THRIVE Virtual Series

ABSTRACT EBOOK

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AUSTRALIAN PHYSIOTHERAPY ASSOCIATION

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Session 1: Managing Musculoskeletal Pain

A clinical roadmap to managing a person with musculoskeletal pain.

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Persistent musculoskeletal pain across different body regions is frequently comorbid and shares common biopsychosocial risk profiles for pain and disability. As such, clinical practice should focus on the person's context and modifiable biopsychosocial factors that influence their pain and disability.

There is consensus across clinical guidelines on the recommendations for best practice for the management of musculoskeletal pain irrespective of body region. However, current evidence highlights that clinicians find it challenging to implement a biopsychosocial approach in practice.

This presentation will discuss the evidence and provide a roadmap outlining the five actions clinicians can take to adopt a 'person-centred' active approach for the management of persistent musculoskeletal pain irrespective of body region.

Key Practice Points:

This roadmap will encourage clinicians to:

- Implement effective communication in clinical practice
- Target patients' context and modifiable factors that influence their pain and disability
- Encourage active management approaches and reduce reliance on passive interventions.

The little known benefits of therapeutic alliance for patients and clinicians in chronic pain management

Ashton-James C[1]
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Therapeutic alliance is considered to be an important aspect of healthcare delivery, influencing patient satisfaction, engagement, treatment expectations, and treatment adherence. In the context of chronic pain management, therapeutic alliance may be especially critical, influencing not only patient outcomes but also clinician wellbeing. This presentation will explain why therapeutic outcomes are compromised by weak therapeutic alliance, the benefits of therapeutic alliance for patients with chronic pain and their clinician, and will provide clinicians with evidence-based strategies for building therapeutic alliance quickly and effectively.

Key Practice Points:

- Understand the influence therapeutic alliance has on patient outcome
- Identify components of an effective therapeutic alliance

How to assess and manage people with common musculoskeletal pain conditions at risk of poor recovery

Rebbeck T[1], Foster N[3], Beales D[2], Evans K[1]
[1]University Of Sydney, [2]Curtin University, [3]The University of Queensland

Background: Early identification of people with common MSK pain conditions at risk of a poor outcome is important for clinicians in order to identify those who may need a different approach to care. Our team has investigated the validity of two tools to assess risk; the Short Form Orebro Musculoskeletal Pain Questionnaire and the Keele STarT MSK tool. Clinical care pathways matched to risk subgroups have differed depending on the health system context.

Aims and Objectives: Participants will understand how to assess for risk of a poor outcome in their patients with musculoskeletal conditions. They will understand how to adapt their management pathways for such patients.

Approach: Prof Foster will discuss the development and validation of the tools to identify those at a risk of poor outcome and the approach to matched treatment pathways that may follow. Preliminary data on the comparison of the SF-Orebro and STarT MSK tools in an Australian cohort will be presented by Dr Evans and A/Prof Rebbeck. Prof Foster, A/Prof Rebbeck and Dr Beales will then partake in a discussion panel moderated by Dr Evans. They will discuss their experiences of implementing the matched clinical pathways of care for patients in each risk subgroup in the UK and Australia. Materials to augment learning are supporting websites including https://www.keele.ac.uk/startmsk/ and www.mypainhub.com

Key Practise Points:

- Participants will know how to practically administer risk assessment tools for their patients with MSK pain.
- They will improve knowledge and skills in the management of people with MSK pain presentations.

Session 2: Neurological Wellbeing

Physical inactivity and motor decline in young people with CP who have high support needs – to what extent are they interrelated? Can we do more?

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Cerebral palsy (CP) is the most common neuromotor disorder affecting children and non-progression of the underlying neuropathology is a defining feature of CP. However it is known that, following developmental gains in gross motor functioning from birth to approximately 7-9 years of age, gross motor functioning of people with CP declines throughout adolescence and into early adulthood. Gross motor decline is most pronounced in young people classified at Gross Motor Function Classification System (GMFCS) Level III – V but the underlying causes are poorly understood.

It is also known that, compared with the general population, people with CP spend more time sedentary and less time being physically active. Furthermore, among people with CP, as GMFCS level increases, time in sedentary behaviour also increases while participation in levels of habitual physical activity decrease.

The fact that high GMFCS levels are associated with both reduced physical activity and greater gross motor decline raises the possibility that reduced participation in physical activity may, at least in part, explain why gross motor function declines.

This presentation will evaluate what is known about possible causes of gross motor decline with an emphasis on evaluating the quality of the evidence suggesting a causal link between reduced physical activity and gross motor decline. Recent findings from the ParaSTART study will be included, indicating that, among those that typically experience the greatest motor declines (i.e., GMFCS IV), long term engagement in physically demanding, competitive swimming training may yield clinically significant improvements in motor function that are maintained across time.

Key Practice Points:
In this presentation, practitioners will be stimulated to evaluate their own practice to determine whether they can or should place greater emphasis on:

- Decreasing sedentary behaviour and increasing physical activity participation among clients with CP
- Escalating physical activity volume – time, intensity and frequency – among their adolescent and young adult clients, and the role that competitive sport can play
- Overcoming barriers to participation in physically demanding sport and exercise for clients in GMFCS levels III to V.

The treatment of focal spasticity to improve function in people with neurological conditions

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In the past 20 years botulinum neurotoxin has become a key treatment for focal spasticity. As a result, numerous national and international guidelines for the management of focal spasticity have been developed. However, despite considerable research interest in the treatment of focal spasticity to improve function, little evidence exists to support its efficacy.

There is no consensus on the definition of spasticity which impacts on the selection of outcome measures and the differential diagnosis from other positive features of the upper motor neurone syndrome. The clinical assessment of focal spasticity is largely unchanged over the past 50 years despite advances in technology. Research endeavours tend to use focal spasticity as an inclusion criterion for treatment rather than determining, a priori, whether is it actually impacting function.

Despite many randomised controlled trials aiming to treat focal spasticity to improve function, little consideration is given to the concurrent therapeutic program delivered. Therapy is usually not described or is described non-specifically as 'usual care'. Despite these limitations, there is a known dose-response effect for therapy, yet it is rarely factored into the intervention arms of clinical trials.

Multiple challenges remain in our understanding of the impact of focal spasticity on function, but many of these challenges may be addressed by the application of focal spasticity guidelines. The matching of patient goals with an indication for treatment and the relevant therapeutic interventions remains elusive in focal spasticity research. Ultimately at this time, focal spasticity research has failed to guide clinical decision making for functional outcomes.

Key Practice Points:
At the conclusion of this session, participants will

- differentiate the positive features of the upper motor neurone syndrome
- understand the concept of specificity as it applies to spasticity assessment
- align patient spasticity assessment with an indication for treatment, goal setting, provision of therapy and expectation of outcomes

Optimising upper limb motor therapy after stroke to enhance recovery

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Up to 80% of stroke survivors have upper limb motor impairment and functional limitations early after stroke. One in five go on to demonstrate complete recovery at 6 months post-stroke. Over the decades, the burden of upper limb motor problems after stroke has remained high. Therefore, a better understanding of how to improve motor recovery remains a major patient, clinical and scientific priority. A number of fundamental unanswered questions exist that concern upper limb motor therapy
after stroke, including: 1) When should therapy be delivered? 2) How much therapy should be offered? 3) What intervention(s) should be used? and 4) Who to target?. This presentation will discuss research across these areas drawing on preclinical and clinical evidence, international consensus work including the Stroke

Recovery and Rehabilitation Roundtables, and a recently completed large systematic review of upper limb therapy (n>220 studies). To conclude, future reseach directions will be proposed to advance the development of new evidence for physiotherapists treating people with upper limb problems after stroke.

Key Practice Points:

- Introduce standardised terminology for clinical trial phases, epochs of post-stroke recovery and dose of post-stroke therapy.
- Introduce biomarkers that can be used help advance knowledge of who to target post-stroke.
- Provide an up-to-date review of upper limb motor therapy research completed during the first 6-months post-stroke.
- Inform a discussion about 'what's next in upper limb motor therapy after stroke?'

Maximising lifespan mobility in adults ageing with cerebral palsy

Morgan P[1]
[1]*Monash University*

Background: Three of every four people with cerebral palsy (CP) in Australia are adults, yet research and clinical practice guidelines are heavily focused on paediatric care. The healthcare status and health needs of adults with CP is poorly understood. Due to funding via NDIS, adults with CP are now seeking health services to address experienced mobility and balance dysfunction, yet knowledge regarding reasons for decline and potential to remediate decline is just emerging.

Objectives: Through a review of published evidence, factors influencing physical health in adults ageing with CP will be explored and contrasted with that of adults with acquired neurological dysfunction. Strategies to enhance physical health in adults with CP will be proposed.

