



The 40th Scientific Meeting

# CREATING A CULTURE OF CHANGE

Friday 22nd April 2022





**@physioResSoc**



**<https://prs.csp.org.uk>**



**physiotherapyresearchsociety@gmail.com**

2022 conference held Hybrid via Microsoft Teams and Face to Face,  
hosted by University of Kent, Canterbury, CT2 7NP



Head Diagnostics



## Note from the Chair

Dr Ali Aries



On behalf of the Physiotherapy Research Committee (PRS) I would like to welcome you to the first hybrid PRS conference, which is being held at University of Kent, Canterbury on Friday 22nd April 2022, but also has availability for people to attend online. We are extremely pleased to welcome people presenting and participating from all over the world.

Huge thanks must go to Jayanti Rai who has worked tirelessly over the last few months to organize today's conference, which I am sure you will agree looks great – we are all in for a treat!

We have had a busy year, and the PRS committee goes from strength to strength; we now have conference, e-learning, peer-support and website and publicity sub-committees. We have recently appointed three new committee members and we remain a very diverse, enthusiastic committee with representation internationally.

Over the last year, we have effectively delivered two online abstract writing workshops, attended Physiotherapy UK to promote the Society, and driven by Dr Alex Benham, also secured Chartered Society of Physiotherapy funding to run systematic review training. This is an exciting new initiative, and you can hear more about the bursaries available and training on offer within the conference. We are innovative as a team and are working to find more ways to support the researchers of the future. Do keep an eye on our Twitter feed and PRS website and also join us for the annual general meeting.

I would also like to take this opportunity to thank our sponsors, keynote speakers and presenters for the conference, as well as all the team supporting us at Kent University and Audiocrew who are responsible for the AV services for the conference. Finally, a huge thank you is also necessary for all the fabulous PRS committee members who have worked so hard over the last year:

Caroline Belchamber, Alex Benham, Caroline Coulthard, Chris Davis, Nathan Hutting, Gemma Kelly, Bruno Mazuquin, Joe McVeigh, Jenni Naisby, Wajida Perveen, Jayanti Rai, Sam Stuart and Lianne Wood.

I am extremely proud of what we have all achieved.

Thank you for joining us for the conference. I hope you all enjoy what I expect to be an inspirational, motivating day. Once again, we have our amazing illustrator B. Mure with us today (thank you!) who will capture our day for us in pictures.

*Ali*

## Welcome Note from the Host Jayanti Rai



I welcome you all to Canterbury City as the world continues to recover from the COVID-19 pandemic. I am looking forward to renewing old acquaintances, creating new ones, holding thought-provoking debates, and, most importantly, celebrating the only face-to-face Physiotherapy Conference in 2022 in the UK.

The 40th Physiotherapy Research Society Annual Conference is being held in Canterbury, which I consider a great honour. I would like to thank the PRS Chair and the entire PRS team for supporting the bid to host the first ever PRS Conference in Kent on April 22nd, 2022 at the University of Kent.

Under Dr Alison Aries's exceptional and inspirational leadership, the PRS has grown from strength to strength. We have international committee members, which celebrates diversity in every form. I would like to thank all the PRS Committee members Dr Ali Aries, Dr Caroline Belchamber, Dr Alex Benham, Caaroline Coulthard, Chris Davis, Dr. Nathan Hutting, Gemma Kelly, Dr. Bruno Mazuquin, Dr. Joe McVeigh, Dr. Jenni Naisby, Wajida Perveen, Dr. Sam Stuart, and Dr. Lianne Wood for all their ongoing support throughout the year to ensure PRS continues to provide a platform for the innovation, clinical research and leadership.

"Creating a Culture of Change" is about the creating a culture and shifting culture of the departments and the organisations to become friendlier towards the clinical academics. Clinical research has been increasing as a specialism in Kent, and we anticipate continued expansion in the future years. The opportunity to organise one of the most important scientific conferences in Kent will undoubtedly motivate current and future generations to continue to progress in creating fertile grounds for research to improve care pathways.

I am thankful to our invited keynote speakers, presenters, delegates, and volunteers for taking time from their busy schedules to be at the PRS Conference. Their presence will help to magnify PRS's cause in the best possible way.

The PRS 2022 Conference truly reflects the important pillars of industry, academia, health care organisations, patients, and the media. For their support, I thank our sponsors, the Audio Crew and the University of Kent and the Kent Community Health NHS Foundation Trust.

Canterbury is a vibrant city with a rich history. The conference delegates can also visit the Canterbury Cathedral and go punting.

I hope you all enjoy the conference.

*Jayanti*

## PRS EXECUTIVE COMMITTEE



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**Chris Davies**  
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**Dr Joseph McVeigh**  
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**Dr Bruno Mazuquin**  
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## INVITED SPEAKER FOR SIGNIFICANT CONTRIBUTION TO RESEARCH IN KENT

Dr David Stephensen



David Stephensen is a physiotherapist at the Kent Haemophilia and Thrombosis Centre, and the Haemophilia Centre at the Royal London Hospital. He has more than 25 years' clinical experience managing children and adults with haemophilia. David is currently Chair of the Physiotherapy Committee of the European Association of Haemophilia and Allied Disorders (EAHAD), Deputy Director of Research & Innovation at East Kent Hospitals University NHS Trust, a member of the NIHR Research for Patient Benefit - South East and Central Regional Advisory Committee, member of the Scientific Committee of Great Foundations focused on supporting research and clinical practice in foot health and Associate Editor of the journal of Haemophilia. He has received multiple NIHR, charity and commercial research grants and published more than 80 peer reviewed publications. He has a particular interest in the impact of disease on the biomechanical and neuromuscular aspects of physical performance, in particular, the effects of exercise in children, clinical use of wearable technology, pain rehabilitation, point-of-care ultrasound imaging of haemophilic joint disease, as well as incorporating functional performance as part of routine monitoring of health. David is the lead investigator for the DOLPHIN Study, a randomised controlled trial looking at the effects of exercise in children with haemophilia. He is also on the Steering Committee of three international Phase III clinical trials. Further research funding includes investigating pain rehabilitation, point-of-care ultrasound imaging of haemophilic joint disease, as well as incorporating functional performance as part of routine monitoring of health. David is passionate about increasing research capacity of the allied health professions and is supporting several doctoral programmes, pre-doctoral clinical academic fellowships and internships, as well as a mentor with the Applied Research Collaboration in Kent Surrey Sussex. He is a strong advocate that patients are involved in decisions about their care and research.

## KEYNOTE SPEAKER

Dr David Keene



Dr David Keene is a clinical academic physiotherapist specialising in the development and evaluation of complex interventions to improve the management of musculoskeletal injuries. He is a University Research Lecturer at the University of Oxford and an Advanced Practice Physiotherapist in Trauma and Orthopaedics at the Royal United Hospitals Bath NHS Foundation Trust. He has held a National Institute for Health Research (NIHR) Postdoctoral Fellowship and a Developing Skills Enhancement Award. Dr Keene is currently lead orco-investigator on several NIHR-funded multicenter clinical trials. His research has been published in high-impact general medical journals (Lancet, JAMA and BMJ) and in leading specialty journals. He also sits on the NIHR Health Technology Assessment General Funding Committee and has been part of the Association of Trauma and Orthopaedic Chartered Physiotherapists executive committee since 2015



## KEYNOTE SPEAKER

Prof Rebecca Kearney



Rebecca is a Professor of Trauma and Orthopaedic rehabilitation and Associate Director of Warwick Clinical Trials Unit. She holds a joint appointment between University Hospitals Coventry and Warwickshire NHS Trust and Warwick University.

Professor Kearney leads the design and delivery of clinical trials that evaluate the clinical and cost effectiveness of rehabilitation interventions in the area of trauma and orthopaedic rehabilitation. She holds grants as Chief Investigator and co-applicant with a range of NIHR funding streams, including HTA, RfPB and EME. She has held a Versus Arthritis doctoral Fellowship and two post-doctoral NIHR Fellowships. Her research portfolio is predominantly pragmatic multi-centre randomised controlled trials that lead directly to patient benefit.

Supporting aspiring non-medical clinical academics is a key role for Professor Kearney. She was a member of the NIHR ICA Clinical Doctoral Research Fellowship committee (2017-2021) and has continued supported successful NIHR ICA Fellows through the national NIHR ICA mentorship scheme. She has also successfully supported non-medical academics with securing and completing NIHR funded pre-doctoral and doctoral training awards.

