy New Zealand. Prior to this he was the musculoskeletal outpatients physiotherapy team-leader post at Hutt Hospital, HVDHB.

Title: What are the outcomes and views of people with mobility limitations after participating in a circuit class?

Authors: Stavric V, Mudge S, Robinson L, Mewa M

Affiliation: School of Clinical Sciences, Auckland University of Technology

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INTRODUCTION

There is increasing demand for addressing the needs of people with long-term conditions. While services exist, it is important to review their value. The purpose of this observational study was to determine the impact of circuit classes provided by a private rehabilitation clinic, on the balance and mobility of community dwelling individuals with neurological conditions.

METHOD

Participants were already participating in or interested in taking part in circuit classes provided at the rehabilitation clinic. Outcomes were assessed on completion of a typical block of circuit classes (at least six sessions, provided once a week). Outcomes were the four-stage balance test, 30 second chair stand and Timed Up and Go (TUG). Risk and fear of falling were also measured using the Falls Risk Assessment Tool and the Falls Efficacy Scale respectively. Participants completed a self-report questionnaire to provide their views and feedback about the class. Outcomes were compared to the same tests (using t-tests) taken before participants began the classes; the first assessments were already part of routine practice.

RESULTS

All thirteen participants completed six classes. Differences were found in the TUG after circuit classes ($p < 0.05$) but not in other outcome measures. All participants highly rated the organisation, level of staff skill and amount of assistance provided at the classes, but some felt that the challenge and frequency of classes could be improved. The feasibility of providing appropriate challenge and frequency of exercise will be discussed.

CONCLUSIONS

Participating in circuit classes for a short term period appears to be a way of providing exercise to people with neurological conditions to improve mobility and confidence.

KEY PRACTICE POINTS

Circuit classes can offer clients an effective and cheaper therapy option.

BIOGRAPHY

Verna received her BSc (PT) from University of Toronto and her MHSc from AUT University. She is currently a lecturer with AUT School of Physiotherapy.

Title: "Not always a straight path": patients' perspectives following anterior cruciate ligament rupture and reconstruction

Authors: Scott S^{1,2}, Perry M³, Sole G¹

Affiliations:

¹ Centre for Health, Activity and Rehabilitation Research, School of Physiotherapy, University of Otago, Dunedin

² Alexandra Physiotherapy Centre Ltd, Alexandra

³ Centre for Health, Activity and Rehabilitation Research, School of Physiotherapy, University of Otago, Wellington

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INTRODUCTION

Understanding how anterior cruciate ligament (ACL) injury affects patients is necessary to provide best patient-centred care. This study explored perspectives of individuals regarding the impact of their ACL injury and experience of management following injury and reconstruction.

METHOD

This mixed methods study used questionnaires and individual semi-structured interviews. The nine participants (four women; aged 21 - 37 years) had undergone an ACL reconstruction 6 to 36 months previously. Interviews were recorded, transcribed verbatim and analysed according to the general inductive approach to develop key themes.

RESULTS

Two participants had returned to their pre-injury sports performance level. The Knee Osteoarthritis and Injury Outcomes Score, sub-group Quality of Life had a median score of 50% (range 25 – 63), where 100% is the optimal score. The median Sports Confidence Score was 56%, indicating loss of confidence and fear of re-injury. Participants described a circuitous and disruptive journey along which they felt they had lost their identity. Support systems and the care pathway influenced their journey. This unequivocally negative experience resulted in irrevocable changes to their lives.

CONCLUSION

The journey following ACL reconstruction is long and arduous. A biopsychosocial approach to management is needed, implementing strategies to reassure the patients and facilitate confidence in their abilities, and consequently achieve optimal outcomes.

KEY PRACTICE POINTS

Health professionals need to continually re-evaluate patients' perceptions and identify those struggling with the psychosocial responses to injury. Communication with the patient is critical, continuously providing information of requirements and consequences of surgery and rehabilitation.