Results: More than 25% of people with CP who are ambulant when entering adulthood experience decline in mobility and balance dysfunction with associated falls (reported by >40%) and adverse participation impact. Age-adjusted prevalence rates demonstrate that adults with CP have greater rates of joint pain, osteoporosis, all cause fracture, and arthritis compared to those without CP. Of additional concern is the elevated prevalence of non-communicable diseases such as diabetes, hypertension, asthma, and heart conditions resulting in increased mortality from circulatory and respiratory system disease. Physiotherapist-led programs targeting specific mobility and balance dysfunction needs may enhance the physical health of this population.

Key Practice Points:

- CP is a lifespan condition with unique physical health challenges associated with neuromuscular development and premature ageing
- Adults with CP may benefit from targeted programs to address mobility decline and prevent falls

Session 3: Workplace Injury Prevention and Recovery

Maximising function and work ability throughout the life course

Walker-Bone K[1]
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Aim: To find ways to maximise function and work ability amongst (a) adults with musculoskeletal disorders and (b) older workers

Design: The Health and Employment After Fifty (HEAF) cohort recruited adults aged 50-64 years in 2013-14 to investigate the relationship between health and retirement. Participants were representative of the general population of the UK, recruited all across England and from every decile of deprivation. They have completed annual follow-up questionnaires about health, work, lifestyle, diet and exercise since inception (6 in total).

Method: 8314 men and women were recruited at baseline. Subsequent follow-ups have achieved >90% retention. Currently, around 50% of the cohort have exited work and the remainder continue to work (now aged 56-72 years). An additional feature of HEAF is that 97% of participants gave consent for us to access their Clinical Practice Research Datalink records (containing all primary care diagnoses and treatments as well as hospital admissions).

Results: Data from a current UK cohort illustrate marked health inequalities. We found that 3% of 50-64 year old participants were frail (Fried criteria) at baseline and this was importantly associated with impaired ability to work. Longitudinal data will be presented. Common mental health conditions and musculoskeletal disorders accounted for the biggest proportions of health-related job loss. Obesity, shift work, caring, sleep disturbances, and poor self-rated health all impact work ability.

Key Practice Points:

- Function, muscle strength and work ability are importantly related but good jobs and better public health are also urgently required to increase health-related quality of life.

Learning to work from home: experience of employees and organizations during the Covid-19 lockdown

Mackey M[1]
[1]*The University of Sydney, Faculty of Medicine and Health*

Aim: To examine the human, organizational and environmental impacts of working from home (WFH) arrangements on knowledge workers and employers during the Australian COVID-19 pandemic to help inform the design of the work post-2020 and promote worker satisfaction, productivity and health.

Design: A cross-sectional observational study was conducted by online survey given field research was precluded during the lockdown.

Method: Two online surveys were administered separately to knowledge workers (n=301) and organisation managers (n=28) between April and July 2020. The survey instruments comprising closed and open-ended questions explored various aspects of WFH arrangements including worker productivity, health and wellbeing, perceived trust, value, and autonomy, social connections, and overall opportunities and challenges of WFH

arrangements. Work arrangement before the COVID-19 lockdown and expectations of the post-pandemic work arrangements were also explored. Descriptive and correlational analyses were conducted.

Results: Major challenges for organizations with WFH arrangements were perceived lower worker productivity, maintaining workplace culture, and WHS concerns. In contrast employees were concerned with social isolation from colleagues, internet connectivity, increased workload and WFH furniture ergonomics. Face-to-face interaction was the most important reason employees wanted to return to the office. High level of trust and value were reported by organizations and workers.

Conclusion: Post-COVID-19, hybrid modes of work including WFH will become the "new normal" for knowledge workers. Attention should be given by WHS consultants in advising organisations on strategies for optimising workplace culture and productivity, and supporting the mental and physical health, and social relations of workers under diverse future work arrangements.

Psychological health and safety in the workplace.

Hughes N[1]

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We all have a role to play in ensuring workplaces are both physically and psychologically safe. This presentation provides key information on psychological health and safety and the guidance material and tools available to assist workplaces.

Aims/objectives:
Participants will acquire knowledge of:

- The integrated approach to creating and sustaining a mentally healthy and safe workplace
- Common work-related psychosocial hazards
- Resources available to assist workplaces to provide psychologically healthy and safe environments.

Approach: This presentation involves sharing of information on the area of psychological health and safety supported by the use of videos.

Key Practice Points:

- This presentation provides content to assist participants to identify and respond to factors in the workplace which may increase the risk of psychological harm to workers.

Going beyond recovery expectations - identifying risk of delayed recovery

Iles R[1]

[1]*Monash University, Faculty of Medicine Nursing and Health Sciences*

This presentation will cover a number of projects that began with the aim to define what could be called "physiosense," that is, an experienced clinician's ability to change their treatment approach and communication for patients at risk of delayed recovery. It will finish with a description of the Recovery Blueprint project, an introduction of evidence-based risk screening to the management of workers' compensation claims in Queensland.

In between, it will provide an overview of the risk factors for delayed recovery identified in the research, an overview of the tools available to help to identify risk of delayed recovery and the key factors to consider when using them in practice. How this information translated into the risk profiling as part of the Recovery Blueprint trial will be described, including how workers' compensation case managers apply screening questions followed by questionnaires such as the Oswestry Disability Index and the Orebro Musculoskeletal Questionnaire.

Key Practice Points:

- This session aims to challenge how you identify when someone may need extra support in their recovery from injury.
- A range of tools will be discussed, how they are applied and who should apply them.
- Most importantly how those tools are connected to action will be described from a workers' compensation system perspective.
- You will be asked where on an evidence-based continuum your approach to risk identification sits.

Translating evidence to practice: process evaluation of a new method for musculoskeletal disorder prevention

Oakman J[1], Otto B[1]
[1]La Trobe University

Aim: The aim of the study was to identify key barriers and enablers influencing the implementation process utilised for a new method for preventing work-related MSDs in a mining organisation.

Design: The study was conducted using qualitative methods involving semi-structured interviews with a range of participants involved in the implementation of A Participative Hazard Identification and Risk Management (APHIRM) toolkit. A greater focus on implementation-related issues has recently been highlighted as necessary for ensuring ergonomics interventions meet their intended objectives.

Method: Ten participants provided consent to participate in the study. Participants viewed as key informants with specialist knowledge regarding the implementation process were invited to participate. Snowball sampling was also utilised. An interview schedule ensured the research question was answered. Using thematic analysis, data coding was completed manually using an inductive and deductive approach.

Results: Two main themes emerged from the data analysis: factors enabling, and barriers to, effective implementation of the toolkit. Barriers included: lack of management commitment, support and participation; lack of knowledge and training; resistance to change; process deficiencies; lack of communication; changing work environment; and influence of the Covid pandemic. Enablers included: the toolkit resources and usability, use of a participative approach and integration with existing business processes.

Key Practice Points:

- The high prevalence of barriers and limited number of enablers, combined with the inter-relatedness of factors, reinforced the complex nature of workplace MSD prevention implementations.
- Participant interviews provided important insights that will be used to improve the design of future implementations of the toolkit in the organisation.

Session 4: Performance Health

The use of injury prevention programs in community netball

Smith M[1], Saad T[2], Davis L[3]
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Summary and Rationale:
Netball is one of the most popular team sports among females in Australia. The rapid acceleration, deceleration, direction chance and landing places netball players risk of lower limb injury. In football, injury prevention programs have successfully reduced ACL injuries by up to 74%. These programs encompass specific exercises and provision of feedback to improve movement patterns associated with ACL injury. Based on these principles, Netball Australia developed the Netball KNEE Program. This program includes exercises from four activity categories: warm-up/footwork, strength, balance/landing and agility. While the program is freely available online and promoted to coaches through netball clubs/associations and coaching courses, little is known about the real-world implementation of the KNEE program in community netball.

Abstract 1
Have community netball coaches adopted the Netball KNEE program?

Presenting author: Lauren Davies

Aim: To explore the Reach, Effectiveness, Adoption, Implementation and Maintenance (RE-AIM) of the KNEE program in community netball.

Design: Cross-sectional survey.

Method: Community netball coaches (n=257) completed an online survey on their familiarity and satisfaction with and implementation of the KNEE Program. Demographics were compared between adopters (coaches who used the KNEE program) and non-adopters (coaches who did not use the KNEE program).

Results: Two-thirds (66.5%) of coaches were familiar with the KNEE program, of which 87.2% were satisfied with it. The KNEE program was used by 77.0% of coaches. Coaches that adopted the KNEE program coached players aged ≥14 years ($p<0.002$), had more coaching experience ($p<0.001$) and had a higher level of coaching accreditation ($p<0.001$). Warm-up/footwork activities were reported to be used by 99.4% of coaches, compared to 77.4% to 78.1% of coaches who reported that they used strength, balance/landing and agility activities. 73.2% of coaches intended to use the KNEE program in the future.

Conclusions: The majority of community netball coaches were familiar with the KNEE program. Most coaches used warm-up/footwork activities, but fewer included activities for strength, balance/landing and agility.

Key Practice Points:

- Strategies may be needed to increase KNEE program adoption by less experienced coaches of younger athletes.
- The benefits of including strength, balance/landing and agility activities in training should be emphasised to netball coaches to encourage implementation of these areas of the KNEE program.