Professor Kearney supports wider national networks in her field through committee roles with the Association of Trauma and Orthopaedic Chartered Physiotherapists and UK Fragility Fracture Network. Through these roles she has supported three research priority setting partnerships in fragility fracture management, complex fracture management and foot and ankle surgery, with the James Lind Alliance. Professor Kearney is also a current member of the NIHR HTA committee and Chair of the NIHR RfPB regional funding committee in the West Midlands.

## KEYNOTE SPEAKER

Dr Dana Maki



Dana Maki is a Senior Lecturer in the Physiotherapy Division of the College of Health and Life Sciences. She is also the programme leader for the MSc in Physiotherapy with specialism in Musculoskeletal Rehabilitation or Neurorehabilitation (a Transnational Education Degree delivered by Brunel University at Ahlia University in Bahrain).

Dana is a Specialist Musculoskeletal and Pain Physiotherapist. Prior to joining Brunel in 2018, she worked as a Clinical Team Leader for Camden MSK Community Services (Connect). Her previous clinical experiences also include working with Camden Pain Assessment and Management Service (CPAMS) and the Royal National Orthopaedic Hospital (RNOH).

## KEYNOTE SPEAKER

Ms Anju Jaggi



Anju is a Consultant Physiotherapist with clinical expertise in shoulder problems, she is also the research & innovation lead for allied health professionals at the Royal National Orthopaedic Hospital (RNOHT). She has worked at the RNOHT for 25 years, known nationally for managing patients with complex atraumatic shoulder instability and pain. She has lectured internationally and presented at numerous scientific meetings. She has published work in the field of shoulder rehabilitation, co-supervised post graduate student projects and is involved in several funded research studies collaborating with commercial and academic partners, one of which was the NIHR GRASP trial. She is currently leading a randomised clinical trial on the role of surgery in atraumatic shoulder instability with the surgical team at the RNOHT in collaboration with Prof Ginn at Sydney University. She holds a clinical teaching fellow post at University College London (UCL). She was President of the European Society of Shoulder & Elbow Rehabilitation (EUSSER) from 2012-2015, served on a NICE Committee 2018-2020, AHP representative on the British Shoulder & Elbow Society (BESS) Council (2018-2021). She was awarded the BESS Copeland fellowship in 2020. She is currently a board member for the RNOH Charity. She has a passion for promoting evidence-based care as well as globally promoting physical therapy and rehabilitation.

# PRS CONFERENCE 2022 SPONSORS & PARTNERS:

We would like to thank the sponsors and partners whose contribution has helped enable us to run the 2022 Hybrid PRS conference.

Our special thanks go to the companies who have generously donated prizes or supported the conference:

## 1. HEAD DIAGNOSTICS



## 2. DANU SPORTS



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## 4. JAN WILLIAMS



## 5. GRANT TILFORD

## 6. Neil



TIME	PRS CONFERENCE 2022 PROGRAMME – Friday 22nd April 2022
08.15- 08.45	Registration and Networking
08.45- 09.00	Welcome: PRS Chair, Dr Ali Aries Clinical Academic Journey in Kent: Jayanti Rai
09.00-09.15	Invited Speaker for significant contribution to Research in Kent <b>Creating AHP's Research Culture in Kent: Dr David Stephensen</b>
09.15- 10.00	Keynote Speaker 1 Including Q&A <b>Dr David Keene</b>
10.00- 11.00	<b>MORNING SESSION PRESENTATIONS</b>
	Paper 1 – 10.00 – Tina Haghghi- COVID-19: Physiotherapy Students' Experiences During Practice Placement in the United Kingdom Paper 2 – 10.15 – Alice Finch- The impact of prehabilitation and increased post-operative physiotherapy care on Complex Colorectal Cancer patient outcomes Paper 3 – 10.30 – Lisa Newington- Return to work after carpal tunnel release: what should we advise our patients? Paper 4 – 10.45 – Tziano Innocenti- The completeness of reporting in RCTs published in rehabilitation journals, and its association with the risk of bias.
11.00- 11.30	<b>COFFEE BREAK AND NETWORKING + POSTER VIEWING</b>
11.30- 12.15	Keynote Speaker 2 Including Q&A <b>Prof Rebecca Kearney</b>

TIME	PRS CONFERENCE 2022 PROGRAMME – Friday 22nd April 2022
12.15-12.35	Physiotherapy Research Society AGM – all welcome!
12.35- 13.45	<b>LUNCH BREAK AND 13 POSTERS VIEWING</b>
	<b>AFTERNOON SESSION PRESENTATIONS</b>
13.45- 14.30	<p>Paper 5 – 13.45 – Anthony Gilbert- A qualitative study of patient, clinician and manager preferences for virtual consultations in orthopaedic rehabilitation</p> <p>Paper 6 – 14.00 – Ann Monaghan- Lower objectively assessed cardiorespiratory fitness was associated with greater fatigue severity in adults with Long-COVID</p> <p>Paper 7 – 14.15 – Katelyn Bailey - The Efficacy of Platelet-Rich Plasma Injections in the Conservative Management of Lower Limb Tendinopathy: Systematic Review</p>
14.30-14.45	CSP funded systematic review project – Dr Alex Benham
14.45- 15.30	<p>Keynote Speaker 3 Including Q&amp;A</p> <p><b>Dr Dana Maki</b></p>
15.30-16.00	<b>COFFEE BREAK AND NETWORKING – PLEASE ENSURE ALL POSTERS ARE TAKEN DOWN</b>
16.00-16.45	<p>Keynote Speaker 4 Including Q&amp;A</p> <p><b>Anju Jaggi</b></p>
16.45- 17.00	Prize Distribution, Feedback Forms and Close

# PRESENTATIONS FOR THE PRS CONFERENCE 22nd April 2022



# Paper 1 – Tina Haghghi

## **Title: COVID-19: Physiotherapy Students' Experiences During Practice Placement in the United Kingdom**

### **AFFILIATION**

School of Sport and Health Sciences, University of Brighton, Brighton, UK

### **CO-AUTHORS**

Sarah-Jane Ryan, Principal Physiotherapy Lecturer, University of Brighton, Brighton, UK

### **INTRODUCTION**

Following an extensive search of the literature, to date, no other study has explored the perspectives of physiotherapy students' undergoing a placement during the COVID-19 pandemic. Although physiotherapists maintain an essential role in rehabilitation, research has yet to address the students' role on placement during the pandemic. Identification of the impact of the current pandemic will help inform current and future practice. This qualitative research aims to explore physiotherapy students' perspectives undergoing placement during the COVID-19 pandemic.

### **MTEHODS**

A qualitative research design using semi-structured interviews on Microsoft Teams. Initial contact was made to a higher education institution (HEI). The participants had completed a placement during the pandemic and experienced working with at least one diagnosed symptomatic COVID-19 patient. The data was analyzed with an inductive thematic analysis approach.

### **RESULTS**

Six (n=6) physiotherapy students participated in the research. The respondents shared many similar experiences regarding working with COVID-19 patients, including Adaptability to the Unknown; Uncertainty of the Rapidly Changing Environment; We Are All in This Together; and To Treat Versus to Protect.

### **CONCLUSIONS**

The impact on placements had been significant, and students had faced many challenges, particularly regarding the uncertainties brought about by COVID-19. This pandemic provides an opportunity for HEI's to address these concerns through actively continuing to acknowledge the students' experiences an

### **IMPACT**

This study contributes to the literature by identifying the impact of COVID-19 on physiotherapy students undergoing a practice placement. The study reinforced that the impact of COVID-19 on practice placements has been significant, and students faced many challenges.



## REFERENCES

Halbert, J.A., Jones, A. and Ramsey, L.P., 2020. Clinical placements for medical students in the time of COVID-19. *Med J Aust*, 213(2), p.69.

Pelly, F.E., Wiesmayr-Freeman, T. and Tweedie, J., 2020. Student placement adaptability during COVID-19: Lessons learnt in 2020. *Nutrition & Dietetics*.

Swift, A., Banks, L., Baleswaran, A., Cooke, N., Little, C., McGrath, L., Meechan-Rogers, R., Neve, A., Rees, H., Tomlinson, A. and Williams, G., 2020.

