

## S130

**Telehealth delivery of GLA:D® Australia during the COVID-19 pandemic**C. Barton<sup>a,c</sup>, K. Dundules<sup>a</sup>, A. Ezzat<sup>a,b</sup>, J. Kemp<sup>a</sup>, M. Pazzinatto<sup>a</sup><sup>a</sup>*La Trobe Sport and Exercise Medicine Research Centre, School of Allied Health, Human Services, and Sport, La Trobe University, Australia*<sup>b</sup>*Department of Physical Therapy, University of British Columbia, Canada*<sup>c</sup>*Department of Surgery, St Vincent's Hospital, The University of Melbourne, Australia*

**Introduction:** Knee and hip osteoarthritis (OA) affects 2.2 million Australians. Symptoms (pain and stiffness) reduce physical activity and impair health-related quality of life. Good Living with osteoArthritis from Denmark (GLA:D®) is an evidence-based program providing education and exercise-therapy for people with knee and hip OA, now offered at more than 400 sites across all states and territories in Australia. A key barrier to GLA:D® is the need to attend face-to-face sessions. In response to the COVID-19 pandemic, we expanded implementation to support GLA:D® via telehealth. This project evaluates the Reach, Effectiveness, Adoption, Implementation, and Maintenance (RE-AIM framework) of GLA:D® via telehealth in Australia during the pandemic.

**Method:** In this cohort study, people with hip or knee OA who reported completing telehealth-only GLA:D® at 3-month follow-up from March 2020-March 2021 were identified from the GLA:D® Australia registry. RE-AIM dimensions were examined descriptively. For the effectiveness domain, mean differences [MD, (95% confidence intervals)] from baseline to 3-month follow-up were calculated for pain (visual analogue scale, 0-100), quality of life (knee injury and osteoarthritis outcome score or hip disability and osteoarthritis outcome score - joint-related quality of life subscales), and 30-second chair stand test.

**Discussion:** Participant demographics and clinical outcomes related to GLA:D® delivered via telehealth in Australia during the pandemic were comparable to published data related to face-to-face delivery. However, implementation was limited. Future qualitative work will explore barriers and enablers of GLA:D® via telehealth to guide strategies and resources (e.g. training, telehealth toolkit) to normalise the delivery of GLA:D® via telehealth as part of physiotherapy practice.

**Conflict of interest statement:** GLA:D® Australia is a not-for-profit organization that receives income from training physiotherapy training courses. This income contributes to salary support for AE, MP, KD.

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## S131

**Sex differences in knee-related symptoms, psychological factors and quality of life in runners who have had knee surgery**A. Bruder<sup>a</sup>, K. Crossley<sup>a</sup>, A. Culvenor<sup>a</sup>, D. de Oliveira Silva<sup>a</sup>, M. Haberfield<sup>a</sup>, R. Johnston<sup>a</sup><sup>a</sup>*La Trobe University, Australia*

**Introduction:** Many people who sustain a knee injury and undergo surgery choose to continue or start running. Previous reports indicate that women have worse patient-reported outcomes than men following knee surgery. However, little is known about sex differences in patient-reported outcomes for people who have chosen to participate in running post knee surgery. We aimed to compare self-reported knee-related symptoms, psychological factors

and quality of life between women and men running athletes with a history of knee surgery.

**Methods:** A convenience sample of 103 running athletes (18-50years, run  $\geq 10$ km/week and  $\geq 3$  sessions/week), with a history of knee surgery were recruited. Participant characteristics collected included age, sex, height, body mass, and weekly running frequency and total distance. Knee-related symptoms were assessed using six subscales of the Knee injury and Osteoarthritis Outcome Score (KOOS), including (i) pain; (ii) symptoms; (iii) function during activities of daily living; (iv) sports and recreational activities; (v) quality of life; and, (vi) patellofemoral joint symptoms, the Tampa Scale for Kinesiophobia and the Knee Self-Efficacy Scale. Independent t-tests were performed to compare outcomes between women and men. Effect sizes were calculated using Cohen's d.