Abstract 2
How is the Netball KNEE program implemented in community netball?

Presenting author: Tess Saad

Aim: To determine the implementation of the KNEE program in community netball and whether implementation differs by player age and type of activity.

Design: A cross-sectional observational study.

Method: Sixty-seven community netball coaches were observed to determine their use of KNEE program activities, and provision of feedback in training. Data was compared between the following age groups: 7-10, 11-13 and ≥14 years. The percentage of the recommended number of KNEE activities performed (overall and by activity category) and frequency of feedback was calculated.

Results: No team performed the recommended number of KNEE program activities without modification. Only 12%, 18% and 14% of the recommended number of activities were performed as intended in the 7–10, 11–13 and ≥14 years age groups, respectively. Warmup/footwork activities (30%; 0–80%) were more frequently performed than strength (0%; 0–50%), balance/landing (0%; 0–50%) and agility (0%; 0–25%) activities ($p<0.001$). Feedback was required for 65% of activities, but only provided in half of these incidences (56%).

Conclusion: These findings raise concerns about the implementation of the KNEE program in community netball. The lack of provision of feedback when required suggests that included exercises are unlikely to improve movement patterns.

Key Practice Points:
- While feedback is an important component of injury prevention programs, it is infrequently provided when required.
- Low use of KNEE program activities in community netball suggests a need for interventions to improve implementation.

Abstract 3
What is limiting the implementation of injury prevention programs in community netball?

Presenting author: Michelle Smith

Aim: To understand the perspectives of community netball coaches and club executives on the implementation of injury prevention programs, and to solicit their suggestions for improvement.

Design: Qualitative study.

Method: Semi-structured interviews were conducted with 24 community netball coaches and club executives. Participants were asked about their beliefs about injury prevention, barriers and facilitators to implementing the KNEE program, and desired support to improve implementation. Data were analysed using inductive thematic analysis.

Results: Coaches thought it was important to develop injury prevention habits and understanding early in their players. Life roles, coaching experience and engagement influenced implementation of and confidence in delivering injury prevention programs. Coaches felt that while KNEE program material is available, there is lack of support for implementation. The length and complexity of the program, and suitability for younger and less skilled players were identified as concerns. Participants desired a short simple injury prevention program, and engagement with physiotherapists for implementation.

Conclusion: Coaches and club executive understand the importance of injury prevention in netball. While confidence in delivering the KNEE program varied with life and coaching experience, most coaches did not feel prepared or supported to implement the KNEE program with players.

Key Practice Points:

- Community netball coaches want to work with physiotherapists to collaboratively implement injury prevention programs.
- Lack of confidence, poor understanding of correct movement patterns and program length/complexity need to be addressed to increase implementation

Clinically aligned injury prevention

Drew M[1,2], Whalan M[3,4,5]

[1]Australian Institute of Sport, [2]University of Canberra, [3]Football Australia, [4]Figtree Physiotherapy, [5]University of Wollongong

We know “an ounce of prevention is worth a pound of cure” but this is often easier to say but much harder in practice. However, in practice, everyone understands that you need both prevention and cure to be effective. This session will explore the theory and philosophy of the what and why of developing an injury control system, while also exploring practical ways to implement prevention and treatment systems in parallel in the “real world”. This unique session will harness the real-world systems development experience of Dr Michael Drew (Australian Institute of Sport) and Dr Matt Whalan (Football Australia) and provide a practical insight into how we can develop systems to reduce injury occurrence for all athletes. Matt and Mick will adopt a “Cook & the Chef” approach in which they will explore what can be done across the spectrum of sport – elite to the community, and across the spectrum of injury prevention – from primary to secondary to tertiary – taking into consideration resources, support and how to work with stakeholders. Participants in this session will gain a greater understanding of injury prevention frameworks, learn how they can impact the athletes and patients they work with and develop their own injury management system which is specific to their own context with the inclusion of both prevention and treatment plans. Importantly, this session is suitable for anyone working with athletes from the elite to the weekend warrior to those in highly physical demanding occupations.

Helping kids stay healthy long enough to “make it” in sport - the role of physiotherapy

Whalan M[1,2,3]

[1]Football Australia, [2]Figtree Physiotherapy, [3]University of Wollongong

Those that work with athletes, whether in elite, semi-professional or community sport, will all be familiar with the tales of those athletes that would’ve “made it” if they only hadn’t picked up that injury during their sporting journey. With the continued rise of professionalism in sport, earlier and earlier sporting specialisation and the quest for identifying “talent” from a young age, the importance of helping athletes navigate their sporting journey with their bodies intact has never been more important. As physiotherapists, we are a key stakeholder in the promotion of athlete welfare and hold a unique position in that we may often be the only stakeholder that will advocate for the short-, medium- and long-term wellbeing of the athlete in front of us. Unfortunately, physiotherapists are often seen as the “fixers” rather than the “preventers” and opinions are only sort once performance or participation is affected. This presentation will explore the important role that physiotherapists can, and should, take in keeping athletes available for sporting participation and selection through implementation of effective injury prevention systems. We will explore the concepts of: developing an injury prevention system rather than a program; the importance of preparing the athlete for the demands of their sport; youth specific considerations and how to get coaches and parents onboard.

Risk factors and management of lumbar bone stress injury in youth fast bowlers

Sims K[1], Saw R, Saw A, Orchard J, Kountouris A
[1]*QSMC*

Aim: To investigate the relative influence of multiple risk factors on the development of lumbar bone stress injury in a cohort of youth cricket fast bowlers.

Design: A five year retrospective review of lumbar bone stress injury and measures of physical fitness, bowling technique, musculoskeletal screening and bowling workload

Method: 222 elite male u17 and u19 fast bowlers participating in their respective state pathway programs were selected. Analysis determined which of this cohort sustained a lumbar bone stress injury (LBSI). Links were then investigated between injury and physical performance, musculoskeletal screening, bowling workload and bowling technique.

Results: There were 49 lumbar bone stress injuries in the cohort. Multivariate analysis identified a younger age ($p < 0.001$), a taller height ($p = 0.011$), and a faster bowling speed ($p = 0.022$) as significant risk factors for lumbar bone stress injury. The multivariate model was able to explain 36% of the variance (Nagelkerke $R2 = 0.36$).

Conclusion: A younger, taller, faster bowler was the profile for a bowler at increased risk of lumbar bone stress injury in our study.

- Emphasises the importance of carefully managing bowlers during adolescence
- First study to shown increased height as a risk factor
- The relatively low predictive capacity of the study suggests other factors (eg; timing and rate of growth) may be very important in this cohort

Session 5: Physical Activity and Rehabilitation for Cardiorespiratory conditions

An implementation science approach to improving physical activity practices across the lifespan in physiotherapy: lessons learned and practical applications

Virgara R[1], Baldwin C[1], Potter A[2], Maher C[1], Lewis L[3], Mohammadi L[4], Munn Z[5], Richardson M[6]
[1]University Of South Australia - Allied Health and Human Performance, [2]Women's and Children's Hospital, [3]Flinders University - College of Nursing and Health Sciences, [4]Flinders University - College of Medicine and Public Health, [5]University of Adelaide - Joanna Briggs Institute, [6]National Outside School Hours Services Alliance - South Australia Branch

Summary and Rationale:
Insufficient physical activity is a major public health issue, contributing to the development of chronic disease and suboptimal clinical outcomes. A paradigm shift is underway, in which physical activity is increasingly recognised as being central to the management of many health conditions. Meaningful changes across multiple systems will be required to improve physical activity behaviours. This symposium will focus on bringing about large-scale change drawing on best evidence and stakeholder consultation.

The first presentation will outline a Delphi approach to gather consensus opinion regarding physiotherapy-related data collection on the Australian Cystic Fibrosis Data Registry. Best-practice methodologies for guideline development will then be presented in the context of older adults' activity behaviours during hospitalisation. The final presentation will demonstrate the assessment of an evidence-practice gap for children's activity behaviours in Outside-School-Hours Care. The value and importance of stakeholder engagement will be discussed, as well as implications for scalability and impact.

Abstract 1
Towards recording airway clearance, physical activity and fitness on the Australian Cystic Fibrosis Data Registry: a consensus approach

Presenting author: Angela Potter

Aim: Physiotherapy is a cornerstone of cystic fibrosis (CF) management, yet the Australian CF Data Registry currently does not record physiotherapy-related data. This study aimed to gather opinions from lead Australian cystic fibrosis physiotherapists regarding the importance and feasibility of collecting physiotherapy-related data on the registry.

Design: A three-round online Delphi survey was conducted to gather expert stakeholder opinion and consensus agreement.

Method: Lead physiotherapists from all 23 Australian cystic fibrosis centres were invited to participate. Round one explored the potential benefits, barriers and importance of recording three physiotherapy-related domains on the registry: airway clearance, physical activity and fitness. Subsequent rounds were developed based on the findings from the previous round/s and sought consensus (80% agreement) for the inclusion of physiotherapy-related data on the registry and the most appropriate methods of collecting such data.