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Clinical placement experience of nursing students during the COVID-19 pandemic: A cross-sectional study. *Nurse education today*, 99, p.104746. White, C., 2020.

Student Placements: What makes a great placement? *Frontline*, (9). Available at: <https://www.csp.org.uk/frontline/article/student-placements>

# Paper 2 – Alice Finch

## **TITLE: The impact of prehabilitation and increased post-operative physiotherapy care on Complex Colorectal Cancer patient outcomes**

### **AFFILIATION**

London North West University Healthcare NHS Trust

### **CO-AUTHORS**

A.Finch, C.Frandzis, C.Taylor, D.Chauhan, E.M.Burns, J.T.Jenkins

### **INTRODUCTION**

Prehabilitation has been shown to improve functional patient outcomes and reduce hospital length of stay in colorectal cancer patients. Due to disease burden and intensive oncological treatment regimes, pelvic exenteration patients often have poor functional baseline pre-operatively which worsens for a period of time post-operatively. Historically, London North West University Healthcare Trust (LNWH) did not provide a prehabilitation service for their Complex Colorectal Cancer (CCC) patients and did not have a physiotherapist solely working with this patient group. This 1-year Macmillan funded project aims to review the impact of physiotherapy led Prehabilitation and increased inpatient physiotherapy on CCC patient outcomes.

### **METHODS**

A physiotherapist and physiotherapy technician were hired full-time. Three virtual pre-operative physiotherapy appointments are offered per patient; providing individualised exercise programmes, psychological support and nutritional advice. At each appointment, a variety of physical, functional and quality of life outcome measures are collected.

Postoperative inpatient physiotherapy continues until discharge and once home, all patients are provided with two further follow-up virtual appointments (at 6 and 12 weeks). Inpatient data collected such as hospital and ICU length of stay is then compared to retrospective data collated from 2018-2019

### **RESULTS**

27 patients have completed their full Prehabilitation programme so far and had their surgery. The average improvement in the 30-second Sit to Stand Test (30 STS) is 5 stands from first to final pre-operative appointment, and the average improvement in the Duke Activity Status Index is 13.57, with over 80% of patients scoring >34/58.2 on their final appointment. The average improvement in the Godin Leisure Time Exercise score was 29.28, with 85% of patients classed as 'moderately active' or 'active' on their final pre-operative appointment. Post-operatively we have reduced hospital length of stay (LOS) by an average of 17.5 days (N= 27) when compared to 2018-19 data (N = 66) across all four surgical complexity grades. There has been no change in intensive care length of stay so far (average of 5 days).

## **CONCLUSIONS**

So far, this project has shown pre-operative improvements in patients' functional outcome measures and a significant reduction in hospital LOS postoperatively. More data will be collected over the next 6 months but the current results look very promising.

## **IMPACT**

Reducing hospital LOS both enhances patient outcomes and improves bed usage with associated cost-savings. Patient feedback collated so far has described the service as 'invaluable'. We hope this research can help ensure prehabilitation for colorectal cancer patients becomes a standard of care.

# Paper 3 – Lisa Newington

## **TITLE: Return to work after carpal tunnel release: what should we advise our patients?**

### **AFFILIATION**

Hand Therapy, Guy's and St Thomas' NHS Foundation Trust, London, UK & MSk Lab, Faculty of Medicine, Imperial College London, London, UK

### **CO-AUTHORS**

Jo Adams Health Sciences, University of Southampton, Southampton, UK David Warwick Hand Surgery, University Hospital Southampton, Southampton, UK Karen Walker-Bone Centre for Musculoskeletal Health and Work, MRC Life course Epidemiology Unit, University of Southampton, Southampton, UK

### **INTRODUCTION**

Carpal tunnel syndrome occurs when the median nerve is compressed at the wrist. Symptoms include pain, altered sensation and reduced pinch strength. This common condition is initially managed with splinting and/or corticosteroid injections. Carpal tunnel release surgery (CTR) is offered when symptoms persist. Many of those undergoing CTR work in paid employment, but despite this, there is limited evidence informing when and how to return to different types of work. Our programme of research had three broad aims: to identify and appraise the existing literature and clinical practice surrounding return to work after CTR; to prospectively identify the outcomes and experiences of CTR patients in paid employment; and to co-develop guidance for clinicians and patients based on these findings.

### **METHODS**

This research comprised five studies related to CTR: 1) a systematic review of reported return to work timescales; 2) a survey of clinical practice to investigate the return to work recommendations of hand surgeons and hand therapists; 3) a multi-centre prospective cohort study to examine the factors associated with return to work outcomes; 4) a qualitative interview study to explore patients' experiences of returning to work; and 5) a Delphi study to generate consensus guidance for returning to work and driving.

### **RESULTS**

Our systematic review found wide variation in reported return to work times after CTR. Mean duration of work absence ranged from 4-168 days across 56 studies. Return to work recommendations also varied in our clinician survey (n=249). Recommended time to return to desk-based work ranged from 0-42 days. 201 patients completed our cohort study. Earlier return to work was associated with having surgery in primary care and desk-based work. Being female and entitlement to >1 month of paid sick leave were both associated with longer work absences. Duration of work absence was strongly associated with expected duration of sick leave. Earlier return to work was not associated with poorer clinical outcomes. Interviews with 14 patients identified 3 key themes: unexpected impact on functional ability in the initial post-surgery period; need for validation for time away from work; and navigating the process of returning to work. 31 individuals enrolled in our ongoing Delphi study.

## **CONCLUSIONS**

Individual return to work decision-making appears to be largely influenced by the recommendations received by the patient's clinician. However, different clinicians do not appear to provide consistent advice. We are currently using a Delphi methodology to generate consensus guidance for patients.

## **IMPACT**

Our consensus guidance is endorsed by the British Association of Hand Therapists and will enable evidence-informed and standardised advice for patients undergoing CTR. This includes driving, work and wound care. We will continue to work with our patient advisors to optimise the format and design.

## **REFERENCES**

Newington L, Stevens M, Warwick D, Adams J, Walker-Bone K. Sickness absence after carpal tunnel release: a systematic review of the literature. *Scandinavian Journal of Work, Environment and Health* 2018; 44(6): 557-67

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Newington L, Brooks C, Warwick D, Adams A, Walker-Bone K. Return to work after carpal tunnel release: a qualitative interview study. *BMC Musculoskeletal Disorders* 2019; 20:242

## Paper 4 – Tiziano Innocenti

### **TITLE: The completeness of reporting in RCTs published in rehabilitation journals, and its association with the risk of bias.**

#### **AFFILIATION**

Department of Health Sciences, Faculty of Science, Vrije Universiteit Amsterdam, Amsterdam Movement Sciences, The Netherlands

#### **CO-AUTHORS**

Silvia Giagio, Division of Occupational Medicine, IRCCS Azienda Ospedaliero-Universitaria di Bologna, Bologna, Italy Stefano Salvioli, Department of Neuroscience, Rehabilitation, Ophthalmology, Genetics, Maternal and Child Health, University of Genoa, Genoa, Italy Daniel Feller, Provincial Agency for Health of the Autonomous Province of Trento, Trento, Italy Silvia Minnucci, Department of Clinical Science and Translational Medicine, University of Rome Tor Vergata, Rome, Italy Fabrizio Brindisino, Department of Clinical Science and Translational Medicine, University of Rome Tor Vergata, Rome, Italy Wilhelmina IJzelenberg, Department of Health Sciences, Faculty of Sciences, Vrije Universiteit Amsterdam, Amsterdam Public Health research institute, The Netherlands Raymond Ostelo, Department of Health Sciences, Faculty of Science, Vrije Universiteit Amsterdam, Amsterdam Movement Sciences, The Netherlands Alessandro Chiarotto, Department of Health Sciences, Faculty of Science, Vrije Universiteit Amsterdam, Amsterdam Movement Sciences, The Netherlands

#### **INTRODUCTION**

Evaluating the validity of a trial requires essential information to be included in a study report so that readers can adequately assess the generalizability of the study and decide on whether it is appropriate to apply the findings to their patient population (1). It is known, that study methods are frequently not described in adequate detail, and that results are presented incompletely. The consequence is that the internal validity of a study, in terms of risk of bias (ROB), is hard to judge (2). The objectives of this study are: 1) To evaluate the completeness of reporting of RCTs published in rehabilitation journals, 2) to investigate the relationship between reporting and ROB, 3) to study the association between completeness of reporting and the characteristics of studies and journals.