BIOGRAPHY

Sarah is a new graduate physiotherapist currently working at Alexandra Physiotherapy, and Dunstan Hospital. She is also a volunteer physiotherapist for the Otago Country rugby team and has a strong interest in sports injuries and rehabilitation.

Title: Moving and Handling in Aged Care and Community. The physiotherapist's role in this expanding area

Author: Newsom J A

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Moving and handling is an integral part of physiotherapy in aged care and community. Physiotherapists are often asked to provide moving and handling (manual handling) training for healthcare workers. As the ageing population is expected to increase, physiotherapists need to be ready for the challenge of balancing the safety of healthcare staff with the rights of older people. Healthcare workers continue to be at high risk of musculoskeletal disorders. ACC statistics showed a 28% increase in injury claims in the New Zealand Residential Care sector over a five-year period (2005-2008). Fifty percent of the injuries occurred during moving and handling. Few statistics are available on injuries to patients due to moving and handling. Physiotherapists understand normal movement patterns and biomechanics, however, they also need a working knowledge of the NZ Moving and Handling Guidelines especially the importance of risk assessment. This abstract will look at the current research on the effectiveness of moving and handling training, the latest trends in equipment and the importance of facility design. This information which formed part of my Post Graduate Certificate on the Concepts of Moving and Handling could be used by physiotherapists to improve workplace safety for healthcare workers and improve the patient experience of moving and handling.

BIOGRAPHY

Julia Ann is a Registered Physiotherapist, Member of Special Interest Groups for Older Adult and Occupational Health, Post Graduate Certificates in Clinical Teaching, Occupational Health Physiotherapy, and Health Sciences specialising in Moving and Handling.

Title: Hydrotherapy for the very old

Author: Warburton M

Affiliation: Gateway Physiotherapy, Brisbane, Australia

INTRODUCTION

Case study examining functional changes following hydrotherapy with the very old 92 year old lady mobilising with wheeled walker at home, and an electric scooter outdoors. Mobility, balance, and leg strength are vitally important activities for independent living with the very old. Hydrotherapy can be a suitable exercise environment for the elderly to undertake these important activities. Buoyancy, warmth, pressure, viscosity and turbulence are elements of hydrotherapy that can offer the very old a unique hydrotherapeutic environment to achieve and maintain mobility, leg strength and balance

METHOD

Hydrotherapy was provided for four weeks, twice a week for a 30 minute session duration with the pool temperature at 32.5 degrees centigrade (pool length-20m). Each session included mobility encouragement and supervision, balance activities and leg strength exercises. Outcomes were measured via the Goal Attainment Scale (GAS) and included mobility distance, balance ability, and leg strength. These three daily activities from the short physical performance battery (SPPB) represent significantly important tasks for independent living.

RESULTS

Balance and leg strength outcomes exceeded baseline expectations. Semi-tandem stance improved from a baseline seven seconds to 34 seconds; Leg strength (sit-stand) improved from five repetitions to 10. Timed mobility remained similar to baseline. 20m walk of pool was baseline 68 seconds, final score was 67 seconds. Average scale scores were 1.33, with an overall GAS t-score of 68.26.

CONCLUSION

Hydrotherapy can be a quantifiable hydrotherapeutic option for the very old. It provides a relatively safe environment for mobility and allows balance and leg strength to be challenged – important for the very old population.

KEY PRACTICE POINTS

Hydrotherapy can be a measurable therapeutic option for the very old. Hydrotherapy can offer unique physical properties for the elderly population not available on land.

BIOGRAPHY

Michael is a physiotherapist and accredited exercise scientist and the principal of Gateway Physiotherapy, Brisbane, Australia. He has 25 years' experience providing physiotherapy and hydrotherapy services, including numerous hydrotherapy courses, workshops and seminars throughout Australia, NZ and South-East Asia.

Title: The pathway to physiotherapy specialist

Chair: Ben Darlow¹

Panel: Melissa Davidson¹, Mark Laslett¹, Tracy Pons¹, Steve Tumilty¹, Peter O'Sullivan², Jeremy Lewis³

Affiliations:

¹ Physiotherapy New Zealand

² Australian Physiotherapy Association

³ Chartered Society Physiotherapy

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This session will discuss how individual physiotherapists can become physiotherapy specialists as well as how the physiotherapy profession can use physiotherapy specialists to improve the health and well-being of New Zealanders.