Results: The response rate was > 80% for all rounds. Participants agreed that the collection of airway clearance, physical activity and fitness data on the registry was important and feasible. Findings suggested that airway clearance and physical activity should be collected using self-reported questionnaires, while fitness should be measured using a field-based test.

Conclusion: Australian lead cystic fibrosis physiotherapists believe that collection of airway clearance, physical activity and fitness on the registry is important and feasible. Future work focussed on piloting data collection to ensure its feasibility in real-world clinical settings is needed.

Key Practice Points:

- This study demonstrated how Delphi methodology can provide a contemporary summary of expert physiotherapist opinion that can help inform nation-wide health service improvement.

Abstract 2

Applying the GRADE methodology to develop clinical guidelines for physical activity and sedentary behaviour in acute hospital inpatients.

Presenting author: **Claire Baldwin**

Aim: High-quality guidelines require rigor in development, from the initial prioritisation of problems to implementation. We describe progress towards a clinical guideline for 'physical activity and sedentary behaviour in acute hospital inpatients.'

Design: Grading of Recommendations Assessment, Development and Evaluation (GRADE) methodology.

Methods: A Delphi study was conducted with multi-disciplinary clinicians, researchers and consumers to prioritise problems and create consensus-based statements that have informed research questions for subsequent systematic reviews. An expert and end-user panel has been convened to make decisions about guideline scope, appraise evidence profiles and formulate recommendations.

Results:A 13-member panel has been established. Three systematic reviews have commenced to seek evidence for (1) physical activity and/or sedentary behaviour interventions in acute care, (2) the values and preferences of acute inpatients and (3) the feasibility, acceptability, cost and equity of interventions (>15,000, 7213 and 5354 studies for screening respectively). The panel has decided to provisionally evaluate interventions against important outcomes identified from the Delphi study (physical, social and emotional functioning, hospital outcomes). After basic data extraction, the panel will review outcome selection and plans for sub-group analyses (age, sex, frailty status, cognitive impairment) where there may be differences in outcomes.

Conclusion: This long-term and complex guideline development work has required robust procedures and broad engagement in the set-up phase, to ensure a resource of relevance to patients, clinicians and the Australian healthcare system is created.

Key Practice Points:

- Guidelines can be a powerful driver of change
- Quality development should lead to wide-spread impacts on health/hospital outcomes

Abstract 3

Assessing the evidence-practice gap for physical activity and screen time practises in Australian Outside-School-Hours Care

Presenting author: **Rosa Virgara**

Aim: To assess the evidence-practice gap for physical activity and screen time scheduling in Australian Outside-School-Hours Care services.

Design: Grading of Recommendations Assessment, Development and Evaluation (GRADE) methodology to develop guidelines, followed by a national cross-sectional survey of current practice.

Methods: A variety of stakeholders completed four Delphi survey rounds to inform development of draft physical activity and screen time guidelines for use in Australian Outside-School-Hours Care. All Australian Outside-School-Hours Care directors (n=3551) were invited to participate in an online survey regarding current physical activity and screen time practices, provide feedback on the draft guidelines and suggestions for barriers and enablers to implementation.

Results: Feedback from n=67 Delphi participants underpinned the development of physical activity and screen time guidelines for Outside-School-Hours Care. The draft guidelines recommend scheduling sufficient physical activity opportunities (≥45min in before school care, ≥90min in after school care), and restricting recreational screen time offerings (≤30min before school care, ≤60min after school care). A total of n=566 Outside-School-Hours Care directors participated in the national survey. The guidelines were well received, with the majority supportive of the target durations. At present, 41% of Outside-School-Hours Care services' daily programming meets the new guidelines' recommendations. Staff understanding and training were highlighted as enablers for guideline implementation.

Conclusions: This study demonstrated a methodological framework for establishing best-practice guidelines for physical activity and screen time practices in Outside-School-Hours Care and assessing the evidence-practice gap.

Key Practice Points:

- End-user involvement and engagement are important for long term-uptake and use of guidelines
- Understanding gaps in practice and end-user perspectives helps to plan appropriate dissemination and implementation strategies

Physiotherapy management for COVID-19: a collaboration with global impact

Thomas P[1]
[1]*Department of Physiotherapy, Royal Brisbane Women's Hospital*

The COVID-19 pandemic has required an urgent response from healthcare systems to provide screening, treatment and now immunisation at unprecedented levels and simultaneously offer protection to healthcare workers. In April 2020, the Journal of Physiotherapy published a review titled “Physiotherapy management for COVID-19 in the acute hospital setting: clinical practice recommendations”. The review was produced through a collaboration between Australian and international physiotherapists with the aim of providing information to physiotherapists and acute care healthcare facilities about the potential role of physiotherapy in the management of hospital-admitted patients with confirmed or suspected COVID-19. Recommendations were made in regard to workforce planning and preparation, screening to determine indications for physiotherapy, the delivery of physiotherapy interventions and personal protective equipment.

Preparing recommendations in a time-critical environment at the beginning of a pandemic required a combination of strategies including utilising the scientific literature that was available on COVID-19, extrapolation of evidence from similar clinical conditions and expert-consensus. Metrics from citations and social media suggest major utilisation of the recommendations internationally. Across the course of the pandemic, international clinical guidance has changed or continues to be debated. While the current physiotherapy recommendations appear to largely reflect this guidance, certain elements may need to be reviewed in the future.

Pulmonary rehabilitation: teaching an old dog new tricks?

Cox N[1]
[1]*Monash University & Institute for Breathing and Sleep*

Pulmonary rehabilitation is a well-established and effective treatment intervention for people with chronic respiratory disease. Typically delivered in a face-to-face outpatient setting, pulmonary rehabilitation comprises both exercise training and self-management education, and achieves improvement in physical function, symptoms and reduces need for hospitalisation. Despite the benefits of pulmonary rehabilitation, relatively few people who would benefit have ever undertaken a program, and there are well documented patient and health system barriers to program uptake and attendance. Limited participation in pulmonary rehabilitation has been compounded recently with physical distancing restrictions, shelter in place recommendations and health service re-deployment in response to COVID-19 largely precluding the delivery of traditional, centre-based pulmonary rehabilitation services. This presentation will review the current state of evidence for pulmonary rehabilitation in chronic respiratory disease, with a particular focus on new and alternative models of program delivery which aim to improve access and availability of services.

Key Practice Points:

- Recently developed consensus definition of modern pulmonary rehabilitation
- Current evidence for new and emerging models of pulmonary rehabilitation
- • Considerations for implementation of alternative models of pulmonary rehabilitation delivery

Preventing pulmonary complications after major abdominal surgery – is early ambulation enough?

Boden I[1,2,3]

[1]Physiotherapy Department, Launceston General Hospital, [2]Clifford Craig Foundation, [3]School of Health Sciences, University of Melbourne

Despite advances in perioperative surgical practices over the past 20 years, postoperative pulmonary complications (PPC) remain relatively common after major abdominal surgery. Since the 1950's, coaching patients to perform deep breathing and coughing (DB&C) exercises after surgery has been a mainstay of physiotherapy practice. However, with several clinical trials published in the 1990's questioning the efficacy of coached DB&C to prevent PPC over early ambulation alone, there is currently a high degree of uncertainty regarding what is the best practice to prevent PPC in this population. This presentation will provide an overview of the evidence of physiotherapy interventions, including prehabilitation, postoperative early ambulation, incentive spirometry, and breathing exercises, to prevent PPCs following major abdominal surgery. Based on the weight of the current evidence a proposed best-practice guideline to prevent PPC will be presented.

Key Practice Points:

- Participants will have improved awareness of the evidence for the range of physiotherapy interventions to prevent PPC following abdominal surgery.
- An evidence-based practice guideline will be provided for physiotherapists to consider implementing in their hospitals to prevent PPC after major abdominal surgery.

Session 6: Tendinopathy

From mechanisms to management: an evidence informed approach for lateral elbow tendinopathy

Coombes B[2], Vuvan V[1], Bisset L[1], Vicenzino B[2]
[1]School of Health and Rehabilitation Sciences, The University Of Queensland, [2]School of Allied Health Sciences, Griffith University

Summary & Rationale:
Lateral elbow tendinopathy affects 1-3% of the general population and up to 17% of manual workers. The condition causes significant pain and disability which may persist for a significant proportion of patients despite treatment, warranting better understanding of the mechanisms underlying its presentation and management. This symposium will provide research-based evidence related to physical (motor, sensory, pain comorbidities) and psychological impairments of the condition and their role in pain, disability, prognosis and treatment outcomes. Our group has conducted a series of studies that evaluate: (a) pain-related impairments associated with sustained isometric function of the wrist extensor muscles, (b) the prognostic value of physical and psychological features, and (c) the effect of prolotherapy injections and manual therapy/exercise on sensory function, and the discriminative ability of baseline sensory profiles on clinical outcomes. These studies together provide the clinician with the most recent comprehensive and translatable evidence on this topic.