#### **MTEHODS**

A random sample of 200 RCTs published between 2011 and 2020 in 68 rehabilitation journals indexed under the “rehabilitation” category in the In Cites Journal Citation Report. Two independent reviewers evaluated the completeness of reporting operationalised as the adherence to the CONSORT checklist and risk of bias using the Cochrane ROB 2.0 tool. Overall adherence and adherence to each CONSORT section were calculated. Regression analyses investigated the association between completeness of reporting, risk of bias and other characteristics (impact factor, publication modalities and study protocol registration).

## RESULTS

The completeness of the reporting assessed through the mean overall CONSORT adherence across studies was 65%. Studies with high risk of bias in ROB 2.0 tool domain 1 have an overall adherence to the CONSORT checklist which is 6.86% (CI -12.34; -1.39) lower than those with low risk of bias. In domain 2, studies with high risk of bias have 6.99% (CI -12.67; -1.28) lower adherence than those with low. If we look at the overall risk of bias, studies with high risk have 5.46% (CI -10.91; -0.02) lower adherence than those with low risk. There was a 10.2% (CI% 6.2; 14.3) increase in adherence if the RCT protocol was registered. Studies published in first quartile journals (higher impact factor) displayed an overall adherence of 11.7% (CI% 17.1; 6.4) higher than those published in the fourth quartile (lower impact factor).

## CONCLUSIONS

Despite having reporting guidelines for more than 20 years, the completeness of reporting is still suboptimal and it is associated with ROB. Researchers and journal editors should improve compliance to the reporting standards to ensure more attention is devoted to reporting issues.

## IMPACT

Studies poorly reported are difficult to use for decision-making purposes like, for example, in developing clinical guidelines. There is a need for more attention to each step of evidence production in rehabilitation research to ensure more attention is devoted to reporting issues.

## REFERENCES

- 1) Rennie D. How to Report Randomized Controlled Trials: The CONSORT Statement. *Jama*. 1996; 276:649-. doi: 10.1001/jama.1996.03540080071033
- 2) Innocenti T, Salvioli S, Giagio S, Feller D, Cartabellotta N, Chiarotto A. Declaration of use and appropriate use of reporting guidelines in high-impact rehabilitation journals is limited: a meta-research study. *Journal of clinical epidemiology*. 2021; 131:43-50. doi: 10.1016/j.jclinepi.2020.11.010

# Paper 5 – Anthony Gilbert

## **TITLE: A qualitative study of patient, clinician and manager preferences for virtual consultations in orthopaedic rehabilitation**

### **AFFILIATION**

Therapies Department, Royal National Orthopaedic Hospital

### **CO-AUTHORS**

Dr Jeremy Jones, School of Health Sciences, University of Southampton Professor Maria Stokes, School of Health Sciences, University of Southampton, Professor Carl May, Faculty of Public Health and Policy, London School of Hygiene and Tropical Medicine

### **INTRODUCTION**

Virtual consultations were rapidly implemented during the COVID-19 pandemic. Previous research has investigated patient preferences for virtual consultations prior to the pandemic. The purpose of this study was to investigate the experiences of patients, clinicians, and managers during the accelerated implementation of virtual consultations (VC) due to COVID-19. The aim of this study was to understand how patient preferences are constructed and organised in an orthopaedic. rehabilitation setting.

### **MTEHOS**

Semi structured interviews with patients, clinicians and managerial staff at a single specialist orthopaedic centre in the UK. The interview schedule and coding frame were based on Normalisation Process Theory. Interviews were conducted over the telephone or by video call. Abductive analysis of interview transcripts extended knowledge from previous research to identify, characterise and explain how patient preferences for VC were formed and arranged.

### **RESULTS**

Fifty-five participants were included (20 patients, 20 clinicians, 15 managers). Key mechanisms that contribute to the formation of patient preferences were identified. These were: (a) context for the consultation (normative expectations, relational expectations, congruence and potential); (b) the available alternatives and the implementation process (coherence, cognitive participation, collective action, and reflexive monitoring). Patient preferences are mediated by clinician and organisational preferences through the influence of the consultation context, available alternatives and the implementation process.

### **CONCLUSIONS**

This study reports the cumulative analysis of five empirical studies investigating patient preferences for VC before and during the COVID-19 pandemic. This study has identified mechanisms that explain how preferences for VC come about and how these relate to organisational and clinician references.



## **TITLE: Lower objectively assessed cardiorespiratory fitness was associated with greater fatigue severity in adults with Long-COVID**

### **AFFILIATION**

Discipline of Medical Gerontology, Trinity College Dublin

### **CO-AUTHORS**

Glenn Jennings<sup>1</sup>, Feng Xue<sup>1</sup>, Eoin Duggan<sup>1 2</sup>, James Davis<sup>1 2</sup>, John Gormley<sup>7</sup>, Roman Romero-Ortuno<sup>1 2</sup> <sup>1</sup>Discipline of Medical Gerontology, Trinity College Dublin <sup>2</sup>The Irish Longitudinal Study on Ageing (TILDA), Trinity College Dublin <sup>7</sup>Discipline of Physiotherapy, Trinity College Dublin

### **INTRODUCTION**

Cardiorespiratory fitness (CRF) (denoted as maximal aerobic capacity or VO<sub>2</sub>max) is an important predictor of mortality, with longitudinal evidence suggesting that the mortality risk of low CRF may be greater than that of smoking, hypertension, obesity, high cholesterol and type II diabetes [1]. Low CRF may also be a risk factor for morbidity. Previous studies have shown a relationship between low CRF and a state of prolonged fatigue post viral infection [2][3], suggesting that deconditioning may be relevant for the development of post-infectious fatigue. Since fatigue is a common symptom in long COVID, our aim was to assess CRF in a cohort of individuals reporting post-COVID fatigue.

### **METHODS**

Participants reporting ongoing fatigue post COVID-19 underwent assessments of CRF via a submaximal cycle ergometer-based test, terminated at 85% maximal heart rate ( $208 - 0.7 \times \text{age}$ ) [4] or earlier if limited by symptoms or exhaustion. Oxygen consumption and heart rate were assessed via a breath-by-breath gas analysis device (COSMED k4b<sup>2</sup>). Demographics of COVID-19 illness, including time since diagnosis and duration of low activity/bed rest during acute illness were captured via participant interview. Fatigue was assessed using the Chalder Fatigue Scale (CFQ). Independent predictors of fatigue score were investigated using a linear regression model including VO<sub>2</sub>max, age, sex, body mass index (BMI), time since COVID and duration of bed rest or low activity in the acute phase of COVID-19.

### **RESULTS**

108 participants were initially included (71% female, mean age 44.6 years). At the time of assessment, the median days post diagnosis was 312. The median self-reported period of bed rest or low activity during the acute illness was 14 days. 22% of the cohort were hospitalized in the acute phase of COVID-19. Median CFQ was 26. Eighty-eight participants underwent exercise testing. Reasons for non-completion included contra-indications (n = 8), equipment issues (n = 11) and one participant unwilling to undergo testing. The mean (SD) predicted VO<sub>2</sub>max was 21.8 (7.3) ml.min<sup>-1</sup>.kg<sup>-1</sup> in men and 17.5 (6.3) ml.min<sup>-1</sup>.kg<sup>-1</sup> in women. In the adjusted linear regression model, predicted VO<sub>2</sub>max was inversely associated with fatigue score, independently of controlling variables ( $\beta = -0.225$ , 95% CI -0.420 to -0.031,  $p = 0.024$ ).

## **CONCLUSIONS**

In our cohort of adults reporting prolonged post-COVID fatigue, lower cardiorespiratory fitness was independently associated with higher subjective fatigue scores.

## **IMPACT**

Submaximal VO<sub>2</sub>max CRP testing may be useful to objectively monitor long COVID symptomatology and response to treatments.