**Results:** Female runners (n=32, 34.5 years, 63.7kg, 1.7m) had lower body mass and height compared to male runners (n=71, 35.2 years, 77.1kg, 1.8m), but were of similar age, and reported similar running frequency/distance and time post-surgery. Compared to men, women reported worse KOOS-symptoms (mean difference -5.39, 95%CI 10.81, 0.02; effect size -0.42), function during activities of daily living (-2.63, 95%CI -4.99, -0.26; effect size -0.47), and patellofemoral joint symptoms (-5.43, 95%CI -10.68, -0.17; effect size -0.44). There was no sex-differences observed for KOOS quality of life or sport and recreational subscales, kinesiophobia or knee self-efficacy.

**Discussion:** Women with a history of knee surgery had evidence of worse self-reported outcomes than men, but it is unclear why. Our findings highlight the need to evolve our understanding and management of women who have chosen to participate in running post knee surgery, in particular focusing on improving their knee-related symptoms and function. (i) Why do women have inferior outcomes? (ii) Do women need a specific and more targeted rehabilitation approach pre- or post-operatively than men to enhance outcomes? Such knowledge would be of practical value for coaches, athletes, and health professionals to optimise sex-specific training and treatment strategies.

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## S132

**Investigating neural representations in response to posterior thigh pain – a potential risk factor for hamstring injury recurrence?**R. Cavaleri<sup>a</sup>, S. Imam<sup>a</sup>, N. Moukhaiber<sup>a</sup>, E. Rio<sup>e</sup>, S. Summers<sup>a,b,c</sup>, D. Thomson<sup>d</sup><sup>a</sup>*Brain Stimulation and Rehabilitation (BrainSTAR) Lab, Western Sydney University, Australia*<sup>b</sup>*Research School of Biology, Australian National University, Australia*<sup>c</sup>*Discipline of Sport and Exercise Science, Faculty of Health, University of Canberra, Australia*<sup>d</sup>*School of Health Sciences, Western Sydney University, Australia*<sup>e</sup>*La Trobe Sport and Exercise Medicine Centre (LASEM), School of Allied Health, College of Science, Health and Engineering, La Trobe University, Australia*

**Background:** Recurrent hamstring injuries are a major problem in sport. Despite extensive research regarding risk factors underlying hamstring injury, recurrence rates remain high, suggesting our current understanding may be overlooking important neurophysiological factors. Recent evidence demonstrates disruptions in tactile, proprioceptive, and spatial neural (cortical) representations in athletes who develop persistent posterior thigh pain following a hamstring injury. It is possible these disruptions may contribute to poor recovery and hamstring injury

recurrence. However, due to the cross-sectional nature of existing research, it remains unknown if the disruption in neural representations are driven by pain, or other factors. We explored whether experimentally-induced posterior thigh pain is associated with impairments in tasks that are thought to interrogate neural representations. If so, this may spark new investigations into potential mechanisms underlying hamstring injury recurrence.

**Methods:** Healthy participants were recruited and attended two experimental sessions (Days 0 and 2). On Day 0, all participants performed an eccentric hamstring exercise protocol to induce delayed onset muscle soreness. Tactile neural representations were assessed using two-point discrimination (TPD) and accuracy of tactile localisation, proprioceptive neural representations were assessed using a motor imagery task (left/right body part judgement task), and spatial processing was assessed using an auditory detection task. These outcomes were recorded before the exercise protocol on Day 0 and after on Day 2. Pain-free control group data (concentric exercise) is currently being collected and will be included in the final presentation.