Abstract 1
Time to task failure with low-load isometric contraction – A useful metric in individuals with lateral elbow tendinopathy

Presenting author: Dr Brooke K Coombes

Aim: (1) To compare responses to a low-load isometric contraction between individuals with and without lateral elbow tendinopathy; and (2) explore if responses to isometric contraction are related to measures of disability, pain sensitivity and psychological factors (e.g. fear-avoidance, anxiety, catastrophisation).

Design: Cross-sectional study

Methods: 114 individuals with lateral elbow tendinopathy and 54 pain-free controls performed a low-load isometric contraction of the wrist extensor muscles until task failure, defined as when either 10/10 rating of perceived exertion or pain rating of 60/100 was reached. Outcomes of the task were time to failure and residual pain intensity measured immediately following exercise completion. Group differences in isometric contraction task outcomes were evaluated using Mann-Whitney U test. Associations between isometric contraction task outcomes and characteristics of the tendinopathy group were evaluated using Spearman rank correlation.

Results: Individuals with tendinopathy demonstrated lower time to failure and greater residual pain compared to the control group ($p < 0.001$). Time to failure was significantly correlated with levels of disability ($\rho = -0.35$), whilst residual pain was significantly correlated with cold pain threshold ($\rho = 0.34$). No significant correlations were observed between psychological measures and isometric contraction task outcomes.

Conclusion: A test of time to failure with low-load isometric contraction provided novel outcomes related to pain and disability in individuals with lateral elbow tendinopathy.

Key Practice Points:

- Time to failure with low-load isometric contraction is a simple clinical test that distinguishes individuals with greater disability.
- Pain following low-load isometric contraction may reflect nociplastic pain mechanisms.

Abstract 2

The prognostic value of somatosensory, psychological and comorbid pain features in persistent lateral elbow tendinopathy: a 1-year prognostic study

Presenting author: Dr Viana Vuvan

Aim: Investigate the association between presence of comorbid pain, somatosensory and psychological features in individuals with lateral elbow tendinopathy on their pain and disability 6 and 12 months later.

Design: Prospective study

Methods: 149 individuals with lateral elbow tendinopathy were enrolled in the study and completed baseline measures. Measures of sensory (pressure and thermal pain thresholds, temporal summation) and motor function (pain-free grip strength), psychological factors (kinesiophobia, pain self-efficacy, pain catastrophising) and pain comorbidities were collected at baseline. Pain and disability was measured using the Patient-Rated Tennis Elbow Evaluation at baseline, 6 and 12 months. Univariate and multiple backward stepwise regression analyses were used to identify a group of factors at baseline that were associated with pain and disability at 6 and 12 months.

Results: Higher pain and disability and lower pain self-efficacy at baseline were associated with higher pain and disability at 6 months (R^2=0.35, $p < 0.001$). Higher pain and disability, pain-free grip strength, and presence of ≥ three comorbid pain sites were associated with higher pain and disability at 12 months (R^2=0.26, $p < 0.05$).

Conclusion: Individuals with LET as their primary problem who report high levels of pain and disability, ≥ three pain sites and exhibit poor pain self-efficacy are likely to have high levels of pain and disability 6 and/or 12 months later.

Key Practice Points:

- Identifying those in primary care who are likely to have a poor prognosis might be possible by simply identifying comorbid pain sites and poor pain self-efficacy.

Abstract 3

Effects of prolotherapy injections and physiotherapy in improving sensory characteristics in people with chronic lateral elbow tendinopathy

Presenting author: Associate Professor Leanne Bisset

Aim: Examine changes in sensory function following prolotherapy injections, manual therapy/exercise, or a combination of both; and determine if baseline sensory profiles discriminate clinical outcomes over time.

Design: Randomised clinical trial

Method: Sixty-six participants with a clinical and radiological diagnosis of lateral elbow tendinopathy were randomly assigned to prolotherapy (4 injections), manual therapy/exercise (4 sessions), or a combined group (4 injections + 4 manual therapy/exercise). Quantitative sensory tests of cold and pressure pain thresholds were measured at baseline and 6-months follow-up. Patient-Rated Tennis Elbow Evaluation, pain-free grip strength and participant success (global impression of change) were also measured. Clinical and sensory outcomes were compared between treatment groups using repeated measures ANOVA. Sensory subgroups were defined by a split about the median for baseline pressure and cold pain threshold, to form hyperalgesic/hypoalgesic subgroups. Outcomes were compared between subgroups using repeated measures ANOVA or chi-square tests.

Results: At 6 months, all sensory and clinical outcomes improved significantly ($p < 0.001$) regardless of treatment with no difference between treatments. Participants in the mechanical hyperalgesia subgroup experienced significantly less improvement in pain-free grip strength at 6 months (mean difference between subgroups 84 N, 95% CI 26 to 142; $p = 0.005$). There were no other significant differences in outcomes between the hyperalgesic/hypoalgesic subgroups.

Conclusion: Sensory and clinical impairments improved regardless of treatment. Baseline sensory profiles may influence treatment effects.

Key Practice Points:

- People with mechanical hyperalgesia display poorer pain-free grip strength at 6 months, despite general improvements in sensory and clinical outcomes following treatment.

‘Physio’s not going to repair a torn tendon’: patient decision-making related to surgery for rotator cuff related shoulder pain

Malliaras P[1], Rathi S[2], Burstein F[1], Watt L[1], Ridgway J[3], King C[4], Warren N[1]
[1]Monash University, [2]La Trobe University, [3]Peninsula Health, [4]Lifecare

Aim: The rates and costs of surgical interventions for rotator cuff related shoulder pain (RCRSP) have been on the rise. Understanding decision-making related to surgery and providing adequate information to people with RCRSP may improve patient-centred care and potentially reduce rates of surgery. The aim of this study was to explore the decision-making processors of people who have undertaken surgery for RCRSP.

Design: An in-depth thematic analysis.

Method: Interviews were conducted with patients from Melbourne who had had surgical management for RCRSP. Data were analysed using an inductive thematic approach.

Results: Fifteen participants were recruited. Six key themes emerged: (1) Needing to get it done: “It was necessary to remedy the dire situation”; (2) Non-surgical treatment experience:” I knew that I’d done all I could”; (3) Mechanical problem:” Physio’s not going to repair a torn tendon”; (4) Trust in medical professionals “If they told me that I needed to swallow a thousand spiders, I would have done it.”; (5) Varied

information sources “Dr Google played a big part in it”; (6) Organisational barriers “It was absolutely useless, my insurance.”

Conclusion: Surgery appears to be commonly precipitated by unremitted severe symptoms and failed non-surgical treatment. The decision to undergo surgery also drew on questionable pathoanatomical beliefs and instances of inadequate patient information about treatment choices and risks.

Key Practice Points:

- Decision to undergo surgery sometimes drew on questionable pathoanatomical beliefs.
- There were instances of inadequate patient information about treatment choices and risks.

Stubborn tendon pain: why?

Vicenzino B[1]
[1]University of Queensland

Localised tendon pain and impaired ability to cope with load are the key clinical features of tendinopathy. Tendon pain can sometimes become stubborn to a range of treatments and frustrating to the patient, as well as the attending clinician. The reasons for such stubbornness are not always readily apparent. We have previously introduced a multi-dimensional model that we propose can be used as an adjunct to the clinical reasoning employed in managing recalcitrant tendinopathy. This presentation will provide an account of this model as an explanation of why some tendon pains are stubborn.

How do Plyometrics Prepare the Plantarflexor Musculotendon Complex for the Demands of Running?

Trowell D[1,2], Fox A[3], Saunders N[1], Vicenzino B[4], Bonacci J[3]
[1]Deakin University, [2]The Victorian Institute of Sport, [3]Deakin University, [4]The University of Queensland

Aim: To compare gastrocnemius lateralis and soleus musculotendon output during running with plyometric exercises.

Design: Repeated measures.

Method: Fourteen distance runners performed running, ankle bouncing, A-skips, bounding, and hurdle jumps while three-dimensional motion and force data were captured. Computational simulations calculated plantarflexor peak forces, strain, power, and total work. Percentage change and standardised mean differences (SMD) were used to compare plantarflexor output between running and plyometric exercises. Musculotendon units were classified as energy generators or absorbers based on net work.

Results: Both plantarflexors behaved as energy generators during running. Ankle bouncing and A-skip had low plantarflexor forces, strain, and powers. Soleus switched to an energy absorber during hurdle jumps due to a large decrease in total positive work (-23.3%; SMD 1.43), moderate increase in total negative work (16.5%; SMD 0.92), and small increase in peak strain (0.3%; SMD 0.28) compared to running. Gastrocnemius switched to an energy absorber during bounding, with a moderate increase in total negative work (63.8%; SMD 0.81) and peak strain (0.4%; SMD 0.77) compared to running.

Conclusion: Ankle bouncing and A-skip had low plantarflexor outputs, while bounding had high plantarflexor outputs compared to running. Hurdle jumps had high soleus output but low gastrocnemius output, illustrating the disparate function of the plantarflexors during these exercises.