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## **TITLE: The Efficacy of Platelet-Rich Plasma Injections in the Conservative Management of Lower Limb Tendinopathy: Systematic Review**

### **AFFILIATION**

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### **INTRODUCTION**

Tendon degeneration is the hallmark of tendinopathy, which is characterised by pain and functional limitation. Tendinopathies are difficult to manage due to their complex pathoetiology and presentation, however, progressive resistance training is widely supported in the literature. Intratendinous injection of Platelet-rich plasma (PRP) is an increasingly popular intervention which may improve tendon regeneration via the release of growth factor into the degenerative tendon. As the clinical efficacy of PRP is inconclusive, the aim of this systematic review was to examine the efficacy of PRP injections in combination with exercise-based treatments versus placebo-injections in combination with an exercise program for lower limb tendinopathies.

### **METHODS**

A systematic review of randomized control trials (RCTs) was conducted following the Preferred Reporting Items for Systematic Reviews and Meta Analyses guidelines (PRISMA). The protocol for this study was pre-registered with PROSPERO (ID: CRD42021251907). MEDLINE, CINAHL, EMBASE, Cochrane CENTRAL Register of Controlled Trials and Scopus were searched from January 2005 until October 2020. Studies were included if participants were  $\geq 18$  years with a diagnosis of lower limb tendinopathy for  $\geq 8$  weeks and directly compared PRP injections in combination with an exercise program versus placebo injections in combination with an exercise program. The primary outcome of interest was the Victorian Institute of Sports Assessment-Achilles/ Patella (VISA-A/P) as the primary outcome measure.

## RESULTS

762 articles were retrieved from the search. 87 full text studies were independently screened of which 6 studies (n=250) were included. Studies included patellar tendinopathy (n=2) and Achilles tendinopathy (n=4) in elite (n=30) or recreational athletes (n=114). PRP preparation, injection volume and pharmacological constituents were heterogeneous between all studies. The mean sample size was 19.33 (PRP) and 19.66 (control). The baseline VISA-A/P score was 45.95 (PRP) and 45.8 (control). The mean increase in VISA-A/P points after 12 weeks was 14.1 (PRP) and 13.3 (control). There is weak evidence that PRP injections reduce tendon pain and improve function versus eccentric exercises alone. The quality of reporting of injection interventions using the Template for Intervention Description and Replication demonstrated a mean score of 14.3 out of 22 (maximum). Risk of bias rated from low risk (n=2), some concerns (n=2) to high risk (n=2) due to dropout rate and poor blinding of outcome assessors.

## CONCLUSIONS

There is currently insufficient evidence to support PRP intervention for lower limb tendinopathies. Broad heterogeneities in methodologies and inadequate reporting was observed in all studies. Future studies should aim to establish an optimal PRP injection protocol before implementing a rigorous RCT.

## IMPACT

Resistance training remains the mainstay approach for clinicians treating lower limb tendinopathies, with no additional benefits from PRP injection. This study has identified the need for optimisation of PRP preparation and delivery protocols which should drive future research in this area.

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# POSTERS FOR THE PRS CONFERENCE 22nd April 2022



# POSTER 1 – Declan O' Sullivan

## **Title: The effectiveness of social prescribing in the management of long-term conditions in community-based adults: systematic rev**

### **AFFILIATION**

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### **CO-AUTHORS**

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### **INTRODUCTION**

To address the burden from long-term conditions countries are faced with the challenge of providing innovative holistic health-care services, which are evidence-based, economically viable and targets the vulnerable middle to lower class populations. Non-drug, non-health-service interventions has been proposed as a cost-effective alternative to help those with long-term conditions manage their condition and improve their health and well-being. Social Prescribing (SP) is promoted as a way of targeting those in need of direct healthcare intervention through the linking of patients in primary care with existing tertiary support services embedded within the community. Participants of SP programs have reported increases in mental well being and physical activity despite limited research.

### **METHODS**

Seven electronic databases (Medline, Embase, CINAHL, Scopus, Cochrane Central Register of Controlled Trials (CENTRAL), ClinicalTrials.gov, Lilacs) were searched until August 2021. Randomized and quasi-randomized controlled trials, published in English were included. Studies had to examine the effectiveness of a social prescribing intervention in any long-term condition, using a layperson as a "link worker". Outcomes of interest were quality of life, physical activity and psychological well-being. Due to heterogeneity of studies, data was analysed using a narrative synthesis and bias was assessed with the Cochrane Risk of Bias 2 tool.

### **RESULTS:**

After independent screening of search results 12 studies (n=3639 participants) were included in the review. Studies included people with diabetes (n=8), cancer (n=1) and multiple health conditions (n=3). Studies were conducted in the USA (n=9), UK (n=1), Australia (n=1), and Belgium (n=1). Most participants were urban dwellers and average age was 49 years. SP interventions were heterogeneous and lasted from 4-weeks to 18-months. Most link workers

were trained and provided one-to-one contact by telephone, text messages or face-to-face. Thirty-nine different outcome measures were used across studies with disease-specific measures. There was some evidence for improved outcomes with social prescribing interventions, participants who consulted three or more times with a link-worker demonstrated significant improvements in quality of life, ( $p=0.011$ ) anxiety ( $p=0.005$ ); depression ( $p=0.007$ ) and physical activity ( $p=0.013$ ). Risk of bias across studies rated from high to have some concerns.

### **CONCLUSIONS:**

There is evidence that social prescribing interventions result in improved outcomes for some long-term conditions, however, heterogeneity of interventions and outcome measures, coupled with methodological weaknesses makes it difficult to be definitive on its effectiveness.

### **IMPACT**

This systematic review will help inform clinicians about the role of SP in the management of long-term conditions and understand the current limitations found in the research to support this approach.

## POSTER 2 – Rene Gray

### **TITLE - What factors affect Day 1 post-surgical mobilisation for people following hip fracture: A scoping review**

#### **AFFILIATION**

Integrated Therapies Department, JPUHFT, Gorleston, UK

#### **INTRODUCTION**

Delayed mobilisation following hip fracture surgery is detrimental, causing prolonged hospital stays and increased mortality. There are national guidelines aimed at achieving early mobilisation to improve survival rate and reduce the negative sequelae of prolonged bed rest. The national HipSprint audit in 2017 found significant variation in performance. Some hospitals were only able to achieve mobilisation out of bed by Day one for less than 50% of patients. Reasons varied considerably between hospitals, suggesting some sites can better overcome barriers to allow successful physiotherapy intervention to occur. This scoping review aims to examine the literature to identify the factors affecting early mobilisation in order to suggest recommendations for

#### **METHODS**

This study was reported in accordance with the PRISMA guidelines. A systematic search of: MEDLINE, AMED, CINAHL, APA PsycINFO, APA PsycArticles, was undertaken simultaneously within the EBSCOhost platform. The final database search was completed on 8th July 2021. Studies were included for review if the population in the study received surgery for fragility hip fracture. Studies were required to present data on factors which impacted mobilisation within 48 hours post-surgery. The Critical Appraisal Skills Programme (CASP) and Mixed Methods Appraisal Tool (MMAT) were used to appraise the methodological quality of the papers. Data was synthesised through a narrative analysis approach due to the study and population heterogeneity across the identified included studies.

#### **RESULTS**

16 studies were eligible and included in the analysis. The average age for patients across studies was 82.3 years, with 69.7% being female and 42.7% having dementia or recognised cognitive impairment. Eleven studies used the simple measure of whether a patient had mobilised within a defined period, either 24- or 48-hours following surgery. There was no consensus on the terminology used to describe early mobility, and across the included studies. There was one randomised controlled trial of low quality, one qualitative study of high quality, one mixed methods study of high quality and thirteen observational studies. Six of the nine prospective studies were of high quality, and three were of moderate quality. Two of the retrospective studies were of high quality, and two were of low quality. Five themes were identified: Non-modifiable factors, system factors, Healthcare worker-related factors, Modifiable patient-related factors & Patient psychological factors.



## **CONCLUSIONS**

Five factors were identified impacting early mobilisation following hip fracture. There were limited studies identified & there were methodological weaknesses specifically around the definition of what constitutes early mobilisation & a lack of evidence related to patients with cognitive impairment.

## **IMPACT**

There are a number of modifiable factors impacting on early mobilisation that could be positively affected by simple measures. Education and training aimed at healthcare staff, patients & family could all improve early mobilisation, & health outcomes at a relative lowcost to healthcare providers.