Members of Physiotherapy New Zealand who have achieved specialist registration will describe their career pathways and how these have enabled them to meet the criteria for specialist registration. They will also share experiences of the application process and provide advice to those who are either currently considering making an application or wishing to plan their career development to enable future application.

The physiotherapy specialist scope of practice is still very new and the role of physiotherapy specialists is still developing. Specialists will discuss how they are currently practicing within this scope and their vision for how the role may improve the health of the profession and the public. Physiotherapy specialists from countries which have recognised specialists for a longer period of time (Prof. Peter O'Sullivan, Australia and Prof. Jeremy Lewis, United Kingdom) will contribute to the discussion and share experiences the development of the physiotherapy specialist role in their countries.

This session is designed to be interactive. Questions and contributions from the floor will be welcomed.

Title: Ethical dilemmas in practice: “When something doesn’t feel right.”

Authors: Professional Standards and Ethics Committee

Affiliation: Physiotherapy New Zealand

Email: sue.doesburg@physiotherapy.org.nz

In this session, members of Physiotherapy New Zealand’s Professional Standards and Ethics Committee will present on the resources available to guide ethical and professional physiotherapy practice. An algorithm will be outlined as a useful tool for approaching an issue of concern and the steps leading to resolution explained.

Committee members will present four case studies of ethical dilemmas encountered in practice and demonstrate how the algorithm can assist in decision making.

The Professional Standards and Ethics Committee is independent but accountable to the National Executive of Physiotherapy New Zealand, as a standing committee. The terms of reference are reviewed every three years to ensure they continue to meet the needs of the profession. The purpose of the committee is to facilitate education in the area of ethics and to foster a culture of ethical awareness amongst physiotherapists.

Title: How to go about publishing

Authors: Physiotherapy New Zealand Journal Committee

Affiliation: Physiotherapy New Zealand

Email: Nick.Clode@physiotherapy.org.nz

The New Zealand Journal of Physiotherapy (NZJP) is the official research journal of Physiotherapy New Zealand. Its Honorary Editorial Committee is formed by a group of experienced physiotherapists who work clinically as well as in the fields of research and education. These committee members ensure the Journal meets high publishing standards in line with other international academic journals, with the Journal currently listed on SCOPUS. Articles contain contemporary research and other information that is useful and relevant for physiotherapists working within and outside of New Zealand.

This presentation aims to support novice researchers in submitting an article to the Journal for publication. It will include advice on content the Journal committee look for when evaluating an article and also incorporate information on common pitfalls that may occur when submitting an article for review. Attendees will leave the session feeling confident about the support the NZJP Honorary Editorial Committee can provide in assisting physiotherapists in getting involved in research and publishing their article(s).

An update will also be provided on the latest news from the NZJP Honorary Editorial Committee, and discussion will also be held around opportunities for experienced members to be involved with reviewing research reports, scholarly papers, literature reviews, case studies, study protocols and completing clinical commentaries or book reviews.

Title: Physiotherapy New Zealand Professional Development Committee work stream update

Authors: Professional Development Committee

Affiliation: Physiotherapy New Zealand

Email: anna.williams@physiotherapy.org.nz

In this session, members of Physiotherapy New Zealand's Professional Development Committee will give an update on the Committee's work. A newly developed suite of resources to support physiotherapists in establishing and engaging in professional evaluative and supportive relationships (e.g. clinical supervision and professional supervision) will be launched. In addition, trialling of templates to assist physiotherapists to develop professional development plans, and conduct reflections, will be started. Volunteers from the session will be invited to participate in these trials. The opportunity to participate in the trial of the best practice guidelines for the provision of formal professional development will also be available.