Key Practice Points:

- Ankle bouncing and A-skip may be suitable when low plantarflexor loads are required.
- Hurdle jumps can be used to preferentially load eccentric demand of soleus.
- Bounding demands high plantarflexor output and may be appropriate when eccentric overload is desired.

Session 7: Disability: Priorities and Participation at Different Ages

Physical activity and disability- why, what and how?

Cole J, Hassett L[2], Shields N[1]
[1]Department of Physiotherapy, Podiatry and Prosthetics and Orthotics, [2]The University of Sydney

Summary and Rationale:
This symposium will focus on physical activity for adults with disability, including sport and physical recreation. The objectives are:
(i) to describe physical activity participation among adults with disability with respect to physical activity guidelines;
(ii) to systematically review available evidence on the benefits of sport and active recreation for adults with disability; and
(iii) to illustrate, using a recent feasibility trial, how physical recreation might be implemented in community settings for young adults with disability.

The relevance of these individual contributions is to establish the size and scope of the problem of low participation in physical activity among adults with disability, to demonstrate the current evidence base, highlighting its strengths and weakness in supporting practice, and to exemplify how physiotherapy is leading the way to addressing known gaps.

Abstract 1
Comparisons of physical activity participation by adults with and without a disability: an Australian cross-sectional survey

Presenting author: Jenni Cole

Aim: To compare the amount and type of physical activity participation among adults with and without disability.

Design: National cross-sectional telephone-based survey of sport and physical recreation participation

Method: Deidentified data for 54,343 adults (10 235 of whom reported having a disability), collected between October 2015 to June 2018 as part of the AusPlay survey, was accessed through Sport Australia. Descriptive statistics, $\chi 2$ tests and regression analyses were conducted to describe physical activity participation and compare those with and without self-reported disability.

Results: Adults with a disability were half as likely to meet physical activity guidelines through sport and/or physical recreation than adults without a disability (OR 0.53, 95% CI 0.51 to 0.57). A greater proportion of adults with a disability participated in physical recreation only (40% vs 31%; $\chi 2=187$; $p<0.001$), whereas a greater proportion of adults without a disability participated in sport only (20% vs 12%; $\chi 2=188$; $p<0.001$).

Conclusion: Adults with a disability are less physically active and report different physical activity profiles than adults without a disability.
Key Practice Points:

- Inclusive and disability-specific physical activity opportunities are needed for adults with disability across the lifespan.
- Physiotherapists have an important role in prescribing and promoting physical activity.

Abstract 2
Identifying the evidence-base for sport and physical recreation for adults with physical and intellectual disabilities: a systematic review

Presenting author: Leanne Hassett

Aim: To identify the current evidence-base for sport and physical recreation (excluding structured exercise) for adults living with physical and intellectual disabilities.

Design: Systematic review including randomised controlled trials (RCTs) of physical recreation and sport and non-randomised controlled trials (non-RCTs) of sport. PROSPERO registration: CRD42018104379.

Methods: We searched six electronic databases combining population and intervention MESH headings and free text words. We extracted data on disability and physical activity type, and the outcomes evaluated.

Results: From 2,434 RCTs and 9,325 non-RCTs, 47 physical recreation RCTs and 89 sport non-RCTs were included. Physical recreation trials included predominantly adults with degenerative neurological conditions (32 studies), investigating a mix of physical recreation activities (yoga-16 studies, tai chi-13 studies, dance-12 studies) and included predominantly measures of impairment (38 studies) with only 4 studies including participation-level measures. Sport non-RCTs included predominantly elite athletes with physical disability (77 studies, predominantly adults with Spinal Cord Injury) investigating mostly wheelchair sports (59 studies, only 7 specified ambulant sport) and largely evaluating the impact on physical and cognitive impairments (58 studies).

Conclusion: More rigorously designed research is needed investigating grass-roots sport and physical recreation for adults with mixed health conditions and including activity and participation-level measures.

Key Practice Points:
- Participation in community-based sport and physical recreation activities is a potentially scalable and enjoyable means for adults living with disability to achieve physical activity levels shown to improve health and quality of life.

Abstract 3
Feasibility of scaling-up a community-based physical activity program for young people with disability

Presenting author: Nora Shields

Aim: To evaluate feasibility of scaling up a 12-week community-based program (FitSkills) in which young people with disability (13 to 30 years) exercise with a student mentor.

Design: Within a stepped-wedge cluster-randomised trial, seven domains of feasibility were assessed.
Methods: Domains assessed were: Demand- expressed interest, actual use, population demand; Implementation- attendance, intervention fidelity, efficiency of implementation; Acceptability- satisfaction,

perspectives; Practicality- adverse events, benefit versus burden; Adaptation- modifications for complex disability; Integration- implementation and outcomes of three program changes; Expansion- to additional sites.

Results: Of 163 participants (61 females; 20.8 ± 5.0yrs) and 226 mentors who enrolled, 123 participants and mentors completed FitSkills. Population demand was estimated at 9% of participating organisation members. Participants attended 79% of sessions (mean 18.9 ± 4.7). Valued program elements were the mentor, tailored exercise and regular schedule. Positives for participants were perceived benefits and organisational support; for mentors, understanding disability. Communication and scheduling were burdens. Three serious and 28 non-serious adverse events occurred. Adaptations (e.g. additional screening, risk analysis,extra mentor support, in-person consultation) enabled 29 young people with complexity to participate. The number of trial sites was expanded to 11 to accommodate participants.

Conclusion: Scaling-up FitSkills is feasible, but with caveats related to communication, scheduling and recruitment efficiency.

Key Practice Points:

- Participants valued a peer mentor, tailored exercise and organisational support structure
- FitSkills can be adapted for young people with complex disability

The love, intimacy and disability study – promoting holistic sexual health support for people living with a spinal cord injury

Heck M[1]

[1]*Menzies Health Institute, Griffith University*

Aim: The Love Intimacy and Disability Study is a multidisciplinary, cross-Australian disability rights study with researchers from the University of the Sunshine Coast, Griffith University and University of Sydney in collaboration with the community nursing service Holistic Nursing Solutions based on the Gold Coast, promoting holistic sexual health support for people living with a spinal cord injury in Australia – giving people with a spinal cord injury the autonomy in taking action on sexual expression.

Design: LIDS is designed as a five-phase study which aims to implement an Australian wide intervention program in collaboration with people who are living with a spinal cord injury.

Method: In phase 1, the Metasynthesis, we are examining the literature to identify a person-centred approach to sexual expression for people living with an SCI by highlighting qualitative studies in this field in respect to SCI and sexuality. In phase 2, we interview people with lived experience in individual and focus group interviews about their experiences in sexual support after SCI by focusing on what support they receive and what support they would like to have to determine the gap in this field to progress into phase 3, which will be the design of an intervention program in collaboration with people living with an SCI.

Key Practice Points:

- The key practice points are the implementation of an Australian wide framework that can be applied by health professionals working with people who have sustained an SCI to support them to achieve their sexuality and fertility goals.

Let's talk about sex – how to holistically approach sexuality and fertility support for people living with a physical disability

Heck M[1]

[1]*Menzies Health Institute, Griffith University*

In this talk I am outlining my work as a sexuality and fertility health clinical nurse and midwife with people who have sustained a spinal cord injury and people with a physical disability in collaboration with the private holistic community support provider Holistic Nursing Solutions based on the Gold Coast, Queensland, Australia. The aim of this talk is to present methods of a holistic person-centred approach to support people with a disability to achieve their sexuality and fertility goals.

Session 8: Physiotherapy and Mental Health

Sense of safety: a whole person approach to distress relevant to the physiotherapist

Lynch J[1,2]
[1]Primary Care Clinical Unit, University of Queensland, [2]Integrate Place at Zest Infusion

Physiotherapists tune in to how the body and life story intersect in every consultation. The body reveals patterns of physical, mental and social distress relevant to diagnosis and treatment. Providing care for this complex distress, including chronic pain, is a sophisticated clinical skill. This presentation will introduce Sense of Safety as a strength-based and trauma-informed approach that helps clinicians to hone and refine that skill. It will offer practical tools for clinical application including a definition of Whole Person Domains of care and Sense of Safety Dynamics that build, protect and reveal Sense of Safety.

Sense of Safety is an overarching pattern recognition framework emerging from general practitioner Dr Johanna Lynch's doctoral research and stakeholder consultation. It grounds understanding of trauma in robust transdisciplinary knowledge and Indigenous wisdom. It helps clinicians to define the breadth and depth of their work, as well as naming a clear goal of care: Building Sense of Safety. For the physiotherapist this framework offers insight in understanding complex presentations and the importance of their work offering body-based and relationship-centred healing. This presentation will help clinicians to explore new approaches to their complex clinical work.

Key Practice Points:
Clinicians who attend this presentation will be able to:

- Describe the Sense of Safety Whole Person systems review that integrates understanding of physical, mental, and social distress in clinical practice.
- Describe dynamics that build, protect, and reveal Sense of Safety relevant to the clinical appraisal and treatment process
- Use practical assessment and grounding tools to shift stuck clinical conversations.