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# POSTER 3 – Khai Seng Cheng

## **TITLE - An online survey exploring UK undergraduate physiotherapy clinical placements within the care home setting**

### **AFFILIATION**

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### **CO-AUTHORS**

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### **INTRODUCTION**

There is a growing ageing population who will live longer with a greater burden of comorbidity requiring care home placement. Despite evidence indicating that rehabilitation in long term care improves function and quality of life, physiotherapy services in care homes are inconsistent. Hobbs, Dean, Higgs et al. (2006) suggests physiotherapy students lack insight towards the complexity of general older population. This could result in underdiagnosing and undertreating, which perpetuates an over-simplistic view towards treatment within care homes. The aim of this study was to investigate the amount and type of practical experience undergraduate physiotherapy students in the UK received and the perceptions of course providers towards the importance of care within the care home setting.

### **MTEHODS**

Two cross-sectional online surveys were conducted, one with placement coordinators in higher education institutions providing accredited preregistration physiotherapy students education and another with final year undergraduate physiotherapy students. Purposive sampling was conducted for the first survey on all eligible higher education institutions, and participants from the first survey were asked to disseminate the second survey onto their students. Descriptive statistics was used to analyse the closed text responses for both surveys. Open text responses were analysed using thematic analyses with case analysis. Ethical approval was obtained from the University of Nottingham's Faculty of Medicine and Health Science Research Ethics Committee (reference number: 313-1905).

## RESULTS

Completion was limited (survey one: n=9, response rate=20%; survey two: n=7). Within survey two's responses, none of the respondents had prior nor planned placements in care homes. Two respondents (28.6%) were aware about opportunities for a care home placement. Five respondents (71.4%) had secondary exposure to care homes, but none of the respondents were aware of any planned taught lectures relating to care homes. Barriers to providing experience within care homes were the poor availability of physiotherapists within this setting, the clinical case mix and logistical difficulties regarding formal supervision. Strategies were reportedly employed to aid these including fostering direct contact with care homes and using contemporary supervision models. Care home placements were valued mainly for benefits in two domains: 1) the role and breadth of physiotherapy outside traditional settings, and 2) understanding discharge pathways and the appreciation of available social care services.

## CONCLUSIONS

Provision of exposure and experience in care homes are low. Perception towards exposure within this setting is generally positive from both undergraduate students and placement providers. Strategies have and can be devised to combat the barriers to providing exposure within care homes.

## IMPACT

This project serves to provide a basic understanding of undergraduate physiotherapists exposure within the care home setting. Hopefully, this research will inform change for physiotherapy approaches to care homes and provide the foundation to improving quality of physiotherapy care for residents.

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# POSTER 4 – Ciara Hanrahan

## **TITLE - Behaviour change and physical activity interventions for adults with COPD; protocol for systematic review**

### **AFFILIATION**

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### **INTRODUCTION**

Pulmonary rehabilitation is recognised as the gold standard of care in the management of chronic obstructive pulmonary disease (COPD), however engagement with pulmonary rehabilitation is low and maintenance of a physically active lifestyle in community dwelling adults with COPD is poor. Supporting positive behaviour change in people with COPD could help to increase their engagement with physical activity. This systematic review will examine behaviour change and physical activity interventions delivered to community dwelling adults with COPD with the aim of increasing physical activity engagement. Interventions will be mapped against Michie's Theoretical Domains Framework.

### **MTEHODS**

The following databases will be searched from inception until November 2021: Web of Science, CENTRAL, MEDLINE (via EBSCO), EMBASE, APA PsychINFO, CINAHL (via EBSCO), AMED, PROSPERO, Cochrane Airways Trials Register. Grey literature will be searched using Grey Literature Report, Open Grey and Google Scholar search engines. Relevant studies will be systematically reviewed and subject to quality appraisal to determine the impact of behaviour change and physical activity interventions on outcomes of adults with COPD. Interventions will be mapped to Michie's TDF and a narrative synthesis with respect to nature, effectiveness on target population and setting/environment will be provided. The review will be presented according to the PRISMA guidelines 2020.

## RESULTS

N/A

## CONCLUSIONS

This systematic review will consider behaviour change and physical activity interventions for community dwelling adults with all stages of COPD and their impact, if any, on levels of, or engagement with physical activity.

## IMPACT

This systematic review is necessary to explain the impact of behaviour change and physical activity interventions on outcomes of community dwelling people with COPD. The findings may help inform clinical practice and relevant policy change for this important cohort of people with COPD.

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# POSTER 5 – Mohammad Z. Darabseh

## **TITLE-The Role of Physiotherapists in Smoking Cessation Management: A Systematic Review**

### **AFFILIATION**

Department of Allied Medical Sciences, Division of Physiotherapy, Aqaba University of Technology, Aqaba, Jordan

### **CO-AUTHORS**

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### **INTRODUCTION**

The number of people who smoke tobacco is expected to be over 1.1 billion worldwide in 2025 (World Health Organization, 2019). This huge prevalence of smokers will increase the health-related demands and costs on treatment for diseases caused by smoking such as respiratory and cardiovascular diseases (World Health Organization, 2019). Hence physiotherapy (PT) is a profession that includes education, close contact with patients/clients and long periods and sessions of treatment, physiotherapists are considered a key-player in health promotion and patients' education (Luxton and Redfern, 2020). However, little is known about PT practice in smoking cessation (SC). Thus, this study aimed to identify barriers against PT roles in SC and SC counselling.

### **MTEHODS**

A systematic review with quality assessment and narrative synthesis of relevant published literature was conducted. The protocol of this systematic review was registered in the International prospective register of systematic reviews database (PROSPERO). A systematic search was conducted through EBSCO using the following electronic databases: MEDLINE, AMED, SPORTDiscus, and CINAHL and PEDro database with relevant associated keywords. Articles were included if they assessed the role of physiotherapists in SC management. Articles were excluded if: they did not include PTs; if they did not include assessment of SC management/counselling; if they were not cross-sectional studies; if they were not written in English language; or if they were conference abstracts.

### **RESULTS**

The systematic search identified 441 citations from EBSCO databases, of which 70 citations were duplicates. Consequently, 371 citations were screened for titles and abstracts and 317 were considered not to be relevant. Of the 54 remaining studies, 47 articles were excluded because they did not meet the inclusion criteria. Consequently, seven studies were included in the review. The search identified no studies that have investigated the role of PTs in vaping cessation. This systematic review revealed that PTs are not addressing SC counselling and management enough in their practice. In addition, the systematic approach revealed that lack of training, time and knowledge are the most common barriers against including SC counselling in physiotherapy practice and rehabilitation programs.

## **CONCLUSIONS**

Exploring possibilities of including SC counselling according to the clinical guidelines are encouraged. Additionally, establishing solutions to overcome barriers against SC counselling as part of physiotherapy practice is essential.

## **IMPACT**

This systematic review summaries and identify the barriers towards including/addressing SC counselling and management in the physiotherapy practice. This may help in updating the guidelines, provide the required information to decision makers and stake holders to take the required actions.

# POSTER 6 – Philip Hodgson

## **TITLE - Systematic review and meta-analysis of the psycho-physical presentation of those with Parkinson's disease (Mid-Review Report)**

### **AFFILIATION**

Tees, Esk and Wear Valleys NHS Foundation Trust

### **CO-AUTHORS**

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### **INTRODUCTION**

Current evidence considering the impact of mental health on the physical function of individuals with Parkinson's disease is sparse, with limited investigation directly comparing the clinical presentation of those with no mental health symptoms and symptoms of anxiety, depression, or both. The aims of this planned systematic review and meta-analysis are to collate previous work in this area and if possible report any clinical differences between groups. Review Question: Is there a difference in physical presentation and functional ability of those with Parkinson's disease with no mental health symptoms and symptoms of anxiety, depression, or both?

### **METHODS**

A systematic review and meta-analysis will be conducted. Electronic databases will be searched using pre-defined search terms to identify relevant studies. Eligible studies should report empirical findings on the physical presentation of people with Parkinson's disease with/without symptoms of anxiety and/or depression. Primary observational studies with cross-sectional or prospective research design, case-control studies, and studies with experimental designs will be included. Qualitative interviews and case studies will be excluded. The methodological quality of the included studies will be assessed via the Quality Assessment Tool for Quantitative Studies. Evidence quality for any association between variables will be evaluated in accordance with the GRADE system.

### **RESULTS**

Ongoing - Provisional results to be available prior to conference. Protocol registered and available via PROSPERO.