First convened in February 2015, the Professional Development Committee is Physiotherapy New Zealand's newest standing committee. It was instituted to establish a career framework for physiotherapists in New Zealand, and to develop resources to support the professional growth and practice of Physiotherapy New Zealand members. To achieve its programme of work, the Committee established five work streams: Career framework, patient/whānau-centred care, professional relationships, provision of formal professional development, and reflective practice. These will be reported on in this session.

Discussion forums

Title: Should students work weekends?

Author: Elliott S

Affiliation: Physiotherapy Practitioner at Medway NHS Foundation Trust

Email: sarahelliott44@hotmail.com

INTRODUCTION

Diversification of physiotherapy to provide a seven day service has been required to meet the changing needs of society and to reflect developments and competitive pressures in the UK's health service as this increases productivity and reduces a patient's length of stay. However there has been little consideration to examine how practically physiotherapists encompass seven day working for student placements.

Student placements may be offered across a seven day week instead of the traditional five, and may extend later in the evening with some students experiencing a 12 hour shift pattern. This is a new experience for both physiotherapy students, practice educators and universities and currently little literature exists on this topic.

OBJECTIVES

Research, utilising hermeneutic phenomenology has explored the experiences of physiotherapy students, practice based educators and university link tutors in a seven day model of working. Thematic analysis was used to analyse and present the data.

Three overarching themes that have emerged from the data:

- barriers to practice-based education in a seven day model of working
- challenges faced in practice-based learning by physiotherapists in a seven day model of working
- changes undertaken in practice-based education by physiotherapy during the transition to a seven day model of working

ISSUES FOR DISCUSSION

Barriers were interpreted to be stumbling blocks that need to be overcome in order for the physiotherapy profession to move forward in practice education in a seven day model of working. Challenges made participants pause and consider their actions or the impact it may have on practice before moving forwards. Changes that have already occurred.

You are invited to discuss this research and propose recommendations for further development in providing seven day student placements in physiotherapy.

COLLATION AND DISSEMINATION

A summary of the discussion along with links to any pertinent resources will be published on the Physiotherapy New Zealand member website and the interactive forum of the Chartered Society of Physiotherapy (UK).

BIOGRAPHY

Sarah Elliott is a physiotherapy practitioner at Medway NHS Foundation Trust where she specialises in critical care. She commenced her professional doctorate in 2011 at the University of Brighton.

Title: Why is ventilator hyperinflation so uncommon in New Zealand intensive care units?

Author: Seller D

Affiliation: Capital and Coast DHB

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INTRODUCTION

For over ten years there has been good research evidence supporting the use of ventilator hyperinflation (VHI) as a physiotherapy treatment for secretion retention or atelectasis in mechanically ventilated intensive care unit (ICU) patients. Despite this, the most recent survey of VHI use by physiotherapists in Australia and New Zealand reported that VHI is only used in 3/25 (12%) of New Zealand ICUs, well below the 32/140 (23%) in Australian ICUs (Hayes et al 2011), for reasons which are not immediately apparent. While medical opposition to VHI is often cited as a barrier, this should not account for such a disparity between countries: both of the major medical bodies responsible for ICU – the College of Intensive Care Medicine, and the Australian and New Zealand Intensive Care Society – act across both Australia and New Zealand.

OBJECTIVES

To identify barriers to VHI use in New Zealand ICUs, as well as exploring likely contributing factors for these barriers. Also, to develop and discuss possible strategies to address them, both locally and as a wider professional group. This session will also describe common VHI techniques as currently performed, to provide a clear working definition.

ISSUES FOR DISCUSSION

What are the most common barriers to VHI, and how can these be addressed? Why can there seem to be cultural opposition to VHI from some of our medical, nursing, and physiotherapy colleagues, and how do we overcome this? How can we work collaboratively to increase use of VHI by physiotherapists in New Zealand ICUs?

COLLATION AND DISSEMINATION

Notes will be taken by presenter's colleague, summarised, and emailed to those who request a copy via email.