Mental disorders, from primary concern to comorbidity: a scoping review in physiotherapy practice

Heywood S[1], Connaughton J[2], Black S[1], Bicchi N[1], Setchell J[3]
[1]St Vincent's Health, [2]University of Notre Dame Australia, [3]The University of Queensland

Aim: The increasing prevalence of mental health disorders highlights the importance of their consideration alongside physical health for optimal outcomes. This review aims to map the intersection between physiotherapy practice and mental health which has not been previously described.

Design: Scoping review.

Method: MEDLINE, CINAHL, PsycInfo, Cochrane and PEDro databases were searched using terms related to physiotherapy and mental health disorders or outcomes up to November 2020. Studies of physiotherapy practice with adolescents or adults with mental disorders or physiotherapy research using primary mental

health outcomes including depression or anxiety were included. Two independent researchers screened and extracted data on the study type, participants, intervention and relevance to physiotherapy.

Results: The search yielded 3633 studies with 181 included in the review. Quantitative studies included pilot randomised controlled trials, observational trials and case studies in physical activity, exercise, rehabilitation, psychomotor, mind-body and body-awareness approaches. Qualitative studies predominantly described the experience of physiotherapists. Physiotherapy practice included mental health specific settings and disorders (e.g. schizophrenia, eating disorders, trauma, depression, anxiety) and/also people with neurological, musculoskeletal, respiratory or women's health conditions.

Conclusion: Physiotherapy intersects with people experiencing mental health disorders across a broad spectrum of diagnoses, covering a range of interventions.

Key Practice Points:

- Physiotherapy research in the mental health context covers the spectrum of psychotic disorder.
- Mental health may be integral to behaviour, expectations or communication in physiotherapy practice or conversely just one of several factors for consideration
- Further studies in both effectiveness and patient-experience in this area are required.

Physiotherapy and mental health: not only a unique area of practice, but an important consideration across clinical settings

Modderman R[2], Bongaarts I[1]
[1]Princess Alexandra Hospital , [2]The Royal Darwin Hospital

The role of Physiotherapy in the Mental Health setting continues to grow, as more is learnt about the relationship between physical health and mental health, and the role that physiotherapists can play in providing psychosocial and psychotherapeutic benefits in patient care.

This presentation discusses current evidence and offers suggestions for translating current knowledge into clinical practice. The presenter also reflects on how working in Mental Health care led to progression of his practice in clinical settings.

Key practice Points:

- Highlight the ways that physiotherapists can support good mental health
- Improve awareness of the prevalence of mental health issues and the importance of considering mental health for the effective management of patients in a holistic model of care
- Recognise the correlation between persistent poor mental health and poor physical health outcomes
- Recognise the unique role and skills of physiotherapists in the management of mental health and treatment of patients with mental illness.
- Explore how interventions can be applied in the mental health setting for both management of chronic disease risk and physical health outcomes and the management of symptoms of mental health issues.
- Explore how to apply this knowledge in daily practice to optimise the health and well-being of patients.

Supporting clients with Anorexia Nervosa – the physiotherapist's role.

de Blic F[1,2]

[1]Sydney Children's Hospital, [2]Sydney Pelvic Clinic

1 million Australians are estimated to experience an eating disorder at any given time. In its deadliest form, Anorexia Nervosa (AN) is characterised by severely restricted energy intake, intense fear of gaining weight and disturbed body image , creating high psychological distress as well as serious physical health complications. Compulsive exercise behaviour is also a common feature and is predictive of relapse and chronic outcomes. Recovery rates vary widely, dependent on factors such as age of onset and duration of untreated illness, however the physical health consequences of anorexia can endure long after weight restoration.

With or without compulsive exercise, the experience of muscle tension, posture changes, pain, fatigue and altered breathing mechanics are common, and are modifiable physiotherapeutic support. Comorbid functional gastrointestinal disorders are widespread, as well as pelvic floor dyssynergia, and can challenge treatment compliance while reducing quality of life. Bone density loss is predicted by duration of amenorrhea and warrants multidisciplinary intervention.

This presentation will highlight current research into physical health management and exercise behaviour in AN, and draw upon the presenter's experience working across inpatient and outpatient settings.

Key Practice Points:

- Understand treatment models of care and how physiotherapists can engage as members of the treating team across inpatient or private practice settings.
- Explore the physical health consequences of AN and our role in assessment and management of compulsive exercise behaviours, musculoskeletal, gastrointestinal and pelvic symptoms.
- Describe self-regulatory strategies through movement and breath, to support anxiety, body dissatisfaction and interception.
- Recognise the intricacies of the therapeutic alliance when working with this patient population.
- Identify avenues for engagement across physiotherapy specialties.

Session 9: Health and Ageing

How can we translate fall prevention evidence into practice?

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[1]Curtin University

Background: Fall prevention is a focus in all older populations including community, hospital and aged care settings. Evidence highlights that frail and functionally declined populations are at particularly high risk. The financial costs of falls injuries are substantial and increasing worldwide according to the World Health Organisation global report on falls. International research evidence and guidelines provide guidance for implementation of this evidence into clinical practice but do physiotherapists experience barriers to implementing effective practice when working with older people to reduce their fall risk?

This presentation will provide a summary of the latest international evidence for fall prevention across all settings. Multi-disciplinary management will be summarised with an emphasis on relevancy for physiotherapy clinical practice. Research that has focused on older adults' engagement in fall prevention across all settings will be presented.

Key Practice Points

- Examples of successful implementation strategies will be highlighted.
- Implementation strategies that focus on older adult engagement and address barriers and enablers to practice will be discussed.

Health, ageing and dementia in Aboriginal and Torres Strait Islander peoples

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Aim: Aboriginal and Torres Strait Islander Australians are ageing rapidly, with this population increasing to half a million older people by 2051. Understanding and developing capacity to respond to the health and aged care needs of older Aboriginal and Torres Strait Islander peoples is vital.

Design: The Koori Growing Old Well Study (KGOWS) is a population-based observational study of ageing developed in partnership with Aboriginal communities in urban and rural NSW, which commenced recruitment in 2010. Several related projects have also been developed to translate findings into strategies to support ageing well and care for people living with dementia.

Method: At baseline, 336 Aboriginal and/or Torres Strait Islander people aged 60+ from five communities (62% total population) completed health and cognitive assessments, along with a structured life-course interview on factors contributing to ageing well. This program has since evolved to include 6-year follow-up and cohort expansion, co-design of healthy and active ageing programs, and dementia education initiatives.

Results: KGOWS has contributed comprehensive data on dementia (rates 3x the general population), as well as a range of other age-related health conditions. It has also highlighted important cultural and

contextual factors that are critical to supporting ageing well with Aboriginal and Torres Strait Islander peoples, including cultural connection, accessible and culturally responsive services, and healing-centred approaches to care.

Key Practice Points:

- Health professionals are increasingly involved in supporting the care needs and expectations of older Aboriginal and Torres Strait Islander people, and there is a growing evidence base to guide this.

Application, costs and benefits of compression therapy to prevent recurrent cellulitis

Webb E[1,2]

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In a recent randomised controlled trial, we demonstrated that compression therapy reduces the risk of recurrent cellulitis in patients with chronic leg oedema by 77% (hazard ratio, 0.23; 95% CI, 0.09-0.59; P=0.002). This reduction in cellulitis risk is particularly meaningful as it was found in a cohort of patients at risk of antibiotic prophylaxis failure due to having oedema, obesity and/or a history of multiple episodes of cellulitis. Further, the lower leg volume of participants randomised to receive compression therapy reduced by 241ml (95% CI, −365 to −117) over 12-months compared to those in the non-compression group. While compression therapy provides a substantial benefit to patients, effective application can be complex and time-consuming, especially in patients with multiple chronic health conditions.

This presentation will provide an overview of the compression therapy and education provided within the trial, and a summary of the costs related to cellulitis infections and compression therapy for trial participants. The content will be relevant to people with and without experience in lymphoedema management.

Key Practice Points:

- Compression therapy should become standard practice for people with chronic oedema experiencing recurrent cellulitis
- Compression therapy reduces the risk of cellulitis in a cohort of patients who are at risk of antibiotic prophylaxis failure
- Appropriate prescription of compression therapy is important in supporting patients to adhere to treatment recommendations.
- Preventing cellulitis may reduce the use of antibiotics, which is important in our current climate of increasing antibiotic resistance.

Measuring frailty and what to do about it

Hubbard R[1]

[1]The University of Queensland

Older inpatients often have complex care needs and multiple co-morbidities. These patients are vulnerable to poor outcomes (including falls, institutionalisation and death) – a vulnerability often linked with the term “frail“ or “frailty“. In this presentation, the measurement and management frailty in older inpatients are explored.

Different approaches to the measurement of frailty are reviewed, with particular emphasis on their potential clinical utility. Phenotypic measures of frailty may have limited feasibility due to their dependence on

performance-based tests. Subjective scales have high face validity but may be better suited to screening. The frailty index approach has been criticised as too complex but if the information required is collected as part of nursing assessment, frailty quantification could be integrated into existing systems, such as electronic medical records.