### **CONCLUSIONS**

This review and meta-analysis will be the first to systematically explore and integrate the evidence available on the physical differences between people with Parkinson's disease with no mental health symptoms and symptoms of anxiety, depression, or both.

### **IMPACT**

Through collating and reviewing available evidence about the relationship between mental health and Parkinson's disease, it is hoped that future work will be completed to optimise clinical care for people with Parkinson's disease.



# POSTER 7 – Ciara Harris

## **TITLE - How do physiotherapists decide where acutely unwell patients are cared for? – An interview-based study**

### **AFFILIATION**

Institute of Applied Health Research, University of Birmingham, Birmingham, UK

### **CO-AUTHORS**

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### **INTRODUCTION**

At the point of an unplanned hospital presentation, each patient's optimal location of care must be determined. Given patient-specific needs, and significant health system pressure, it is important that the right choice is made. Multiple potential options exist, such as inpatient admission, hospital-level care at home (Hospital at Home), or regular Ambulatory Care unit attendance, among others. Each of these options carries risks which must be considered by all those involved in these decisions, including physiotherapists. Although the decision-making process of doctors in this setting has been studied, less consideration has been given to physiotherapists' decisions-making. This study therefore investigated how physiotherapists reach their decisions, and how they view risk in their jobs.

### **MTEHODS**

One-to-one, semi-structured interviews were conducted with physiotherapists working in various NHS front-door and Ambulatory Care services. Participants were recruited primarily via email invitations, directly and via relevant professional bodies. The interviews discussed factors involved in making location of care decisions or recommendations, experiences of these decisions, risk and its role within physiotherapy, and other topics which naturally arose in individual interviews. Interview transcripts were analysed using Thematic Analysis, and the theoretical framework used was Fuzzy Trace Theory (FTT). FTT is based on the principle that humans reason using both 'gist' (generalised understanding, influenced by many factors) and 'verbatim' (literal, specific details) memory representations.

### **RESULTS**

Interviews were conducted with 14 physiotherapists, from front-door and Ambulatory Care units across the NHS, representing physiotherapists ranging from band 5 to band 8 and above, with experience levels from less than 2 years to over 20 years. All interviews occurred virtually at times to suit participants. A wide array of themes was identified, covering patient-specific factors, professional factors and wider considerations. Key patient-specific themes included patient autonomy and the importance of patient-centred decision-making, safety, communication (both with service users and colleagues), and the broad spectrum of factors

## **CONCLUSIONS**

Physiotherapists use multi-factorial approaches for location of care decisions, centred around patients' personal preferences and needs, alongside safety. Communication, incorporation of patient-specific requirements and broader health system factors are all involved in physiotherapists' decisions.

## **IMPACT**

Given growing pressure on health systems, it is vital to use all appropriate services to avoid unnecessary hospital admissions. Through understanding how physiotherapists make these decisions, we may be able to improve education and communication, and increase use of out-of-hospital care locations.

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# POSTER 8 – Philippa Taylor

## **TITLE - THE IMPACT OF COVID-19 UPON FINAL YEAR PHYSIOTHERAPY STUDENT'S EXPERIENCES AND SUPPORT.**

### **AFFILIATION**

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### **CO-AUTHORS**

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### **INTRODUCTION**

Physiotherapy students are highly dependent upon experience to develop their clinical skills. During the COVID-19 pandemic, reduced support, altered teaching, cancellation of placements and COVID-related illness were seen to have decreased perceived competency levels and student's ability to cope. Currently there is minimal evidence on the impact and challenges of COVID-19 on healthcare students and consequently optimal strategies for mental health, support and preparedness for clinical practice in this population. The objectives of this research was to: explore experiences - challenges, rewarding times; levels of support and competency levels of final year physiotherapy students on placements during COVID-19 and identify recommendations for future clinical and educational practice.

### **MTEHODS**

A mixed-methods, concurrent explanatory study with inclusion criteria of final year, UK based physiotherapy students who had completed a placement during the COVID-19 pandemic. (N=24) were recruited via social media platforms. Analysis: Descriptive statistics (quantitative) were utilised to understand perceived levels of support and ability to cope during COVID-19 and Thematic analysis was used to further detail quantitative findings and support the quantitative findings in greater depth. A minimum of 10 participants were identified to meet recommended guidelines for qualitative research (Fugard and Potts 2015; Vasileiou et al. 2018). This study had ethical approval from the University of Birmingham Ethics Committee. Corresponding reference: EH160121-1.

### **RESULTS**

The majority of students were female (87.5%), with respondents largely from the West Midlands (62.5%), and experience of ward-based placements during COVID-19 (91.7%) most common. Quantitative findings suggest student's biggest challenge to be coping with uncertainty during the pandemic with a mean value of 6.88/10. Communication and support were reported as higher from placement providers (mean=8.96) than universities (mean=8.12). 4 main themes (and subthemes) were found from thematic analysis of the data: communication (lack of university communication, COVID19 adaptations to services including PPE, Student's perceived value of gaining communication skills), support (placement, university and supporting teams and patients), learning (Understanding the bigger picture, learning with clinical experience, Identified learning gaps) and psychological (Negative effects of the pandemic on mental health, Mental health support, resilience).

## CONCLUSIONS

This study has implications for future practice which include the need for broader educational opportunities to develop clinical skills to optimise perceived competency levels. Improved university communication is recommended for student support and training to equip students with coping strategies.

## IMPACT

This study has shown evidence for a larger UK representative sample to identify effective mental health strategies and universities to review communication and support strategies to prepare students for clinical practice and awareness to support students to improve their mental health management.

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# POSTER 9 – Ciara Harris

## Risk Tolerance of Staff and Patients in Front-Door and Ambulatory Care services – A questionnaire-based study

### AFFILIATION

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### INTRODUCTION

When patients present acutely to hospital, their location of care must be decided. Options may include inpatient admission, Hospital at Home (HaH, i.e. hospital-level care in their own home), an Ambulatory Care unit (where patients attend for care, but return home overnight), or another location entirely. All these options carry risks - inpatient admission may increase the risk of delirium, while returning home with HaH may mean less immediate assistance if an emergency arises. It is therefore important to understand how stakeholders (patients, carers and staff) make their decisions. A key component of this is their risk tolerance. This study therefore aimed to assess the risk tolerance of staff, patients and carers working or being treated in front-door and Ambulatory Care services.

### METHODS

Staff, patients and carers working or being treated in front-door or Ambulatory Care services were recruited to participate. A series of 'lotteries' were devised to determine participants' risk tolerance in financial and health domains. In each lottery participants were asked to make a series of hypothetical choices between a certain outcome (eg. gaining £7) and an uncertain outcome (eg. gaining possibly £2 or possibly £13), with the higher amount changing in the second option. Across six lotteries people made decisions around health and finance, with and without knowing probabilities in the second option. Risk tolerance in each lottery was determined from participants' choices, and was used to compare across groups (eg. staff vs patients & carers) and lotteries (eg. health vs financial).

### RESULTS

106 staff members (including physiotherapists, doctors, nurses and occupational therapists), 197 patients and 35 carers participated in the study. Across all groups, there was a wide range of risk tolerance levels, from those who chose the certain option every time (very risk averse, most commonly seen risk tolerance level) to those who chose the risky option every time (very risk tolerant). Among patients and carers, there was a statistically significant difference in how older people (aged 65 years and above) made decisions regarding health-based choices compared to people younger than 65 years - Older people were more

likely to make choices at the extremes of risk when considering health risks than younger people ( $p = 0.002$ ). Overall, participants also demonstrated more risk aversion when making health choices than when making financial choices, and staff appeared less risk tolerant (had a higher median risk aversion score) when they did not know the chances in the uncertain outcome

## **CONCLUSIONS**

This study found a wide range of risk tolerance among staff, patients and carers, and that these can vary between groups and settings. It is vital that staff and service users work together in making location of care decisions, to ensure that all parties' risk tolerance levels are accounted for.

## **IMPACT**

It is hoped that through better understanding of risk tolerance, including in different domains, communication and shared decision-making about location of care can be improved between staff and service users, such that all decision participants can feel more confident and safer in their decisions.