**Results:** 20 participants completed the protocol and all participants developed posterior thigh pain on Day 2 (mean  $\pm$  SD VAS:  $6.6 \pm 1.8$ ). TPD thresholds, tactile localisation, and accuracy in detecting auditory stimuli did not differ between baseline and Day 2 ( $p > 0.6$ ). Participants were quicker and more accurate to judge whether an image of a foot was a left or right sided body part when the image corresponded to their leg (irrespective of side), but unaffected when they were asked to judge hand images (left/right hand judgement task  $p > 0.3$ ).

**Discussion:** Experimentally-induced posterior thigh pain appears to improve the response time and accuracy of left-right discrimination, but did not impact tactile or auditory detection performance. These findings raise the possibility that hamstring pain may alter proprioceptive neural representations. Comparison with the concentric group will assist in revealing whether these results are due to pain or learning. Understanding the implications of these findings on the recovery, and risk of recurrence, following a hamstring injury appears warranted.

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## S135

### Clinical management of acute low back pain in elite and sub-elite rowers. A Delphi study of experienced & expert clinicians

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**Background:** The lumbar spine is the most frequently reported site of pain in elite and sub-elite rowing populations with 12-month Low Back Pain (LBP) prevalence of 32-53%. LBP results in significant performance cost through lost training and competition time. There are no studies to date on LBP assessment or management in this population. Collection of insights and development of consensus-derived statements are particularly useful where evidence-based

clinical practice guidelines are yet to be established. The aim of this study was to establish assessment and management behaviours and beliefs of experienced and expert clinicians when elite and sub-elite rowers present with an acute episode of LBP; secondly, to investigate how LBP management differs for developing and masters rowers.

**Methods:** A three round Delphi survey method was used. National rowing federation clinicians participated in an internet-based survey (round one), answering open ended questions about assessment and management of rowing related LBP. Statements were generated from the survey for expert clinicians to rate (round two) and re-rate (round three). Consensus was gained when agreement reached a mean of seven out of ten and disagreement was two standard deviations or less.

**Results:** Thirty-one experienced clinicians participated in round one. Thirteen of 20 invited expert clinicians responded to round two (response rate 65%) and 12 of the 13 participated in round three (response rate 92%). One hundred and fifty nine of 221 statements (72%) relating to the management of LBP in elite and sub-elite rowers acquired consensus status. Four of six statements (67%) concerning the developing rower and two of four (50%) concerning masters rowers acquired consensus status.

**Discussion:** This Delphi survey presents consensus-derived statements to guide clinical assessment and management of LBP in elite and sub-elite rowers from first presentation to return to sport (RTS). Results concur with evidence for adult LBP management: education and remaining active are recommended with less emphasis on imaging, pharmacological interventions and surgery. Initial priorities are; identification of red & yellow flags, pain control, keeping active with cross-training, regaining rowing-specific movement patterns and education of rower and coach. Rehabilitation priorities are; increasing on-water training with concomitant reduction in cross-training, multidisciplinary RTS planning and addressing modifiable risk factors. There are different management considerations for LBP in developing and masters rowers. The findings of this study are a representation of current clinical expertise.

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## S137

### Patient knowledge of rotator cuff related shoulder pain condition and treatment and validation of a patient-reported knowledge questionnaire

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**Introduction:** Rotator Cuff Related Shoulder Pain (RCRSP) knowledge is an important contributor to patient adherence and providing high-quality guideline-recommended care. There are no validated instruments for measuring health literacy levels among people with RCRSP. This study aimed to design a valid and reliable instrument to measure RCRSP health literacy that could be used to evaluate health literacy in research and clinical settings.

**Methods:** 38 RCRSP patients and 33 patients with other types of shoulder pain, who were predominantly females in their early 50's, having pain for 30+ weeks were recruited through social media. The patient knowledge questionnaire (PKQ-RCRSP) development occurred in three phases. Phase 1 was developed based on available literature and input from expert clinicians, researchers, and patients. Face validity, pilot testing and readability assessment were also undertaken. In phase 2, internal consistency and predictive validity were assessed in people with RCRSP and other shoulder pain diagnoses. Phase 3 included RCRSP health literacy assessment.