BIOGRAPHY

Daniel graduated in 2001, and worked as the senior ICU Physiotherapist at St Vincent's Hospital in Melbourne between 2006 and 2013. He is currently the senior cardiothoracic and ICU physiotherapist at Wellington Hospital. Research interests include ICU physiotherapy and simulation training. Clinical interests include mobilisation in ICU, mechanical ventilation, and physiotherapist involvement in the multidisciplinary ICU team.

Title: Osteoarthritis models of care for New Zealand

Author: Larmer P J, O'Brien D, Rice D

Affiliation: Health and Rehabilitation Research Institute, School of Clinical Sciences, AUT University, Auckland

Email: Peter.larmer@aut.ac.nz

INTRODUCTION

New Zealand (NZ) lags well behind other Western countries in the delivery of evidence-based care for people with osteoarthritis (OA). The NZ government recently established the Mobility Action Programme (MAP). Research indicates that people living with OA believe there is no clear management path for them in NZ. For many people with hip and knee OA, joint replacement is viewed as the only effective management approach. However, for some people, surgery is neither indicated nor beneficial. Physiotherapists are well placed to manage chronic musculoskeletal conditions. It is essential that we promote our expertise in this area and indicate to health funders what physiotherapy can contribute to the management of these people.

OBJECTIVES

To facilitate discussion and generate an action plan to enable Physiotherapy New Zealand (PNZ) to lobby and advocate the government to secure long-term funding for physiotherapists to engage in the management of chronic musculoskeletal conditions.

ISSUES FOR DISCUSSION

How can PNZ build on the MAP?

How can physiotherapy be more visible at the primary care level for conditions like arthritis?

How can physiotherapists better serve those people with OA that don't require or do not meet the criteria for joint replacements?

How can physiotherapists more effectively rehabilitate patients after joint replacement?

COLLATION AND DISSEMINATION

A summary of the key points will be provided to PNZ for dissemination and be used to advance physiotherapy's role in the effective management of chronic musculoskeletal conditions.

BIOGRAPHY

Peter is Head of School of Clinical Sciences at AUT. He has previously held the positions of Head of School of Rehabilitation and Occupation Studies, Head of Department of Physiotherapy and Head of Postgraduate Studies. He is currently president of Arthritis NZ and Co-chair of the MOH Mobility Action Programme. Prior to joining AUT in 2001, his professional background was in Private Practice Musculoskeletal Physiotherapy. His current research focus is on arthritis management and outcome measures. He has also published a number of systematic reviews.

Title: Physical activity and obstructive sleep apnoea hypopnoea syndrome: nothing to lose (except weight) and everything to gain

Author: Rhodes S, Skinner M

Affiliation: School of Physiotherapy, University of Otago

Email: rhosa130@student.otago.ac.nz

INTRODUCTION

Obstructive sleep apnoea affects 4% of adult males and 2% of females and is linked to diseases of lifestyle. The association between physical inactivity and obstructive sleep apnoea hypopnoea syndrome (OSAHS) severity is well established in the literature as are the benefits of physical activity for health improvement in adults with OSAHS. However, little is known about their specific activity levels and barriers to activity. An opportunity exists for physiotherapists to address modifiable risk factors in this population, such as obesity and inactivity, with particular consideration given to factors that influence physical activity levels and associated lifestyle choices.

OBJECTIVES

To discuss the role of physical activity, and consider the barriers and facilitators to such activity, in people with OSAHS.

ISSUES FOR DISCUSSION

Are physiotherapists asking the key questions to enable identification of patients at risk of obstructive sleep apnoea and features of the syndrome?

What are the benefits of physical activity in the population with OSAHS?

Is the level of emotional wellbeing in this population a barrier to participation?

Can physical activity positively impact emotional wellbeing in this patient group?

What are the other barriers and facilitators to physical activity in people with OSAHS?

As physiotherapists, how can we address these to ensure better patient outcomes?

COLLATION AND DISSEMINATION

A summary of the discussion, along with any relevant links to key literature, will be emailed to all members of the Physiotherapy New Zealand Cardiorespiratory Special Interest Group.

BIOGRAPHY

Sarah is a cardiorespiratory physiotherapist with a special interest in sleep disordered breathing.