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# POSTER 10 – Joanna Simkins

## **TITLE: The experiences of physiotherapists using health literacy strategies in clinical practice: a systematic mixed-methods review**

### **AFFILIATION**

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### **INTRODUCTION**

Health literacy is a global public health issue and disproportionately impacts on healthcare outcomes. Physiotherapists have an important role in recognising and addressing health literacy in clinical practice, to support successful patient outcomes. However, much of the literature is in healthcare professionals such as doctors and nurses, and to date there has not been a comprehensive review relating to the physiotherapy profession. The aim of this systematic mixed method review was to explore the experiences of physiotherapists using health literacy strategies with patients in clinical practice.

### **MTEHODS**

Data sources: A systematic mixed method review of English articles using MEDLINE, EMBASE, Web of Science, Google Scholar and CINAHL. The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate healthcare interventions was used to inform the approach (Liberati et al., 2009). Study selection: Any quantitative, qualitative or mixed methods study that highlights the experiences of physiotherapists using health literacy strategies in clinical practice. Data extraction: Quality appraisal of all included studies was undertaken using critical appraisal tools that were designed for the each studies methodology. Data synthesis: The thematic synthesis processes articulated by Thomas and Harden (2008) was used to provide a clear method for synthesising research.

### **RESULTS**

Eight studies were shortlisted for inclusion (two quantitative, four qualitative and two mixed methods). Thematic synthesis generated three themes: addressing health literacy, barriers and facilitators to using health literacy strategies in clinical practice. This systematic review provides the first mixed method thematic synthesis which aimed to explore the experiences of physiotherapists using health literacy strategies in clinical practice. Use of health literacy strategies was influenced by physiotherapists understanding of the concept. Health literacy training and perceived relevance of the health literacy strategy were facilitators. Conversely, time constraints, scope of professional role, perceived threat on professional status and shame were barriers. However, the strength of the evidence makes it difficult to draw strong conclusions as most of the studies had small sample sizes and no sample size estimations.

## **CONCLUSIONS**

The experiences of physiotherapists using health literacy strategies varied, with limited literature. Therefore, future research should investigate physiotherapists understanding of health literacy and the barriers and facilitators to using health literacy strategies in clinical practice.

## **IMPACT**

The pandemic has highlighted existing health inequalities, and therefore future research is important to help physiotherapists optimise support patients to understand key health messages and improve health service accessibility.

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# POSTER 11 – Florian FORELLI

## **TITLE: Early open isokinetic does not impair anterior cruciate ligament graft after surgery**

### **AFFILIATION**

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### **INTRODUCTION**

Rehabilitation following the anterior cruciate ligament reconstruction with hamstring graft allows the patients to regain their functional capacities and to support them in the resumption of sports activities. Rehabilitation also aims to minimize the risk of recurrence, which is why it ensures the proper development of the patient's muscular capacities until they return to sport. Isokinetics helps strengthen and assess the strength of muscle groups in the thigh, but controversy exists over its use in resistance to the open kinetic chain knee extension that would cause the graft to distend. The objective of this study is to determine the influence of open kinetic chain quadriceps muscle strengthening using isokinetics on the possible graft laxity and to be able to develop risk factors.

### **METHODS**

The study relates to a population having benefited anterior cruciate ligament reconstruction at  $6.6 \pm 1.4$  months postoperatively. Two groups are differentiated, one group exposed to isokineticism at  $3,1 \pm 0.5$  months, the other group, undergoes rehabilitation without the use of isokinetics early. An anterior knee laxity test is performed 6 months postoperatively using the GNRB® machine for all subjects according to the same protocol. The test results were statistically analyzed to determine a relative risk of graft distension for each study group

### **RESULTS**

The study relates to a population having benefited anterior cruciate ligament reconstruction at  $6.6 \pm 1.4$  months postoperatively. Two groups are differentiated, one group exposed to isokineticism at  $3,1 \pm 0.5$  months, the other group, undergoes rehabilitation without the use of isokinetics early. An anterior knee laxity test is performed 6 months postoperatively using the GNRB® machine for all subjects according to the same protocol. The test results were statistically analyzed to determine a relative risk of graft distension for each study group

### **CONCLUSIONS**

The use of isokinetics does not appear to be a cause of graft distension in patients undergoing an anterior cruciate ligament reconstruction when this method is introduced 3 months postoperatively.

### **IMPACT**

Controversial for a long time, the open kinetic chain does not alter the graft quality. Used intelligently, it contributes to its protection.

# POSTER 12 – Florian FORELLI

## **TITLE: Early open kinetic chain can improve quadriceps strength after anterior cruciate ligament surgery in male soccer players**

### **AFFILIATION**

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### **INTRODUCTION**

After anterior cruciate ligament reconstruction returning to play can be tiresome when hoping to achieve previous injury level of performance. The objective of this study is to determine whether the early association of open kinetic chain and closed kinetic chain allows an improvement in strength and functional qualities of the quadriceps regarding soccer rehabilitation after anterior cruciate ligament reconstruction.

### **METHODS**

This prospective multicentric study was carried out on 30 semi-professional male soccer players. The subjects were assigned each one of two groups, a closed kinetic chain control group and an open kinetic chain and closed kinetic chain test group. All participants had hamstring graft, 95% of the contralateral amplitude, a score of less than 2 for pain on a visual analogue scale as well as an absence of intra-articular effusion. The protocols were introduced at 4 weeks (29.7 days  $\pm$  8.4) after ACLR, and measurements were carried out 3 months after surgery (99.9 days  $\pm$  14.5). The isokinetic assessment corresponded with return to running. Quadriceps peak torque, quadriceps limb symmetry index and relative quadriceps peak torque were measured.

### **RESULTS**

There was a significant difference ( $p < 0.05$ ) between the quadriceps limb symmetry index of the two groups and a very significant difference between the relative quadriceps peak torque ( $p < 0.001$ ). We have also shown a significant positive correlation between these two parameters ( $r: 0,817$ ;  $p < 0,001$ ).

### **CONCLUSIONS**

The study suggests an interest in the early association of open kinetic chain and closed kinetic chain test group in correcting quadriceps strength deficits and improving its functional quality after anterior cruciate ligament reconstruction in context of return to running in male soccer players.

### **IMPACT**

The use of the open kinetic chain optimises quadriceps strengthening after anterior cruciate ligament reconstruction and allows an early return to participation.

# POSTER 13 – Gemma Stanford

## **TITLE: Clinimetric Analysis of Outcome Measures for Airway Clearance in Adults with Cystic Fibrosis: A Systematic Review**

### **AFFILIATION**

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### **INTRODUCTION**

Airway clearance techniques (ACTs) are integral to cystic fibrosis (CF) management. However, there is no consensus as to which outcome measures (OMs) are best for assessing ACT efficacy. Objectives: To summarise OMs that have been assessed for their clinimetric properties (including validity, feasibility, reliability & reproducibility) within the context of ACT research.

### **MTEHODS**

Eligibility Criteria - Any parallel or cross-over randomised controlled trial (RCT) investigating outcome measures for ACT in the CF population. Information sources: Five medical databases; clinicaltrials.gov; abstracts from international CF conferences. Risk of Bias - The authors planned to independently assess study quality and risk of bias using the COSMIN risk of bias checklist with external validity assessment based upon study details (participants and study intervention). Synthesis of Results - Two review authors (GS and MJ) independently screened search results against inclusion criteria, further data extraction was planned but not required.

### **RESULTS**

Results Included studies - No completed RCTs from the 187 studies identified met inclusion criteria for the primary or post-hoc secondary objective. Two ongoing trials were identified. Limitations of evidence - The search strategy may have missed some lesser-known terms for ACT or manuscripts reporting clinimetric properties solely within text. Studies validating outcome measures for use in other aspects of CF, which may be relevant to ACT, are not included. With the changing demographics of CF combined with the introduction of CFTR modulator therapies, an accurate assessment of the current benefit of ACT or the effect of ACT withdrawal is a high priority for clinical practice and future research and OMs which have been validated for this purpose are essential.

### **CONCLUSIONS**

This systematic review identified no OMs which had been investigated and clinimetrically validated for use in the assessment of ACT efficacy in people with CF. High-quality RCTs are urgently needed to identify suitable OMs for this purpose.

### **IMPACT**

The ability to accurately assess of the current benefit of ACT or the effect of ACT withdrawal is a high priority for clinicians and people with CF. Accurate assessment will impact day-to-day management for people with CF and influence future practice and commissioning of services.

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