The management of frail inpatients requires a multi-disciplinary, holistic approach and the critical role of physiotherapists will be considered. A frail older person is comparable to a complex system on the threshold of failure. When complex systems fail, they fail with higher order functions first. In the human "system", these functions include upright bipedal ambulation; hence frail older people with any sort of illness or injury may present with falls.

In conclusion, understanding frailty has the potential to improve the clinical care of vulnerable older people in the hospital setting.

Key Practice Points:

- Understand the concept of frailty and its importance for older inpatients
- Be aware of the strengths and weaknesses of different frailty measures
- Consider the relationship between frailty and falls

Bone Health and Vestibular Dysfunction: Emerging Research and Diagnostic Technologies.

Rando-Orr N[1]
[1]Bond University

This session will explore the relationship between bone health and vestibular abnormalities. Participants can expect to gain an appreciation for the dominant theories and data used to explain the link between osteoporosis, vestibular dysfunction and hearing loss. The implications for physiotherapists will also be explored, including recommendations to screen for vestibular dysfunction in patients with osteoporosis and considering vitamin D supplementation for some individuals with recurring BPPV. This will be presented alongside findings of recent meta-analyses and randomised controlled trials. Participants will also learn about diagnostic technologies used to screen for vestibular dysfunction with a live demonstration of key techniques.

Session 10: Paediatric Practice

Handle with Care: reflections on the role of evidence-based assessments in our paediatric practice and profession.

O'Connor B[1]
[1]*Kids Plus Foundation*

The use of robust assessment tools is promoted and expected as part of our professional practice. Despite this, the uptake of evidence-based assessment tools by paediatric therapists is low in some settings. This presentation explores our use of evidence-based assessment tools with children and families when motor and developmental challenges exist. An understanding of the possible impacts of assessments will be developed by drawing on the findings from qualitative research examining both clinicians and parents' experiences of assessment for children with cerebral palsy. Insights from this research, and others, provides the opportunity to critically reflect on how assessment tools are used by physiotherapists with children and families. The approach to use, training, and the tools themselves are reconsidered within our understanding of child and family development, our profession, and the current NDIS environment. A relational 'handle with care' approach to evidence-based assessment is proposed to better meet the needs of families, children, and practitioners.

Children's footwear, not just a fashion item.

Williams C[1]
[1]*Monash University*

The children's footwear market is estimated to reach USD $59.2 billion by 2025. Parents are bombarded with messages about children's footwear shape, hardness, and fit, and how these factors impact their child's health, social and physical development, participation and future foot health.

Unpacking claims of any footwear therapeutic benefit is difficult. Our health professional training, our own experiences with purchasing our children's footwear, or extrapolating research undertaken with adults and applying it to children's feet and gait, can add to parental confusion with our messaging. However, children are not little adults. The limited research relating to footwear impact on children's gait makes it even more important that our public health messaging, and children's footwear advice is evidence based, pragmatic and appropriate to child's age, stage and ability.

This presentation will focus on what we do (and don't) know about young children's footwear. It will describe a footwear taxonomy developed by over 120 health professionals, parents and shoe designer participants. Using this taxonomy, we will also explore what footwear features participant groups believe are important to children's foot health, and which of these beliefs about features are founded on evidence or folklore.

Key Practice points:

- Consistent descriptions of children's footwear, and footwear components are helpful to reduce parent confusion when making footwear recommendations.
- Health professionals and parents hold different beliefs about the benefits of some footwear features, and we can improve family-centred care with aligning our beliefs.
- Some footwear features change young children's walking and running, and these may have therapeutic benefits.

Advancing best practice in paediatric nerve and muscle disease: translating evidence into action.

Bray P[1,2]

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Background: Genetic neuromuscular diseases of childhood have a devastating impact, with affected children faced with progressive loss of function. Duchenne muscular dystrophy (DMD) is the most common fatal muscle disease of childhood. There is currently no cure for DMD, and whilst we eagerly anticipate disease-modifying therapies, we rely on best practice rehabilitation management. Despite allied health being integral to delivering anticipatory and proactive interventions for DMD has been no specific, evidence based guidance for allied health assessment and management of DMD.

Objectives and Results: To bridge this practice gap, we developed a clinical practice guideline. Thirteen key focus areas were identified in consultation with health professionals and consumer advocacy groups. A series of systematic literature reviews were conducted to identify assessment and management strategies for each key focus area. A consensus process using modified Delphi methodology, including an Australia-New Zealand expert consensus meeting, was conducted. This clinical practice guideline generated 19 evidence-based recommendations, 117 consensus-based recommendations and five research recommendations across the 13 focus areas to inform allied health assessment and management of individuals with DMD. Physiotherapists are integral to delivering care to minimise physical deterioration and optimise daily function. The window for intervention needs careful anticipatory planning to minimise the impact of physical deterioration (and secondary disability). The implementation of the recommendations is timely to ensure we are optimising physical function and quality of life as considerable effort is focused on finding disease-modifying therapies to end the burden of these incurable conditions.

Key Practice Points:

- Evidence-based care for children with neuromuscular outcomes
- Process for improving care for rare disease
- Implementation ready statements to guide clinical care will be presented

What is Participation-focused Therapy?

Reedman S[1]

[1]University of Queensland

Participation is “being there” and “being involved” in life situations. Physiotherapists are increasingly aware of the need to implement participation-focused interventions for people disabilities. There may be a lack of clarity about which approach/es to enabling participation may best suit the client’s context, needs and preferences. This presentation will provide information about participation-focused therapy with evidence from world-leading research programs. Topics will include what exactly is participation-focused therapy (from a physio’s perspective), how impairments and activity limitations can be addressed by participation-focused therapies, environment and context-level interventions, and a case study of physical activity participation in children with cerebral palsy.

Session 11: Impacts of Pregnancy and Birth

Birth trauma from an urogynae perspective

Wong V[1]
[1]*Bond University*

Childbirth should be a natural and normal event in a woman's life. Yet up to 30% of patients sustain an irreversible birth related trauma to the pelvic floor muscles and this can result in significant medium to long-term impact on overall pelvic floor function. These effect may be evident shortly after birth; however, majority will only suffer from birth-related trauma several decades later. At that stage, treatment options may be limited with lower rates of success.
In this talk, I will present the current evidence on the impact of mode of delivery and its association with pelvic floor dysfunction in women post-partum.

Objectives:

- To understand how the different modes of delivery impact the female pelvic floor.
- To understand the implications of birth-related trauma on urinary and bowel function as well as pelvic organ support.
- To understand the current available methods of birth trauma prevention and management.

Key Practice Point:

- Participants will gain insight into the current evidence on birth related pelvic floor muscle trauma and knowledge on how to best assist their patients with associated pelvic floor dysfunction issues.

ACSQHC clinical care standard on 3rd and 4th degree perineal tears

McConochie N[1]
[1]*Macquarie Women's Health*

The Australian Commission on Safety and Quality in Healthcare developed the Clinical Care Standards for 3rd and 4th degree perineal tears with the aim to help reduce unwarranted variations in clinical practice across Australia. Within the clinical care standards there are seven quality statements and each statement develops into more detailed information for women, the clinician and health services outlining what that statement means for each subgroup. Within the clinical care standard, there is specific mention of "Pelvic Floor Muscle Training" and "Physiotherapy services".

Key Practice Points:
This presentation will highlight areas of the Clinical Care Standard that are specific to physiotherapy and will breakdown in more detail what our treatment may involve, including:

- Antenatal Pelvic Floor Assessment
- PFMT in preparation for birthing
- Postnatal rehab of a 3rd or 4th degree perineal tear

Avulsion – how to manage

McConochie N[1]
[1]*Macquarie Women's Health*

Levator ani avulsion and subsequent pelvic organ prolapse has a significant impact on a woman's quality of life. At present there are limitations for options of surgical repair of the levator ani muscle, and prolapse surgeries have a failure rate of greater than 65% in the presence of a bilateral avulsion. To date, our best options have been to manage a levator ani avulsion conservatively. But what are the conservative options for managing an avulsion? And is there evidence to support them?

Key Practice Points:
This presentation will go through the conservative treatment options for a levator ani avulsion that are applicable within a physiotherapy practice including:

- Pelvic Floor Muscle Training
- Pessaries
- Lifestyle advice

Individual presentations

Inflammatory arthritis – diagnosis and associated risks

Moi J[1]
[1]*The Royal Melbourne Hospital*

What are the key diagnostic markers for inflammatory arthropathies? If a patient has an inflammatory disorder, what impact does that have on their general health and risk factors for other conditions? John will present a comprehensive overview of inflammatory arthropathies, their treatment and management as well as the risks in this patient population for other conditions including fracture, systemic conditions and medication side effects.

Key Practice Points:

- Understand when to refer a patient with suspicion of an inflammatory arthropathy
- Identify the risk factors associated with the condition
- Identify the risks associated with progression of the disease, as well as medication and treatment side effects and potential risk factors